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## 8.6.1 Ag Land Trust Letter 1 (ALT1)

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### **First Letter of Objection to Monterey Peninsula Water Supply Project (MPWSP) CalAm's defective and incomplete draft EIR/EIS**

Dear Ms. Borak and Ms. Grimmer:

This correspondence and letter of objection (and our subsequent additional letters of objection) to the massively incomplete and defective draft EIR/EIS prepared for the California American (CalAm) De-Salination Project/slant wells are hereby submitted by and on behalf of **the Ag Land Trust of Monterey County (Monterey County Agricultural and Historic Lands Conservancy)** and its' Board of Directors (Ag Land Trust).

Organized in 1984, the Ag Land Trust is a 501(c)(3) non-profit corporation which holds/owns over 32,000 acres both of fee title and permanent conservation easements to prime and productive coastal agricultural lands that are protected California coastal resources pursuant to adopted and enforceable certified California Local Coastal Plans, state statutes, and federal regulations and legally recorded easements. These real property ownership interests fully include our percolated potable groundwater rights and resources that we have jealously protected, preserved, and conserved for potable use and agricultural irrigation purposes for over 30 years.

For over three decades, the **Ag Land Trust** is and has acted as a multiple grant recipient, agent, and de-facto trustee for both the United States Government (U.S. Department of Agriculture, the U.S. Department of Homeland Security, and the U.S. Department of Defense/National Guard Bureau) and for the State of California (California Coastal Conservancy and California Department of Conservation). The Ag Land Trust acts in this capacity to implement and enforce both legally adopted federal and state mandatory policies and regulations for permanent agricultural land and natural resources preservation, including preservation of potable irrigation groundwater resources for continuing agricultural production of those farmlands that have been federally designated for preservation due to their remarkable productivity. These responsibilities are ongoing contractual obligations between the Ag land Trust and the identified federal and state agencies, and may not be impaired by other private or federal or state agencies. Further, the reversionary property rights (water rights) held by the U.S. Government in the potable groundwater resources of our Armstrong Ranch farm, which CalAm and the CPUC are intentionally polluting with its' slant well, may not be "taken" by either CalAm or the State of California using any kind of "made-up", contrived theory of "salvage water rights" that result from the intentional pollution of the aquifers that is resulting from CalAm and the CPUC's combined actions. The EIR/EIS has failed to even mention, let alone mitigate, that the massive environmental degradation and adverse impacts to our potable aquifers which is being caused by CalAm's CPUC authorized pumping. Again, this demonstrates the bias of the CPUC against the property owners whose property rights are being taken by the combined CalAm/CPUC actions.

The CalAm slant well and CalAm's excessive and wasteful pumping thereof is directly, knowingly, and intentionally contaminating and permanently polluting both our potable groundwater supplies/aquifers and our two agricultural irrigation wells (and the potable water supplies thereof) that underlie our Armstrong Ranch property. Our Armstrong Ranch, to which we own fee title and in which the U.S. federal

ALT1-1

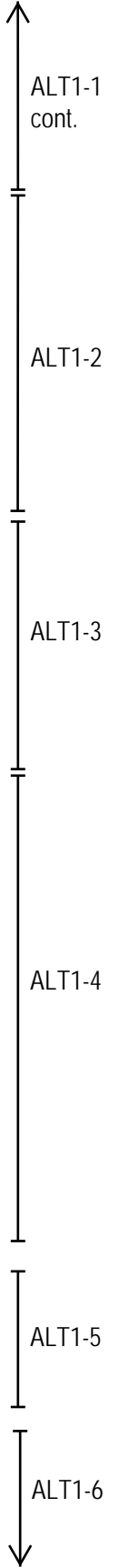
government holds a reversionary ownership interest (including its' potable groundwater supplies and rights) is immediately adjacent to the CEMEX site upon which CalAm has built its' slant well which is wrongfully exploiting our overlying potable groundwater resources.

**CalAm has no groundwater rights in the Salinas Valley aquifers. None.** It is undisputed law in California that in an overdrafted groundwater basin, a junior appropriator cannot acquire groundwater rights. Yet CalAm, by its' pumping of its' slant well is causing massive environmental damage, without any mitigation, four potable groundwater aquifers. The EIR/EIS has systematically ignored the massive and adverse environmental impacts of CalAm's proposed project so as to avoid identifying the necessary and massively expensive mitigations that would be required of CalAm to actually mitigate CalAm's proposed wrongful exploitation of the protected Salinas Valley (coastal) groundwater aquifers and resources. Loss of prime coastal farmland and its attendant productivity of food crops (due to the unlawful and irreplaceable stealing of potable groundwater supplies and the resultant pollution of the potable aquifers by the excess pumping of the slant wells), along with the permanent and irreplaceable loss of farmworker jobs have not been addressed or mitigated in the draft EIR/EIS. The costs to purchase those prime and productive coastal farmlands and ranches that will have their potable groundwater supplies wrongfully taken by the ultra vires approval of the CPUC, without compensation to the innocent land owners, are not addressed in the EIR/EIS. Nor is the loss of employment and massive displacement of low-income, Latino farmworkers (and their families) who are employed on those farms and ranches even acknowledged, let alone mitigated in the draft EIR/EIS. Although the Ag Land Trust offered to discuss these issues with Mr. Zigas (as well as offered our water quality baseline test results going back to 2007 and our recorded title documents demonstrating the U.S. Governments reversionary interests in our farmland and groundwater rights) during his one visit to our Armstrong Ranch farm, **he never called us back.** This may be because, much to his and CalAm's consternation, we proved that our potable and operational irrigation wells actually existed (he had publicly denied their existence in the press) and that we use them to irrigate our farmland and our dune habitat restoration sites which are mandated by the terms of our federal grants. (SEE <http://www.montereybaypartisan.com/tag/marc-del-piero/> - **Monterey Bay Partisan (4 articles AND VIDEO included in [PUC experts finally track down the elusive Ag Land Trust wells](#) by ROYAL CALKINS on DECEMBER 16, 2015** ). The impermissible continuing bias of the EIR/EIS consultants in favor of CalAm and its plans to wrongfully take groundwater to which it has no legal rights, to the massive economic and environmental detriment of landowners that actually own real potable groundwater resources and rights, continues to be demonstrated in the draft EIR/EIS by their ignoring of valid objections and their refusal to full investigate, characterize, and fully mitigate the massive and adverse environmental impacts that have been identified by the real parties in interest whose property rights are being taken, without compensation by the CPUC.

The first letter of objection the **Ag Land Trust** sent to the CPUC in opposition to CalAm's plans to wrongfully exploit our potable groundwater supplies was in 2006. A copy of the original letter along with significant documentation of the illegality and adverse environmental impacts of CalAm's proposed "taking" (children call it "theft") of our groundwater (which documentation has previously been provided to the CPUC and the California Coastal Commission) is herewith attached. In spite of our objections, with the exception of the single field trip (wherein Eric Zigas finally was forced to acknowledge the existence of our large irrigation wells, although he declined to inspect our federally mandated and protected coastal sand dunes habitat restoration project), the CPUC and its' consultants have never responded in writing to any of our correspondence. .

Moreover, in violation of CEQA notice mandates, the CPUC has never sent the required mailed notices of the CalAm project (and its' massive cone of depression and resulting induced seawater intrusion into the potable aquifers) to the potentially affected real property owners whose potable overlying groundwater supplies and rights will clearly be polluted and compromised by the excessive and uncontrolled pumping by CalAm.

**Please accept this e-mail, and all the documents, statements, objections, references, and attachments thereto, as the first of three e-mails from the Ag Land Trust that are intended to demonstrate the massive illegalities of the CalAm project and the defects and failures of the draft**





EIR/EIS, and the huge legal deficiencies of that draft (that have been “ignored” or “whitewashed”) that will subject that document to successful challenge in court unless the EIR/EIS is re-drafted to cure the deficiencies and re-circulated.

Further, by this correspondence, the Ag Land Trust hereby incorporates by reference, (and adopts as our own comments and our own criticisms and our own objections), the criticisms, comments, statements, asserted facts, correspondence, and objections, and all documents and attachments thereto, of the following parties which have submitted comments on the defects, omissions, and inadequacy of the draft EIR/EIS:

1. **The Water Ratepayers Association of the Monterey Peninsula (WRAMP) – Comment letter dated March 17-18, 2017, and all other comment letters submitted by WRAMP commenting on the EIR/EIS.**
2. **Comment Letter by Mr. Larry Parrish dated February 23, 2017 and all of the unanswered questions therein regarding unmitigated environmental impacts that have not been addressed in the draft EIR/EIS.**
3. **All comment letters and objections from Mr. David Beech (including Beech-1, Beech-2, Beech-3, Beech-4, Beech-5, and Beech-(5a)), dated Feb. 20, 2017 et seq..**
4. **Comment letter by Mr. Michael Baer dated February 24, 2017, and all additional comments and objections filed by Mr. Michael Baer regarding the draft EIR/EIS.**
5. **All correspondence and objections submitted by Nancy Selfridge, including but not limited to her e-mailed correspondence and objections dated February 22-23, 2017 sent by Mr. Steven Collins.**
6. **All correspondence from Kathy Biala, resident of Marina, Citizens for Just Water (“Just Water”) - including but not limited to her correspondence, objections, and attachments dated 02.23.17.**
7. **All correspondence and comment letters from “Water Plus”, including all correspondence and objections signed by George Riley, and including his correspondence dated 20 February 2017.**
8. **All comments and objection letters from and filed by Ms. Myrleen Fisher.**

The draft EIR/EIS is fatally flawed because of the bias of the consultants, the deficiencies in its' content, and their refusal to acknowledge, investigate, and document the identified significant adverse environmental impacts of the proposed project. The failure to acknowledge and fully characterize, and mitigate, these significant adverse environmental impacts will cause these documents to be over turned in court, unless they are fully and factually revised and recirculated in compliance with CEQA and NEPA. I will forward additional comments under a separate cover.

Most Respectfully, For the Ag Land Trust of Monterey County,

Marc Del Piero, Director

(SEE BELOW - Background environmental documents)

-----Original Message-----

From: MJDelPiero <[MJDelPiero@aol.com](mailto:MJDelPiero@aol.com)>

ALT1-6  
cont.

To: sarahcoastalcom <[sarahcoastalcom@yahoo.com](mailto:sarahcoastalcom@yahoo.com)>; zimmerccc <[zimmerccc@gmail.com](mailto:zimmerccc@gmail.com)>;  
mmcclureccc <[mmcclureccc@co.del-norte.ca.us](mailto:mmcclureccc@co.del-norte.ca.us)>; cgroom <[cgroom@smcgov.org](mailto:cgroom@smcgov.org)>; Gregcoastal  
<[Gregcoastal@sdcounty.ca.gov](mailto:Gregcoastal@sdcounty.ca.gov)>; tom.luster <[tom.luster@coastal.ca.gov](mailto:tom.luster@coastal.ca.gov)>; tluster  
<[tluster@coastal.ca.gov](mailto:tluster@coastal.ca.gov)>; virginia.jameson <[virginia.jameson@gmail.com](mailto:virginia.jameson@gmail.com)>  
Sent: Mon, Nov 10, 2014 7:09 am  
Subject: Objection to Cal-Am appeal/application for test slant well

**TO: The California Coastal Commission (Please Distribute/Forward This to All Members and Staff)**

**FROM: Monterey County Agricultural and Historic Lands Conservancy (THE AG LAND TRUST)**

**RE: Opposition to Proposed California American Water Company Appeal/Application to Acquire a Well Site to Violate Mandatory Policies of the Certified Local Coastal Plan and to Prescriptively "Take" Groundwater from the Overdrafted Salinas Valley Groundwater Basin and our Farm**  
Herewith enclosed, please accept this notice/letter of opposition to the appeal/application by the California American Water Company, along with the herewith attached EXHIBITS A, B, AND C.

**Notice of Objection to proposed Cal-Am "test" slant well (11 pages)**

**Exhibit A - Board of Directors bios.**

**Exhibit B - Maps (showing induced seawater intrusion area and undisclosed A.L.T. wells)**

**Exhibit C - Prior objections correspondence (2006 - present)**

The flawed Cal-Am appeal/application proposes to directly violate multiple mandatory Local Coastal Plan policies and state groundwater rights laws, and proposes an illegal "taking" of private property/groundwater rights, to economically benefit the privately held California American Water Company at the expense of the Ag Land Trust.

The application even fails to identify one of our agricultural groundwater wells on our farm property (the "Big Well"), which is the closest to the so-called Cal-Am "test well" and which will be the first to be permanently and irreparably contaminated by Cal-Am's illegal conduct. The proposed environmental review is incomplete and flawed.

**No Coastal Commission staff review of these reasonably anticipated, immitigable adverse impacts on our protected coastal agricultural groundwater resources and farmland has been conducted or presented to the Commission in anticipation of this appeal hearing. The failure to even identify these unmitigated adverse impacts in the staff report, we assume, is because the Commission staff has relied exclusively on the flawed (by omission) Cal-Am appeal/application that has tried to "downplay" its intended "taking" of our groundwater supplies and its adverse environmental effects on our prime farmland. Coastal Commission staff has not contacted our Ag Land Trust in spite of our prior correspondence (see Exhibit C).**

We anticipate presenting testimony pursuant to our attached Letter of Opposition and Exhibits at your Wednesday meeting in Half Moon Bay.

Please distribute our full comments and all attachments to each and all commissioners prior to the day of the meeting so that they may fully understand and consider the potential consequences of their actions.

Most Respectfully, Marc Del Piero, Director

**Ag Land Trust  
Letter 2 (ALT2)**

**Second Letter of Objection to Monterey Peninsula Water Supply Project (MPWSP) CalAm's defective and incomplete draft EIR/EIS**

As was previously indicated in the prior e-mail sent on behalf of the Ag Land Trust of Monterey County, although the Ag Land Trust offered to provide additional information to the CPUC EIR consultant (Eric Zigas) for the draft EIR/EIS, no request was ever received. No phone call, no letter, no request for the environmental information that we offer was received in the past 20 months from the CPUC or Mr. Zigas.

ALT2-1

Our information includes baseline laboratory water quality test data from 2009 forward, and recorded title documents showing the real property interests of the U.S. federal government in our farmland and its' groundwater supplies and aquifers. The recorded documents preclude any party (private, state, or federal) from taking the real property interests, including water supplies and rights, of the federal government for private, for-profit uses, as is CalAm's and the CPUC's intent with their "salvaged water theory". Moreover, we object to the defective "groundwater model" used by the Hydrologic Working Group, which is controlled by interests which are contractually obligated to support CalAm's project and which hold no groundwater rights in the basin, because the model established no baseline hydrologic condition before CalAm began its' excessive and irresponsible slant well pumping, and because it intentionally excluded all adverse impacts to our groundwater resources and potable irrigation wells. This is a major and intentional defect by omission in the draft EIR/EIS expressly for the benefit of CalAm and its proposal.

ALT2-2

ALT2-3

Consequently, the draft EIR/EIS is defective by the intentional refusal and omission of available data by the CPUC EIR consultants and the CalAm consultants and engineers who have refused from the beginning of the CEQA process to acknowledge the significant and adverse environmental impacts that they are causing to the potable aquifers of the Salinas Valley and the injury to the landowners and farmworkers whose livelihoods and food production are dependent upon the protection and preservation of those freshwater potable aquifers that are beneath the prime coastal farmland that is subject to both federal and state statutory and regulatory protections.

ALT2-4

Mr. Zigas, who was under contract to prepare a fair and impartial EIR, has never called or requested the offered environmental data, and his associates from CalAm and the CPUC hand-picked review panel, euphemistically referred to as the Hydrologic Working Group, has never contacted the Trust for that data either. Given their collective refusal to even acknowledge the existence of our wells for months, because they were inconvenient impediments to their pre-conceived plan to "take water from the Salinas Valley aquifers" that they are now polluting by inducing seawater intrusion from their slant well pumping, the Ag Land Trust has concluded that the draft EIR/EIS is massively defective.

**In the earlier e-mail, the Ag Land Trust provided a "link" to the website of the Monterey Bay Partisan and the articles that it carried about our irrigation wells. It also has a link to a video where proof of the fully operational nature of our potable irrigation wells is proven. The bias of Mr.**

ALT2-5

**Zigas and his associates that was also referred to in the earlier e-mail is demonstrated in the newspaper articles attached hereto, wherein Mr. Zigas and his friends continued to assert that our potable irrigation wells were either: 1. non-existent, 2. impossible to find (they are fully visible from CA Highway 1, or 3. were "capped" wells that were non-operational. Mr. Zigas, and the County of Monterey, and CalAm's engineers of the Hydrologic Working Group, and the Carmel Pine Cone newspaper were proven wrong when they visited our farm and personally witnessed our potable irrigation wells in operation pumping over 2000 gpm. It was also at that time that Mr. Zigas declined to look at our federally mandated coastal dune habitat restoration plot that we irrigate with potable water from our irrigation wells. This issue, and the threat and impacts of Cal-Am's wrongful actions to our federally required dune restoration efforts, are not addressed in the draft EIR/EIS.**

**Please see the attachments and view the video link at the Monterey Bay Partisan website, and the four (4) articles therein that proved the truthfulness of our assertions and the impermissible bias of the CPUC consultant who has omitted important information regarding the unmitigated significant and adverse environmental impacts of CalAm's proposed project. These acts of omission and impermissible bias of the drafters cause the draft EIR/EIS to require re-drafting and re-circulation.**

**Respectfully, the Board of Directors of the Ag Land Trust of Monterey County**



ALT2-5  
cont.

**Ag Land Trust  
Letter 3 (ALT3)**

**From:** [mjdelpiero@aol.com](mailto:mjdelpiero@aol.com)

**Subject:** Supplemental documents re: federal rights and water quality

**Date:** March 29, 2017 at 4:51:11 PM PDT

**To:** [Maryjo.Borak@cpuc.ca.gov](mailto:Maryjo.Borak@cpuc.ca.gov), [Karen.Grimmer@noaa.gov](mailto:Karen.Grimmer@noaa.gov), [MJDeIPiero@aol.com](mailto:MJDeIPiero@aol.com), [sdarington@redshift.com](mailto:sdarington@redshift.com)

**Third Letter of Objection to Monterey Peninsula Water Supply Project (MPWSP) CalAm's defective and incomplete draft EIR/EIS**

On behalf of the Ag Land Trust of Monterey County, and in order to offer proof of our previous assertions, herewith attached are excerpts from the recorded federal real property (including water rights) contract/deed documents that the federal government has with our Trust, and one sample of our original (2009) baseline water quality test data (that meets WHO drinking water standards) that the CPUC consultants, and CalAm's Hydrology working Group did not request, in spite of our offer to supply additional information to them for the draft EIR/EIS.

These documents demonstrate only a few of the intentional defects (by intentional omission of significant adverse impacts and lack of identified mitigations) in the draft EIR/EIS that necessitate re-drafting and re-circulation of the document.

Respectfully, The Ag Land Trust of Monterey County

ALT3-1  
ALT3-2

## 8.6.2 California Unions for Reliable Energy (CURE)

### ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

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March 28, 2017

### VIA EMAIL AND OVERNIGHT MAIL

Mary Jo Borak, CEQA Lead  
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Karen Grimmer, NEPA Lead  
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99 Pacific Avenue  
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Monterey, CA 93940

**Electronic Submission at:** [www.regulations.gov/#!/docketDetail;D= NOAA-NOS-2016-0156](http://www.regulations.gov/#!/docketDetail;D=NOAA-NOS-2016-0156)

**Re: Comments on the Draft Environmental Impact Report/ Draft Environmental Impact Statement for the Proposed Monterey Peninsula Water Supply Project**

Dear Ms. Borak and Ms. Grimmer:

We are writing on behalf of California Unions for Reliable Energy (“CURE”) to provide comments on the Draft Environmental Impact Report and Draft Environmental Impact Statement (“DEIR/EIS”) prepared by the California Public Utilities Commission (“CPUC”) and by the Monterey Bay National Marine Sanctuary (“MBNMS”), pursuant to the California Environmental Quality Act, and its regulations (“CEQA”),<sup>1</sup> and the National Environmental Policy Act, and its regulations (“NEPA”),<sup>2</sup> respectively, for the Monterey Peninsula Water Supply

<sup>1</sup> California Public Resources Code, §§ 21000 et seq.

<sup>2</sup> National Environmental Policy Act, 42 U.S.C. 4321 et seq.

Project (“Project”). The Project is being proposed by the California American Water Company (“CalAm” or “Applicant”) and will include the construction and operation of a seawater desalination plant and conveyance system with an initial capacity of 9.6 million gallons per day (“mgd”) to provide a supplemental source of water to the Monterey Bay area.

The Project area extends approximately 18 miles, from the Project site located in the town of Castroville in the north to the City of Carmel in the south.<sup>3</sup> The Project would include:

- a seawater intake system (comprising of ten subsurface slant wells) extending offshore into submerged lands of MBNMS, and a Source Water Pipeline;<sup>4</sup>
- a 9.6 mgd desalination plant and related facilities (including pretreatment, reverse osmosis, and post-treatment systems), backwash supply and filtered water equalization tanks, chemical feed and storage facilities, brine storage and conveyance facilities, and other associated non-process facilities;<sup>5</sup>
- desalinated water conveyance facilities including pipelines and stand-alone pump station, and a Terminal Reservoir;<sup>6</sup>
- an expanded ASR system, including two additional injection/extraction wells, the ASR-5 and ASR-6 Wells, and three parallel pipelines, the ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR injection/extraction wells and backwash effluent from the wells to an existing settling basin.<sup>7</sup>

The seawater intake system comprises of ten subsurface slant wells (eight active and two on standby), which would be constructed at the CEMEX sand mining site in the northern coastal area of the City of Marina.<sup>8</sup> An estimated 24.1 mgd of raw seawater — extracted through the seafloor in MBNMS — is needed to reliably generate 9.6 million gallons per day (mgd) of product water at the desalination

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<sup>3</sup> DEIR/EIS, at p. ES-5.

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

plant, which would be constructed in unincorporated Monterey County.<sup>9</sup> The plant would produce approximately 10,750 acre-feet per year (“afy”).<sup>10</sup> The plant’s related facilities include pretreatment, reverse osmosis (“RO”), and post-treatment systems; backwash supply and filtered water equalization tanks; chemical feed and storage facilities; brine storage and conveyance facilities; and other associated non-process facilities.<sup>11</sup>

The source water is conveyed through the slant well to the desalination plant and related facilities. There, it must first pass through a pretreatment system, which would remove suspended and dissolved contaminants and fine particulates. Backwash supply pumps would be used to clean the pretreatment system’s filters. Next, the source water would pass through the RO system, which would remove salts and other minerals from the pretreated source water. Finally, the source water would pass through the post-treatment system, if necessary, to meet State Water Resources Control Board standards.<sup>12</sup>

Brine produced during the RO process and pretreatment backwash effluent (a total of approximately 13.98 mgd) would be stored at the desalination plant before being conveyed to the existing ocean outfall pipeline.<sup>13</sup> The brine may be blended with treated wastewater effluent to Monterey Bay.<sup>14</sup> During wet periods the brine would be blended with treated wastewater effluent from the MRWPCA Regional Wastewater Treatment Plant before discharge.<sup>15</sup> During dry months, the brine stream could be discharged without dilution.<sup>16</sup> The amount of treated wastewater effluent would vary throughout the year.<sup>17</sup> The salinity of the discharged brine would be roughly 71 to 74 percent higher than seawater.<sup>18</sup>

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<sup>9</sup> *Id.*

<sup>10</sup> *Id.*

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*, at pp. 3-8-12 (Table 3-1).

<sup>13</sup> *Id.*, at p. 3-56.

<sup>14</sup> *Id.*, at pp. 3-8-12 (Table 3-1).

<sup>15</sup> *Id.*, at p. 3-56.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*



The desalinated water would be held in holding tanks from which water would be pumped to either the CalAm water system, the existing Castroville Seawater Intrusion Project (“CSIP”) or the Castroville Pipeline.<sup>19</sup> The Project includes other desalinated water conveyance and storage facilities, including treated water storage tanks, desalinated water pumps, a new desalinated water pipeline, a new transmission main, a terminal reservoir tank to store desalinated water and ASR product water, the Carmel Valley Pump Station to provide additional pressure needed to pump water, improvements to interconnection pipelines, the Castroville Pipeline, which would convey desalinated water to the CSIP and the Castroville Community Services District (“CCSD”) Well #3, and a pipeline to the CSIP pond for subsequent delivery to agricultural users in the Salinas Valley.<sup>20</sup> The ASR system, includes two new ASR injection/extraction wells (named ASR-5 and ASR-6), which would inject desalinated water into the Seaside Groundwater Basin for storage.<sup>21</sup> Three parallel pipelines would also be constructed to convey water.<sup>22</sup>

The Project would return approximately 700 afy to the Seaside Groundwater Basin over 25 years.<sup>23</sup> It would also include improvements to the Seaside Groundwater Basin aquifer storage and recovery (“ASR”) system facilities to enable CalAm to inject desalinated product water into the groundwater basin for subsequent extraction and distribution to customers.<sup>24</sup> The improved ASR system would include two additional injection/extraction wells, the ASR-5 and ASR-6 Wells, and three parallel pipelines, the ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline, and would improve the reliability of the existing ASR system.<sup>25</sup>

The Project also includes over 21 miles of water pipelines that convey source water between the subsurface intakes and the desalination plant, and desalinated water from the plant to the Terminal Reservoir.<sup>26</sup>

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<sup>19</sup> *Id.*, at p. 3-10.

<sup>20</sup> *Id.*, at p. 3-7.

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*, at p. ES-3.

<sup>24</sup> *Id.*, at p. ES-5.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

CalAm's application for the Project also includes an option that would combine a reduced-capacity desalination plant (6.4 mgd) with a water purchase agreement for 3,500 afy of product water from another source, the Pure Water Monterey Groundwater Replenishment ("GWR") Project.<sup>27</sup> The Monterey Regional Water Pollution Control Agency ("MRWPCA") certified the Final EIR and approved the GWR project in October 2015.<sup>28</sup>

Finally, CalAm constructed and operated a test slant well at the CEMEX sand mining site. A separate environmental review document covered the test slant well construction and operation.<sup>29</sup> This DEIR/EIS does not evaluate the test slant well.<sup>30</sup> If the project with subsurface slant wells at CEMEX is not approved and implemented, the test slant well will be decommissioned.<sup>31</sup>

The Project requires a number of permits and approvals including incidental take permits, a Biological Opinion, and waste discharge permits, among others.<sup>32</sup>

Based upon our review of the DEIR/EIS and pertinent agency records, we conclude that the DEIR/EIS fails to comply with CEQA and NEPA and must be withdrawn. The DEIR/EIS fails to include a complete project description, provide an adequate description of the environmental setting, adequately analyze and mitigate the project's potentially significant impacts, provides deferred, unenforceable, or otherwise inadequate mitigation measures, evaluate certain alternatives, and consider growth-inducing impacts. The CPUC and MBNMS must revise the DEIR/EIS and recirculate the revised DEIR/EIS for public review.

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<sup>27</sup> *Id.*

<sup>28</sup> *Id.*, at pp. ES-6, 1-2.

<sup>29</sup> DEIR/EIS, p. ES-6, fn. 2 ("In October 2014, MBNMS finished its NEPA review of the construction of the test slant well and the operation of the pilot program. In November 2014, the City of Marina and the California Coastal Commission completed their CEQA review."); California American Water Slant Test Well Project Draft Initial Study/Mitigated Negative Declaration (State Clearinghouse No. 2014051060) (City of Marina, 2014), **Attachment A**.

<sup>30</sup> DEIR/EIS, p. ES-6.

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*, pp. 3-62-67, Table 3-8.

We prepared these comments with the assistance of Phyllis Fox, Ph.D., Renée Owens, M.Sc., and Radoslaw Sobczynski, Ph.D. Their technical comments are attached hereto and submitted to the CPUC and MBNMS, in addition to the comments in this letter.<sup>33</sup> Accordingly, the CPUC and MBNMS must address and respond to the comments of Dr. Fox, Ms. Owens, and Dr. Sobczynski, separately.

## I. STATEMENT OF INTEREST

CURE is a coalition of labor organizations whose members construct, operate, and maintain industrial facilities throughout California. CURE has an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for its members. Environmentally detrimental projects can jeopardize future jobs by making it more difficult and more expensive for industry to expand along the Monterey Bay, and by making it less desirable for businesses to locate and people to live in the area, including the Project vicinity. Continued degradation can, and has, caused construction moratoriums and other restrictions on growth that, in turn, reduce future employment opportunities.

CURE members live, work, recreate and raise their families in the Project vicinity along the Monterey Bay. Accordingly, CURE's members would be directly affected by the Project's adverse environmental impacts. The members of CURE's member organizations may also work on the Project itself. They will, therefore, be first in line to be exposed to any hazardous materials, air contaminants and other health and safety hazards that exist on the Project sites.

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<sup>33</sup> See Letter from Phyllis Fox, to Linda Sobczynski, re: Comments on Draft Environmental Impact Report/Environmental Impact Statement for the CalAm Monterey Peninsula Water Supply Project, February 27, 2017 (hereinafter, "Fox Comments"), **Attachment B** (letter provided in hard copy and references are enclosed on a CD). See Letter from Renee Owens, to Linda Sobczynski re: Comments on the CalAm Monterey Peninsula Water Supply Project Draft Environmental Impact Report/Environmental Impact Statement, February 24, 2017 (hereinafter, "Owens Comments"), **Attachment C** (letter provided in hard copy and references are enclosed on a CD). See Letter from Radoslaw Sobczynski, to Linda Sobczynski re: Comments on Draft Environmental Impact Report/Environmental Impact Statement for the CalAm Monterey Peninsula Water Supply Project, February 24, 2017 (hereinafter, "R. Sobczynski Comments"), **Attachment D** (letter provided in hard copy and references are enclosed on a CD).

## II. LEGAL BACKGROUND

### A. National Environmental Policy Act (“NEPA”)

NEPA is “our basic national charter for protection of the environment.”<sup>34</sup> Its purpose is “to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.”<sup>35</sup> NEPA therefore requires federal agencies to take a “hard look at [the] environmental consequences” of their proposed actions.<sup>36</sup> In so doing, NEPA makes certain “that environmental concerns will be integrated into the very process of agency decision-making.”<sup>37</sup>

NEPA requires all agencies of the federal government to prepare a “detailed statement” that discusses the environmental effects of, and reasonable alternatives to, all “major Federal actions significantly affecting the quality of the human environment.”<sup>38</sup> This statement is commonly known as an environmental impact statement (“EIS”). An EIS must describe: (1) the “environmental impact of the proposed action”; (2) any “adverse environmental effects which cannot be avoided should the proposal be implemented”; and (3) any “alternatives to the proposed action.”<sup>39</sup> It further requires that “the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth” therein.<sup>40</sup> The environmental “effects” that must be considered in an EIS include both “direct effects which are caused by the action” and “indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.”<sup>41</sup>

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<sup>34</sup> 40 C.F.R. 1500.1(a).

<sup>35</sup> *Id.* § 1500.1(c).

<sup>36</sup> *Robertson v. Methow Valley Citizens Council* (1989) 490 U.S. 332, 350.

<sup>37</sup> *Andrus v. Sierra Club*, 442 U.S. 347, 350 (1979).

<sup>38</sup> 42 U.S.C. § 4332(2)(C).

<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

<sup>41</sup> 40 C.F.R. § 1508.8(a), (b).

## **B. California Environmental Quality Act**

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report (“EIR”) (except in certain limited circumstances).<sup>42</sup> The EIR is the very heart of CEQA.<sup>43</sup> “The foremost principle in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.”<sup>44</sup>

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project.<sup>45</sup> “Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR ‘protects not only the environment but also informed self-government.’”<sup>46</sup> The EIR has been described as “an environmental ‘alarm bell’ whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.”<sup>47</sup>

Second, CEQA requires public agencies to avoid or reduce environmental damage when “feasible” by requiring “environmentally superior” alternatives and all feasible mitigation measures.<sup>48</sup> The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to “identify ways that environmental damage can be avoided or significantly reduced.”<sup>49</sup> If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has “eliminated or substantially lessened all significant effects on the environment where feasible” and

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<sup>42</sup> See, e.g., Public Resources Code § 21100.

<sup>43</sup> *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.

<sup>44</sup> *Communities. for a Better Env. v. Cal. Res. Agency* (2002) 103 Cal. App.4th 98, 109 (“*CBE v. CRA*”).

<sup>45</sup> 14 Cal. Code Regs. § 15002(a)(1).

<sup>46</sup> *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.

<sup>47</sup> *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm’rs.* (2001) 91 Cal. App. 4th 1344, 1354 (“*Berkeley Jets*”); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

<sup>48</sup> 14 CCR § 15002(a)(2) and (3); see also *Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, 52 Cal.3d at p. 564.

<sup>49</sup> 14 Cal. Code Regs. §15002(a)(2).

that any unavoidable significant effects on the environment are “acceptable due to overriding concerns.”<sup>50</sup>

While the courts review an EIR using an “abuse of discretion” standard, “the reviewing court is not to ‘uncritically rely on every study or analysis presented by a project proponent in support of its position. *A clearly inadequate or unsupported study is entitled to no judicial deference.*”<sup>51</sup> As the courts have explained, “a prejudicial abuse of discretion occurs “if the failure to include relevant information precludes informed decision making and informed public participation, thereby thwarting the statutory goals of the EIR process.”<sup>52</sup>

### **III. THE DEIR/EIS FAILS TO INCLUDE A COMPLETE PROJECT DESCRIPTION**

The DEIR/EIS does not meet NEPA’s or CEQA’s requirements because it fails to include a complete project description, rendering the entire analysis inadequate. Without a complete project description, the environmental analysis under CEQA and NEPA will be impermissibly narrow, thus minimizing the project’s impacts and undercutting public review.<sup>53</sup>

Under NEPA, a complete project description is necessary for the public and decision makers to understand the effects of the proposed action and its alternatives.<sup>54</sup> It follows that information in an EIS that is incomplete will skew the environmental consequences analysis and prevent informed public input. Courts have held that “[w]here the information in the initial EIS was so incomplete or misleading that the decision maker and the public could not make an informed comparison of the alternatives, revision of an EIS may be necessary to provide a

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<sup>50</sup> PRC § 21081; 14 CCR § 15092(b)(2)(A) & (B).

<sup>51</sup> *Berkeley Jets*, 91 Cal. App. 4th 1344, 1355 (emphasis added), quoting, *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 391 409, fn. 12.

<sup>52</sup> *Berkeley Jets*, 91 Cal.App.4th at 1355; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal.App.4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946.

<sup>53</sup> See, e.g., *Laurel Heights Improvement Assn. v. Regents of the Univ. of Cal.* (1988) 47 Cal.3d 376.

<sup>54</sup> See 40 C.F.R. § 1502.15; see also *Laguna Greenbelt v. U.S. Dept. of Transportation* (1994) 42 F.3d 517, 528-29 [reviewing plaintiff’s claim that inconsistent definition resulted in misleading analysis of project’s positive and negative effects].

reasonable, good faith, and objective presentation of the subjects required by NEPA.”<sup>55</sup>

CEQA places the burden of environmental investigation on the government rather than the public. Accordingly, a lead agency may not hide behind its failure to obtain a complete and accurate project description.<sup>56</sup> CEQA requires that the project description contained in a CEQA document that is circulated for public review contain sufficiently detailed information to permit a meaningful evaluation and review of the potential environmental impacts of a proposed project.<sup>57</sup> California courts have repeatedly held that “an accurate, stable and finite project description is the sine qua non of an informative and legally sufficient [CEQA document].”<sup>58</sup> In contrast, an inaccurate or incomplete project description renders the analysis of environmental impacts inherently unreliable. Without a complete project description, the environmental analysis under CEQA will be impermissibly narrow, thus minimizing the project’s impacts and undercutting public review.<sup>59</sup>

#### **A. The DEIR/EIS Fails to Describe the Decommissioning Phase of the Project**

NEPA and CEQA require a full description of the Project, including its decommissioning phase. Under NEPA, federal agencies must analyze and disclose the impacts of major Federal actions. They may not segment the project into separate components. The Council on Environmental Quality regulations state in relevant part that an EIS must consider the following types of actions:

- (1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:

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<sup>55</sup> *Natural Resources Defense Council v. U.S. Forest Service* (2005) 421 F.3d 797, 811 (citing *Animal Defense Council v. Hodel* (1988) 840 F.2d 1432, 1439).

<sup>56</sup> *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311.

<sup>57</sup> 14 Cal. Code Regs. § 15124 (hereafter “CEQA Guidelines”).

<sup>58</sup> *County of Inyo v. City of Los Angeles* (3d Dist. 1977) 71 Cal.App.3d 185, 193.

<sup>59</sup> See, e.g., *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376.



(i) Automatically trigger other actions which may require environmental impact statements.

(ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.

(iii) Are interdependent parts of a larger action and depend on the larger action for their justification.

(2) Cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.

(3) Similar actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. An agency may wish to analyze these actions in the same impact statement. It should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement.<sup>60</sup>

In requiring agencies to analyze these types of actions in the same environmental review document, the agency is prevented from segmenting the project into multiple individual actions, each of which would have an insignificant impact, but collectively would have a significant one.<sup>61</sup>

CEQA is similar. It requires that a complete project description include the “later phases of the project, and any secondary, support, or off-site features necessary for its implementation.”<sup>62</sup> The requirements of CEQA cannot be avoided

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<sup>60</sup> 40 C.F.R. § 1508.25; see also *Kentucky Coal Ass’n, Inc. v. Tennessee Valley Authority* (W.D. Ky. 2014) 68 F.Supp.3d 685, 696–97.

<sup>61</sup> *Kentucky Coal Ass’n, Inc. v. Tennessee Valley Authority* (W.D. Ky. 2014) 68 F.Supp.3d 685, 697 (citing *Delaware Riverkeeper Network*, 753 F.3d at 1314 (citing *NRDC v. Hodel*, 865 F.2d 288, 297 (D.C.Cir.1988))

<sup>62</sup> *Bozung v. Local Agency Formation Com.* (1975), 13 Cal.3d 263, 283-84.



by chopping a large project into many small parts or by excluding reasonably foreseeable future activities that may become part of the project.<sup>63</sup>

The DEIR/EIS must supply enough information so that the decision makers and the public can fully understand the scope of the Project.<sup>64</sup> The CPUC and MBNMS, as the lead agencies, must fully analyze the whole Project in a single environmental review document and may not piecemeal or split the Project into pieces for purposes of analysis.

Here, the DEIR/EIS fails to describe the full scope of the Project, and thus fails to disclose the full range and severity of the Project's environmental impacts. Throughout the document, the DEIR/EIS states that the Project will have an approximately "40-year operations phase."<sup>65</sup> The DEIR/EIS analyzes some of the impacts in this 40-year context. For example,

The timeframe during which the MPWSP could contribute to cumulative surface water hydrology and water quality effects includes the 24-month construction period, as well as the estimated 40-year operations phase.<sup>66</sup>

Note, in the above example that the DEIR/EIS acknowledges that impacts will occur during the construction period and the 40-year operations phase, but not decommissioning. The DEIR/EIS must take into consideration impacts that occur during the decommissioning phase.

Where the DEIR/EIS does discuss decommissioning, the analysis is limited to coastal retreat — triggering decommissioning and abandoning the slant wells<sup>67</sup> —, and anticipated energy demand and energy efficiency of the proposed project as a whole, including decommissioning. This limited description and analysis of decommissioning is not enough to comply with CEQA's requirement to describe and analyze impacts from the whole project.

CURE-1

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<sup>63</sup> Pub. Resources Code § 21159.27 (prohibiting piecemealing); see also *Rio Vista Farm Bureau Center v. County of Solano* (1992) 5 Cal.App.4th 351, 370.

<sup>64</sup> *Dry Creek Citizens Coalition v. County of Tulare* (1999) 70 Cal.App.4th 20, 26.

<sup>65</sup> DEIR/EIS, at p. 4.18-14.

<sup>66</sup> *Id.*, at p. 4.3-120.

<sup>67</sup> *Id.*, at p. 4.2-71

1. Slant Wells' Decommissioning Is Not Adequately Described

For the slant wells, the DEIR/EIS admits that the presence of any slant well on the beach would result in a significant impact.<sup>68</sup> However, it states that “Mitigation Measure 4.2-9 (Slant Well Abandonment Plan) would reduce the impact to a less-than-significant level by requiring CalAm to monitor coastal retreat rates and initiate well decommissions before the beach migrates inland to the location of the subsurface slant wells.”<sup>69</sup>

When it is anticipated that the slant well will become exposed in five years, “CalAm will implement the planning and permitting necessary to *abandon* the slant wells.”<sup>70</sup> Then, the affected slant wells would be removed from service. Their casing would be pressure grouted such that the screened section would be sealed and the section well casing and pipelines at risk of exposure would be cut and removed to a depth of five feet below the 2060, 100 year lower profile envelope as determined by the 2014 Coastal Erosion Study or any permit condition.<sup>71</sup> Because “the rate of coastal retreat may vary due to unforeseen changes in climate change,” this mitigation measure applies to all slant wells, even though the new slant wells would be located inland of the modeled anticipated inland extent of coastal retreat, unlike the test slant well, which might become exposed during the operational life of the project.<sup>72</sup>

This mitigation measure only appears to be triggered when there is a risk of exposure. The DEIR/EIS does not discuss what will be done with the slant wells at the decommissioning phase of the Project.<sup>73</sup> This is a significant, and unexplained, deviation from the test slant well’s project description, discussing mitigation. In the 2014 Environmental Assessment for the test slant well, the lead agency, MBNMS, stated the well should be removed to an ultimate depth of no less than 40 feet below

CURE-2

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<sup>68</sup> *Id.*

<sup>69</sup> *Id.*, at pp. 4.2-71-72.

<sup>70</sup> *Id.*, at p. 4.2-72 (italics added).

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*, at pp. 4.2-71-72.

<sup>73</sup> *Id.*, at p. 4.2-72.

existing ground surface at project decommissioning.<sup>74</sup> That document provided the following Mitigation Measure:

At project decommissioning, the slant test well and all related infrastructure shall be removed to an ultimate depth of no less than 40 feet below existing ground surface to eliminate the possibility for future re-surfacing and exposure of submerged well casing or related project components as a result of coastal erosion and shoreline retreat. Removal of the well would take place upon completion of the test pumping and/or in segments over time as mutually agreed upon by MBNMS, MRWPCA, Cal Am, the California State Lands Commission, and other identified regulatory agencies. If removal to the total required depth of 40 feet below ground surface is not completed within 5 years following completion of the test pumping due to potential risk to the MRWPCA outfall, the applicant shall post a bond with the City to ensure future removal measures would be appropriately supported and timed to prevent any future resurfacing of the well casing or other project components and shall provide evidence of the bond to MBNMS.<sup>75</sup>

CURE-2  
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Unlike the description above for the test slant well, the DEIR/EIS does not provide an adequate project description by failing to provide an explanation of the decommissioning phase for this Project's test slant well (which will be converted to a permanent well) and the proposed wells. This is significant because, as a result of the inadequate project description, the DEIR/EIS fails to analyze significant impacts from decommissioning the wells and fails to require this or another mitigation measure for the test slant well and the proposed wells.

During Project decommissioning, well materials may have to be removed or destroyed in accordance with state well destruction standards. For example, California Well Standards Bulletin 74-81 and 74-90 requires removal or destruction

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<sup>74</sup> Final Environmental Assessment for the California American Water Slant Test Well Project, September 2014, *available at* [http://montereybay.noaa.gov/resourcepro/resmanissues/desal\\_projects/pdf/140912calam-slantwell\\_ea-final.pdf](http://montereybay.noaa.gov/resourcepro/resmanissues/desal_projects/pdf/140912calam-slantwell_ea-final.pdf) ("NOAA EA, 2014"), at Appendix A. Avoidance, Minimization, and Mitigation Measures, at p. 121, Measure 28, **Attachment E**.

<sup>75</sup> *Id.*

of wells that are no longer useful or are abandoned.<sup>76</sup> The California Well Standards describe an intensive process for destroying wells, including cleaning, excavation, removing materials, filling, sealing and other activities.<sup>77</sup>

The DEIR/EIS fails to mention the common sense impact on the environment from decommissioning and abandoning slant wells in the event of coastal erosion. Given the real possibility decommissioning and abandonment may occur at least for the test slant well, this omission renders the project description inadequate. The DEIR/EIS must also evaluate if the decommissioned slant wells would need to be replaced with new slant wells in the event decommissioning and abandonment occurs during the 40-year operational lifetime of the Project.

CURE-2  
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Even though Mitigation Measure 4.2-9 (Slant Well Abandonment Plan) would bring the Project into conformance with a number of policies,<sup>78</sup> the DEIR/EIS cannot avoid providing a complete description of the Project and the Project's impacts from its construction, operation, and decommissioning and abandonment phases.<sup>79</sup> By recognizing that slant wells may need to be decommissioned and abandoned, but failing to describe the impact of these wells after their operating lifetime, the DEIR/EIS fails to adequately describe the project.

2. Other Desalination Facilities' Decommissioning Is Not Adequately Described

Although the DEIR/EIS discusses decommissioning of the slant wells and decommissioning in the context of energy demand and energy efficiency,<sup>80</sup> the DEIR/EIS must consider *all* potentially significant impacts from decommissioning

CURE-3

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<sup>76</sup> California Well Standards, [http://www.water.ca.gov/groundwater/well\\_info\\_and\\_other/california\\_well\\_standards/wws/wws\\_combined\\_sec20-22.html#22](http://www.water.ca.gov/groundwater/well_info_and_other/california_well_standards/wws/wws_combined_sec20-22.html#22), **Attachment F-1**.

<sup>77</sup> California Well Standards, [http://www.water.ca.gov/groundwater/well\\_info\\_and\\_other/california\\_well\\_standards/wws/wws\\_combined\\_sec23.html](http://www.water.ca.gov/groundwater/well_info_and_other/california_well_standards/wws/wws_combined_sec23.html), **Attachment F-2**.

<sup>78</sup> DEIR/EIS, at p. 4.2-71.

<sup>79</sup> *Id.*, at p. 4.2-72.

<sup>80</sup> The DEIR/EIS states that the "amounts of direct energy consumption that would occur at the end of the useful life of the project (in approximately 40 years) related to decommissioning is unknown; however, it is anticipated that the amounts would be similar to those required for construction, discussed above." *Id.*, at p. 4.18-14.

the *entire* Project. Decommissioning the desalination plant and related facilities (including, in part, abandoning the subsurface slant wells) would result in environmental impacts, including impacts to air quality, biological resources, water, and solid waste capacity.

In short, the DEIR/EIS's description and analysis of Project decommissioning do not come close to satisfying NEPA's and CEQA's requirements. Where the DEIR/EIS acknowledges that some Project components could be decommissioned, it completely fails to analyze the associated impacts. Further, the DEIR/EIS fails to even mention, let alone analyze, impacts from decommissioning the rest of the Project. As a result, the DEIR/EIS fails to identify the Project's potentially significant impacts from Project decommissioning and fails to incorporate mitigation measures to reduce those impacts to a less than significant level.

An accurate and complete project description is necessary to perform an adequate evaluation of the potential environmental effects of a proposed project. The CPUC and MBNMS must prepare a revised DEIR/EIS that fully describes decommissioning for all Project components, including the plant, the slant wells, pipelines, injection wells and other associated materials. Only by doing so will the agencies be able to properly analyze and mitigate impacts from decommissioning the whole Project.

**B. The DEIR/EIS Fails to Describe the Operating Life of the Slant Wells**

The DEIR/EIS fails to include a complete project description with respect to the operating life of the slant wells. The Project is designed to draw 24.1 mgd through ten slant wells (eight would be active, two would be on standby).<sup>81</sup> Each slant well is capable of drawing approximately 3 mgd.<sup>82</sup> The existing test slant well would be converted to a permanent one, and nine additional slant wells would be constructed.<sup>83</sup> Slant well construction would take approximately 15 months to complete, and could take place anytime throughout the overall 24-month

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CURE-4

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<sup>81</sup> DEIR/EIS, at p. 3-56.

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*, at p. ES-10.

construction duration for the proposed project.<sup>84</sup> Yet, the DEIR/EIS states that the proposed slant wells would have a productive span of only 20-25 years, far short of the Project's 40 year expected operating phase.

[T]he proposed slant wells would now be located behind the predicted 2060, 100-year lower profile envelope. . . . The proposed slant wells would not be exposed during the operational life of the slant production wells (anticipated to be 20 to 25 years) and would not contribute to further coastal erosion or changes in the beach environment.<sup>85</sup>

Without providing further information, it is unclear how the Project will maintain consistent seawater intake over the 40-year operations phase if each well has a productive span of only 20-25 years. In order to maintain the Project's objective to draw 24.1 mgd over the span of 40 years, the Project would have to build another set of slant wells midway through the Project's operating phase.<sup>86</sup> The associated impacts with abandoning the no-longer-productive original slant wells, and building a new set of slant wells has not been evaluated, rendering the entire project analysis incomplete. What's more, the CPUC and MBNMS studied the location of the test slant well and proposed slant wells, but those studies never considered this possibility that more slant wells would need to be built to support the Project's objective to intake 24.1 mgd of water over the course of 40 years.<sup>87</sup>

The DEIR/EIS fails to describe and analyze the 20- to 25-year operational life of the slant production wells and the Project's need to build more than 10 slant wells over the 40-year operational life of the Project.

**C. The DEIR/EIS Fails to Adequately Explain the Design of the Slant Wells**

The DEIR/EIS fails to provide an adequate description of the slant wells to enable a meaningful evaluation and review of their associated environmental

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<sup>84</sup> *Id.*, at p. 3-47.

<sup>85</sup> *Id.*, at p. 4.2-70.

<sup>86</sup> *Id.*, at pp. 3-56; ES-3

<sup>87</sup> See DEIR/EIS, at Appendices E1 (Lawrence Berkeley National Laboratories Peer Review) and E2 (Draft North Marina Groundwater Model Review, Revision, and Implementation for Future Slant Well Pumping Scenarios).

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CURE-5  
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impacts.<sup>88</sup> The test slant well's purpose was to inform the design of the proposed slant wells. The test slant well was analyzed in an Environmental Assessment by The National Oceanic and Atmospheric Administration and the MBNMS in 2014 ("NOAA EA").<sup>89</sup>

Cal Am proposes to construct a slant test well in the coastal foredunes and conduct a 24-month pumping and testing program to obtain information regarding the geologic, hydrogeologic and water quality characteristics of the underlying aquifers in the project area. The data obtained over the 24-month test period would be used to facilitate the planning and final design of a proposed subsurface intake system and desalination plant to serve as the primary future water supply source for the Monterey Peninsula.<sup>90</sup>

The test slant well was drilled at a 19° angle and was 724 feet long.<sup>91</sup> The test slant well facilities include a "a submersible well pump, a wellhead vault, electrical facilities and controls, temporary flow measurement and sampling equipment, monitoring wells, and a temporary pipeline connection to the adjacent MRWPCA ocean outfall pipeline for discharges of the test water."<sup>92</sup>

In contrast, according to the DEIR/EIS, the proposed slant wells will be at a 14° angle and will extend 900 to 1,000 feet.<sup>93</sup> They would not extend beyond a depth of 190 to 210 feet below the seafloor.<sup>94</sup> The proposed slant wells would be screened for approximately 400 to 800 linear feet at depths corresponding to both the Dune Sand Aquifer and the underlying 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin.<sup>95</sup> The decision to adjust the angle of the proposed slant wells by 5° is not explained in the DEIR/EIS.<sup>96</sup>



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<sup>88</sup> CEQA Guidelines, § 15124.

<sup>89</sup> NOAA EA, 2014, *supra*.

<sup>90</sup> *Id.*, at Summary.

<sup>91</sup> DEIR/EIS, at p. 3-15.

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*, at pp. 3-8, 3-15.

<sup>94</sup> *Id.*, at p. 3-8.

<sup>95</sup> *Id.*

<sup>96</sup> *Id.*, at pp. 3-15-16, 3-47, 4.2-69, 4.4-42, 4.15-3 (discussing 14-degree and 19-degree slant well angles, but failing to explain rational for 5-degree difference).



The DEIR/EIS also lacks any reference to the location of the submersible well pump within the slant wells.<sup>97</sup> At most, the DEIR/EIS states that “[a] submersible pump would be lowered several hundred feet into each well.”<sup>98</sup> As Dr. Sobczynski points out in his comment letter, the location of the submersible pump is important for calculating the vertical infiltration rate,<sup>99</sup> which is necessary for evaluating impacts. However, the DEIR/EIS fails to disclose the location of the pump, rendering this DEIR/EIS inadequate as an information disclosure document.

The NOAA EA stated that, for the test slant well, the “water flow rate during the operational period would vary from 1,000 gallons per minute (gpm) to 2,500 gpm.”<sup>100</sup> According to the DEIR/EIS each proposed slant well would be equipped with a 2,500 gpm, 300 hp submersible well pump for a total feedwater supply of 24.1 mgd from 8 active slant wells;<sup>101</sup> each active well would pump approximately 2,100 gpm.<sup>102</sup> This raises the question as to when, if ever, the slant wells would run at their maximum capacity of 2,500 gpm, rather than their average operating rate of 2,100 gpm.

One possible time that the wells may run at maximum capacity may be after a shutdown, when the plant would need to “catch up on production” and produce 11.2 mgd of desalinated water, rather than its usual 9.6 mgd.<sup>103</sup> If, as the DEIR/EIS states, approximately 24.1 mgd of raw seawater is needed to produce 9.6 mgd of desalinated product water, then to produce 11.2 mgd of desalinated water after shutdown, approximately 28.11 mgd would be needed.<sup>104</sup> (Note, that the DEIR/EIS fails to provide a correct overall recovery rate. It states the recovery rate is 42 percent; however, 9.6 mgd out of 24.1 mgd is 39.8 percent.)<sup>105</sup> Under normal conditions, the eight active slant wells would draw approximately 3 mgd,<sup>106</sup> but in

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<sup>97</sup> *Id.*, at pp. 3-15-16; 3-48.

<sup>98</sup> *Id.*, at p. 3-48.

<sup>99</sup> R. Sobczynski Comments, pp. 7-8 (discussing the possible location of the submersible pump).

<sup>100</sup> NOAA EA, 2014, *supra*, at p. 39.

<sup>101</sup> DEIR/EIS, at p. 3-18.

<sup>102</sup> *Id.*, at pp. 3-15; 3-18; 4.12-52.

<sup>103</sup> *Id.*, at p. 3-57.

<sup>104</sup> *Id.*, at p. 3-56 (based on the proportion of 9.6 mgd out of 24.1 mgd).

<sup>105</sup> *Id.*

<sup>106</sup> *Id.*

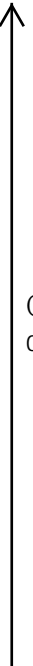


this post-shutdown scenario, the eight wells would need to draw closer to 3.5 mgd. At a rate of 2,500 gpm, the eight slant wells could draw up to 3.6 mgd. Alternatively, all ten slant wells could be activated to draw approximately 2.8 mgd. Yet, none of this information regarding the water flow rate is adequately explained. In describing a shutdown situation, the DEIR/EIS only concerns itself with the RO modules stating:

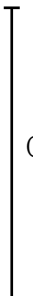
After a shutdown, CalAm might operate the plant with all RO modules in service (at the plant’s maximum production capacity of 11.2 mgd) to catch up on production; however, the total annual production would not exceed 9.6 mgd.<sup>107</sup>

Dr. Sobczynski explains in his comment letter that the submersible pump will impact the vertical infiltration rate, which may result in an adverse impact to the environment.<sup>108</sup> In failing to disclose how the Project would “catch up on production,”<sup>109</sup> the DEIR/EIS leaves the public guessing as to how this would be achieved. As will be described in further detail below, the DEIR/EIS must consider these types of events in its impact analysis for the slant wells.

The NOAA EA also explained that the test well would feature a “packer device,”<sup>110</sup> which was used “to isolate one aquifer [either the Dune Sand or the 180-FTE] for testing and pumping.”<sup>111</sup> As Dr. Sobczynski explains, this device alters the flow of water to the slant well intake, which can alter the vertical infiltration rate and thereby lead to environmental impacts.<sup>112</sup> Yet, the DEIR/EIS is silent as to whether this device would be utilized. The DEIR/EIS should inform the public and decision makers about whether this device would be installed, and if so, when it would be used.



CURE-6  
cont.



CURE-7

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<sup>107</sup> *Id.*, at p. 3-57.

<sup>108</sup> R. Sobczynski Comments, at pp. 7-8.

<sup>109</sup> DEIR/EIS, at p. 3-57.

<sup>110</sup> NOAA EA, *supra*, at p. 39; *see also* Williams, D.E., 2011, Slant Well Desalination Feedwater Supply System and Method for Constructing Same, U.S. Patent 8,056,629 B2 *available at* <https://www.google.com/patents/US8056629> (hereafter “Slant Well Patent”) **Attachment G**; R. Sobczynski Comments, at pp. 14-16.

<sup>111</sup> NOAA EA, *supra*, at p. 39.

<sup>112</sup> R. Sobczynski Comments, at pp. 14-16.

An adequate description of the design of the slant wells is important because, without it, the DEIR/EIS contains no discussion about slant wells' biofouling or corroding over time. Despite analysis pertaining to:

- corrosion at the MRWPCA outfall or diffuser<sup>113</sup>;
- corrosion in other Project components<sup>114</sup>; and
- fouling at the RO membranes due to “[t]he accumulation of salts or scaling (from to [*sic*] microbial contamination, turbidity, and other contaminants such as iron and manganese),”<sup>115</sup>

the DEIR/EIS leaves out long term degradation concerns regarding the slant wells. Even Dr. Williams (the slant well patent holder)<sup>116</sup> points out in his article about slant well technology, that the slant wells will experience biofouling and corrosion.<sup>117</sup> Dr. Williams writes:

The Monterey test slant well has an 18 in. pump house casing which can accommodate placement of large development pumps with capacities over 3,000 gpm. Properly developed wells constructed using corrosion resistant materials such as 2507 Super Duplex Stainless Steel minimize well deterioration due to corrosion and biofouling. As such, these design improvements result in less frequent well rehabilitation with intervals estimated at between 3–5 yrs.<sup>118</sup>

Though the DEIR/EIS does not provide the technical specifications of the slant well, the Request for Proposals call for the use of 2507 Super Duplex Stainless

CURE-8

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<sup>113</sup> DEIR/EIS, at p. 4.13-13.

<sup>114</sup> *Id.*, at p. 4.2-23 (Table 4.2-4).

<sup>115</sup> *Id.*, at p. 3-25.

<sup>116</sup> See Slant Well Patent, 2011, *supra*.

<sup>117</sup> Dennis Edgar Williams, President, Geoscience Support Services, Inc., USA, Yield And Sustainability of Large Scale Slant Well Feedwater Supplies For Ocean Water Desalination Plants, The International Desalination Association World Congress On Desalination And Water Reuse 2015/San Diego, CA, USA Ref: Idawc15\_Williams\_51564 [Http://201.199.127.109/Textos/Desalinizacion/Tomas%20de%20agua/Slant%20wells%202015.Pdf](http://201.199.127.109/Textos/Desalinizacion/Tomas%20de%20agua/Slant%20wells%202015.Pdf), at p.4, (hereafter “Williams, Yield, 2015”), **Attachment H**.

<sup>118</sup> *Id.* at p. 4.

Steel,<sup>119</sup> assuming, for the same reason described above, that it minimizes deterioration due to corrosion and biofouling.<sup>120</sup> By not discussing the slant wells' degradation (even while admitting that certain materials would need to be used to minimize biofouling and corrosion), the DEIR/EIS fails as an information disclosure document because it leaves out information that is necessary for evaluating and reviewing an adverse environmental impact from the Project.

The courts may not look for "perfection" but would expect "adequacy, completeness, and a good faith effort at full disclosure,"<sup>121</sup> which has not occurred here. Incomplete information in an environmental review document will skew the environmental consequences analysis and prevent informed public input. The information described above about Project decommissioning, operating life, and design must be included in the DEIR/EIS because each component is necessary to inform the public and decision makers about the Project's potentially significant environmental impacts. By failing to provide an adequate and complete project description, the DEIR/EIS violates NEPA and CEQA.

CURE-8  
cont.

#### **IV. THE DEIR/EIS FAILS TO PROVIDE AN ADEQUATE DESCRIPTION OF THE ENVIRONMENTAL SETTING**

The DEIR/EIS employs an incomplete baseline, thereby skewing the impact analysis. An accurate description of the environmental setting is important because it establishes the baseline physical conditions against which a lead agency can determine whether an impact is significant. The failure to adequately describe the existing setting contravenes the fundamental purpose of the environmental review process, which is to determine whether there is a potentially substantial, adverse change compared to the existing setting.

CURE-9

According to NEPA, an environmental review document must "succinctly describe the environment of the area(s) to be affected or created by the alternatives

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<sup>119</sup> Monterey Peninsula Water Supply Project: Subsurface Source Water Slant Wells Design Documents, 2015, pdf. p. 7, *available at* <https://www.dropbox.com/s/xs6tdmtg6qvk0fc/draft%20Source%20Water%20Slant%20Well%20supplemental%20conditions%20and%20tech%20specs%20and%20drawings.pdf?dl=0> (hereafter "MPWSP, Well Design, 2015"), **Attachment I-1**.

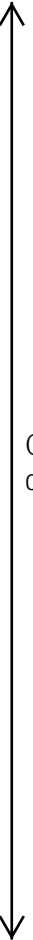
<sup>120</sup> Williams, Yield, 2015, *supra*, at p.4.

<sup>121</sup> CEQA Guidelines, § 15151.

under consideration.”<sup>122</sup> Without a description of the areas to be affected by a proposal, the potentially significant effects resulting from a proposal cannot be determined.<sup>123</sup> Indeed, “without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment and, consequently, no way to comply with NEPA.”<sup>124</sup> Moreover, adequate and accurate compilation of relevant data and information is critical in establishing whether the project would have a significant impact, while also allowing for public scrutiny and public participating in the decision-making process.<sup>125</sup>

CEQA requires the lead agency to include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time environmental review commences.<sup>126</sup> The EIR must also describe the existing environmental setting in sufficient detail to enable a proper analysis of project impacts. “The adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project.”<sup>127</sup> “A legally adequate EIR . . . must contain sufficient detail to help ensure the integrity of the process of decision-making by precluding stubborn problems or serious criticism from being swept under the rug.”<sup>128</sup> Furthermore, special emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project.<sup>129</sup>

The description of the environmental setting in the DEIR/EIS is inadequate because it omits highly relevant information regarding existing water quality and biological and marine resources that may be significantly impacted by the Project.



CURE-9  
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<sup>122</sup> 40 C.F.R. § 1502.15.

<sup>123</sup> *Half Moon Bay Fishermans’ Marketing Ass’n v. Carlucci* (9th Cir.1988), 857 F.2d 505, 510.

<sup>124</sup> *Id.*; see also *Am. Rivers v. Fed. Energy Regulatory Comm’n* (9th Cir.1999) 201 F.3d 1186, 1195, n. 15.

<sup>125</sup> *Northern Plains Resource Council, Inc. v. Surface Transp. Bd.* (9th Cir. 2011) 668 F.3d 1067, 1083-1085 (discussing lack of data in evaluating and understanding impact on species before construction).

<sup>126</sup> CEQA Guidelines, § 15125, subd. (a); see also *Communities For A Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 321.

<sup>127</sup> CEQA Guidelines, § 15024 subd. (a).

<sup>128</sup> *Kings County Farm Bureau v. City of Handford* (1990) 221 Cal.App.3d 692, 733.

<sup>129</sup> CEQA Guidelines, § 15125.

The CPUC and MBNMS are required to gather the relevant data and provide an adequate description of the existing environmental setting in a revised DEIR/EIS.

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cont.

**A. The DEIR/EIS Fails to Set Forth an Adequate Environmental Setting for Ocean Water Quality**

In order to adequately determine the impacts of discharging brine, the DEIR/EIS must provide the ionic composition of the ocean water. Ocean water salts include much more than sodium and chloride ions, ex. Ba, Ca, K, Sr, Mg.<sup>130</sup>

This Project must disclose the ionic composition of the ocean water due to the common ion effect.<sup>131</sup> The common ion effect occurs when, by increasing the concentration of one ion, *i.e.*, chloride, another ion becomes more soluble or more insoluble.<sup>132</sup> The interactions among the ions in ocean water are complex and failing to disclose the ionic composition deprives the public from knowing if certain compounds will precipitate out. For this reason, only taking aqueous samples without taking seafloor samples to determine compliance with the Ocean Plan may not suffice as some ions may precipitate out.<sup>133</sup> The Ocean Plan is not site-specific and the ionic composition in Monterey Bay must be disclosed to determine if there may be an impact due to the high increase of chloride ions being discharged.<sup>134</sup>

CURE-10

**B. The DEIR/EIS Fails to Set Forth an Adequate Environmental Setting for Marine Resources**

The CPUC and MBNMS failed to conduct the requisite due diligence to investigate and disclose in the DEIR/EIS the physico-chemical character of ocean

CURE-11

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<sup>130</sup> State Water Resources Control Board, Appendix I Responses to the External Peer Review of the Proposed Desalination Amendment, *available at* [http://www.waterboards.ca.gov/water\\_issues/programs/ocean/desalination/docs/amendment/150320\\_appendix\\_i.pdf](http://www.waterboards.ca.gov/water_issues/programs/ocean/desalination/docs/amendment/150320_appendix_i.pdf), at pp. "I"-29-30 (responding to a comment by Dr. Lisa A. Levin, one of the external peer reviewers) (hereafter "SWRCB, Appx. I"), **Attachment J-2**.

<sup>131</sup> Chemistry: The Central Science, 12th Ed., pp. 703-704, 726-731, **Attachment K-1**; General Chemistry: Principles & Modern Applications, 9th Ed., p. 751 (showing that with the addition of iodide ion to an aqueous solution containing lead and iodide, the equilibrium shifts to form more lead iodide (solid)), **Attachment K-2**.

<sup>132</sup> *Id.*

<sup>133</sup> DEIR/EIS, at p. 4.3-98; *see also id.* at Appendix D-3; *id.* at p. 4.3-104.

<sup>134</sup> SWRCB, Appx. I, *supra*, at p. I-20.

water and sediment in the Sanctuary. As Dr. Sobczynski explains in his comment letter, the DEIR/EIS does not provide critical information about the marine setting, which is important for an adequate impact analysis.<sup>135</sup> Without an adequate environmental setting, the lead agencies' finding that there would be less than significant impacts for marine resources is inaccurate.

1. DEIR/EIS Fails to Provide an Adequate Environmental Setting Due to Inconsistency Regarding Clay, and Lack of Data on Organic Matter

The DEIR/EIS provides inconsistent information about the existence of clay in the subsurface in the specific area of the slant wells.<sup>136</sup> On the one hand, the DEIR/EIS states that there is little to no silt, clay, and organic materials in the subsurface that would impede infiltration.<sup>137</sup> But, on the other hand, the DEIR/EIS states that, during slant well construction, clay and silt would be produced from the subsurface.<sup>138</sup> In examining the lithological bore logs from the test slant well, Dr. Sobczynski highlights that there are clay layers, which the slant well transects.<sup>139</sup> In failing to fully acknowledge the existence of clay in the subsurface, the DEIR/EIS failed to provide critical information about the existing subsurface environment.

As Dr. Sobczynski explains in his comments, even small amounts of clay will result in colloid buildup when microorganisms pass through the material.<sup>140</sup> The DEIR/EIS fails as an information disclosure document by providing inconsistent and unclear statements about the presence of clay in the subsurface, in the area where the slant wells are located, leading to potential colloidal buildup.<sup>141</sup> This potentially significant impact is discussed in further detail below.

CURE-11  
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<sup>135</sup> R. Sobczynski Comments, at p. 2, *passim*.

<sup>136</sup> DEIR/EIS, at p. 4.2-67; *see also id.*, at pp. 27-29.

<sup>137</sup> DEIR/EIS, at p. 4.2-67.

<sup>138</sup> *Id.*

<sup>139</sup> R. Sobczynski Comments, at p. 29; Monterey Peninsula Water Supply Project: Subsurface Source Water Slant Wells Design Documents, 2015, *supra*, at Appendix A *available at* [http://media.wix.com/ugd/28b094\\_d40d9b99079e40a687789b86742c997b.pdf](http://media.wix.com/ugd/28b094_d40d9b99079e40a687789b86742c997b.pdf) (Boring Logs), **Attachment I-1**.

<sup>140</sup> R. Sobczynski Comments, at pp. 27-28.

<sup>141</sup> *Id.*, at pp. 27-29; *see also* DEIR/EIS, at p. 4.2-67 (“Clayey soils are potentially corrosive.”).

With respect to organic materials, the DEIR/EIS groups the existence of organic materials, or rather the lack thereof, with the existence of clay and silt.<sup>142</sup> Yet, as described above, Dr. Williams (the slant well patent holder) and Geosciences (Dr. Williams' company) anticipate biofouling to occur, which is why they call for the special construction materials (Super Duplex 2507) to minimize corrosion and biofouling for the slant well.<sup>143</sup>

The DEIR/EIS's unexplained silence on this issue of slant well biofouling is also evident in its minimal discussion about harmful algal blooms. The DEIR/EIS states that "Hazardous Algal Blooms would not be a reason for the [slant] wells to stop operating. Subsurface intakes are not affected by algal blooms."<sup>144</sup> Algae is organic matter and the location, quantity, intensity, and potential toxicity of algal blooms (including the extent of the dead algae's ultimate settling on the sea floor) should be adequately disclosed, particularly because the DEIR/EIS claims subsurface intakes would not be affected by algal blooms.<sup>145</sup> The DEIR/EIS must explain how this can be so. As is, the DEIR/EIS does not provide any evidence to reconcile the statement that organic matter would not impact slant well operations but that biofouling may occur at the slant well and its effects should be minimized through the use of Super Duplex 2507 stainless steel.<sup>146</sup>

CURE-11  
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<sup>142</sup> DEIR/EIS, at p. 4.2-67.

<sup>143</sup> Williams, Yield, 2015, *supra*, at p. 4.

<sup>144</sup> DEIR/EIS, p. 4.5-6; *id.*, at p. 3-57, fn. 14.

<sup>145</sup> See Harmful Algal Blooms, NOAA, *available at*

<https://coastalscience.noaa.gov/research/habs/default>, **Attachment L-1**; What is a Harmful Algal Bloom, NOAA, *available at* <http://www.noaa.gov/what-is-harmful-algal-bloom>, **Attachment L-2**; Ocean Acidification Promotes Disruptive and Harmful Algal Blooms on Our Coasts, NOAA, *available at* <https://coastalscience.noaa.gov/news/climate/ocean-acidification-promotes-disruptive-and-harmful-algal-blooms-on-our-coasts/> (discussing that nutrient loading and acidification promote growth and increased toxicity of the red tide algal species *Alexandrium fundyense*), **Attachment L-3**; Impacts of Climate Change on the Occurrence of Harmful Algal Blooms, U.S. EPA: Office of Water, *available at* <https://www.epa.gov/sites/production/files/documents/climatehabs.pdf> ("[acidification] can change the competitive relationships between HABs and other algae, and can also change the ability of zooplankton to control HABs through their grazing activity"), **Attachment L-4**; Hutchins, D., Toxic Algal Blooms in a Changing Coastal Ocean, Univ. of Southern California, *available at* [https://dornsife.usc.edu/assets/sites/142/docs/Toxic\\_Algal\\_Blooms\\_in\\_a\\_Changing\\_Environment\\_-\\_Hutchins.pdf](https://dornsife.usc.edu/assets/sites/142/docs/Toxic_Algal_Blooms_in_a_Changing_Environment_-_Hutchins.pdf) ("Domoic acid production increases dramatically at lower pH (higher CO<sub>2</sub>), especially during nutrient-limited growth"), **Attachment L-5**.

<sup>146</sup> See Williams, Yield, 2015, *supra*, at p. 4.



By failing to disclose the existing amount of dissolved organic matter, sedimentary organic matter, and microorganisms in the subsurface,<sup>147</sup> the DEIR/EIS fails to establish an adequate baseline. The DEIR/EIS's description that there is "little to no" organic material in the subsurface is not sufficiently detailed to enable an analysis of buildup, biofouling and algal blooms.<sup>148</sup> The DEIR/EIS's vague statements regarding existing subsurface material and organic matter conflict with the requirements of CEQA and NEPA because, without an adequate description of the existing setting, there is simply no way to determine what effect a project will have on the environment. This inhibits the decision makers and public from being able to determine if the Project will have significant impacts.

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The DEIR/EIS must be revised and recirculated to adequately inform the public about the presence and extent of clay, and of organic matter, including the quantity and intensity of algal blooms.

**C. The DEIR/EIS Fails to Set Forth an Adequate Environmental Setting for Biological Resources**

CEQA requires agencies to place special emphasis on environmental resources that are rare or unique to a region.<sup>149</sup> According to independent expert biologist Renee Owens, the DEIR/EIS fails to acknowledge the high degree of importance of the Project area to conserving marine and terrestrial flora and fauna biodiversity.<sup>150</sup> As Ms. Owens explains, Monterey County has some of the most diverse flora in California.<sup>151</sup> It is a "hot spot" due in part to its high endemism of species, and it has been described as one of the most essential coastal regions in the world in terms of plant and wildlife biodiversity conservation.<sup>152</sup>

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Both federal and state metrics indicate the biodiversity value of the Project area. The U.S. Fish and Wildlife Service reports that there are 35 listed threatened or endangered species within, or that may be affected by projects in, the Project

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<sup>147</sup> DEIR/EIS, at p. 4.2-67.

<sup>148</sup> *Id.*

<sup>149</sup> CEQA Guidelines, § 15125

<sup>150</sup> Owens Comments, at pp. 3-4.

<sup>151</sup> *Id.*

<sup>152</sup> *Id.*

area.<sup>153</sup> The California Natural Diversity Database (“CNDDDB”) denotes within the Project area quads 17 Federal Endangered Species Act (“ESA”) listed species, 10 California Endangered Species Act (“CESA”) listed species, and 24 Species of Special Concern.<sup>154</sup> Due to the overall biological importance of the terrestrial habitats and species included in the Project footprint and buffer zone, the DEIR/EIS must emphasize the importance and resultant fragility of the ecosystems, habits, and sensitive species populations in describing the environmental setting.<sup>155</sup> The DEIR/EIS must analyze the Project’s biological impacts, mitigation measures, and cumulative impacts with respect to an accurate environmental setting, which should emphasize the Project area’s high degree of biological importance.

CURE-12  
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1. Sensitive species highlighted in the City of Marina’s Local Coastal Land Use Plan are not analyzed in the DEIR/EIS

Not only does the DEIR/EIS fail to provide an adequate environmental setting by minimally discussing the biological importance of the area, but the DEIR/EIS also fails to provide an adequate and accurate list of species in the area. Specifically, the DEIR/EIS fails to consider sensitive species highlighted in the City of Marina’s Local Coastal Land Use Plan (“LCLUP”), such as the globose dune beetle (*Coelus globosus*), Salinas Kangaroo Rat (*Dipodomys heermanni goldmani*), seaside painted cup (*Castilleja latifolia ssp. Latifolia*), and Eastwood’s Ericameria (*Ericameria fasciculate*).<sup>156</sup> These species are present in the region and the DEIR/EIS fails to explain why it did not include an analysis of impacts to these species.<sup>157</sup> As Ms. Owens explains, the DEIR/EIS must include these species in the environmental setting and evaluate the potential impacts to these species and their habitat,<sup>158</sup> as required by NEPA and CEQA.<sup>159</sup>

CURE-13

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<sup>153</sup> *Id.*, at p. 4.

<sup>154</sup> *Id.*

<sup>155</sup> *Id.*

<sup>156</sup> *Id.*, at pp. 4-9.

<sup>157</sup> *Id.*

<sup>158</sup> *Id.*, at pp. 8-9.

<sup>159</sup> See *Northern Plains Resource Council, Inc. v. Surface Transp. Bd.* (9th Cir. 2011) 668 F.3d 1067, 1085-1086 (finding that the agency’s inability to conduct on-the-ground surveys as part of the EIS process, and instead relying on outdated aerial surveys, violated NEPA’s requirement that the agency takes a “hard look” at the potential environmental consequences.)

2. The DEIR/EIS Fails to Adequately Survey Terrestrial Sensitive Species

For this Project's 2015 DEIR, Ms. Owens provided comments that protocol surveys should have been included.<sup>160</sup> Although the DEIR/EIS appears to acknowledge this need to provide project-level, protocol or focused surveys, the CPUC and MBNMS failed to obtain these adequate surveys.<sup>161</sup>

Instead, the DEIR/EIS relies largely on databases and outdated reports, rather than formal scientific observations made on the ground by permitted biologists who specialize in identifying species for which protocol surveys are required.<sup>162</sup> Furthermore, the DEIR/EIS's habitat assessment provides anecdotal observations or inferences from habitat onsite to make protected species status determinations.<sup>163</sup> As Ms. Owens explains, the CPUC and MBNMS must obtain results from protocol surveys to ensure specificity and accuracy in the DEIR/EIS for this Project, because many species may not actually be reported on the CNDDDB or on the California Native Plant Society's Inventory of Rare and Endangered Species.<sup>164</sup> The CPUC and MBNMS must obtain site-specific, protocol level surveys in order to accurately describe species in the existing setting in order to analyze the Project's impacts on those species in a revised and recirculated DEIR/EIS.<sup>165</sup>

Ms. Owens also explains that the DEIR/EIS still fails to provide a thorough, up-to-date, written biological report that describes in detail the results of project-wide, or facility-wide focused or protocol level surveys of special status plant or animal species.<sup>166</sup> Instead, the DEIR/EIS provides an impact analysis that is based on special-status species observations available to Environmental Science Associates ("ESA") as of June 20, 2016, and other documents from 2010 to 2014.<sup>167</sup> However, the 2016 ESA document only includes GIS shape files and does not

CURE-14

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<sup>160</sup> See Owens Comments, at pp. 9-16; see also Owens, R. Comments on Draft Environmental Impact Report for MPWSP (2015), at p. 5, **Attachment M**.

<sup>161</sup> Owens Comments, at pp. 10-11.

<sup>162</sup> *Id.*, at pp. 11-13.

<sup>163</sup> *Id.*, at p. 11.

<sup>164</sup> *Id.*

<sup>165</sup> *Id.*, at pp. 11-13.

<sup>166</sup> *Id.*, at p. 12.

<sup>167</sup> *Id.*, at pp. 12-13.

include a written analysis about the biological setting.<sup>168</sup> This haphazard compilation of GIS files deprives the public of the opportunity to participate in the decision-making process.<sup>169</sup>

“Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.”<sup>170</sup> The same is true for CEQA, which states that the purpose of the “EIR is to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action.”<sup>171</sup> Here, as a result of the failure to provide data from surveys and an evaluation in a biological report, the information the DEIR/EIS provides is unverifiable and impossible to review for accuracy.<sup>172</sup> Ms. Owens summarizes this lack of data:

Upon review of the entire discussion of terrestrial biological resources in the DEIR/S, it is apparent that every mention of focused, protocol, and most reconnaissance surveys for sensitive flora (not just habitat types) and fauna conducted for this Report hinge mostly upon data either not cited at all, vaguely alluded to by mentioning reports that covered only small sections of this Project footprint - some such report being 10 – 11 years old – and the citation of AECOM shape files, “AECOM 2016”. In fact, “AECOM 2016” is cited at least 50 times throughout the document. Yet no report of data on individual species accounts are provided. For such a large, well-funded, and public Project that has had ample opportunity to contract biological specialists to conduct protocol level surveys for threatened, endangered, and Special Concern species, this is an overt oversight.<sup>173</sup>

To comply with NEPA and CEQA, the DEIR/EIS must adequately survey, and subsequently analyze the potential impact of the Project on, sensitive terrestrial species. As proposed, the DEIR/EIS fails to do so.

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<sup>168</sup> *Id.*

<sup>169</sup> *Id.*; see *Northern Plains Resource Council, Inc.*, *supra*, 668 F.3d 1067, 1085.

<sup>170</sup> 40 C.F.R. § 1500.1.

<sup>171</sup> CEQA Guidelines, § 15003.

<sup>172</sup> Owens Comments, at p. 12.

<sup>173</sup> *Id.*, at p. 13

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cont.

3. The DEIR/EIS Biological Resources Maps are Inadequate for Determining Existing Conditions Regarding Special Status Species

The DEIR/EIS provides unclear maps to indicate the occurrences of animals and plants species. As Ms. Owens explains, the DEIR/EIS should provide maps that clearly indicate which, and how many species, occur in a given location in order to enable review of existing site conditions.<sup>174</sup> The DEIR/EIS's failure to include clear maps is indicative of a larger problem — the DEIR/EIS lacks focused and protocol level surveys of species in the Project area that are necessary to adequately inform the public and decision makers about the existing environment.<sup>175</sup>

CURE-15

4. The DEIR/EIS Fails to Consider the Western Snowy Plover Background and Relative Status for the Project Region

Ms. Owens provides extensive background about the western snowy plover, its status relative to the Project region, and threats and types of impacts to the species.<sup>176</sup> Given the severity of impacts that this Project may pose to the western snowy plover,<sup>177</sup> the DEIR/EIS must provide detailed information about the species' status in the Project area.<sup>178</sup> Currently, the DEIR/EIS does not provide enough information to accurately assess the impact of the Project's activities on the area's snowy plover population, and thereby to the regional population as a whole.<sup>179</sup>

CURE-16

**D. The DEIR/EIS Fails to Set Forth an Adequate Environmental Setting for the Socioeconomics and Environmental Justice Impacts in the Area**

The DEIR/EIS should incorporate the Office of Environmental Health Hazard Assessment's CalEnviroScreen 3.0 tool to inform decision makers and the public of

CURE-17

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<sup>174</sup> *Id.*, at p. 16.

<sup>175</sup> *Id.*

<sup>176</sup> *Id.*, at pp. 16-20

<sup>177</sup> *Id.*

<sup>178</sup> CEQA Guidelines, § 15024 subd. (a) ("The adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project.")

<sup>179</sup> Owens Comments, at p. 19.

the environmental burdens that the communities near the Project will face.<sup>180</sup> Since this information is available, and NEPA requires a socioeconomic and environmental justice analysis, the tool should be utilized to better describe the Project's setting.<sup>181</sup> By incorporating CalEnviroScreen 3.0, the DEIR/EIS can disclose relevant information needed to identify pollution burdens and vulnerabilities affecting communities near the Project. For example, the tool provides information such as potential burdens to communities posed by contaminants in drinking water, and potential social stressors relating to unemployment.<sup>182</sup> For a complete environmental setting, the DEIR/EIS should incorporate the CalEnviroScreen 3.0 information.

CURE-17  
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## V. THE DEIR/EIS FAILS TO ADEQUATELY ANALYZE AND MITIGATE THE PROJECT'S POTENTIALLY SIGNIFICANT IMPACTS

NEPA requires a full and fair discussion of every significant impact, as well as disclosure to the decision makers and the public of reasonable alternatives, which would avoid or minimize adverse impacts.<sup>183</sup> The impacts analysis must include a discussion of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented.<sup>184</sup> The discussion of impacts must include both "direct and indirect effects (secondary impacts) of a proposed project."<sup>185</sup> The agency need not speculate about all conceivable impacts, but it must evaluate the reasonably foreseeable significant effects of the proposed action.<sup>186</sup> In this context, reasonable foreseeability means that "the impact is sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision."<sup>187</sup>

CURE-18

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<sup>180</sup> CalEnviroScreen 3.0 Report, CalEPA, *available at* <https://oehha.ca.gov/media/downloads/calenviroscreen/report/ces3report.pdf>, **Attachment N-1**; *see also id.*, *available at* <https://oehha.maps.arcgis.com/apps/webappviewer/index.html?id=4560cfbce7c745c299b2d0cbb07044f5> (Map), **Attachment N-2**.

<sup>181</sup> DEIR/EIS, at pp. 4.20-6, 4.20-22. (using U.S. Census Bureau data).

<sup>182</sup> *See generally*, CalEnviroScreen 3.0 Report, *supra*.

<sup>183</sup> 40 C.F.R. § 1502.

<sup>184</sup> *Id.*, at § 1502.16.

<sup>185</sup> *Id.*; *see also* *Sierra Club v. Marsh* (1st Cir. 1992) 976 F.2d 763, 767.

<sup>186</sup> *Sierra Club v. Marsh*, *supra*, 976 F.2d at p. 767.

<sup>187</sup> *Ibid*; *see also* *Dubois v. Dept. of Agriculture* (1st Cir. 1996) 102 F.3d 1273, 1286.

NEPA also requires a discussion regarding possible conflicts between the proposed action and the objectives of Federal, regional, State, and local land use plans, policies and controls for the area concerned.<sup>188</sup>

NEPA requires that agencies take a “hard look” at the environmental consequences of a proposed action.<sup>189</sup> A hard look is defined as a “reasoned analysis containing quantitative or detailed qualitative information.”<sup>190</sup> The level of detail must be sufficient to support reasoned conclusions by comparing the amount and the degree of the impact caused by the proposed action and the alternatives.<sup>191</sup> An EIS must provide a “full and fair discussion of significant environmental impacts and shall inform the decision-makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment.”<sup>192</sup> “General statements about ‘possible’ effects and ‘some risk’ do not constitute a ‘hard look’ absent a justification regarding why more definitive information could not be provided.”<sup>193</sup> “[L]ack of knowledge does not excuse the preparation of an EIS; rather it requires [the agency] to do the necessary work to obtain it.”<sup>194</sup>

CURE-18  
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As described above in the legal background, CEQA has two basic purposes, neither of which the DEIR/EIS satisfies. First, CEQA is designed to inform decision-makers and the public about the potential, significant environmental effects of a project.<sup>195</sup> CEQA requires that an agency analyze potentially significant environmental impacts in an EIR.<sup>196</sup> The EIR should not rely on scientifically outdated information to assess the significance of impacts, and should result from

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<sup>188</sup> 40 C.F.R. § 1502.16.

<sup>189</sup> *Robertson v. Methow Valley Citizens Council* (1989) 490 U.S. 332, 350; *Dubois, supra*, 102 F.3d at p. 1284; see also *South Fork Band Council Of Western Shoshone of Nevada v. U.S. Dept. of Interior* (9th Cir. 2009) 588 F.3d 718, 727 [“NEPA requires that a hard look be taken, if possible, before the environmentally harmful actions are put into effect”].

<sup>190</sup> Bureau of Land Management, NEPA Handbook, at p. 55 (Jan. 2008), available at [http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_ha\\_ndbook.Par.24487.File.dat/h1790-1-2008-1.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_ha_ndbook.Par.24487.File.dat/h1790-1-2008-1.pdf) (hereinafter “NEPA Handbook”).

<sup>191</sup> *Id.*, at p. 55; see also 40 C.F.R. § 1502.1

<sup>192</sup> 40 CFR § 1502.1.

<sup>193</sup> *Neighbors of Cuddy Mountain v. U.S. Forest Service* (9th Cir. 1998) 137 F.3d 1372, 1380.

<sup>194</sup> *National Parks & Conservation Association v. Babbitt* (9th Cir. 2001) 241 F.3d 722, 733.

<sup>195</sup> CEQA Guidelines, § 15002, subd. (a)(1).

<sup>196</sup> See Pub. Resources Code § 21000; CEQA Guidelines, § 15002.



“extensive research and information gathering,” including consultation with state and federal agencies, local officials, and the interested public.<sup>197</sup> To be adequate, the EIR should evidence the lead agency’s good faith effort at full disclosure.<sup>198</sup> Its purpose is to inform the public and responsible officials of the environmental consequences of their decisions *before* they are made. For this reason, the EIR has been described as “an environmental ‘alarm bell’ whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.”<sup>199</sup> Thus, the EIR “protects not only the environment but also informed self-government.”<sup>200</sup>

Second, CEQA directs public agencies to avoid or reduce environmental damage when possible by requiring alternatives or mitigation measures.<sup>201</sup> The EIR serves to provide public agencies, and the public in general, with information about the effect that a proposed project is likely to have on the environment and to “identify ways that environmental damage can be avoided or significantly reduced.”<sup>202</sup> If a project has a significant effect on the environment, the agency may approve the project only upon a finding that it has “eliminated or substantially lessened all significant effects on the environment where feasible,” and that any unavoidable significant effects on the environment are “acceptable due to overriding concerns” specified in CEQA section 21081.<sup>203</sup>

The DEIR/EIS fails to satisfy the basic purposes of CEQA. Specifically, the DEIR/EIS fails to reflect a good faith effort at public disclosure by failing to adequately analyze and mitigate the Project’s potentially significant impacts to ocean water quality, marine resources, biological resources, air quality, public health, and vibration issues, and others. The DEIR/EIS also fails to propose measures that could reduce these Project impacts to a less than significant level. In sum, the DEIR/EIS fails to inform decision-makers and the public of the Project’s

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<sup>197</sup> *Berkeley Keep Jets Over the Bay Comm. v. Board of Port Comm.* (2001) 91 Cal. App.4th 1344, 1367; *Schaeffer Land Trust v. San Jose City Council* (1989) 215 Cal.App.3d 612, 620.

<sup>198</sup> CEQA Guidelines, § 15151; *see also Laurel Heights I* (1998) 47 Cal.3d 376, 406.

<sup>199</sup> *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

<sup>200</sup> *Laurel Heights I* (1998), *supra*, at p. 392.

<sup>201</sup> CEQA Guidelines, § 15002(a)(2)-(3); *Berkeley Keep Jets Over the Bay Comm.*, *supra*, 91 Cal.App.4th at p. 1354.

<sup>202</sup> CEQA Guidelines, § 15002, subd. (a)(2).

<sup>203</sup> *Id.*, at § 15092, subd. (b)(2)(A)-(B).

potentially significant environmental effects and to reduce damage to the environment *before* they occur.

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**A. The DEIR/EIS Fails to Adequately Analyze and Mitigate Potentially Significant Impacts to Ocean Water Quality**

The Ocean Plan’s Desalination Amendment provides regulations for desalination operations.<sup>204</sup> Scientists reviewed and commented on the Desalination Amendment.<sup>205</sup> The State Water Resourced Control Board provided responses to the external, scientific peer review.<sup>206</sup> The DEIR/EIS states that it will comply with the California Ocean Plan: Desalination Amendment.<sup>207</sup> With respect to discharges the DEIR/EIS states:

Typically, constituent concentrations are permitted to exceed water quality objectives within the [Zone of Initial Dilution (“ZID”)], which is limited in size. Thus, in the case of MPWSP, the Ocean Plan water quality objectives would apply to the edge of the ZID (Flow Science, Inc., 2014 in Appendix D2). Dilution occurring within the ZID from an operational discharge is conservatively calculated as the minimum probable initial dilution (Dm). The water quality objectives established in the Ocean Plan are considered in the context of the calculated Dm to derive the NPDES effluent limits for a wastewater discharge in-pipe (i.e., prior to ocean dilution).<sup>208</sup>

CURE-19

Although the Ocean Plan may permit constituents (defined as bacterial, physical, chemical, biological and chemical constituents) to exceed water quality objectives at the point of discharge, the Ocean Plan provides general regulations and does not provide site-specific impacts analyses for this Project.<sup>209</sup> For example, Dr. Lisa A. Levin, in the external peer review for the Desalination Amendment,

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<sup>204</sup> State Water Resources Control Board (2015) Water Quality Control Plan: Ocean Waters of California, *available at* [http://www.swrcb.ca.gov/water\\_issues/programs/ocean/docs/cop2015.pdf](http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf).

<sup>205</sup> SWRCB, Appx. I, *supra*.

<sup>206</sup> *Id.*

<sup>207</sup> DEIR/EIS, at pp. 4.3-27-28.

<sup>208</sup> *Id.*

<sup>209</sup> SWRCB, Appx. I, *supra*.

stated that “subsurface intake options need to be evaluated in light of cumulative impacts and habitat status.” In response, the Water Board stated that:

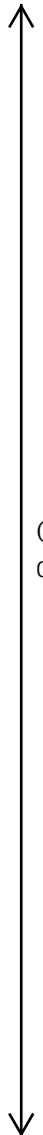
Cumulative impacts will be evaluated on a project-specific basis taking into consideration site-specific considerations during the CEQA process for each desalination facility.<sup>210</sup>

Thus, the DEIR/EIS must comply with the CEQA and NEPA and cannot rely on compliance with the Ocean Plan as a substitute for a site-specific impact analysis.<sup>211</sup>

Despite providing various modeling, the DEIR/EIS lacks evidence to support the statement that excessive constituents *within* the ZID would not result in a potentially significant impact. In fact, the DEIR/EIS seems to suggest the opposite that there would be a significant impact at the point of discharge, but because the Ocean Plan allows for water quality objectives to be exceeded at the point of discharge, the Project’s impact would be less than significant.<sup>212</sup> Thus, all the DEIR/EIS commits to is that, in the case of the MPWSP, the Ocean Plan water quality objectives would apply to the edge of the ZID.<sup>213</sup> The DEIR/EIS completely omits any impact analysis and any identification of potential mitigation for the potential significant impact at the point of discharge.

The DEIR/EIS cannot “completely ignore[]” a potential impact.<sup>214</sup> For the purposes of NEPA and CEQA, the DEIR/EIS fails to adequately analyze and mitigate potentially significant impacts to ocean water quality *within* the ZID. The CPUC and MBNMS cannot rely on compliance with the Ocean Plan to avoid analyzing and mitigating significant impacts within the ZID.

As the DEIR/EIS points out, “[o]perational discharges of the MPWSP under certain scenarios may exceed Ocean Plan water quality objective thresholds.



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<sup>210</sup> *Id.*, at p. I-20.

<sup>211</sup> *See also* Guidelines for Desalination Plants in the Monterey Bay National Marine Sanctuary, NOAA (May 2010), *available at* <http://montereybay.noaa.gov/resourcepro/resmanissues/pdf/050610desal.pdf>, **Attachment O**.

<sup>212</sup> *See* DEIR/EIS, at pp. 4.3-27-28.

<sup>213</sup> *Id.*, at p. 4.3-28.

<sup>214</sup> *Citizens to Preserve the Ojai v. County of Ventura* (1985) 176 Cal.App.3d 421, 430.

Exceedances of these thresholds would be potentially inconsistent with Coastal Act policies.”<sup>215</sup> However, the operational discharge scenarios all provide estimated concentrations at the *edge* of the ZID for Ocean Plan constituents.<sup>216</sup> The common-ion effect, described above, informs us that ions might become more or less soluble based on the influx of chloride ion at the point of discharge.<sup>217</sup> It does not appear from the DEIR/EIS that the various discharge scenarios considered an accumulation of constituents at the sea floor that had precipitated out at the point of discharge.<sup>218</sup> Certainly, accumulated constituents on the seafloor that are hazardous to marine (and human life) would pose a potentially significant effect. By failing to consider impacts at the point of discharge, and the complex chemical interactions due to the high level of chloride ions that would be discharged through the outfall, the DEIR/EIS fails to adequately analyze and mitigate potentially significant effects to ocean water quality.

CURE-19  
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Exacerbating matters regarding existing constituents, the DEIR/EIS proposes to add inert biodegradable additives for construction and cleaning, if needed.<sup>219</sup> CURE requested the Material Safety Data Sheets (“MSDS”) for these chemicals and was informed that such documents were unavailable because “We [Environmental Science Associations] are not in possession of any MSDS(s). The exact products CalAm would use are unknown.”<sup>220</sup> Even if those chemicals may be inert, that does not mean they may not have significant impacts. The DEIR/EIS lacks evidence to support its conclusions and must disclose this information in a revised and recirculated DEIR/EIS.

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<sup>215</sup> DEIR/EIS, at p. 4.3-24.

<sup>216</sup> *Id.*, at pp. 4.3-96-101 (Table 4.3-16).

<sup>217</sup> SWRCB, Appx. I, *supra*.

<sup>218</sup> DEIR/EIS, at p. 4.3-93 (“After compiling water quality data for the desalination brine and MRWPCA wastewater (described above), Trussell Tech (2016; Appendix D3) combined the data for the evaluated discharge scenarios.”)

<sup>219</sup> 4.3-111.

<sup>220</sup> Letter from Eric Zigas to Linda Sobczynski (Feb. 13, 2017), **Attachment P**.

**B. The DEIR/EIS Fails to Adequately Analyze and Mitigate Potentially Significant Impacts Related to Marine Resources**

The DEIR/EIS fails to adequately analyze and mitigate potential significant impacts related to marine resources, particularly as those impacts are caused by the subsurface slant well technology.

1. Factors Influencing Vertical Infiltration Rates Are Not Adequately Analyzed

The DEIR/EIS does not include critical information, which will impact the vertical infiltration rate,<sup>221</sup> such as:

- the location of the submersible pump;<sup>222</sup>
- the sediment profile for the 19° test slant well and for 14° proposed slant wells;<sup>223</sup>
- the inflatable packers for the test slant well, and the possible packers in the proposed slant wells;<sup>224</sup> and
- the clogging in the seabed.<sup>225</sup>

According to independent expert physical chemist, Dr. Radoslaw Sobczynski, these factors will result in a higher vertical infiltration rate, which has not been adequately disclosed and may lead to a significant, undisclosed impact.<sup>226</sup> As Dr. Sobczynski provides in further detail in his letter, the vertical infiltration calculations were based on a calculation that Dr. Williams (the slant well patent holder) conducted based on site-specific information from the Doheny Desalination Plant's slant wells, and a calculation, which divided the amount of water (24.1 mgd) by the subsurface area above the slant wells (1,000,000 ft<sup>2</sup>).<sup>227</sup> Because the CPUC and MBNMS considered these numbers to be sufficiently similar, it determined that

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<sup>221</sup> R. Sobczynski Comments, at p. 7.

<sup>222</sup> *Id.*, at pp. 7-10.

<sup>223</sup> *Id.*, at pp. 10 -14.

<sup>224</sup> *Id.*, at pp. 14-16

<sup>225</sup> *Id.*, at pp. 16-17.

<sup>226</sup> *Id.*, at p. 17.

<sup>227</sup> *Id.*, at pp. 5-7.

this vertical infiltration range was adequate for purposes of impact analysis.<sup>228</sup> Dr. Sobczynski identifies a number of factors, which could change this vertical infiltration rate, and which have not been adequately disclosed in the DEIR/EIS.<sup>229</sup> The implication of failing to provide an accurate infiltration rate is that there may be a significant, undisclosed impact.<sup>230</sup>

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a) *Submersible Pump*

Critically, the DEIR/EIS fails to provide information about the location of the submersible pump.<sup>231</sup> As Dr. Sobczynski explains in his comments, the submersible pump's location is critical in evaluating the intake's environmental impact.<sup>232</sup> Based on information gleaned from the DEIR/EIS, the slant well patent, and Dr. Williams' article about the Monterey test slant well, Dr. Sobczynski assumed that the submersible pump is located at a depth of approximately 60-70 feet.<sup>233</sup> The test slant well uses a telescoping design, meaning that the part of the well closest to the surface is progressively wider than it is at its lowest point.<sup>234</sup>

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CURE-21

As Dr. Sobczynski describes in further details in his letter, the submersible pump will create a pressure gradient, which will draw most of the water in the area of the pump.<sup>235</sup> By drawing most of the water in a limited area directly above the pump, the vertical infiltration rate will be higher, an important fact that the DEIR/EIS failed to consider.<sup>236</sup>

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b) *Sediment Profile*

Next, the slant well is constructed through the Older Dune Sand and Terrace Deposits.<sup>237</sup> The Older Dune Sand is described as having high permeability.<sup>238</sup> The

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<sup>228</sup> *Id.*, at p. 7; *see also* DEIR/EIS, at p. 4.5-52.

<sup>229</sup> *Id.*, at pp. 17-23.

<sup>230</sup> *Id.*, at pp. 23-30.

<sup>231</sup> *Id.*, at pp. 7-10.

<sup>232</sup> *Id.*

<sup>233</sup> *Id.*, at p. 8.

<sup>234</sup> DEIR/EIS, at p. 3-48.

<sup>235</sup> R. Sobczynski Comments, at pp. 7-10 (Figures 2 and 3).

<sup>236</sup> DEIR/EIS, at p. 10.

<sup>237</sup> R. Sobczynski Comments, at pp. 10-14.

<sup>238</sup> DEIR/EIS, at p. 4.2-67.

DEIR/EIS views this as a positive characteristic stating, “[t]he high permeability of the dune sand would be suitable for the infiltration of water.”<sup>239</sup> Notably, the DEIR/EIS does not make any statement about the permeability of the Terrace Deposits, yet this will impact the vertical infiltration rate. If water will flow more easily through the Older Dune Sand, then that portion of the well (approximately the upper third) will be more productive.<sup>240</sup> This will once again result in a higher infiltration rate because most of the water will flow through the Older Dune Sand into the upper third of the slant well.<sup>241</sup>

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c) *Inflatable Packers*

Third, the test slant well had an inflatable packer feature.<sup>242</sup> This packer feature is also disclosed in Dr. Williams’ slant well patent.<sup>243</sup> However, the DEIR/EIS is silent on whether the proposed slant wells would have this feature.

The packers may be on either, or both sides of the submersible pump.<sup>244</sup> The slant well operator may inflate either or both of these packers.<sup>245</sup> By inflating the lower packer, for example, any suction power from the pump would be lost and the lower portion of the slant well (below the submersible pump) would become inactive.<sup>246</sup> Without providing further information, it is unclear from the DEIR/EIS if the proposed slant wells would include this feature. If they do include the packers, then the DEIR/EIS should disclose when either or both packers would be inflated (*i.e.*, to deal with a clog, or for regular maintenance).

CURE-23

By concentrating the water’s flow to the area directly above the submersible pump, the vertical infiltration rate might be higher.<sup>247</sup> However, because the DEIR/EIS is silent about the presence of the inflatable packers, even though they could increase the vertical infiltration rate, Dr. Sobczynski did not include the

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<sup>239</sup> *Id.*

<sup>240</sup> R. Sobczynski Comments, at p. 14.

<sup>241</sup> *Id.*

<sup>242</sup> *Id.*, at pp. 15-16.

<sup>243</sup> *Id.*, at p. 14.

<sup>244</sup> *Id.*

<sup>245</sup> *Id.*

<sup>246</sup> *Id.*, at p. 15.

<sup>247</sup> *Id.*, at p. 14.



packers' presence in his calculations to determine the vertical infiltration rate.<sup>248</sup> The CPUC and MBNMS must revise the DEIR/EIS to clarify whether and how the inflatable packers would be used and their effect on infiltration.

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d) *Clogging of the Seabed*

Fourth, according to Dr. Sobczynski, there is a high likelihood that the slant wells' intake screens and seabed will clog over time.<sup>249</sup> In fact, the intake screens are specially designed to minimize biofouling and corrosion and thereby to reduce the need for more frequent cleaning.<sup>250</sup> Though the intake screens can be cleaned by lowering mechanical brushes and possibly adding inert chemicals, the seabed through which the water will be filtered cannot be cleaned in this way.<sup>251</sup>

Clogging was an issue at the Doheny wells at Dana Point where the test slant wells lost their efficiency from an original value of 95% in 2006 to 52% in 2012.<sup>252</sup> Dr. Williams stated that the reason why the Doheny wells failed is because of technical limitations.<sup>253</sup>

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CURE-24

“Due to the pump house casing limitation experienced at Dana Point and the inability to fully develop the well, the MPWSP test slant well included a larger diameter pump house casing. The Monterey test slant well has an 18 in. pump house casing which can accommodate placement of large development pumps with capacities over 3,000 gpm.”<sup>254</sup>

The Monterey test slant well has allegedly not lost efficiency since beginning operations in 2015.<sup>255</sup> However, that is not to say clogging will not occur in the future for the test slant well and the proposed slant wells. The slant wells are

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<sup>248</sup> *Id.*, at p. 15.

<sup>249</sup> *Id.*, at pp. 16-17.

<sup>250</sup> Williams, Yield, 2015, *supra*, at p. 4.

<sup>251</sup> DEIR/EIS, at p. 3-57.

<sup>252</sup> R. Sobczynski Comments, at p. 16.

<sup>253</sup> Williams, Yield, 2015, *supra*, at p.4.

<sup>254</sup> *Id.*

<sup>255</sup> DEIR/EIS, at Appendix G2, p.5 (“By the end of September 2016, the test slant well had been operating continuously for 5 months and intermittently since April 2015.”)

designed to draw brackish groundwater initially, but within 18 months<sup>256</sup> to 4 years<sup>257</sup> the slant wells should draw predominantly from ocean water that filters through the subsurface sediment (93% of source water).<sup>258</sup>

Assuming this is true, the buildup of sediment and organic matter traversing through the seabed will be at its highest when most of the source water will be coming from above the seafloor.<sup>259</sup> Additionally, an operational report for the Doheny wells stated that future wells must be carefully constructed so that the wells do not become immediately clogged.<sup>260</sup>

Yet, the DEIR/EIS does not disclose that there is a high likelihood that sediment and organic matter will build up in the subsurface, especially when after some time most of the source water will come from above the seafloor.<sup>261</sup> As Dr. Sobczynski points out, unless the mechanical cleaning process includes displacing the seabed above the intake, then the slant wells will likely become clogged over time.<sup>262</sup>

2. The Recalculated Vertical Infiltration Rate is Higher than the Rate Provided

Dr. Sobczynski recalculated the vertical infiltration rate.<sup>263</sup> He found that the infiltration rate was approximately ten times higher than what Dr. Williams calculated with respect to the Doheny wells and what the DEIR/EIS reported in its

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<sup>256</sup> Final Summary Report for the Doheny Ocean Desalination Project Phase 3 Investigation: Extended Pumping and Pilot Plat Test Regional Watershed and Groundwater Modeling Full Scale Project Conceptual Assessment, January 2014. Municipal Water District of Orange County (“MWDOC”), at p.19, *available at* <https://www.scwd.org/civica/filebank/blobdload.asp?BlobID=5592> (“MWDOC – Final Summary, 2014”), **Attachment Q**.

<sup>257</sup> DEIR/EIS, at Appendix G2, p. 5 (“Figure 3 shows that it could take up to four years for the slant well to be drawing 96% seawater . . .”).

<sup>258</sup> DEIR/EIS, at Appendix G2, p. 3 (“The slant wells for the MPWSP are projected to pull 93 percent seawater from the Monterey Bay and 7 percent groundwater from the surrounding area when the MPWSP is operating (GeoScience 2014b).”); *see also* R. Sobczynski Comments, at p. 4.

<sup>259</sup> *See* R. Sobczynski Comments, at p. 26.

<sup>260</sup> *Id.*, at p. 17; *see also* MWDOC – Final Summary, 2014, *supra*, at p. 57.

<sup>261</sup> R. Sobczynski Comments, at p. 26.

<sup>262</sup> *Id.*, at p. 16.

<sup>263</sup> *Id.*, at pp. 17-23.

calculation dividing the area above the slant wells (one-million square feet) by the bulk flow of water (24.1 mgd).<sup>264</sup> Dr. Sobczynski found a vertical infiltration rate of 0.16 mm/sec.<sup>265</sup> Based on this new vertical infiltration rate, Dr. Sobczynski recalculated the ventilation parameter, which is important for determining whether microorganisms could be pulled into the seabed.<sup>266</sup> Dr. Sobczynski found that the infiltration rate will increase wave induced bottom stress by 10%, rather than the previously calculated 1%.<sup>267</sup> This increase was not adequately analyzed in the DEIR/EIS, because it was underestimated.<sup>268</sup> As a result, the DEIR/EIS failed to disclosed and evaluate significant impacts from the Project's higher infiltration rate.

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3. Accumulation of Biomatter Above the Slant Well is Not Adequately Analyzed and Mitigated

The DEIR/EIS fails to adequately analyze and mitigate potentially significant impacts related to marine resources as a result of the slant well.<sup>269</sup> Dr. Sobczynski describes the potential for the accumulation of biomatter above the slant wells.<sup>270</sup> The DEIR/EIS should account for how it will handle the sediment layer at the bottom of the seafloor.

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4. Impacts from Maintaining and Abandoning the Slant Well Have Not Been Adequately Analyzed and Mitigated

The DEIR/EIS fails to adequately analyze and mitigate potentially significant impacts related to maintaining<sup>271</sup> and abandoning the slant well materials in the ocean subsurface,<sup>272</sup> and to the wells' degradation over time. Whereas active slant wells would require maintenance every 5 years,<sup>273</sup> the DEIR/EIS does not mention

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<sup>264</sup> *Id.*, at p. 19.

<sup>265</sup> *Id.*, at p. 20.

<sup>266</sup> *Id.*, at pp. 21-22.

<sup>267</sup> *Id.*, at p. 22.

<sup>268</sup> *Id.*

<sup>269</sup> *Id.*, at pp. 23-30.

<sup>270</sup> *Id.*, at p. 23.

<sup>271</sup> DEIR/EIS, at p. 3-57.

<sup>272</sup> *Id.*, at p. 4.2-72.

<sup>273</sup> *Id.*, at p. 3-57.

maintenance activities associated with the decommissioned, abandoned slant wells, which would likely foul and corrode for as long as they remain in the subsurface.<sup>274</sup> According to the abandonment plan, which does not consider removing abandoned slant wells, the wells would remain in the seabed in perpetuity, degrading over time.<sup>275</sup> By not analyzing this degradation over the time, particularly in the context of slant well abandonment, the DEIR/EIS fails to adequately analyze and mitigate potentially significant impacts from the whole Project.

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Given Dr. Sobczynski's findings about accumulation of biomatter above the slant well,<sup>276</sup> the DEIR/EIS must also consider the impact of abandoning the slant wells and the resultant degradation arising from the wells' corrosion and biofouling, and the decomposing biomatter above the slant well.<sup>277</sup> The biomatter accumulation and subsequent decay can lead to a potentially significant impact (*i.e.*, toxic gases) that has not been adequately disclosed and mitigated.<sup>278</sup>

**C. The DEIR/EIS Fails to Adequately Analyze and Mitigate Potentially Significant Cumulative Impacts Related to Marine Resources**

In evaluating significance, NEPA requires consideration of whether the action is related to other actions with individually insignificant but cumulatively significant impacts.<sup>279</sup> The lead agency must make a finding of significance if it is "reasonable to anticipate a cumulatively significant impact on the environment."<sup>280</sup> The CEQ regulations further require that significance "cannot be avoided by terming an action temporary or by breaking it down into small component parts."<sup>281</sup>

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An EIR is required to discuss the cumulative impacts of a project "when the project's incremental effect is cumulatively considerable."<sup>282</sup> An EIR is required to

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<sup>274</sup> Williams, Yield, 2015, *supra*, at p. 4.

<sup>275</sup> DEIR/EIS, at p. 4.2-72.

<sup>276</sup> R. Sobczynski Comments, at pp. 23-30.

<sup>277</sup> *Id.*

<sup>278</sup> *Id.*

<sup>279</sup> 40 C.F.R. § 1508.27.

<sup>280</sup> *Id.*

<sup>281</sup> *Id.*

<sup>282</sup> 14 C.C.R. § 15130(a).

discuss significant impacts that the proposed project will cause in the area that is affected by the project.<sup>283</sup> “This area cannot be so narrowly defined that it necessarily eliminates a portion of the affected environmental setting.”<sup>284</sup>

The CEQA Guidelines specifically direct the lead agency to “define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.”<sup>285</sup> The courts have held that it is vitally important that an EIR avoid minimizing the cumulative impacts. Rather, it must reflect a conscientious effort to provide public agencies and the general public with adequate and relevant detailed information about them.<sup>286</sup> An EIR’s cumulative impacts discussion “should be guided by the standards of practicality and reasonableness,” but several elements are deemed “necessary to an adequate discussion of significant cumulative impacts” including “[a] list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency.”<sup>287</sup>

Both the State Water Resources Control Board<sup>288</sup> and the MBNMS Desalination Guidelines establish subsurface intakes as the preferred technology for seawater intakes.<sup>289</sup> There are a number of desalination proposals for Monterey Bay and along the California Coast, which have considered or are evaluating the feasibility of subsurface intake systems.<sup>290</sup> Consequently, there may be a significant

CURE-28  
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<sup>283</sup> *Bakersfield Citizens*, 124 Cal.App.4th at p. 1216 (emphasis added); see 14 C.C.R. § 15126.2(a).

<sup>284</sup> *Bakersfield Citizens*, 124 Cal.App.4th at p. 1216.

<sup>285</sup> *Id.*; 14 C.C.R. § 15130(b)(3).

<sup>286</sup> Pub. Resources Code, § 21061; *San Franciscans for Reasonable Growth v. City and County of San Francisco* (1984) 151 Cal.App.3d 61, 79; see also *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 723.

<sup>287</sup> 14 C.C.R. § 15130(b); *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal.App.4th 899, 928-29.

<sup>288</sup> Ocean Plan with Desalination Amendment, State Water Resources Control Board, p. 39, available at [http://www.waterboards.ca.gov/water\\_issues/programs/ocean/docs/cop2015.pdf](http://www.waterboards.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf) (“the regional water board in consultation with State Water Board staff shall require subsurface intakes unless it determines that subsurface intakes are not feasible . . .”). **Attachment J-1.**

<sup>289</sup> Guidelines for Desalination Plants in the Monterey Bay National Marine Sanctuary, NOAA, *supra*, at p. 6 (“Desalination project proponents should investigate the feasibility of using subsurface intakes as an alternative to traditional intake methods.”).

<sup>290</sup> Resource Issues: Desalination, NOAA: MBNMS, available at <http://montereybay.noaa.gov/resourcepro/resmanissues/desalination.html> (“While only a few small-scale desalination facilities currently operate within the boundaries of the sanctuary, there has

cumulative impact from the subsurface slant wells due to bioaccumulation, as Dr. Sobczynski described.<sup>291</sup> Moreover, the Desalination Amendment uses the same Williams and Jenkins calculations, relied upon in this DEIR/EIS,<sup>292</sup> to demonstrate that there will be no impingement of organic matter on the seafloor.<sup>293</sup> Dr. Sobczynski demonstrates that these calculations may not be correct and that the vertical infiltration may be much higher.<sup>294</sup> Organic matter may become impinged and pulled through the sea floor.<sup>295</sup> During maintenance, or upon abandonment, the subsurface slant wells are deprived of dissolved oxygen that normally flows through the subsurface.<sup>296</sup> Multiple desalination plants with subsurface intakes — all of which draw organic matter through the subsurface — may lead to significant cumulative impacts, such as the ones Dr. Sobczynski described.

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#### **D. The DEIR/EIS Fails to Adequately Analyze and Mitigate Potentially Significant Impacts to Biological Resources**

As described above, the DEIR/EIS fails to provide updated biological information in a meaningful way. Rather than provide an accurate analysis of the biological setting, the DEIR/EIS provides GIS shape files.<sup>297</sup> GIS shape files do not provide the level of detail necessary for thoroughly assessing what sensitive species are present throughout the project site, as a biological technical report (with focused and protocol surveys) would.<sup>298</sup> The DEIR/EIS's lack of focused and protocol surveys leads to an inability to accurately analyze the Project's impacts on biological

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recently been an increase in interest for both private and public desalination plants, with several new facilities being pursued in the Monterey Bay and in Cambria”), **Attachment R-1**; see also Desalination Map, *id.* (map), available at <http://montereybay.noaa.gov/materials/mappages/desalinizationmap.html>, **Attachment R-2**; Williams, Yield, 2015, *supra*, at p. 2.

<sup>291</sup> R. Sobczynski Comments, at pp. 23-30.

<sup>292</sup> DEIR/EIS, at p. 5.5-52-53.

<sup>293</sup> SWRCB, Appx. I, *supra*, at pp. I-19-20.

<sup>294</sup> R. Sobczynski Comments, at pp. 19-22.

<sup>295</sup> *Id.*, at p. 23, 27-30.

<sup>296</sup> *Id.*, at pp. 27-30.

<sup>297</sup> Owens Comments, at pp. 12-13.

<sup>298</sup> *Id.*, at p. 12.

resources.<sup>299</sup> Consequently, the DEIR/EIS fails to mitigate potentially significant impacts to biological resources.<sup>300</sup>

As Ms. Owens explains, an updated Biological Technical Report would provide real data from protocol surveys required for listed species, and details on how the surveys were conducted, so that others may determine if the methodology was done correctly.<sup>301</sup> Focused and protocol survey data are essential for conservation and mitigation analysis.<sup>302</sup> Not only are they important for an adequate CEQA review but also for section 7 and section 10 consultation under the federal ESA.<sup>303</sup> Since this Project may significantly impact ESA listed species, take is likely to occur.<sup>304</sup> The DEIR/EIS must require that qualified biologists conduct surveys not just at a habitat level, but also on an individual species level.<sup>305</sup> As is, the DEIR/EIS violates NEPA and CEQA by failing to adequately analyze and mitigate potentially significant impacts to biological resources.

CURE-29  
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1. Snowy Plover Impacts are Not Adequately Analyzed and Mitigated

Ms. Owens explains that the DEIR/EIS fails to adequately analyze and mitigation impacts to snowy plover critical habitat.<sup>306</sup> The snowy plover's critical habitat must be minimally disturbed.<sup>307</sup> Yet, the Project will border approximately 9 miles of coastal snowy plover critical habitat.<sup>308</sup> Additionally, to properly protect the snowy plover, the Project must avoid impacts to non-breeding season snowy plover habitat.<sup>309</sup> In failing to adequately analyze the impacts to plovers during both breeding and non-breeding season, the DEIR/EIS has not proposed sufficient mitigation measures to adequately protect the species.<sup>310</sup>

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<sup>299</sup> *Id.*, at p. 14.

<sup>300</sup> *Id.*, at p. 15.

<sup>301</sup> *Id.*, at p. 12; *see also id.*, at p. 31.

<sup>302</sup> *Id.*, at p. 15

<sup>303</sup> *Id.*

<sup>304</sup> *Id.*

<sup>305</sup> *Id.*

<sup>306</sup> *Id.*, at p. 21-22.

<sup>307</sup> *Id.*, at p. 22.

<sup>308</sup> *Id.*, at pp. 22-24.

<sup>309</sup> *Id.*, at p. 24.

<sup>310</sup> *Id.*, at p. 24-29.



Additionally, the DEIR/EIS should provide a more accurate cumulative impact analysis with respect to snowy plovers.<sup>311</sup> There are a number of project in the coastal zone in the vicinity of the Project that have not been adequately analyzed to determine their contribution to the cumulative impact of the species.<sup>312</sup> Additionally, compensatory mitigation details are necessary for complete snowy plover impact analysis. Ms. Owens suggests that the compensatory mitigation measure should incorporate collaboration with local snowy plover conservationists.<sup>313</sup>

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2. Wildlife Corridors Impacts are Not Adequately Analyzed and Mitigated

The DEIR/EIS states that there would be no significant impacts to species due to the lack of wildlife corridors.<sup>314</sup> This, however, is inaccurate as Ms. Owens explains.<sup>315</sup> According to Ms. Owens, species use wildlife corridors and nurseries in agricultural and industrial areas.<sup>316</sup> The DEIR/EIS's conclusion, therefore, is not supported.<sup>317</sup> Ms. Owens concludes that this impact must be analyzed with greater detail and supporting documentation.<sup>318</sup>

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CURE-31

3. Coastal Dunes Impacts are Not Adequately Analyzed and Mitigated

The DEIR/EIS does not adequately analyze coastal dune habitat. This critical habitat must be managed pursuant to Environmentally Sensitive Habitat Area requirements.<sup>319</sup>

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<sup>311</sup> *Id.*, at p. 32-34.

<sup>312</sup> *Id.*, at p. 33.

<sup>313</sup> Owens Comments, at p. 34-35.

<sup>314</sup> DEIR/EIS, at p. 4.6-119.

<sup>315</sup> Owens Comments, at pp. 45-47.

<sup>316</sup> *Id.*, at p. 45.

<sup>317</sup> *Id.*, at p. 47.

<sup>318</sup> *Id.*

<sup>319</sup> *Id.*, at p. 47; *see also* DEIR/EIS, at p. 4.6-207 (“Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values . . .”).

**E. The DEIR/EIS Fails to Adequately Analyze and Mitigate Potentially Significant Impacts to Air Quality**

The DEIR/EIS fails to adequately analyze and mitigate potentially significant impacts to air quality, with respect to significant pollutants, criteria pollutants, and indirect emissions.

1. Construction Criteria Pollutant Emissions are Significant and Unmitigated

The DEIR/EIS estimated maximum daily emissions of ROG, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> from Project construction and concluded that emissions of NO<sub>x</sub> and PM<sub>10</sub> are significant and require mitigation.<sup>320</sup> Dr. Fox explains that the impact analysis is unsupported and the mitigation is inadequate to reduce impacts to less than significant.<sup>321</sup>

First, the construction emissions from off-road and on-road construction equipment are not supported by substantial evidence.<sup>322</sup> As Dr. Fox states, the DEIR/EIR fails to provide adequate documentation for some of its off-road emissions estimates.<sup>323</sup> In addition, the DEIR/EIS does not include input and output sheets or provide adequate explanation for its on-road construction emissions estimates.<sup>324</sup> The DEIR/EIS's assumptions used in emissions modeling should be subject to public review.<sup>325</sup> As such, the DEIR/EIS fails to disclose information pertaining to construction emission calculations and should be recirculated to include identification of all Project-specific assumptions and input parameters, a copy of the model run inputs and outputs, and any documentation used to make the final construction emission calculations.<sup>326</sup>

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<sup>320</sup> Fox Comments, at p. 3.

<sup>321</sup> *Id.*

<sup>322</sup> *Id.*, at pp. 3-4.

<sup>323</sup> *Id.* at p. 3.

<sup>324</sup> *Id.*, at pp. 4-5.

<sup>325</sup> *Id.*

<sup>326</sup> *Id.*

Second, Dr. Fox explains that construction mitigation is not adequate to reduce impacts to less than significant.<sup>327</sup> The DEIR/EIS concludes that the air quality impact with respect to ozone and NO<sub>2</sub> standards would be significant and unavoidable even with implantation of Mitigation Measures 4.10-1a and 4.10-1b.<sup>328</sup> However, the CPUC and MBNMS cannot simply conclude that an impact is significant and unavoidable without requiring all feasible mitigation. Additional feasible mitigation is possible to mitigate for ozone and NO<sub>2</sub>.<sup>329</sup>

Mitigation Measure 4.10-1a proposes the use of equipment that meets asserted high-tiered engine standards.<sup>330</sup> Dr. Fox explains that Tier 3 engines are not the highest tier (lowest emission) off-road engines available; rather, this measure should require Tier 4 engines.<sup>331</sup> If Tier 4 engines cannot be obtained, then the mitigation measure should be expanded to require the consideration of leasing or renting from private vendors within 1,000 miles of the Project site.<sup>332</sup> The request to deviate from the use of Tier 4 engines should only be considered after all feasible actions have been taken to comply.<sup>333</sup>

Mitigation Measure 4.10-1b establishes limits on idling time for on-road and off-road engines.<sup>334</sup> Idling should be limited to no longer than five minutes, which is consistent with California Code of Regulations, title 13, § 2449, subd. (d)(3).<sup>335</sup> Therefore, this is not a valid mitigation measure because this is already what the law requires.<sup>336</sup> Dr. Fox states that this mitigation measure should be modified to limit idling to two minutes, which has been required for other similar projects.<sup>337</sup> This policy should be distributed to employees and enforced by the on-site construction manager.<sup>338</sup>

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<sup>327</sup> *Id.*, at p. 6.

<sup>328</sup> *Id.*

<sup>329</sup> *Id.*

<sup>330</sup> *Id.*, at p. 7.

<sup>331</sup> *Id.*

<sup>332</sup> *Id.*

<sup>333</sup> *Id.*

<sup>334</sup> *Id.*, at p. 8.

<sup>335</sup> *Id.*

<sup>336</sup> *Id.*

<sup>337</sup> *Id.*

<sup>338</sup> *Id.*

Third, additional feasible mitigation for construction ozone and NO<sub>2</sub> emissions exists.<sup>339</sup> The Project's Draft Initial Study and Mitigated Negative Declaration provided feasible measures, which are not included in this DEIR/EIS.<sup>340</sup> Feasible mitigation measures for NO<sub>x</sub> and ROG can also be found in the Monterey Bay Unified Air Pollution Control District's CEQA Guidelines, other projects (i.e., Chevron Modernization Program), and U.S. EPA programs.<sup>341</sup> In her letter, Dr. Fox includes these feasible mitigation measures for NO<sub>x</sub> and ROG, which are not included in the DEIR/EIS.<sup>342</sup> The DEIR/EIS fails to include all feasible mitigation for an impact that is significant and unavoidable.

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## 2. The DEIR/EIS Omits Indirect Operational Emissions

The DEIR/EIS estimates operational emissions from on-road vehicle exhaust, emergency generator testing, and slant well maintenance.<sup>343</sup> However, according to Dr. Fox, the major source of Project emissions is indirect emissions from the generation of electricity.<sup>344</sup> The DEIR/EIS does not include those emissions. The CPUC and MBNMS argue that "[i]t is generally not possible to determine the exact generator source(s) of electricity on the power grid that would supply the proposed project, or whether or not the electricity would even be generated within the Air Basin."<sup>345</sup> The lead agencies are wrong.

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CEQA does not allow the CPUC and MBNMS to exclude this major source of emissions from the DEIR/EIS.<sup>346</sup> As noted by Dr. Fox, EIRs routinely include indirect emissions from electricity generation.<sup>347</sup> In fact, the GHG section of this DEIR includes indirect GHG emissions from power generation.<sup>348</sup> Furthermore, the Monterey Bay Unified Air Pollution Control District's ("MBUAPCD"). CEQA Guidelines state: "The following thresholds apply to all indirect and direct

<sup>339</sup> *Id.*, at pp. 8-9.

<sup>340</sup> California American Water Slant Test Well Project Draft Initial Study/Mitigated Negative Declaration, *supra*; DEIR/EIS, at p. 4.15-21.

<sup>341</sup> Fox Comments, at p. 9.

<sup>342</sup> *Id.*, at 9-11.

<sup>343</sup> *Id.*, at p. 12 (citing DEIR/EIS, Table 4.10-7).

<sup>344</sup> *Id.*, at p. 12.

<sup>345</sup> *Id.*

<sup>346</sup> *Id.*

<sup>347</sup> *Id.*

<sup>348</sup> *Id.*

emissions, whether or not they are subject to District permit authority, unless noted otherwise.”<sup>349</sup> The MBUAPCD’s guidelines indicate that the NO<sub>x</sub> and ROG significance thresholds should be compared to “direct + indirect” emissions.<sup>350</sup> Thus, Dr. Fox concludes that “the DEIR/EIS must include the increase in emissions from the net increase in power production to support the Project.”<sup>351</sup>

Furthermore, Dr. Fox explains that indirect emissions need not be limited to the Project’s Air Basin.<sup>352</sup> Dr. Fox states that “[e]lectricity from any generator in California could be used at the Project site. As the significance criteria are based on the maximum day, finding the ‘maximum’ is all that is required.”<sup>353</sup>

The DEIR/EIS indicates that PG&E would supply the power for the Project. According to Dr. Fox, the sources of PG&E’s power are known and “emissions should be estimated for the plausible worst case daily maximum emissions. . . .”<sup>354</sup> However, the DEIR/EIS does not include any of the information required to estimate these emissions.<sup>355</sup> Thus, the DEIR/EIS fails as an informational document under CEQA, leaving the public to generate independent emissions estimates in order to evaluate the Project’s impacts.<sup>356</sup>

Dr. Fox provides her own estimates.<sup>357</sup> Dr. Fox finds that “the Project would increase NO<sub>x</sub> emissions by up to 363 lb/day, which exceeds the MBUAPCD’s NO<sub>x</sub> significance threshold of 137 lb/day.”<sup>358</sup> The NO<sub>x</sub> emissions from producing a net increase of 51,698 MWh per year of electricity “is large enough taken alone to exceed the MBUAPCD’s NO<sub>x</sub> significance threshold.”<sup>359</sup> This is a significant impact not disclosed or mitigated in the DEIR/EIS.

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<sup>349</sup> *Id.* (citing Monterey Bay Unified Air Pollution Control District (“MBUAPCD”) 2008), p. 5-4.

<sup>350</sup> *Id.* (citing MBUAPCD 2008, Table 5-3.)

<sup>351</sup> *Id.*

<sup>352</sup> *Id.*, at pp. 12-14.

<sup>353</sup> *Id.*, at p. 12.

<sup>354</sup> *Id.*, at p. 13.

<sup>355</sup> *Id.*

<sup>356</sup> *Id.*

<sup>357</sup> *Id.*, at pp. 13-14.

<sup>358</sup> *Id.*, at p. 13.

<sup>359</sup> *Id.*

In addition, Dr. Fox identified all PG&E owned power plants in California, determining the maximum daily emissions from each, using EPA's CAMD daily data for 2014.<sup>360</sup> She then concludes — assuming 1,152 lb of NO<sub>x</sub> is emitted on the maximum day from the Gateway Generating Station — that operational NO<sub>x</sub> emissions would increase to 1,179 lb/day,<sup>361</sup> which exceeds the MBUAPCD's NO<sub>x</sub> threshold (137 lb/day) by a significant amount.<sup>362</sup> Thus, Dr. Fox concludes that operational NO<sub>x</sub> emissions from power production are a significant impact not disclosed in the DEIR/EIS that must be mitigated.<sup>363</sup> This significant impact is not disclosed or mitigated in the DEIR/EIS.

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Dr. Fox offers suggestions for mitigating this impact, including “purchasing local and contemporaneous emission reduction credits or by collaborating with a nearby NO<sub>x</sub> source to reduce their NO<sub>x</sub> emissions. Alternatively, the increase in electricity demand could be met by using 100% renewable sources of electricity.”<sup>364</sup>

CEQA requires the lead agencies' to disclose, analyze, and require mitigation for the Project's indirect electricity generation emissions for all criteria pollutants and to require mitigation for the resulting significant NO<sub>x</sub> impacts.

### 3. The DEIR/EIS Fails to Evaluate All Air Quality Impacts

Under CEQA, a lead agency has discretion to determine how to classify the significance of impacts.<sup>365</sup> However, an agency's judgment must be supported by scientific information and other factual data, and the agency does not have discretion to simply not evaluate the significance of impacts.<sup>366</sup> In her letter, Dr. Fox states that the DEIR/EIS fails to evaluate the significance of pollutants for which the Monterey Bay Unified Air Pollution Control District (“MBUAPCD”) has not set official CEQA significance thresholds.<sup>367</sup> Specifically, the DEIR/EIS fails to evaluate the significance of impacts from two pollutants: NO<sub>x</sub> emissions for impacts

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<sup>360</sup> *Id.*, at p. 14.

<sup>361</sup> *Id.*

<sup>362</sup> *Id.*

<sup>363</sup> *Id.*

<sup>364</sup> *Id.*

<sup>365</sup> CEQA Guidelines, § 15064(b).

<sup>366</sup> *Id.*

<sup>367</sup> Fox Comments, p. 14.

other than its contribution to ozone, and ROG for its impacts other than its contribution to ozone.<sup>368</sup>

a) *NO<sub>x</sub>*

The MBUAPCD's significance criteria for NO<sub>x</sub> (137 lb/day) is based only on ozone.<sup>369</sup> Thus, the DEIR/EIS only evaluates NO<sub>x</sub> as an ozone precursor.<sup>370</sup> However, as Dr. Fox points out, NO<sub>x</sub> "can also causes adverse health effects, acid rain, form particulate matter, and contribute to global warming, water quality deterioration, and visibility impairment."<sup>371</sup> NO<sub>x</sub> can damage lung tissue and reduce lung function.<sup>372</sup> The DEIR acknowledges that there are primary and secondary state and federal ambient air quality standards for nitrogen oxides established using NO<sub>2</sub> as a surrogate for all nitrogen oxides.<sup>373</sup> The primary standards (1-hour) are set to protect public health, including the health of sensitive populations.<sup>374</sup> The secondary standards (annual) are set to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.<sup>375</sup> The DEIR/EIS fails to evaluate these primary and secondary impacts of NO<sub>x</sub>.<sup>376</sup>

The absence of a MBUAPCD "CEQA significance threshold" for non-ozone precursor NO<sub>x</sub> impacts does not obviate the need to evaluate this impact as the ambient air quality standards themselves can be used as CEQA significance thresholds.<sup>377</sup> According to Dr. Fox, when a CEQA significance threshold is missing, a lead agency can model emissions to determine if they cause or contribute to an exceedance of the ambient standards or look to other sources, such as other air districts, for significance criteria expressed as emission rates.<sup>378</sup>

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<sup>368</sup> *Id.*, pp. 15-19.

<sup>369</sup> *Id.*, pp. 15-17.

<sup>370</sup> *Id.*

<sup>371</sup> *Id.*

<sup>372</sup> *Id.*

<sup>373</sup> *Id.* at p. 15 (citing DEIR/EIS, Table 4.10-2).

<sup>374</sup> *Id.*

<sup>375</sup> *Id.*

<sup>376</sup> *Id.*

<sup>377</sup> *Id.*, at p. 16.

<sup>378</sup> *Id.*, at pp. 16-17.



In *Bakersfield Citizens For Local Control v. City of Bakersfield*, the Fifth District appellate court held that an EIR was inadequate because it failed to correlate adverse air quality impacts to resulting adverse health impacts.<sup>379</sup> In that case, a local citizens group filed a CEQA petition challenging the EIRs for two retail shopping centers planned for the southwestern portion of Bakersfield, California.<sup>380</sup> Both EIRs concluded that the shopping center projects would have significant and unavoidable adverse impacts on air quality, yet the court found:

neither EIR acknowledges the health consequences that necessarily result from the identified adverse air quality impacts. Buried in the description of some of the various substances that make up the soup known as ‘air pollution’ are brief references to respiratory illnesses. However, there is no acknowledgement or analysis of the well-known connection between reduction in air quality and increases in specific respiratory conditions and illnesses. After reading the EIR’s, the public would have no idea of the health consequences that result when more pollutants are added to a nonattainment basin.<sup>381</sup>

The court concluded that the disclosures were inadequate and stated that the health impacts resulting from the adverse air quality impacts must be identified and analyzed in new EIRs.<sup>382</sup>

Here, although the DEIR/EIS acknowledges the impacts of NO<sub>x</sub> as an ozone precursor, it fails to identify the respiratory impacts and other impacts resulting from NO<sub>x</sub> emissions.<sup>383</sup> The CPUC and MBNMS must prepare a revised DEIR/EIS that adequately discloses, analyzes and mitigates all potentially significant impacts from the Project’s NO<sub>x</sub> emissions. Furthermore, and discussed in further detail below, the NO<sub>x</sub> and Reactive Organic Gases emissions reported exceed the non-ozone significance thresholds established by four air districts pursuant to CEQA.<sup>384</sup>



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<sup>379</sup> *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1219–1220.

<sup>380</sup> *Id.*, at p. 1193.

<sup>381</sup> *Id.*, at p. 1220.

<sup>382</sup> *Id.*

<sup>383</sup> Fox Comments, at pp. 15-16.

<sup>384</sup> *Id.*, at p. 17.

b) *Reactive Organic Gases (ROG)*

Reactive Organic Gases (“ROG”), in addition to forming ozone, can cause “severe eye, nose, and throat [irritation] and increases susceptibility to respiratory infections.”<sup>385</sup> As with NO<sub>x</sub>, the DEIR/EIS only evaluates ROG as an ozone precursor.<sup>386</sup> The Volatile Organic Compounds (“VOCs”) present in ROG before it is converted into ozone include compounds that are hazardous to human health.<sup>387</sup> The DEIR/EIS’s health risk assessment (“HRA”) only evaluated diesel particulate matter; it did not evaluate the health impacts from toxic air pollutants (“TAC”) subsumed in ROG that are not converted to ozone when they reach sensitive receptors.<sup>388</sup> According to Dr. Fox, these TACs include “acutely and chronically toxic chemicals such as toluene, xylene, ethylbenzene, and 1,3 butadiene and carcinogens such as benzene, formaldehyde, acrolein, and acetaldehyde.”<sup>389</sup>

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Like the NO<sub>x</sub> discussion above, Dr. Fox states that other air districts have established CEQA significance thresholds for ROG.<sup>390</sup> The DEIR/EIS does not take this approach and the DEIR/EIS must include TAC impacts in a revised HRA.<sup>391</sup> The DEIR/EIS fails to meet CEQA standards because it does not evaluate the Project’s non-ozone impacts from ROG emissions.<sup>392</sup>

**F. The DEIR/EIS Fails to Adequately Evaluate Health Risks**

The DEIR/EIS evaluated health risks of Project construction from Diesel Particulate Matter (“DPM”) at two sites, the Carmel Valley Pump Station and ASR Injection/Extraction Wells.<sup>393</sup> As Dr. Fox notes, this analysis concluded that cancer and chronic health risks are less than significant.<sup>394</sup> However, the analysis is flawed and when corrected, Dr. Fox finds that there would be a significant health impact.

CURE-38

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<sup>385</sup> *Id.*, p. 18.

<sup>386</sup> *Id.*, at pp. 17-18.

<sup>387</sup> *Id.* at p. 18.

<sup>388</sup> *Id.*

<sup>389</sup> *Id.*

<sup>390</sup> *Id.*, at p. 17.

<sup>391</sup> *Id.*, at p. 18.

<sup>392</sup> *Id.*

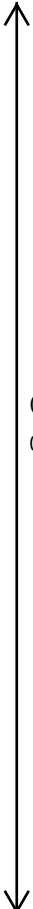
<sup>393</sup> *Id.*, at p. 20.

<sup>394</sup> *Id.*

Further, she finds that the HRA analysis is unsupported, incomplete, and fails to include acute impacts.<sup>395</sup>

First, all sensitive receptors were not evaluated.<sup>396</sup> As Dr. Fox points out, there are other facilities that are near sensitive receptors that were excluded from the HRA, including Wells ASR-5 and ASR-6, which would be constructed within 50 feet of existing residences.<sup>397</sup> The ASR Conveyance Pipeline, ASR Recirculation Pipeline, and the ASR Pump-to-Waste Pipeline would be within 250 feet of Seaside Middle School, and within 50 to 100 feet of residences in the Fitch Park military housing area along Hatten Road and Ardennes Circle.<sup>398</sup>

Second, the DEIR/DEIS did not follow OEHHA Guidelines, which resulted in the DEIR/EIS substantially underestimating the Project's health risk.<sup>399</sup> The OEHHA guidelines, adopted in March 2015, provide recommendations for preparing health risk assessments.<sup>400</sup> Dr. Fox points out that the DEIR/EIS analysis only evaluated risk for exposures of 0.25 years, or 3 months after birth.<sup>401</sup> However, if exposure is increased to 6 months after birth, per OEHHA guidance, then the cancer risk increases from 5.2 in one million to 10 in one million, which is per se significant.<sup>402</sup> The 10 in one million number is the significance threshold for a lifetime exposure, which dilutes the short term risk.<sup>403</sup> Instead, the DEIR/EIS should have a lower significance threshold than the 10 in one million used for a 70 year exposure.<sup>404</sup> Dr. Fox provides differing scenarios in evaluating the cancer risk.<sup>405</sup> In either scenario, however, the cancer risk from diesel exhaust alone would be highly significant and unmitigated. This significant impact is not disclosed in the



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<sup>395</sup> *Id.*

<sup>396</sup> *Id.*

<sup>397</sup> *Id.*

<sup>398</sup> *Id.*

<sup>399</sup> *Id.*, at pp. 20-21.

<sup>400</sup> *Id.*

<sup>401</sup> *Id.*, at p. 21.

<sup>402</sup> *Id.*

<sup>403</sup> *Id.*

<sup>404</sup> *Id.*

<sup>405</sup> *Id.*, at pp. 21-22.

DEIR/EIS.<sup>406</sup> At a minimum, all diesel fuel equipment should have diesel particulate traps to mitigate this significant impact.<sup>407</sup>

Third, all hazardous pollutants were not included in the HRA.<sup>408</sup> As already mentioned, the HRA only evaluated diesel exhaust, which is emitted from construction equipment and on-road vehicles.<sup>409</sup> But there are also VOCs, present in ROG before it is converted into ozone, which are hazardous to human health.<sup>410</sup> The HRA should have evaluated toxic air pollutants subsumed in ROG that are not converted to ozone when they reach sensitive receptors.<sup>411</sup> By failing to include unconverted VOCs, the HRA underestimates health impacts and further fails to evaluate acute health impacts.<sup>412</sup>

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**G. The DEIR/EIS Fails to Identify Significant Health Impacts Due to Valley Fever**

Dr. Fox provided evidence in her 2015 comments that the DEIR/EIS fails to identify significant health impacts due to Valley Fever.<sup>413</sup> Yet the DEIR/EIS continues to dismiss the risk of Valley Fever to Project workers and nearby sensitive receptors.<sup>414</sup> In the attached comments, Dr. Fox provides evidence about the health risks associated with Valley Fever for this Project, which is located in an endemic zone.<sup>415</sup> Valley Fever is contracted by inhaling *Coccidioides ssp.* (“Cocci spores”), a component of PM10, or PM2.5.<sup>416</sup>

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First the DEIR/EIS misrepresents the status quo by stating that Valley Fever is declining.<sup>417</sup> However, the decline recorded in 2014 (to which the DEIR/EIS relies

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<sup>406</sup> *Id.*  
<sup>407</sup> *Id.*, at p. 22.  
<sup>408</sup> *Id.*  
<sup>409</sup> *Id.*  
<sup>410</sup> *Id.*  
<sup>411</sup> *Id.*  
<sup>412</sup> *Id.*  
<sup>413</sup> *Id.*, at p. 25; see Dr. Fox Comments (2015) at p. 38, **Attachment S**.  
<sup>414</sup> *Id.*  
<sup>415</sup> *Id.*, at p. 23.  
<sup>416</sup> *Id.*, at p. 27.  
<sup>417</sup> *Id.*, at p. 25.

on for its support) was an anomaly.<sup>418</sup> In fact, there were 50% more cases in 2016 than in 2015.<sup>419</sup>

Second, the DEIR/EIS makes assertions that are inconsistent with CEQA and are unsupported and incorrect.<sup>420</sup> The DEIR/EIS concludes that much of the population of Monterey County has already been exposed to Cocci spores.<sup>421</sup> Valley Fever is contracted by inhaling Cocci spores, which become airborne during earth moving construction, which increases PM10 and PM2.5.<sup>422</sup> Project construction would disturb over 173 acres of endemic land, likely to contain spores.<sup>423</sup> Additional disturbance would occur during maintenance.<sup>424</sup> Therefore, the DEIR/EIS concludes that Valley Fever-related impacts would not be considered significant because residents are continually exposed to spores and construction would not represent an increased risk to public health.<sup>425</sup> Even if everyone in Monterey County has been exposed to Cocci spores, Dr. Fox states, this does not mean that an increase in the number of Cocci spores due to Project construction would not result in new cases, or that construction workers from non-endemic areas would not contract Valley Fever.<sup>426</sup>

Dr. Fox writes, “[w]hile some residents of Monterey County may have been exposed to Cocci spores as they live adjacent to agricultural fields or a construction site, this does not mean that an increase in the number spores due to Project construction would not result in an increase in Valley Fever cases.”<sup>427</sup> Additionally, the record contains no evidence that all residents downwind of Project construction and all construction workers who would build the Project have in fact been exposed to Cocci spores in sufficient amounts to assure immunity.<sup>428</sup> Dr. Fox challenges this

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<sup>418</sup> *Id.*

<sup>419</sup> *Id.*

<sup>420</sup> *Id.*, at p. 26.

<sup>421</sup> *Id.*

<sup>422</sup> *Id.*

<sup>423</sup> *Id.*, at p. 28.

<sup>424</sup> *Id.*, at pp. 28-29.

<sup>425</sup> *Id.*, at p. 29.

<sup>426</sup> *Id.*, at p. 29.

<sup>427</sup> *Id.*, at p. 26.

<sup>428</sup> *Id.*

immunity argument, stating that being exposed to Cocci spores does not imply nor can it guarantee immunity to Valley Fever from increased exposure.<sup>429</sup>

Moreover, the Requests for Proposal for the slant wells and conveyance facilities state that the Contractor must make a good faith effort to employ individuals, who have lived for at least one year out of the three years prior to the opening of proposals, from Monterey, San Benito, or Santa Cruz Counties.<sup>430</sup> Therefore, Dr. Fox states that it is a highly unlikely scenario that all potentially exposed parties have already been exposed in Monterey County.<sup>431</sup>

The DEIR/EIS must evaluate the significance of Cocci spore exposure relative to the baseline, just as it had evaluated the significance of PM10 and PM2.5 emissions relative to the baseline.<sup>432</sup> By stating that residents have already been exposed to Cocci spores (present in PM10, or PM2.5) is a statement of the baseline.<sup>433</sup> It does not adequately inform the public about the Project's Valley Fever health risk.

Construction workers who would be exposed to land disturbance activities would be at considerable risk of catching Valley Fever.<sup>434</sup> Construction workers, alongside agricultural workers, are the most at-risk populations.<sup>435</sup> This is because these labor groups are in intimate contact with soil in a Valley Fever endemic area and many may be from non-endemic zones or may have never worked in an endemic area.<sup>436</sup> The DEIR/EIS fails to adequately evaluate this significant construction impact, not only on construction workers, but also on the nearby sensitive receptors and the larger population (spores can travel as much as 500 miles).<sup>437</sup> Since the DEIR/EIS evaluated the increase of PM10 and PM2.5, of which Cocci spores are a component, the DEIR/EIS should also disclose that Cocci spores will increase.<sup>438</sup>

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<sup>429</sup> *Id.*, at p. 27.

<sup>430</sup> *Id.*, at pp. 26-27.

<sup>431</sup> *Id.*, at p. 27.

<sup>432</sup> *Id.*

<sup>433</sup> *Id.*

<sup>434</sup> *Id.*, at p. 30.

<sup>435</sup> *Id.*

<sup>436</sup> *Id.*

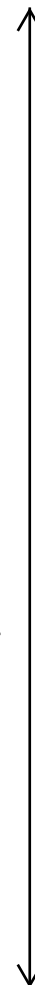
<sup>437</sup> *Id.*, at pp. 29-30.

<sup>438</sup> *Id.*, at p. 31.

Third, the DEIR/EIS fails to mitigate the significant Valley Fever health risks.<sup>439</sup> Although the DEIR/EIS provides Mitigation Measure 4.10-1c (a conventional construction fugitive dust mitigation measure that would allegedly mitigate the risk to a less than significant level), this measure is ineffective at controlling Valley Fever.<sup>440</sup> Conventional dust control measures are effective at controlling visible dust or larger dust particles (PM10), but not the very fine particulate matter (PM2.5), where Valley Fever spores are found.<sup>441</sup> Dr. Fox states that the spores, which may be difficult to see and have low settling rates, are not controlled by conventional dust control measures.<sup>442</sup> Additionally, the Project's construction period coincides with a period when there might be a higher risk of catching Valley Fever.<sup>443</sup>

Dr. Fox provides a number of recommended mitigation measures to reduce the risk of Valley Fever.<sup>444</sup> These recommended measures go beyond the conventional dust control measures for controlling PM10 emissions.<sup>445</sup> These recommendations include continuously wetting the soil before and while digging, thoroughly cleaning equipment, vehicles and other items before they are moved off-site to other work locations, developing a protocol with medical professionals to medically evaluate employees who have symptoms of Valley Fever, and others.<sup>446</sup> Dr. Fox also identifies flaws in Mitigation Measure 4.10-1a, such as required daily sweeping, which generates fugitive dust that may contain spores.<sup>447</sup>

Not only do the PM10 mitigation measures not adequately control Valley Fever, but they also fail to mitigate PM10 impacts.<sup>448</sup> Projects that have implemented conventional PM10 dust control measures, like the ones for this Project, have experienced several incidences of severe dust storms and reported



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<sup>439</sup> *Id.*

<sup>440</sup> *Id.*

<sup>441</sup> *Id.*

<sup>442</sup> *Id.*, at pp. 31-32.

<sup>443</sup> *Id.*, at pp. 32-33.

<sup>444</sup> *Id.*, at pp. 33-36.

<sup>445</sup> *Id.*

<sup>446</sup> *Id.*

<sup>447</sup> *Id.*, at pp. 37-39.

<sup>448</sup> *Id.*, at p. 38.



cases of Valley Fever.<sup>449</sup> The DEIR/EIS must adopt an enhanced dust control plan, as suggested by Dr. Fox, to reduce the risk to construction workers, on-site employees and the public of contracting Valley Fever.<sup>450</sup> These measures are feasible as many of them have been adopted by the County of Monterey in other EIRs.<sup>451</sup> Still, even if all of the above feasible measures are adopted, a recirculated DEIR/EIS is required to analyze whether these measures are adequate to reduce the Valley Fever significant impact to a level below significance.<sup>452</sup>

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**H. The DEIR/EIS Fails to Adequately Explain Why the Project’s GHG Impacts Are Significant and Unavoidable and Improperly Defers Mitigation**

In *Keep Berkeley Jets Over the Bay Com. v. Board of Port Comrs.*, the First Appellate court concluded that “simply labeling the effect ‘significant’ without accompanying analysis” violates “the environmental assessment requirements of CEQA.”<sup>453</sup> Before the lead agencies can make a “significant and unavoidable” finding, it must specifically identify the GHG mitigation measures and estimate the reduction in GHG achieved by each.<sup>454</sup>

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An agency may defer mitigation only when three narrow, specific prerequisites are met: (1) an EIR contains criteria or performance standards to govern future actions implementing the mitigation; (2) practical considerations preclude development of the measures at the time of initial project approval; and (3) the agency has assurances that the future mitigation will be *both* “feasible and efficacious.”<sup>455</sup> An agency may not satisfy its mitigation requirements by merely

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<sup>449</sup> *Id.*

<sup>450</sup> *Id.*

<sup>451</sup> *Id.*

<sup>452</sup> *Id.*, at pp. 38-39.

<sup>453</sup> *Berkeley Keep Jets Over the Bay Committee v. Board of Port Comrs.* (2001) 91 Cal.App.4th 1344, 1371 [111 Cal.Rptr.2d 598, 618], *as modified on denial of reh’g (Sept. 26, 2001)*; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1996) 42 Cal.App.4th 608.

<sup>454</sup> *See Berkeley Keep Jets Over the Bay Com.*, *supra*, at p. 1373.

<sup>455</sup> *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 94-95; *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 669-71; CEQA Guidelines § 15126.4(a)(1)(B).

ordering a project proponent to “obtain a . . . report and then comply with any recommendations that may be made in the report.”<sup>456</sup>

In *Communities for a Better Environment v. City of Richmond*,<sup>457</sup> an EIR for a Chevron refinery project was deemed legally inadequate in part because the mitigation measures for GHG emissions were impermissibly deferred. The EIR in that case was “legally required to describe, evaluate and ultimately adopt feasible mitigation measures which would ‘mitigate or avoid’ [GHG] impacts.”<sup>458</sup>

The mitigation measure at issue in the Chevron project EIR stated that “[n]o later than one (1) year after approval of this Conditional Use Permit, Chevron shall submit to the City, for approval by the City Council, a plan for achieving complete reduction of GHG emissions. . . .”<sup>459</sup> As the court explained, the mitigation measure “required Chevron, within one year of Project approval, to hire and fully fund ‘a qualified independent expert’ to complete an inventory of greenhouse gas emissions and to identify potential emissions reduction opportunities.”<sup>460</sup> Furthermore, the measure stated that Chevron “shall consider implementation of measures that achieve GHG reductions including, but not limited to, the following measures . . .”<sup>461</sup> The measure then listed several potential mitigation measures. The respondents in the case argued that the EIR failed to adequately formulate a plan to mitigate GHG emissions, but instead offered “a menu of potential mitigation measures, with the specific measures to be selected by Chevron and approved by the City Council a year after Project approval.”<sup>462</sup>

The court found that the measure was deferred mitigation, which is impermissible under CEQA. The court stated, in part, that the measure amounted to “a generalized goal of no net increase in greenhouse gas emissions and . . . a handful of cursorily described mitigation measures for future.”<sup>463</sup> Furthermore, the court found that “[n]o effort [was] made to calculate what, if any, reductions in the



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<sup>456</sup> *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1275.

<sup>457</sup> *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 95.

<sup>458</sup> *Id.*, at p. 91.

<sup>459</sup> *Id.*

<sup>460</sup> *Id.*, at p. 92.

<sup>461</sup> *Id.*

<sup>462</sup> *Id.*

<sup>463</sup> *Id.*, at 93.

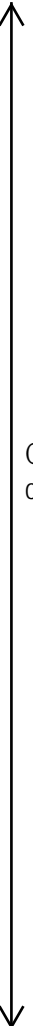
Project’s anticipated greenhouse gas emissions would result from each of these vaguely described future mitigation measures” and that the list of potential mitigation measures was “nonexclusive, undefined, untested and of unknown efficacy.”<sup>464</sup>

As Dr. Fox explains, the DEIR/EIS fails to substantiate that its GHG emissions cannot be reduced to an insignificant level and fails to include all feasible mitigation measures.<sup>465</sup> It also improperly defers mitigation by stating it will implement a GHG Emissions Reduction Plan and Construction Equipment Efficiency Plan prior to the start of construction, but after Project approval.<sup>466</sup>

The DEIR/EIS concludes that GHG emissions from construction and operation of the Project are significant and unavoidable.<sup>467</sup> The DEIR/EIS then proposes Mitigation Measure 4.11-1 to reduce the Project’s GHG emissions from construction and operation and Mitigation Measure 4.18-1 for construction GHG emissions.<sup>468</sup> The DEIR/EIS concludes that even after complying with these measures, “it is not possible to substantiate numerically that the GHG emissions would be reduced to a less-than-significant level.”<sup>469</sup> Consequently, the GHG emissions remain significant and unavoidable.<sup>470</sup>

The DEIR/EIS must provide further explanation for its conclusion that the Project’s GHG emissions impacts are significant and unavoidable.<sup>471</sup> Furthermore, it must explain the Project’s consistency with the State’s energy and climate objectives.<sup>472</sup>

The CPUC’s inability to numerically substantiate the Project’s mitigated emissions is a result of its improper deferral of the identification of mitigation



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<sup>464</sup> *Id.*

<sup>465</sup> Fox Comments, at pp. 39-40.

<sup>466</sup> *Id.*, at pp. 40-47.

<sup>467</sup> *Id.*, at p. 40.

<sup>468</sup> *Id.*

<sup>469</sup> *Id.*, at p. 39 (citing DEIR/EIS, at p. 4.11-19).

<sup>470</sup> *See id.*

<sup>471</sup> *Id.*

<sup>472</sup> *Id.*, at p. 40.

measures.<sup>473</sup> Indeed, as Dr. Fox points out, other applicants and lead agencies have successfully quantified GHG emission reductions.<sup>474</sup>

Mitigation Measure 4.11-1 requires that CalAm prepare a GHG Emissions Reduction Plan and submit it to the CPUC for approval prior to the start of construction.<sup>475</sup> CalAm shall also make a good faith effort to ensure that at least 20 percent of the approved project's operation energy use requirements are achieved with "clean" renewable energy.<sup>476</sup> Mitigation Measure 4.11-1 improperly defers mitigation and is inadequate for six reasons, which Dr. Fox explains in further detail in her letter.<sup>477</sup>

First, a "good faith effort" to use renewable energy for 20% of the Project's operational needs is not adequate CEQA mitigation because for a significant and unavoidable impact, all feasible mitigation under CEQA must be implemented.<sup>478</sup> One-hundred percent of the Project's operational electricity demand can be met through renewable energy.<sup>479</sup> The County of Monterey has also included a similar policy with respect to desalination plants.<sup>480</sup>

The EIRs prepared for the desalination plants are expected to require that construction equipment use alternative fuels or other means to reduce their emissions of ozone precursors. Although, depending upon the intensity of construction, there is the potential for a significant impact on air quality from ozone precursors. . . Taking a conservative view, the indirect impacts of the water supply projects to be built would potentially make considerable contributions to air quality, biological, and electrical energy use.<sup>481</sup>

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<sup>473</sup> *Id.* at p. 39.

<sup>474</sup> *Id.*

<sup>475</sup> *Id.*, at p. 40.

<sup>476</sup> *Id.*

<sup>477</sup> *Id.*, at pp. 40-45.

<sup>478</sup> *Id.*, at pp. 40-41.

<sup>479</sup> *Id.*

<sup>480</sup> Monterey County General Plan EIR: Section 6.4.3.3, at p. 6-14, *available at* [http://www.co.monterey.ca.us/planning/gpu/2007\\_GPU\\_DEIR\\_Sept\\_2008/Text/Sec\\_06\\_Other\\_CEQA.pdf](http://www.co.monterey.ca.us/planning/gpu/2007_GPU_DEIR_Sept_2008/Text/Sec_06_Other_CEQA.pdf). **Attachment T.**

<sup>481</sup> Fox Comments, at pp. 40-41.

Second, preparing the Emissions Reduction Plan is improperly deferred until after Project approval.<sup>482</sup> This plan must be part of the DEIR/EIS and circulated for public review, as explained by the Court in *CBE v. Richmond*.<sup>483</sup>

Third, “good faith effort” measures are not adequate because they are not enforceable, as required under CEQA.<sup>484</sup> Under CEQA, an EIR must not only discuss measures to avoid or minimize adverse impacts, it also must ensure that mitigation measures are fully enforceable through permit conditions, agreements, or other legally binding instruments.<sup>485</sup> Mitigation measures cannot be vague or have uncertain effectiveness or feasibility.<sup>486</sup>

Fourth, the DEIR/EIS should require that a registered professional (mechanical) engineer in California confirm that the Plan includes all feasible measures.<sup>487</sup>

Fifth, the Plan should have ongoing monitoring by a registered professional engineer to ensure successful mitigation under CEQA.<sup>488</sup>

Sixth, and last, the Plan should include construction GHG emissions, and opportunities throughout the CalAm system, not just Project operational facilities.<sup>489</sup>

Mitigation Measure 4.18-1 requires that CalAm contract a “qualified professional” to prepare a “Construction Equipment Efficiency Plan” that will increase the efficient use of construction equipment to the maximum extent feasible.<sup>490</sup> This mitigation measure has some of the same deficiencies as Mitigation 4.11-1.<sup>491</sup>

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<sup>482</sup> *Id.*, at p. 41.

<sup>483</sup> *Id.*

<sup>484</sup> *Id.*, at pp. 41-42.

<sup>485</sup> *Id.* (citing CEQA Guidelines § 15126.4, subd. (a)(2).)

<sup>486</sup> *Id.* (citing *Kings County Farm Bur. v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28; *San Franciscans for Reasonable Growth v. City & County of San Francisco* (1984) 151 Cal.App.3d 61, 79.)

<sup>487</sup> *Id.*, at p. 42.

<sup>488</sup> *Id.*

<sup>489</sup> *Id.*, at pp. 42-45.

<sup>490</sup> *Id.*, at p. 45.

<sup>491</sup> *Id.*, at pp. 45-47.

First, the Efficiency Plan is deferred until after the Project is approved, preempting public review.<sup>492</sup> This Plan must be part of the DEIR/EIS and circulated for public review, as required by the Court in *CBE v. Richmond*.<sup>493</sup>

Second, the measure should be modified to require that a registered professional (civil) engineer confirm that the Plan includes all feasible construction equipment efficiency measures.<sup>494</sup>

Third, the Plan must include all feasible mitigation measures, such as NO<sub>x</sub> and ROG mitigation measures identified above.<sup>495</sup> Dr. Fox provides a list of additional measures that were recently required as GHG construction mitigation in the Chevron Modernization Final EIR,<sup>496</sup> including maintenance of construction equipment, further idling restrictions and other measures.<sup>497</sup>

Fourth, the measure fails to identify any method to verify compliance.<sup>498</sup> Dr. Fox proposes “a comprehensive inventory of all off-road equipment that will be used to construct the Project . . . The inventory should include the horsepower rating, engine production year, hours of use, and amount and type of fuel used.”<sup>499</sup> Furthermore, “[a]t least 48 hours prior to the use of heavy-duty off-road equipment at a new construction site, the project representative shall provide the inspector and MBUAPCD with the construction timeline, including start date and name and phone number of project manager and on-site foreman.”<sup>500</sup>

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<sup>492</sup> *Id.*, at p. 45.

<sup>493</sup> *Id.*

<sup>494</sup> *Id.*, at pp. 45-46.

<sup>495</sup> *Id.*, at p. 46.

<sup>496</sup> *Id.*

<sup>497</sup> *Id.* (citing Chevron Refinery Modernization Project EIR, March 2014, Chapter 4.8, Greenhouse Gases, available at [http://chevronmodernization.com/wp-content/uploads/2014/03/4.8\\_Greenhouse-Gases.pdf](http://chevronmodernization.com/wp-content/uploads/2014/03/4.8_Greenhouse-Gases.pdf) and Chapter 5, Mitigation Measure Monitoring and Reporting Program, available at [https://s3.amazonaws.com/chevron/Final+EIR/5\\_MMRP.pdf](https://s3.amazonaws.com/chevron/Final+EIR/5_MMRP.pdf)).

<sup>498</sup> *Id.*, at pp. 46-47.

<sup>499</sup> *Id.*

<sup>500</sup> *Id.*, at pp. 46-47.

Finally, the Efficiency Plan fails to provide adequate monitoring, according to Dr. Fox, who suggests a similar monitoring program as stated above.<sup>501</sup> Dr. Fox concludes that the Efficiency Plan “fails to adequately mitigate the air quality impacts resulting from Project construction.”<sup>502</sup>

The CPUC must ensure that all feasible mitigation is incorporated in the DEIR to address the significant and unavoidable GHG impacts. As stated in *CBE v. Richmond*, “the time . . . to formulate mitigation measures to minimize or avoid those impacts [is] during the EIR process, before the Project was brought to the [approving body] for final approval.”<sup>503</sup> The DEIR/EIS must be revised in accordance with these comments and recirculated before the Project can be lawfully approved under CEQA.

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### **I. Vibration Impacts Are Significant and Unmitigated**

The DEIR/EIS fails as an information document with respect to construction activities that can produce significant ground born vibration that can damage nearby buildings and annoy sensitive receptors.<sup>504</sup> The Project fails to provide supporting calculations, citations to specific pages from the methodology it used, or disclose input values used in calculations, which would have allowed Dr. Fox to reproduce and verify the vibration analysis.<sup>505</sup> The DEIR/EIS concluded that vibration from pipeline installation using both compactors and pile drivers would result in significant building damage and annoyance from constructing the Castroville Pipeline and Source Water Pipeline, the new Desalinated Water Pipeline, and the new Transmission Main where trenchless construction methods are required.<sup>506</sup> The DEIR/EIS imposes Mitigation Measures 4.15-1a and Measure 4.12-3, which it asserts would allegedly make the vibration impact no longer significant.<sup>507</sup> These, however, are fundamentally flawed and are not adequate to reduce vibration impacts to a less than significant level.<sup>508</sup>

CURE-41

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<sup>501</sup> *Id.*, at p. 47.

<sup>502</sup> *Id.*

<sup>503</sup> *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 95.

<sup>504</sup> Fox Comments, at pp. 47-48.

<sup>505</sup> *Id.*

<sup>506</sup> *Id.*

<sup>507</sup> *Id.*, at pp. 48-50.

<sup>508</sup> *Id.*, at p. 48.



Mitigation Measure 4.15-1a is not described.<sup>509</sup> Although there is an Impact 4.15-1, there is no mitigation measure associated with that impact and therefore no way to determine what Mitigation Measure 4.15-1a entails.<sup>510</sup>

Mitigation Measure 4.12-3 proposes vibration reduction measures, which are not practically enforceable.<sup>511</sup> Additionally, there are more aggressive mitigation measures that this city should comply with in order to mitigate the potentially significant vibration impact.<sup>512</sup> However, without supporting analysis to demonstrate that the vibration impacts would be less than significant with the proposed mitigation, the DEIR/EIS fails as an information disclosure document.<sup>513</sup> The City of Monterey includes a “Vibration Control Plan for Monterey Pipeline Project,” which includes more aggressive mitigation measures for vibration impacts than what is identified in the DEIR/EIS.<sup>514</sup> The City’s Vibration Control Plan should replace the weak measures in the DEIR/EIS and should be included for public review in an appendix to the DEIR/EIS.<sup>515</sup>

However, without providing reproducible analysis to demonstrate that the vibration impacts would be less than significant with the proposed mitigation, the DEIR/EIS fails as an information disclosure document.<sup>516</sup>

**J. The DEIR Fails to Adequately Analyze and Mitigate Potentially Significant Impacts to Historic Resources**

The DEIR/EIS states that construction will not cause an adverse impact to historical resources.<sup>517</sup> However, as Dr. Fox explains, this impact was narrowly evaluated.<sup>518</sup> The DEIR/EIS only looked at historical resources listed in or eligible

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<sup>509</sup> *Id.*

<sup>510</sup> *Id.*

<sup>511</sup> *Id.*, at p. 49.

<sup>512</sup> *Id.*, at pp. 49-50.

<sup>513</sup> *Id.*, at p. 48.

<sup>514</sup> *Id.*, at pp. 49-50.

<sup>515</sup> *See id.*

<sup>516</sup> *Id.*, at p. 47.

<sup>517</sup> *Id.*, at p. 50-51.

<sup>518</sup> *Id.*

for listing in the California Register or historic properties listed in or eligible for listing in the National Register that are within the Area of Potential Impact of all project components.<sup>519</sup> In so doing, the DEIR/EIS neglects evaluating the impact of construction equipment induced vibration on properties listed in the City of Monterey’s Vibration Control Plan.<sup>520</sup> This list includes 24 historic structures that are close enough to be damaged — constituting a significant adverse impact to historical resources.<sup>521</sup> This new impact was not disclosed or mitigated in the DEIR/EIS.<sup>522</sup>

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**K. The DEIR/EIS Fails to Adequately Analyze and Mitigate Potentially Significant Impacts from Decommissioning Activities**

At the end of the Project’s 40-year life, the Project would be decommissioned. As explained above, the decommissioning phase of the Project is part of the whole Project.<sup>523</sup> CEQA requires the CPUC to analyze all phases of the Project. Similarly, NEPA requires that an environmental document analyze all stages of a project to the extent they are interdependent.<sup>524</sup> Despite this requirement, the DEIR/EIS provides no analysis of the Project’s decommissioning activities and, therefore, violates CEQA and NEPA.

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As explained above, the DEIR/EIS only briefly mentions decommissioning in the context of coastal erosion for the slant wells.<sup>525</sup> The CPUC and MBNMS must provide a complete description of the decommissioning activities necessary to assess all of the Project’s impacts, including those that our independent experts identified (e.g., terrestrial sensitive species impacts, biomatter accumulation, Valley Fever.)<sup>526</sup>

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<sup>519</sup> *Id.*

<sup>520</sup> *Id.*

<sup>521</sup> *Id.*, at p. 51.

<sup>522</sup> *Id.*

<sup>523</sup> 40 C.F.R. § 1508.25; *see also Kentucky Coal Ass’n, Inc. v. Tennessee Valley Authority* (W.D. Ky. 2014) 68 F.Supp.3d 685, 696–97; *Bozung v. Local Agency Formation Com.* (1975), 13 Cal.3d 263, 283-84; Pub. Resources Code § 21159.27 (prohibiting piecemealing); *see also, Rio Vista Farm Bureau Center v. County of Solano* (1992) 5 Cal.App.4th 351, 370.

<sup>524</sup> *Thomas v. Peterson* 753 F.2d 754, 760 (9th Cir. 1985).

<sup>525</sup> DEIR/EIS, at pp. 4.2-64, 4.2-71-72.

<sup>526</sup> *See also California American Water Slant Test Well Project Draft Initial Study/Mitigated Negative Declaration, supra*, at p. 41 (“Earthwork (i.e., trenching and excavation) would generate

The public and decision makers cannot engage in a meaningful assessment of these potential impacts without a proper description and analysis of decommissioning-related impacts.

Furthermore, the CPUC and MBNMS have enough information, such as the type of equipment to be utilized and range of activities to be performed, as well as baseline knowledge of impacts resulting from the Project's construction and operation, to make a reasonable assessment of impacts from decommissioning.<sup>527</sup> For example, the DEIR/EIS fails to adequately investigate and mitigate air and water quality impacts related to decommissioning, which may be similar in nature to construction emissions and discharges.<sup>528</sup> For example, the construction phase already produces emissions beyond an acceptable threshold, and Dr. Fox identified problems with the Construction Equipment Efficiency Plan, which considers both construction and decommissioning activities.<sup>529</sup> The flawed equipment efficiency plan is inadequate as a mitigation measure.<sup>530</sup>

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To properly disclose the Project's impacts from decommissioning, the CPUC and MBNMS must revise the DEIR/EIS to include the type (*i.e.*, direct, indirect, or cumulative), the duration (*i.e.*, temporary or permanent), the nature (*i.e.*, source) and extent (*i.e.*, scale) of the associated potential impacts.<sup>531</sup> The CPUC and MBNMS must then develop mitigation measures that are certain, enforceable and linked to measurable performance standards.<sup>532</sup> Absent additional information, the CPUC and MBNMS cannot conclude that the Project's impacts have been fully assessed and properly mitigated.

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fugitive dust during construction and decommissioning activities.”); *see also* [https://www.miga.org/documents/Befesa\\_Desalination\\_EIA\\_Report.pdf](https://www.miga.org/documents/Befesa_Desalination_EIA_Report.pdf) (international desalination plant that considered decommissioning), **Attachment U**.

<sup>527</sup> *See, e.g.*, DEIR/EIS, at p. 4.10-25 (describing construction equipment).

<sup>528</sup> *Id.*, at p. 4.18-14.

<sup>529</sup> *Id.*, at p. 4.18-14-15; *see also* Fox Comments, at pp. 45-47.

<sup>530</sup> Fox Comments, at pp. 45-47.

<sup>531</sup> *See* DEIR/EIS, at p. 4.1-2.

<sup>532</sup> *See* CEQA Guidelines, § 15126.4(a)(2).

## VI. MITIGATION MEASURES PROPOSED IN THE DEIR/EIS ARE DEFERRED, UNENFORCEABLE OR OTHERWISE INADEQUATE

An EIS must include a discussion of “appropriate mitigation measures not already included in the proposed action or alternatives.”<sup>533</sup> An EIS is not complete unless it contains “a reasonably complete discussion of possible mitigation measures.”<sup>534</sup> Mitigation includes “avoiding the impact altogether by not taking a certain action or parts of an action.”<sup>535</sup> It also includes “minimizing impacts by limiting the degree or magnitude of the action and its implementation.”<sup>536</sup> The mandate to thoroughly evaluate all feasible mitigation measures is critical to NEPA’s purposes.<sup>537</sup> Hence, a “perfunctory description” or a “mere listing” of possible mitigation measures is not adequate to satisfy NEPA’s requirements.<sup>538</sup> That individual harms are somewhat uncertain due to limited understanding of the Project characteristics and baseline conditions does not relieve an agency of the responsibility under NEPA to discuss mitigation of reasonably likely impacts at the outset.<sup>539</sup>

Courts have interpreted these provisions further. In *Northern Plains Resource Council, Inc. v. Surface Transp. Bd.*, the agency provided a mitigation measure, which stated that the agency would gather baseline data at a later point.<sup>540</sup> The court found the agency’s mitigation measures to be inconsistent with NEPA’s requirements.<sup>541</sup> Consequently, the court found that the agency acted arbitrarily and capriciously.<sup>542</sup> Without baseline data, the agency could not have

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<sup>533</sup> 40 C.F.R. § 1502.14(f).

<sup>534</sup> *Robertson v. Methow Valley Citizens Council* (1989) 490 U.S. 332, 352.

<sup>535</sup> 40 C.F.R. § 1508.20(a).

<sup>536</sup> *Id.*, § 1508.20(b).

<sup>537</sup> *Id.*, § 1500.1(c).

<sup>538</sup> *Neighbors of Cuddy Mountain v. U.S. Forest Service* (9th Cir. 1998) 137 F.3d 1372, 1380; *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1151 (9th Cir. 1998).

<sup>539</sup> *See South Fork Band Council Of Western Shoshone of Nevada v. U.S. Dept. of Interior* (9th Cir. 2009) 588 F.3d 718, 727, citing *National Parks & Conservation Association v. Babbitt* (9th Cir. 2001) 241 F.3d 722, 733.

<sup>540</sup> *Northern Plains Resource Council, Inc. v. Surface Transp. Bd.* (9th Cir. 2011) 668 F.3d 1067, 1084–85.

<sup>541</sup> *Id.*

<sup>542</sup> *Id.*

carefully considered information about significant impacts.<sup>543</sup> Even if the mitigation measures guaranteed that data would be collected at some point in the future, the data was not available during the EIS process and was not available to the public for comment.<sup>544</sup> The EIS process, therefore, did not serve its larger informational role.<sup>545</sup> In essence, data must exist “*before approval* so that [an agency] can understand the adverse environmental affects *ab initio*.”<sup>546</sup> Where baseline data exists through some scientific study or methodology that the agency’s experts deem reliable, the court will not “act as a panel of scientists” instructing the agency how to make its scientific determinations.<sup>547</sup> However, where mitigation measures are deferred for gathering baseline data, or where the agency deprives the public of reviewing data, the EIS will not be sufficient for NEPA purposes.<sup>548</sup>

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In enacting CEQA, the Legislature declared that it is “the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects.”<sup>549</sup> An EIR is inadequate unless it includes “a detailed statement setting forth . . . mitigation measures proposed to minimize [the project’s] significant effects on the environment.”<sup>550</sup> CEQA requires lead agencies to incorporate all feasible mitigation measures into a project to reduce the project’s potentially significant impacts to a level of insignificance.<sup>551</sup> Finally, CEQA requires the lead agency to find, based on substantial evidence, “that the mitigation measures are required in or incorporated into the project; or that the measures are the responsibility of another agency and have been, or can and should be, adopted by the other agency.”<sup>552</sup>

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<sup>543</sup> *Id.*

<sup>544</sup> *Id.*

<sup>545</sup> *Id.*

<sup>546</sup> *Id.*, at p. 1085.

<sup>547</sup> *Id.*, at p. 1075.

<sup>548</sup> *Id.*

<sup>549</sup> Pub. Resources Code, § 21002.

<sup>550</sup> *Id.*, § 21100(b)(3); CEQA Guidelines, § 15126(e).

<sup>551</sup> *See* Pub. Resources Code, § 21081(a)(1)-(3); CEQA Guidelines, §§ 15002(a)(3), 15021(a)(2), 15091(a)(1).

<sup>552</sup> *Federation of Hillside & Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1260 (internal quotations omitted).

Courts have imposed several parameters for the adequacy of mitigation measures. We address some of the relevant criteria here. First, the lead agency may not defer the formulation of mitigation measures until a future time, unless the EIR also specifies the specific performance standards capable of mitigating the project's impacts to a less than significant level.<sup>553</sup> Deferral is impermissible where an agency "simply requires a project applicant to obtain a . . . report and then comply with any recommendations that may be made in the report."<sup>554</sup> Second, a public agency may not rely on mitigation measures of uncertain efficacy or feasibility.<sup>555</sup> Third, "[m]itigation measures must be fully enforceable through permit conditions, agreements, or other legally binding instruments."<sup>556</sup> Fourth, mitigation measures that are vague or so undefined that it is impossible to evaluate their effectiveness are legally inadequate.<sup>557</sup>

As explained in the following paragraphs, there are several mitigation measures in various sections of the DEIR/EIS that are deferred, unenforceable or otherwise inadequate. The DEIR/EIS must be revised to include effective and enforceable mitigation for all significant impacts.

**A. Mitigation Measures Proposed for Terrestrial Biological Resources Are Inadequate to Reduce Impacts to Less-Than-Significant Levels**

The DEIR/EIS provides a number of mitigation measures to address significant impacts to terrestrial species.<sup>558</sup> Ms. Owens addresses some of these measures and explains that the mitigation measures, which in some cases are improperly deferred, do not reduce the impacts to terrestrial species to a less-than-significant level.

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<sup>553</sup> CEQA Guidelines, § 15126.4(a)(1)(B); *Endangered Habitats League v. County of Orange* (2005) 131 Cal.App.4th 777, 793-94; *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1275.

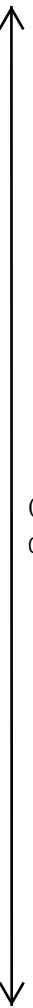
<sup>554</sup> *Defend the Bay, supra*, at p. 1275.

<sup>555</sup> *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation measure because no record evidence existed that replacement water was available).

<sup>556</sup> CEQA Guidelines, § 15126.4(a)(2).

<sup>557</sup> *San Franciscans for Reasonable Growth v. City & County of San Francisco* (1984) 151 Cal.App.3d 61,79.

<sup>558</sup> See DEIR/EIS, at pp. 4.6-131-132.

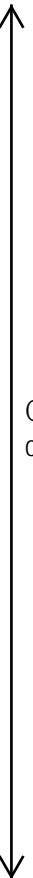


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Mitigation Measure 4.6-1a, states a lead biologist should be retained to oversee implementation of protective measures.<sup>559</sup> Ms. Owens states that this measure should have some standard or assurance within the mitigation measure to ensure that the lead biologist, onsite, has the irrevocable authority to stop work when needed.<sup>560</sup> Ms. Owens also explains that this mitigation measure is vague as it does not explain what “at risk” means with respect to relocating special status species that are at risk.<sup>561</sup>

Mitigation Measure 4.6-1d, aimed at addressing impacts to the Western Snowy Plover is improperly deferred.<sup>562</sup> Additionally, visual barriers will not serve to significantly reduce the direct and indirect impacts of noise on breeding birds.<sup>563</sup> Ms. Owens also challenges the DEIR/EIS’s assertion that displacement can be easily mitigated, which she states is contrary to the Snowy Plover Recovery Plan.<sup>564</sup> Mitigation Measure 4.6-1n is inadequate because the measure should require collaboration with local snowy plover conservationists.<sup>565</sup>

Mitigation Measure 4.6-1e, which states that CalAm or its contractor shall conduct focused botanical surveys for special-species plants.<sup>566</sup> Ms. Owens states that these types of surveys are insufficient for sensitive species and their habitat protection.<sup>567</sup> The measures must include appropriate site-specific considerations, such as timing (*i.e.*, dormant season).<sup>568</sup> The DEIR/EIS fails to provide appropriate mitigation measures, which are specific to species, and to each site, including parcels set aside for habitat loss compensation.<sup>569</sup> Without sufficient information,



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<sup>559</sup> Owens Comments, at p. 35.

<sup>560</sup> *Id.*

<sup>561</sup> *Id.*, at p. 36.

<sup>562</sup> *Id.*, at pp. 24 (consultation with USFWS is improperly deferred, onsite biologist survey for nests is improperly deferred, Habitat Mitigation and Monitoring Plan is improperly deferred).

<sup>563</sup> *Id.*, at pp. 31-32.

<sup>564</sup> *Id.*, at p. 32.

<sup>565</sup> *Id.*, at p. 34.

<sup>566</sup> *Id.*, at p. 15.

<sup>567</sup> *Id.*, at pp. 15-16.

<sup>568</sup> *Id.*

<sup>569</sup> *Id.*, at p. 16.



the mitigation measure may not effectively reduce potential impacts for rare plants to below significant.<sup>570</sup>

Mitigation Measure 4.6-1f for the Smith's Blue Butterfly is premised on a lack of data, which skews the impact analysis and this mitigation measure.<sup>571</sup> Ms. Owens provides information about the species specific flight period, which is important for the species' success.<sup>572</sup> Yet, there is no information about this specific flight period and therefore the mitigation measure does not provide a way to avoid impacts.<sup>573</sup>

Mitigation Measure 4.6-1g for the Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard is inadequate for some of the same reasons mentioned above.<sup>574</sup> There is a lack of data on the reptiles, which deprives the public from being able to determine if the mitigation measures will be adequate.<sup>575</sup>

Mitigation Measure 4.6-1i for nesting birds should apply throughout the duration of construction to ensure that nesting birds are not impacted.<sup>576</sup> According to Ms. Owens continuous surveying will ensure the birds are not harassed by Project activities.<sup>577</sup>

Finally, Mitigation Measure 4.6-1n describes the Habitat Mitigation and Monitoring Plan, which Ms. Owens explains does not reduce impacts to below significant.<sup>578</sup> The compensatory mitigation lacks data, description, detail, and standard criteria to analyze its efficacy and success.<sup>579</sup>

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<sup>570</sup> *Id.*

<sup>571</sup> *Id.*, at p. 38.

<sup>572</sup> *Id.*, at pp. 39-40.

<sup>573</sup> *Id.*

<sup>574</sup> *Id.*, at pp. 40-41.

<sup>575</sup> *Id.*

<sup>576</sup> *Id.*, at p. 42.

<sup>577</sup> *Id.*, at pp. 42-43.

<sup>578</sup> *Id.*, at pp. 43.

<sup>579</sup> *Id.*

**B. Substantial Evidence Shows the Project Would Result in Potentially Significant Impacts, Despite Compliance with Laws**

The DEIR/EIS concludes in several sections that the Project’s compliance with laws and regulations are sufficient to mitigate potentially significant impacts to a level of insignificance. In many cases, the DEIR/EIS simply concludes that impacts are less than significant by assuming compliance with laws. However, compliance with a regulation or law is not an indication of the sufficiency of mitigation measures where there is substantial evidence that the project may result in significant impacts.<sup>580</sup> CEQA requires a lead agency to fully assess the significance of a Project’s impacts in light of substantial evidence “notwithstanding compliance with the adopted regulations or requirements.”<sup>581</sup> Furthermore, the DEIR/EIS may not simply assert “a bare conclusion . . . not supported by facts or analysis.”<sup>582</sup>

In *Communities for a Better Env’t v. California Res. Agency*, the court struck down a CEQA Guideline because it “impermissibly allow[ed] an agency to find a cumulative effect insignificant based on a project’s compliance with some generalized plan rather than on the project’s actual environmental impacts.”<sup>583</sup> The court concluded that “[i]f there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding that the project complies with the specified plan or mitigation program addressing the cumulative problem, an EIR must be prepared for the project.”<sup>584</sup> Thus, the ruling supports the notion that compliance with an applicable standard outside of the CEQA process does not automatically obviate a lead agency’s obligation to consider substantial evidence and analyze and mitigate potentially significant impacts.

In *Keep our Mountains Quiet v. County of Santa Clara*, neighbors of a wedding venue sued over the County’s failure to prepare an EIR due to significant noise impacts. The court concluded that “a fair argument [exists] that the Project

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<sup>580</sup> *Keep our Mountains Quiet v. County of Santa Clara* (2015) 236 Cal.App.4th 714, 733; *Communities for a Better Env’t v. California Res. Agency* (2002) 126 Cal.Rptr.2d 441.

<sup>581</sup> CEQA Guidelines § 15064.4.

<sup>582</sup> *Association of Irrigated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1390-1391.

<sup>583</sup> *Communities for a Better Env’t v. California Res. Agency* (2002) 126 Cal.Rptr.2d 441, 453.

<sup>584</sup> *Id.*

may have a significant environmental noise impact” and reasoned that although the noise levels would likely comply with local noise standards, “compliance with the ordinance does not foreclose the possibility of significant noise impacts.”<sup>585</sup> The court ordered the County to prepare an EIR.

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**C. The DEIR Fails to Require Compliance with Laws as Enforceable Mitigation**

1. Project Fails to Require Compliance with NPDES and the Ocean Plan

The DEIR/EIS states that the Project will be consistent with the Ocean Plan and the NPDES permit process:

The MPWSP would be consistent with the Monitoring and Reporting Plan requirements of the Ocean Plan because such requirements form a part of the NPDES permit process and, further, CalAm would submit and, once approved by the RWQCB and MBNMS, execute a facility specific Monitoring and Reporting Plan.<sup>586</sup>

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The Ocean Plan requires more than a monitoring and reporting plan. CalAm must also meet certain reporting requirements, such as providing a Marine Life Mortality Report. Based on the results of this Marine Life Mortality Report, CalAm must either complete a mitigation project or implement a fee-based mitigation program to mitigate for the mortality of all forms of marine life.<sup>587</sup>

2. Project Fails to Require Compliance with City of Marina Local Coastal Land Use Plan (LCLUP)

The Project fails to comply with habitat management and conservation plans, policies, or regulations in local regional land use plans.<sup>588</sup> The following regions

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<sup>585</sup> *Keep our Mountains Quiet*, *supra*, 236 Cal.App.4th, at p. 733.

<sup>586</sup> DEIR/EIS, at p. 4.3-34.

<sup>587</sup> SWRCB, California Ocean Plan, *supra*, at pp. 43-44.

<sup>588</sup> Owens Comments, at pp. 4-8.

have habitat management and conservation plans: the City of Marina General Plan, the City of Marina Local Coastal Land Use Plan, the Marina Municipal Code, the Fort Ord Dunes State Park General Plan and EIR, the Monterey City Code, the Seaside General Plan, the Seaside Municipal Code, Carmel Valley Master Plan, Greater Monterey Peninsula Area Plan, Monterey County Code, Monterey County General Plan, North County Land Use Plan, Fort Ord Reuse Plan.<sup>589</sup>

The DEIR/EIS concludes that where this Project may be inconsistent with the applicable plan, policy, or regulation, the impact will be separately identified.<sup>590</sup> Where the impact would be considered significant, then feasible mitigation would be identified to resolve or minimize that conflict.<sup>591</sup> Yet, the DEIR/EIS does not adequately address all of the potential conflicts with these plans and, as a result, fails to require mitigation measures to ensure consistency with those plans.

As Ms. Owens explains, the City of Marina Local Coastal Land Use Plan has very specific policies and mitigation measures regarding potential impacts to sensitive species and habitats.<sup>592</sup> These policies include establishing a list of biologists qualified to prepare habitat evaluation reports, determining the extent and landward boundary of a wetland, and identifying plant and animal species which are locally or generally rare, endangered, threatened, or are necessary for the survival of an endangered species.<sup>593</sup>

The City of Marina Local Coastal Land Use Plan has specific minimum habitat mitigation and restoration plan requirements to protect the biodiversity in the area.<sup>594</sup> All direct and potential impacts to primary and secondary habitats shall be fully mitigated.<sup>595</sup> Habitat restoration plans should be prepared by a qualified biologist, and where appropriate with a qualified hydrologist. Plans should be developed in consultation with the Department of Fish and Wildlife and the U.S. Fish and Wildlife Service in cases where these agencies have jurisdiction.<sup>596</sup> To

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<sup>589</sup> *Id.*, at p. 4.

<sup>590</sup> *Id.*, at p. 5; *see also* DEIR/EIS, at p. 4.6-99.

<sup>591</sup> Owens Comments, at p. 5.

<sup>592</sup> *Id.*, at pp. 5-8.

<sup>593</sup> *Id.*

<sup>594</sup> *Id.*, at p. 6.

<sup>595</sup> *Id.*

<sup>596</sup> *Id.*

enforce these plans, they should be authorized by a coastal development permit and must be approved prior to issuance of any grading or building permits.<sup>597</sup> The plan shall include at a minimum: (1) a detailed site plan; (2) a baseline ecological assessment; (3) goals, objectives, performance standards and success criteria for the site; (4) management methods to ensure the site achieves the goals, objectives, and performance standards; (5) provisions for the full restoration of any impacts that are identifies as temporarily necessary to install the restoration or enhancement elements; (6) submitting documentation at the completion of initial restoration work; (7) provision for a detailed monitoring program to include a provision for assessing the initial biological and ecological status of the site; and (8) provision for the prompt remediation of a site if the monitoring results indicate the site does not meet the goals, objectives and performance standards identified in the approved mitigation program.<sup>598</sup>

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The DEIR/EIS admits that it is potentially inconsistent with the City of Marina LCLUP with respect to installing the subsurface slant wells, source water pipeline, new desalinated water pipeline, and new transmission main, and maintenance of the subsurface slant wells.<sup>599</sup> These installations and maintenance will occur within special status species habitats, including wetlands and primary and secondary habitat in the City of Marina.<sup>600</sup> Ms. Owens notes that although the DEIR/EIS proposes mitigation measures to reduce or avoid impacts on special-status species, the measures are insufficient because they may not include all direct, indirect, and cumulative impacts.<sup>601</sup> Further, and as provided above, the DEIR/EIS must comply with the City of Marina's minimum habitat mitigation/restoration plan requirements, which are more aggressive at ensuring protection of biological resources than the mitigation measures provided in the DEIR/EIS.<sup>602</sup>

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<sup>597</sup> *Id.*

<sup>598</sup> *Id.*, at pp. 6-8.

<sup>599</sup> DEIR/EIS, at p. 4.6-101 (Table 4.6-4).

<sup>600</sup> Owens Comments, at p. 8.

<sup>601</sup> *Id.*, at pp. 8-9.

<sup>602</sup> *Id.*

3. Project Fails to Require Compliance with Other Laws

The DEIR/EIS abdicates its duty under CEQA in several resource areas. For example, under Impact 4.2-1 (increased soil erosion or loss of topsoil during construction), the DEIR/EIS finds that the Project could result in substantial soil erosion or loss of topsoil during construction.”<sup>603</sup> However, the DEIR/EIS simply concludes that “the proposed project would be required to comply with the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ) (Construction General Permit), the Monterey County Grading Ordinance, and Monterey County Erosion Control Ordinance, all of which are described in Section 4.2.2, Regulatory Framework”; therefore, “impacts associated with substantial increases in soil erosion during construction would be less than significant for all project components.”<sup>604</sup> The DEIR/EIS fails to provide further substantive analysis and mitigation for soil erosion impacts aside from requirements under the applicable laws. In addition, compliance with these laws is not encapsulated as enforceable mitigation. Simply assuming the Applicant will comply with laws outside of CEQA does not satisfy CEQA’s requirement for a full analysis and mitigation of potentially significant impacts.

CURE-48

Additional impacts that are assumed to be less than significant based on compliance with other laws include:

damage to structural elements from earthquake (Impact 4.2-3);<sup>605</sup>  
exposure of people or structures to substantial adverse effects related to liquefaction and lateral spreading (Impact 4.2-4);<sup>606</sup> water quality impact associated with construction activities (Impact 4.3-1);<sup>607</sup>  
discharges of treated water and disinfectant from existing and newly

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<sup>603</sup> DEIR/EIS, at p. 4.2-54.

<sup>604</sup> *Id.*

<sup>605</sup> DEIR/EIS, p. 4.2-59 (compliance with California Building Code).

<sup>606</sup> *Id.*, at p. 4.2-61 (compliance with Monterey County requirements for geotechnical study, standard engineering practices, implementation of design recommendations, and standard construction methods).

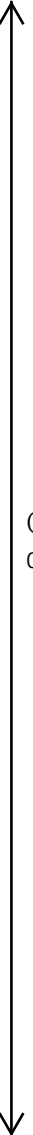
<sup>607</sup> *Id.*, at p. 4.3-58 (compliance with NPDES).

installed pipelines during construction (Impact 4.3-3);<sup>608</sup> degradation of water quality due to discharges associated with maintenance of the subsurface intake wells and ASR injection/extraction wells (Impact 4.3-6);<sup>609</sup> alteration of drainage patterns such that there is a resultant increase in erosion, siltation, or the rate or amount of surface runoff (Impact 4.3-7);<sup>610</sup> and construction-related impact to water quality in jurisdictional waters related to increased soil erosion and/or inadvertent releases of toxic construction chemicals (Impact 4.6-3).<sup>611</sup>

In the analyses for all of these impacts, the DEIR/EIS acknowledges the impacts could be significant, but then concludes no significant impact based on compliance with laws without actually analyzing the impact and incorporating any enforceable mitigation. For example, under Impact 4.3-3, the DEIR/EIS states:

The treated water generated from the draining of existing pipelines and the effluent generated from disinfection of newly installed pipelines would be discharged to the local storm drainage system. Without proper controls, these discharges could adversely affect water quality in downstream receiving water bodies by increasing turbidity (if discharged directly without appropriate treatment) or due to high chlorine (the primary disinfectant used for drinking water) concentrations.<sup>612</sup>

The DEIR/EIS further states that “General [Waste Discharge Requirements (Order No. R3-2011-0223, NPDES Permit No. CAG993001)] WDRs require that CalAm neutralize the residual chlorine remaining in disinfection effluent such that detectable chlorine levels are less than 0.02 mg/L, and require that the total dissolved solids be within surface water and groundwater quality objectives.”<sup>613</sup> The DEIR then concludes that “[c]ompliance with the General WDRs and the conditions therein would protect water quality in receiving water bodies [and] the impact would be less than significant,”<sup>614</sup> without requiring any mitigation. Under



CURE-48  
cont.

<sup>608</sup> *Id.*, at p. 4.3-65 (compliance with NPDES).

<sup>609</sup> *Id.*, at p. 4.3-110 (compliance with NPDES).

<sup>610</sup> *Id.*, at p. 4.3-112 (compliance with Construction General Permit requirements).

<sup>611</sup> *Id.*, at p. 4.6-209 (compliance with NPDES).

<sup>612</sup> *Id.*, at p. 4.3-65.

<sup>613</sup> *Id.*

<sup>614</sup> *Id.*



CEQA, the DEIR/EIS must actually analyze the potential for the increased turbidity and high chlorine levels, and incorporate compliance with the WDR standards as enforceable mitigation.

The CPUC and MBNMS may not rely solely on compliance with regulations or laws as reducing impacts to less than significant levels without a full analysis of impacts or enforceable mitigation. As the DEIR/EIS is currently presented, the CPUC and MBNMS cannot conclude that the Project's impacts have been fully assessed and properly mitigated to less than significant.

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## VII. THE DEIR/EIS FAILS TO EVALUATE CERTAIN ALTERNATIVES

NEPA regulations identify the need to consider reasonable alternatives.<sup>615</sup> NEPA requires consideration of all aspects that may be relevant and important to decision-makers, including factors that are not related to environmental quality. NEPA requires substantial treatment of each alternative, including the proposed action, so that reviewers may evaluate their comparative merits.<sup>616</sup>

Under CEQA, the lead agency is required to consider project alternatives that might eliminate or reduce the Project's significant adverse environmental effects. CEQA requires that an EIR "[d]escribe a range of reasonable alternatives . . . which could feasibly attain the basic objectives of the project and evaluate the comparative merits of the alternatives."<sup>617</sup> An EIR must "produce information sufficient to permit a reasonable choice of alternatives so far as environmental aspects are concerned."<sup>618</sup> The key issue is whether the alternatives analysis fosters informed decision-making and informed public participation.<sup>619</sup>

CURE-49

The discussion must focus on alternatives capable of either eliminating any significant adverse environmental effects or reducing them to a level of

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<sup>615</sup> 40 C.F.R. § 1502.14(c).

<sup>616</sup> *Id.*, at § 1502.14.

<sup>617</sup> CEQA Guidelines, § 15126(d); *Village Laguna of Laguna Beach v. Board of Supervisors* (1982) 134 Cal.App.3d 1022, 1028; *Citizens of Goleta Valley v. Board of Supervisors (Goleta I)* (1988) 197 Cal.App.3d 1167, 1180-81.

<sup>618</sup> *San Bernardino Valley Audubon Soc'y v. County of San Bernardino* (1984) 155 Cal.App.3d 738, 750-51.

<sup>619</sup> CEQA Guidelines, § 15126.6.

insignificance, even if such alternatives would be more costly or to some degree would impede the project's objectives. One of the most substantive aspects of CEQA is that section 21002 of the statute forbids agencies from approving projects with significant adverse impacts when feasible alternatives (or feasible mitigation measures) can substantially lessen such impacts.<sup>620</sup>

Aside from the proposed Project and the No Project alternative, the DEIR/EIS provides six different alternatives:

- Alternative 1 – Slant wells at Potrero Road<sup>621</sup>
- Alternative 2 – Open-Water Intake at Moss Landing<sup>622</sup>
- Alternative 3 – Monterey Bay Regional Water Project (MBRWP or DeepWater Desal Project)<sup>623</sup>
- Alternative 4 – People's Moss Landing Water Desalination Project (People's Project)<sup>624</sup>
- Alternative 5a – Reduced Project 6.4-mgd Desalination Plant (Intake Slant Wells at CEMEX)<sup>625</sup>
- Alternative 5b – Reduced Project 6.4-mgd Desalination Plant (Intake Slant Wells at Potrero Road)<sup>626</sup>

All of these project alternatives rely on the same basic technology: reverse osmosis. Yet, there is no discussion of other desalination technologies that would allow for CalAm to meet its water production objective, such as:

- Electrodialysis
- Multi-stage flash distillation
- Multiple effect distillation
- Vapor compression desalination<sup>627</sup>

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<sup>620</sup> *Sierra Club v. Gilroy City Council* (1990) 222 Cal.App.3d 30, 41; *Citizens for Quality Growth v. City of Mount Shasta* (1988) 198 Cal.App.3d 433, 440-41; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 711, 730-31; Pub. Resources Code, § 21081.

<sup>621</sup> DEIR/EIS, at § 5.4.3.

<sup>622</sup> *Id.*, at § 5.4.4.

<sup>623</sup> *Id.*, at § 5.4.5.

<sup>624</sup> *Id.*, at § 5.4.6.

<sup>625</sup> *Id.*, at § 5.4.7.

<sup>626</sup> *Id.*, at § 5.4.8.

Among these processes are also those that embrace renewable energy, such as:

- Solar humidification
- Membrane distillation<sup>628</sup>

The DEIR/EIS proposes a reduced project alternative, which is the environmentally superior option.<sup>629</sup> But it fails to consider aggregated, small scale desalination projects.<sup>630</sup> This is particularly relevant given that other desalination proposals are being considered in Monterey Bay, which may provide sufficient water quantities to the County.<sup>631</sup>

## VIII. OTHER CONSIDERATIONS

### A. Growth Related Impacts Must Be Adequately Considered

CEQA requires a separate and distinct analysis of growth-inducing impacts. The requirement to assess “growth-inducing impacts” must include the following:

[T]he ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is

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<sup>627</sup> I. El Saliby et al., Desalination plants in Australia, Review and Facts, *Desalination* 247 (2009) 1–14, at p. 2, **Attachment V**.

<sup>628</sup> *Id.*, at p. 2.

<sup>629</sup> DEIR/EIS, at p. 1-2 (discussing Alternative 5a).

<sup>630</sup> I. El Saliby et al., *supra*, at p. 2.

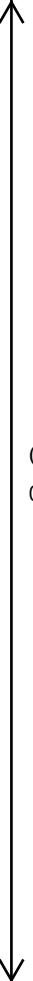
<sup>631</sup> See Desalination Map, NOAA: MBNMS, *supra*, available at <http://montereybay.noaa.gov/materials/mappages/desalinizationmap.html>.

necessarily beneficial, detrimental, or of little significance to the environment.<sup>632</sup>

In *City of Davis v. Coleman*, the court set aside a Negative Declaration and required preparation of an EIR where evidence supported the finding that the construction of a highway interchange would cause urban growth.<sup>633</sup> However, the court reached its holding in reliance on the common sense conclusion that a project that is intended to support future growth *will* also cause potentially significant urban growth impacts which must be analyzed in an EIR.<sup>634</sup> As articulated by the court:

The growth-inducing effects of the Kidwell Interchange project are its *raison d'être*, and with growth will come growth's problems: increased population, increased traffic, increased pollution, and increased demand for services such as utilities, education, police and fire protection, and recreational facilities.<sup>635</sup>

In Monterey, water scarcity has constrained development.<sup>636</sup> Removing this constraint would allow for development projects to move forward.<sup>637</sup> The impacts associated increased development, such as impacts on air quality and water quality, in particular, as compared to the current "constrained" environmental setting may be significant.<sup>638</sup> New building will lead to water quality impacts from urban runoff, which the DEIR/EIS has not considered.<sup>639</sup> With respect to ocean water quality, the levels of contaminants are already at the brink of exceeding Ocean Plan thresholds.<sup>640</sup> Allowing additional development to go forward, with the associated air and water impacts, will likely cause these thresholds to be exceeded.



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<sup>632</sup> CEQA Guidelines, § 15126.2(4) (emphasis added).

<sup>633</sup> *City of Davis v. Coleman* (1975) 521 F.2d 661, 674-76.

<sup>634</sup> *Id.*, at p. 675.

<sup>635</sup> *Id.*

<sup>636</sup> DEIR/EIS, at p. 6-5-6.

<sup>637</sup> *Id.*

<sup>638</sup> *See id.*

<sup>639</sup> *See* DEIR/EIS, Table 4.3-8

<sup>640</sup> *See id.*, Table 4.3-16.

Although the DEIR/EIS claims that additional growth would be consistent with adopted land use plans, consistency with adopted goals, polices and guidelines is not a valid basis for finding that impacts of a Project are not cumulatively considerable.<sup>641</sup>

While an EIR's cumulative impact analysis generally may rely on a summary of projections contained in an adopted general plan or related planning document instead of on a list of past, present, and probable future projects<sup>642</sup>, it may not do so if the projections in the general plan or related planning document are inaccurate or outdated and thus do not adequately evaluate the potentially significant cumulative impacts of the project.<sup>643</sup> The fact that a particular project's incremental impact may not have been found significant under old, out-of-date growth projections, does not mean that the same project will not contribute to a cumulatively considerable impact when development projections change. Accordingly, consistency with existing zoning, community plan or general plan policies does not relieve a lead agency from the requirement to conduct environmental review of potentially significant cumulative impacts that were not analyzed, discussed or identified in the EIR prepared for the planning document.<sup>644</sup> An EIR's reliance on out-of-date growth projections that do not take into account identified probable future projects thus violates CEQA.

In *Bakersfield Citizens for Local Control v. City of Bakersfield*, the court found that an agency's reliance on projections contained in a general plan was improper where the general plan's projections did not take into account new projects that were not identified at the time the general plan was prepared, but were reasonably foreseeable at the time of the current EIR.<sup>645</sup> In reaching this decision, the court held that "use of a planning document does not preclude challenge to the accuracy or sufficiency of the cumulative impacts analysis."<sup>646</sup> The Court further held that the "summary-of-projections approach may present problems if the projections in the general plan or related planning document are inaccurate or

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<sup>641</sup> DEIR/EIS, at p. 6-5.

<sup>642</sup> CEQA Guidelines § 15130, subd. (b).

<sup>643</sup> *Bakersfield Citizens for Local Control, supra*, 124 Cal.App.4th, at p. 1217

<sup>644</sup> CEQA Guidelines, § 15183, subd. (b).

<sup>645</sup> *Bakersfield Citizens for Local Control, supra*, 124 Cal.App.4th at p. 1217.

<sup>646</sup> *Id.*

*outdated.*<sup>647</sup> The Port's position is also inconsistent with the Court's decision in *Citizens to Preserve the Ojai v. County of Ventura*.<sup>648</sup> In that case, the Court held that an EIR's cumulative analysis of air quality impacts was inadequate where it relied upon a prior Air Quality Management Plan that did not take into account new evidence of the cumulative contribution to air pollution from offshore emissions.<sup>649</sup>

Consistency with adopted goals, polices and guidelines is not a valid basis for finding that impacts of a Project are not cumulatively considerable.<sup>650</sup> Impacts do not become automatically less than significant merely because the actions are consistent with adopted goals, polices and guidelines.

The same is true here. Lifting the water constraint will open the Monterey Peninsula to foreseeable growth that must be adequately accounted for, as required by NEPA and CEQA.

## IX. CONCLUSION

The DEIR/EIS does not satisfy CEQA's procedural and evidentiary standards for preparing an EIR, or NEPA's standards for preparing an EIS. The DEIR/EIS fails to include an adequate description of the Project and fails to adequately describe the environmental setting. The DEIR/EIS also fails to address the Project's potentially significant impacts to biological resources, marine resources, air quality, public health, vibration issues, and others. Furthermore, the DEIR/EIS proposes mitigation measures that are deferred, unenforceable, or otherwise inadequate to mitigate impacts to below a level of significance. In the case of significant and unavoidable impacts, the DEIR/EIS fails to propose all feasible mitigation. It also fails to propose legally sufficient alternatives. For these reasons, the CPUC and MBNMS must withdraw the DEIR/EIS and prepare and recirculate

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<sup>647</sup> *Id.* (emphasis added).

<sup>648</sup> *Citizens to Preserve the Ojai v. County of Ventura* (1985) 176 Cal.App.3d 421, 427.

<sup>649</sup> *Id.*


<sup>650</sup> *Bakersfield Citizens for Local Control v. City of Bakersfield, supra*, 124 Cal.App.4th at 1217.

March 28, 2017  
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a revised DEIR/EIS that adequately analyzes and proposes all necessary and feasible mitigation to reduce the Project's potentially significant environmental and public health impacts.

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cont.

Sincerely,



Linda T. Sobczynski

LTS:acp  
Attachments

1840-062acp



**Comments**  
**on**  
**Draft Environmental Impact Report/  
Environmental Impact Statement (DEIR/DEIS)**  
**for the**  
**CalAm Monterey Peninsula**  
**Water Supply Project**

Prepared  
for  
Adams Broadwell Joseph & Cardozo

Prepared by

Phyllis Fox, Ph.D., PE  
Consulting Engineer  
745 White Pine Ave.  
Rockledge, FL 32955

February 27, 2017

The California American Water Company (CalAm) is proposing to construct and operate the Monterey Peninsula Water Supply Project (MPWSP or Project) in the Monterey Bay Area. The California Public Utilities Commission (CPUC) as lead agency for the State and the National Oceanic and Atmospheric Administration for the United States (NOAA) have prepared a Draft Environmental Impact Report and Environmental Impact Statement (DEIR/EIS) for the Project.<sup>1</sup>

The purpose of the Project is to replace existing water supplies that were limited by the adjudication of the Carmel River and Seaside Groundwater Basin. The Project would replace the lost water with desalinated sea water and increase the CalAm storage capacity in the Seaside Groundwater Basin. CalAm proposes to build either a desalination plant with the capacity to produce up to 9.6 million gallons per day (mgd) of desalinated product water, or to build a smaller project that would include the purchase of product water from the proposed Pure Water Monterey Groundwater Replenishment (GWR) project and construction of a 6.4 mgd desalination plant.

The Project includes construction of up to ten subsurface slant wells, a 9.6-mgd desalination plant to produce about 10,267 ac-ft/yr of desalinated water, improvements to the existing Seaside Groundwater Basin Aquifer Storage and Recovery (ASR) system facilities, 30 miles of pipeline, two pump stations, a Terminal Reservoir, and water storage tanks.<sup>2</sup>

I reviewed the air quality, greenhouse gas, historic resources, and vibration sections of the DEIR/EIS for the Project as well as the 2015 DEIR.<sup>3</sup> My comments on the 2015 DEIR are incorporated here by reference.<sup>4</sup> My review of the DEIR/EIS indicates:

- The DEIR/EIS fails to evaluate all air quality impacts.
- Construction emissions are not supported by substantial evidence.

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<sup>1</sup> ESA, CALAM Monterey Peninsula Water Supply Project Draft Environmental Impact Report/Environmental Impact Statement, Prepared for California Public Utilities Commission and Monterey Bay National Marine Sanctuary, January 2017; Available at: [http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/deir-eis/1\\_CalAm\\_MPWSP\\_DEIR-EIS.pdf](http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/deir-eis/1_CalAm_MPWSP_DEIR-EIS.pdf).

<sup>2</sup> DEIR/EIS, Table ES-2 & Chapter 2.

<sup>3</sup> ESA, Monterey Peninsula Water Supply Project Draft Environmental Impact Report, Prepared for California Public Utilities Commission, April 2015; Available at: [http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/deir\\_toc.html](http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/deir_toc.html).

<sup>4</sup> Phyllis Fox, Comments on Draft Environmental Impact Report for the CalAm Monterey Peninsula Water Supply Project, July 1, 2015, Attachment A to comments submitted by Adams Broadwell Joseph and Cardozo (“Fox 2015 DEIR Comments”); Available at: [http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/deir\\_comments/G\\_CURE4\\_p1.pdf](http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/deir_comments/G_CURE4_p1.pdf).

CURE-Fox-1

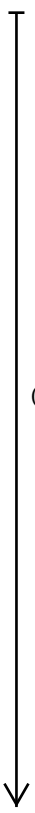
CURE-Fox-2

- The DEIR/EIS fails to require all feasible mitigation for significant and unavoidable construction ROG and NOx impacts.
- The DEIR/EIS fails to include indirect operational impacts from electricity generation, which are significant for NOx.
- The DEIR/EIS fails to identify and mitigate significant cancer health risks from diesel particulate matter emissions during Project construction.
- The DEIR/EIS fails to identify a significant risk of Valley Fever for construction and well maintenance workers as well as local residents.
- The DEIR/EIS relies on conventional dust control measure to mitigate Valley Fever impacts, which are well known to be ineffective due to the small size of the Cocci spores.
- The DEIR/EIS fails to adequately explain why the Project’s GHG impacts are significant and unavoidable.
- The DEIR/EIS fails to require all feasible mitigation for significant GHG emissions.
- The DEIR/EIS fails to identify and mitigate significant vibration impacts.
- The DEIR/EIS fails to identify and mitigate significant adverse impacts to historical resources.



CURE-Fox-2  
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My resume is included in Exhibit 1 to these Comments. I have over 40 years of experience in the field of environmental engineering, including air emissions and air pollution control; greenhouse gas (GHG) emission inventory and control; water quality and water supply investigations; hazardous waste investigations; hazard investigations; risk of upset modeling; environmental permitting; nuisance investigations (odor, noise); environmental impact reports (EIRs), including CEQA/NEPA documentation; health risk assessments; and litigation support. I have M.S. and Ph.D. degrees in environmental engineering from the University of California at Berkeley with minors in Hydrology and Mathematics. I am a licensed professional chemical engineer in California.



CURE-Fox-3

I have prepared comments, responses to comments and sections of environmental impact reports (EIRs) for both proponents and opponents of projects on air quality, water supply, water quality, hazardous waste, public health, risk assessment, worker health and safety, odor, risk of upset, noise, land use and other areas for well over 500 CEQA documents. This work includes EIRs, Negative Declarations (NDs), and Mitigated Negative Declarations (MNDs). My work has been cited in two published CEQA opinions: (1) *Berkeley Keep Jets Over the Bay Committee, City of San Leandro, and City of Alameda et al. v. Board of Port Commissioners* (2001) 111 Cal.Rptr.2d 598 and *Communities for a Better*

*Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310 and has supported the record in many other CEQA cases.

↑ CURE-Fox-3  
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## I. AIR QUALITY IMPACTS

The Project would emit pollutants limited by state and federal ambient air quality standards during construction and operation. These include: carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NOx), sulfur oxides (SOx), particulate matter equal to or smaller than 10 microns (PM10), and particulate matter equal to or smaller than 2.5 microns (PM2.5).

↑ CURE-Fox-4

### A. Construction Criteria Pollutant Emissions Are Significant And Unmitigated

The DEIR/EIS estimated maximum daily emissions of ROG, NOx, CO, PM10, and PM2.5 from Project construction, concluded emissions of NOx and PM10 are significant,<sup>5</sup> and proposed mitigation<sup>6</sup>. The proposed mitigation is inadequate.

↑ CURE-Fox-5

#### 1. Construction Emissions Are Not Supported by Substantial Evidence

The construction emissions are summarized in Table 4.10-5. The DEIR/EIS summarizes the methods used to estimate construction emissions<sup>7</sup> and refers the reader to Appendix G1 for detailed assumptions and calculations.<sup>8</sup> However, Appendix G1 is not the starting point for all of the construction emission calculations.

↑ CURE-Fox-6

For off-road construction equipment, Appendix G1 includes model inputs and outputs for most emission sources. However, Appendix G1 notes that some emissions were estimated outside of models, but fails to explain where or how.<sup>9</sup> This includes:

- Operational emissions, DEIR/EIS, Appx. G1, pdf 35,78
- Worker and haul trips, DEIR/EIS, Appx. G1, pdf 36,79
- Grading, DEIR/EIS, Appx. G1, pdf 36, 79

<sup>5</sup> DEIR/EIS, Table 4.10-5, pp. 4.10-22 /24.

<sup>6</sup> DEIR/EIS, pp. 4.10-25/27.

<sup>7</sup> DEIR/EIS, p. 4.10-18, Section 4.10.4.2, Construction Emissions.

<sup>8</sup> DEIR/EIS, p. 4.10-22.

<sup>9</sup> DEIR/EIS, Appendix G1, pdf 36, 78,79 (worker and haul trips estimated outside of CalEEMod); 35, 78 (operational emissions are estimated outside of CalEEMod); 36, 78 (fugitive dust emissions estimated outside CalEEMod)

This lack of documentation deprives the public of the opportunity for independent review of the CPUC’s conclusions regarding the significance of the Project’s construction emissions.

↑ CURE-Fox-6  
cont.

On-road operational and construction emissions were estimated using CARB’s EMFAC2014 Burden Model.<sup>10</sup> This model generates emissions in (1) grams per mile for running exhaust, (2) grams per hour for running loss and diurnal/resting loss, (3) grams per idle-hour for idling exhaust, and (4) grams per trip for hot soak and start. These four sources of emissions cannot be simply summed to come up with a total emissions factor for on-road emissions as they are reported in different units. The starting point for the Appendix G on-road emissions is an emission factor in grams per mile.<sup>11</sup> However, the DEIR/EIS does not include the EMFAC input and output sheets or explain how it combined the EMFAC output, expressed in four different units, into grams per mile.

CURE-Fox-7

While the use of models that have been approved by a regulatory agency is a reasonable starting point, the mere claim that such a model was used does not by itself establish substantial evidence to support the emission estimates and conclusions presented in DEIR/EIS Appendix G. Models are merely tools which can be used correctly or incorrectly depending on the assumptions made to develop project-specific input parameters and the accuracy of parameter inputs into the model. As such, the assumptions used to run EMFAC should be subject to public review. Here, they are not.

CURE-Fox-8

The DEIR/EIS does not provide any support to demonstrate how ESA calculated the starting point for on-road construction emissions in Appendix G1 and other emissions calculated outside of models (grading, workers and haul trips, operational emissions). The DEIR/EIS should be recirculated with enough relevant information to verify the DEIR/EIS’s estimates of construction emissions including: (1) identification of all Project-specific assumptions and input parameters; (2) a copy of the model run inputs and outputs; and (3) any other documentation prepared by ESA or other CPUC consultants, such as original Excel spreadsheet model inputs and outputs plus Appendix G1 spreadsheets used to make the final construction emission calculations, i.e., the record should include unlocked Excel spreadsheets that correspond to those in Appendix G1. These documents are routinely provided to support EIRs<sup>12</sup> and other CEQA-equivalent documents,<sup>13</sup> as required under

CURE-Fox-9

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<sup>10</sup> DEIR/EIS, Appendix G1, pdf 19, 23, 24-28, 31, 36.

<sup>11</sup> DEIR/EIS, Appendix G1, pdf 19.

<sup>12</sup> See, for example, City of Los Alamitos, General Plan Update, Draft Environmental Impact Report, August 2014, SCH No. 2013121055, Appendix C, Air Quality and GHG Modeling; Available at: [http://cityoflosalamitos.org/?wpfb\\_dl=2323](http://cityoflosalamitos.org/?wpfb_dl=2323); County of Los Angeles, Los Angeles County General Plan Update, Draft Environmental Impact Report, SCH No. 2011081042, June 2014, Appendix G;

CEQA and California public records laws. They must be provided here to support the DEIR/EIS's conclusions regarding the significance of construction emissions.

↑ CURE-Fox-9  
cont.

Thus, the DEIR/EIS's conclusions regarding construction impacts on air quality are not supported by substantial evidence. As it stands, the reviewer has no choice but to simply accept the DEIR/EIS's analysis without any opportunity to verify the CPUC's conclusions regarding the significance of construction CO, SO<sub>2</sub>, ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions. This frustrates the public review requirements under CEQA.

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Available at: <http://planning.lacounty.gov/generalplan/ceqa>; The Town of Los Gatos, Los Gatos Sustainability Plan, October 15, 2012, Available at: Appendix B; <http://www.losgatosca.gov/1860/Sustainability-Plan>.

<sup>13</sup> **Victorville 2 Solar Gas-Hybrid Power Project:** Construction and operational criteria pollutant and TAC emission estimates were provided on CD as password-protected Excel spreadsheets in response to California Unions for Reliable Energy ("CURE") data requests. See [http://www.energy.ca.gov/sitingcases/victorville2/documents/applicant/2007-07-02\\_APPLICATIONS\\_OBJECTIONS\\_TO\\_CURE\\_DATA\\_REQUEST\\_SET\\_01.PDF](http://www.energy.ca.gov/sitingcases/victorville2/documents/applicant/2007-07-02_APPLICATIONS_OBJECTIONS_TO_CURE_DATA_REQUEST_SET_01.PDF) and [http://www.energy.ca.gov/sitingcases/victorville2/documents/applicant/2007-07-12\\_RESPONSES\\_TO\\_CURE\\_DATA\\_REQUEST\\_SET\\_01.PDF](http://www.energy.ca.gov/sitingcases/victorville2/documents/applicant/2007-07-12_RESPONSES_TO_CURE_DATA_REQUEST_SET_01.PDF);

**Blythe Solar Power Project:** Operational emissions were provided as unprotected Excel spreadsheets in response to CEC staff data requests. [http://www.energy.ca.gov/sitingcases/solar\\_millennium\\_blythe/documents/applicant/data\\_responses\\_set\\_1/Air%20Quality/Air%20Quality%20Supporting%20Documentation/Blythe%20DR%20Operating%20Emissions.xlsx](http://www.energy.ca.gov/sitingcases/solar_millennium_blythe/documents/applicant/data_responses_set_1/Air%20Quality/Air%20Quality%20Supporting%20Documentation/Blythe%20DR%20Operating%20Emissions.xlsx) and [http://www.energy.ca.gov/sitingcases/solar\\_millennium\\_blythe/documents/applicant/data\\_responses\\_set\\_1/Air%20Quality/Air%20Quality%20Supporting%20Documentation/Blythe%20Data%20Response%20Emissions.xlsx](http://www.energy.ca.gov/sitingcases/solar_millennium_blythe/documents/applicant/data_responses_set_1/Air%20Quality/Air%20Quality%20Supporting%20Documentation/Blythe%20Data%20Response%20Emissions.xlsx);

**Palen Solar Power Project:** Construction and operational emission estimates were provided as unprotected Excel spreadsheets in response to CEC staff data requests. See [http://www.energy.ca.gov/sitingcases/solar\\_millennium\\_palen/documents/applicant/data\\_responses\\_set\\_1/Air%20Quality/Air%20Quality%20Supporting%20Documentation/Palen%20DR%20Construction%20Emissions.xlsx](http://www.energy.ca.gov/sitingcases/solar_millennium_palen/documents/applicant/data_responses_set_1/Air%20Quality/Air%20Quality%20Supporting%20Documentation/Palen%20DR%20Construction%20Emissions.xlsx) and [http://www.energy.ca.gov/sitingcases/solar\\_millennium\\_palen/documents/applicant/data\\_responses\\_set\\_1/Air%20Quality/Air%20Quality%20Supporting%20Documentation/Palen%20DR%20Operating%20Emissions.xlsx](http://www.energy.ca.gov/sitingcases/solar_millennium_palen/documents/applicant/data_responses_set_1/Air%20Quality/Air%20Quality%20Supporting%20Documentation/Palen%20DR%20Operating%20Emissions.xlsx);

**Bullard Energy Center:** Operational emission estimates were provided as unprotected Excel spreadsheets in response to CEC staff data requests. See <http://www.energy.ca.gov/sitingcases/bullard/documents/applicant/DA-response-1/appendix-A/Attachment-7-1.xls> and <http://www.energy.ca.gov/sitingcases/bullard/documents/applicant/DA-response-1/appendix-A/Attachment-19-1.xls>; and

**Riverside Energy Resource Center:** Estimates for startup, shutdown, maintenance emissions from turbines and emissions estimates for on-road vehicle travel were provide as unprotected Excel spreadsheets in response to CURE data requests. See [http://www.energy.ca.gov/sitingcases/riverside/documents/applicants\\_files/2004-08-10\\_CURE\\_DATA\\_REQ4.PDF](http://www.energy.ca.gov/sitingcases/riverside/documents/applicants_files/2004-08-10_CURE_DATA_REQ4.PDF) and [http://www.energy.ca.gov/sitingcases/riverside/documents/applicants\\_files/cure\\_set4](http://www.energy.ca.gov/sitingcases/riverside/documents/applicants_files/cure_set4).

## 2. Construction Mitigation Is Not Adequate

The DEIR/EIS concluded that “[s]hort-term emissions associated with construction of the proposed project could contribute to an exceedance of a state and/or federal standard for ozone, NO<sub>2</sub>, and PM<sub>10</sub> based on the estimated maximum daily mass emissions levels presented in Table 4.10-5, which would exceed the MBUAPCD significance threshold for PM<sub>10</sub>.”<sup>14</sup> Elsewhere, the DEIR/EIS concluded that construction activities could conflict with implementation of the MBUAPCD’s Air Quality Management Plan (Impact 4.10-2).<sup>15</sup>

The DEIR/EIS then concludes that the significant air quality impact with respect to ozone and NO<sub>2</sub> standards “would be significant and unavoidable even with implementation of Mitigation Measures 4.10-1a and 4.10-1b.”<sup>16</sup> An EIR may conclude that an impact is significant and unavoidable only if all available and feasible mitigation measures have been proposed, but are inadequate to reduce the impact to a less than significant level.<sup>17</sup> If supported by substantial evidence, the lead agency may make findings of overriding considerations and approve the project in spite of the significant and unavoidable impact(s). However, the lead agency cannot simply conclude that an impact is significant and unavoidable without requiring all feasible mitigation, as here. As discussed below, the proposed mitigation for ozone and NO<sub>2</sub> impacts from construction is not all feasible mitigation.

CURE-Fox-11

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<sup>14</sup> DEIR/EIS, p. 4.10-24, pdf 1048.

<sup>15</sup> DEIR/EIS, p. 4.10-26, Impact 4.10-2.

<sup>16</sup> Ibid.

<sup>17</sup> See Cal. Code Regs. Titl.14 (“CEQA Guidelines”), § 15126.2.



*a. Mitigation Measure 4.10-1a: Equipment with High-Tiered Engine Standards*

Mitigation Measure 4.10-1a proposes the use of equipment that meets asserted high-tiered engine standards.<sup>18</sup> This mitigation measure stipulates:

**Mitigation Measure 4.10-1a: Equipment with High-Tiered Engine Standards.**

For diesel-fueled off-road construction equipment of more than 50 horsepower, CalAm and/or its construction contractor shall make a good faith effort to use available construction equipment that meets the highest USEPA-certified tiered emission standards. For all pieces of equipment that would not meet at least Tier 3 emission standards, CalAm or its construction contractor shall provide to the CPUC documentation from two local heavy construction equipment rental companies that indicates that the companies do not have access to higher-tiered equipment for the given class of equipment. Such documentation shall be provided to the CPUC at least two weeks prior to the anticipated use of those pieces of equipment.

CURE-Fox-12

This measure is inadequate as mitigation. First, Tier 3 is not the highest tier (lowest emission) off-road engines available. Tier 4 engines are the lowest polluting engines and are widely available in new construction fleets, such as that offered by Garney Pacific,<sup>19</sup> one of the contractors for the pipeline.<sup>20</sup>

Second, a “good faith” effort is not adequate to satisfy CEQA. The Request for Proposal (RFP) for this Project should specify the use of Tier 4 engines or control(s) that yield the Tier 4 emission standards. If no contractor can comply (which is highly unlikely), this mitigation measure should be expanded to require consideration of lease or rental from private vendors within 1,000 miles of the Project site if Tier 4 is not available in any contractor’s fleet. If a Tier 4 engine is not available from a contractor or via lease/rental, the lowest emitting engine should be retrofit with pollution controls to meet Tier 4 standards, e.g., SCR, particulate trap. The request to deviate from the use of Tier 4 engines should only be considered after all feasible actions have been taken to comply, accompanied by a report certified by a licensed California professional engineer, listing all steps taken to acquire Tier 4 engines supported by correspondence from all contacted suppliers.

CURE-Fox-13

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<sup>18</sup> DEIR/EIS, p. 4.10-25, pdf 1051.

<sup>19</sup> Garney Construction, Construction Equipment Efficiency Plan, Monterey Pipeline Project, October 24, 2016, pdf 3 (“The Garney Construction project maintenance program starts with reduction of potential mechanical issues by utilizing new equipment (4 years or newer) for all heavy equipment utilized in our fleet. This ensures all equipment used is in compliance with emission (Tier 4) and noise regulations...”).

<sup>20</sup> Garney Construction, Garney Pacific Lands Monterey Peninsula Water Supply Project, January 2016; Available at: <http://www.garney.com/garney-pacific-lands-monterey-peninsula-water-supply-project-2/>.

Third, the IS/MND for this Project and other similar EIRs have required Tier 4 engines, as noted in Comment I.A.2.a.

CURE-Fox-14

*b. Mitigation Measure 4.10-1b: Idling Restrictions*

Mitigation Measure 4.10-1b establishes limits on idling time for on-road and off-road engines<sup>21</sup>:

**Mitigation Measure 4.10-1b: Idling Restrictions.**

On road vehicle idling time shall be minimized and shall not exceed a five minute maximum. Additionally, off-road engines shall not idle for longer than five minutes per Section 2449(d)(3) of Title 13, Article 4.10, Chapter 9 of the California Code of Regulations. Clear signage of this requirement shall be provided for construction workers at all access points to construction areas.

CURE-Fox-15

Limiting idle time to 5 minutes is required by 13 CCR 2449[d][3], 2485 for off-road vehicles.<sup>22</sup> Thus, this is not valid CEQA “mitigation”. This mitigation measure should be modified to lower the maximum idling time to 2 minutes, which has been required for other similar projects<sup>23</sup>. Some states, Connecticut, Delaware, the District of Columbia, and New Jersey, and some cities, Santa Barbara, Minneapolis, Burlington and Chicago, for example, limit idling to 3 minutes for all on- and/or off-road vehicles.<sup>24</sup> In addition to lowering the idling time, the construction contractor should be required to maintain a written idling policy and distribute it to all employees and subcontractors. The on-site construction manager shall enforce this limit.<sup>25</sup>

*c. Additional Feasible Mitigation for Construction Ozone and NO<sub>2</sub> Emissions*

The Draft Initial Study and Mitigated Negative Declaration for the slant test well (IS/MND)<sup>26</sup> concluded air quality impacts would be “less than significant with

CURE-Fox-16

<sup>21</sup> DEIR/EIS, p. 4.10-25.

<sup>22</sup>

[https://govt.westlaw.com/calregs/Document/ID1C693E02DDD11E197D9B83B68A61150?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Document/ID1C693E02DDD11E197D9B83B68A61150?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)).

<sup>23</sup> See, e.g., Chevron Refinery Modernization Project EIR, March 2014, Chapter 5, Mitigation Measure Monitoring and Reporting Program, p. 5-27; Available at: [https://s3.amazonaws.com/chevron/Final+EIR/5\\_MMRP.pdf](https://s3.amazonaws.com/chevron/Final+EIR/5_MMRP.pdf)

<sup>24</sup> Idling Database; Available at: [https://cleancities.energy.gov/files/docs/idlebox\\_idlebase\\_database.xlsx](https://cleancities.energy.gov/files/docs/idlebox_idlebase_database.xlsx).

<sup>25</sup> CARB, Written Idling Policy Guidelines, June 2009; Available at: <https://www.arb.ca.gov/msprog/ordiesel/guidance/writtenidlingguide.pdf>.

<sup>26</sup> SWCA Environmental Consultants, Draft Initial Study and Mitigated Negative Declaration for the California American Water Slant Test Well Project, Prepared for City of Marina, May 20 (IS/MND).

mitigation incorporation”<sup>27</sup> and imposed mitigation measures for NO<sub>x</sub> and ROG impacts.<sup>28</sup> However, most of these measures were not included in the DEIR/EIS. The omitted measures are all feasible, are listed below, and identified by ”(IS/MND)”. Additional mitigation is identified in the MBUAPCD’s CEQA Guidelines.<sup>29</sup> The recently approved FEIR for the Chevron Modernization Program (Chevron) also includes mitigation measures for NO<sub>x</sub> and ROG emissions from construction equipment.<sup>30</sup> Finally, EPA has identified feasible mitigation for NO<sub>x</sub> and ROG emissions from construction emissions. Feasible mitigation measures from these and other sources for NO<sub>x</sub> and ROG not included in the DEIR/EIS are:

- Maintain all construction equipment in proper tune according to manufacturer’s specifications. The equipment must be check by an ASE-certified mechanic and determined to be running in proper condition before it is operated. (IS/MND; Chevron) CURE-Fox-16  
cont.
- Diesel powered equipment shall be replaced by electric equipment whenever feasible to reduce NO<sub>x</sub> emissions (IS/MND, Chevron) CURE-Fox-17
- Diesel-powered equipment shall be replaced by gasoline-powered equipment whenever feasible (IS/MND, Chevron) CURE-Fox-18
- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time (IS/MND) CURE-Fox-19
- The engine size of construction equipment shall be the minimum practical size (IS/MND) CURE-Fox-20
- Catalytic converters shall be installed on gasoline-powered equipment (IS/MND) CURE-Fox-21
- Signs shall be posted in designated queuing areas and job sites to remind drivers and operators of the idling limit (IS/MND, Chevron) CURE-Fox-22
- Diesel equipment idling shall not be permitted within 1,000 feet of sensitive receptors (IS/MND) CURE-Fox-23
- Engine size of construction equipment shall be the minimum practical size (IS/MND) CURE-Fox-24
- Engine size of construction equipment shall be the minimum practical size (IS/MND) CURE-Fox-25

<sup>27</sup> IS/MND, p. 38.

<sup>28</sup> IS/MND, p. 44, AQ/mm-2.

<sup>29</sup> MBUAPCD 2008, Table 8-2 to 8-4, and 8-7.

<sup>30</sup> Chevron Refinery Modernization Project EIR, March 2014, Chapter 4.8, Greenhouse Gases; Available at: [http://chevronmodernization.com/wp-content/uploads/2014/03/4.8\\_Greenhouse-Gases.pdf](http://chevronmodernization.com/wp-content/uploads/2014/03/4.8_Greenhouse-Gases.pdf) and Chapter 5, Mitigation Measure Monitoring and Reporting Program; Available at: [https://s3.amazonaws.com/chevron/Final+EIR/5\\_MMRP.pdf](https://s3.amazonaws.com/chevron/Final+EIR/5_MMRP.pdf).

- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time (IS/MND) CURE-Fox-26
- Construction worker trips shall be minimized by providing options for carpooling and by providing for lunch onsite (ISMND, Chevron) CURE-Fox-27
- Use electric fleet or alternative fueled vehicles where feasible including methanol, propane, and compressed natural gas (Chevron) CURE-Fox-28
- Use alternative diesel fuels, such as Aquazole fuel, Clean Fuels Technology (water emulsified diesel fuel), or O2 diesel ethanol-diesel fuel (O2 Diesel) in existing engines (SCAQMD, Monterey County General Plan EIR) <sup>31,32</sup> CURE-Fox-29
- Modify engines with ARB verified retrofits CURE-Fox-30
- Repower engines with Tier 4 Interim diesel technology CURE-Fox-31
- Convert part of the construction truck fleet to natural gas<sup>33</sup> CURE-Fox-32
- Use new or rebuilt equipment CURE-Fox-33
- Use diesel-electric and hybrid construction equipment<sup>34</sup> CURE-Fox-34
- Use low rolling resistance tires on long haul class 8 tractor-trailers<sup>35</sup> CURE-Fox-35

<sup>31</sup> SCAQMD, Mitigation Measure Resources, Construction Emissions Mitigation Measures, <https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=scaqmd%20ceqa%20construction%20mitigation>.

<sup>32</sup> Monterey County General Plan EIR, Section 6.4.3.3, p. 6-14 ("The EIRs prepared for the desalination plants are expected to require that construction equipment use alternative fuels or other means to reduce their emissions of ozone precursors. Although, depending upon the intensity of construction, there is the potential for a significant impact on air quality from ozone precursors."); Available at: [http://www.co.monterey.ca.us/planning/gpu/2007\\_GPU\\_DEIR\\_Sept\\_2008/Text/Sec\\_06\\_Other\\_CEQA.pdf](http://www.co.monterey.ca.us/planning/gpu/2007_GPU_DEIR_Sept_2008/Text/Sec_06_Other_CEQA.pdf).

<sup>33</sup> This is a mitigation measure used by PG&E to offset NOx emissions from its Otay Mesa Generating Project. See: GreenBiz, Natural Gas Trucks to Offset Power Plant Emissions, September 12, 2000; Available at: <http://www.greenbiz.com/news/2000/09/12/natural-gas-trucks-offset-power-plant-emissions>.

<sup>34</sup> Tom Jackson, How 3 Diesel-Electric and Hybrid Construction Machines are Waging War on Wasted Energy, Equipment World, June 1, 2014; Available at: <http://www.equipmentworld.com/diesel-electric-and-other-hybrid-construction-equipment-are-waging-war-on-wasted-energy/>; Kenneth J. Korane, Hybrid Drives for Construction Equipment, Machine Design, July 7, 2009; Available at: <http://machinedesign.com/sustainable-engineering/hybrid-drives-construction-equipment>; Caterpillar's D7E Electric Drive Redefines Dozer Productivity; Available at: <http://www.constructionequipment.com/caterpillars-d7e-electric-drive-redefines-dozer-productivity>.

<sup>35</sup> EPA, Verified Technologies for SmartWay and Clean Diesel, Learn About Low Rolling Resistance (LRR) New and Retread Tire Technologies; Available at: <https://www.epa.gov/verified-diesel-tech/learn-about-low-rolling-resistance-lrr-new-and-retread-tire-technologies>; EPA, Verified Technologies for SmartWay and Clean Diesel, SmartWay Verified List for Low Rolling Resistance (LRR) New and Retread Tire Technologies; Available at: <https://www.epa.gov/verified-diesel->

- Use idle reduction technology, defined as a device that is installed on the vehicle that automatically reduces main engine idling and/or is designed to provide services, e.g., heat, air conditioning, and/or electricity to the vehicle or equipment that would otherwise require the operation of the main drive engine while the vehicle or equipment is temporarily parked or is stationary<sup>36</sup>
- Convert part of the construction truck fleet to natural gas<sup>37</sup>
- Implement EPA’s National Clean Diesel Program.<sup>38,39,40</sup>

CURE-Fox-36

CURE-Fox-37

CURE-Fox-38

To assure the construction mitigation program is carried out, all off-road diesel-powered equipment should be tested to assure tailpipe emissions do not exceed 20% opacity for more than 3 minutes in any hour. Any equipment found to exceed 20% opacity must be repaired immediately. A visual inspection of all in-operation equipment must be made at least daily by the contractor and witnessed monthly or more frequently by the MBUAPCD, and a periodic summary of the visual survey results must be submitted by the contractor throughout the duration of the project to the MBUAPCD. The summary should include the quantity and type of vehicles inspected and dates.

CURE-Fox-39

All feasible mitigation must be required when an impact is significant and unavoidable. Thus, the DEIR/EIS must be revised to include these additional mitigation measures and recirculated for public review.

CURE-Fox-40

[tech/smartway-verified-list-low-rolling-resistance-lrr-new-and-retread-tire.](#)

<sup>36</sup> EPA Names Idle Reduction Systems Eligible for Federal Tax Exemptions, March 2009, Available at: <http://www.greenfleetmagazine.com/channel/green-operations/article/story/2009/03/epa-names-idle-reduction-systems-eligible-for-federal-excite-tax-exemptions-grn.aspx>. See also: Idle Reduction, Wikipedia; Available at: [https://en.wikipedia.org/wiki/Idle\\_reduction](https://en.wikipedia.org/wiki/Idle_reduction) and Diesel Emissions Reduction Program (DERA): Technologies, Fleets and Project Information, Working Draft Version 1.0; Available at: [nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100CVIS.TXT](http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100CVIS.TXT).

<sup>37</sup> This is a mitigation measure used by PG&E to offset NOx emissions from its Otay Mesa Generating Project. See: GreenBiz, Natural Gas Trucks to Offset Power Plant Emissions, September 12, 2000; Available at: <http://www.greenbiz.com/news/2000/09/12/natural-gas-trucks-offset-power-plant-emissions>.

<sup>38</sup> Northeast Diesel Collaborative, Best Practices for Clean Diesel Construction.Successful Implementation of Equipment Specifications to Minimize Diesel Pollution; <https://www.northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf>.

<sup>39</sup> U.S. EPA, Cleaner Diesels: Low Cost Ways to Reduce Emissions from Construction Equipment, March 2007; <https://www.epa.gov/sites/production/files/2015-09/documents/cleaner-diesels-low-cost-ways-to-reduce-emissions-from-construction-equipment.pdf>.

<sup>40</sup> NEDC Model Contract Specification, April 2008; <http://www2.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>.



## B. The DEIR/EIS Omits Indirect Operational Emissions

The DEIR/EIS estimated emissions from operation of the Project from three sources: on-road vehicle exhaust, emergency generator testing, and slant well maintenance.<sup>41</sup> However, the major source of Project emissions is indirect emissions from the generation of electricity. The DEIR/EIS did not include those emissions, arguing that “[i]t is generally not possible to determine the exact generator source(s) of electricity on the power grid that would supply the proposed project, or whether or not the electricity would even be generated within the Air Basin.”<sup>42</sup> Further, the Monterey County General Plan EIR explicitly recognized that that “Taking a conservative view, the indirect impacts of the water supply projects to be built would potentially make considerable contributions to air quality, biological, and electrical energy use.”<sup>43</sup>

CURE-Fox-41

CURE-Fox-42

These are not valid reasons under CEQA to exclude the major source of emissions from this Project. EIRs routinely include indirect emissions from electricity generation.<sup>44</sup> In fact, the GHG section of this DEIR/EIS includes indirect GHG emissions from power generation.<sup>45</sup> Further, the MBUAPCD’s CEQA guidelines state: “The following thresholds apply to all indirect and direct emissions, whether or not they are subject to District permit authority, unless noted otherwise.”<sup>46</sup> The “following thresholds” are in Table 5-3, which indicates that the NO<sub>x</sub> and ROG significance thresholds of 137 lb/day are to be compared to “direct + indirect” emissions.<sup>47</sup> Thus, the DEIR/EIS must include the increase in emissions of criteria pollutants from the net increase in power production to support the Project.

CURE-Fox-43

Further, CEQA does not require that indirect emissions be limited to the Project’s “Air Basin.” Electricity from any generator in California could be used at the Project site. As the significance criteria are based on the maximum day, finding the “maximum” is all that is required.

CURE-Fox-44

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<sup>41</sup> DEIR/EIS, Table 4.10-7.

<sup>42</sup> DEIR/EIS, p. 4.10-29.

<sup>43</sup> Monterey County General Plan EIR, p. 6-14; Available at: [http://www.co.monterey.ca.us/planning/gpu/2007\\_GPU\\_DEIR\\_Sept\\_2008/Text/Sec\\_06\\_Other\\_CEQA.pdf](http://www.co.monterey.ca.us/planning/gpu/2007_GPU_DEIR_Sept_2008/Text/Sec_06_Other_CEQA.pdf).

<sup>44</sup> See, e.g., The Carlsbad Desalination Project EIR, pp. 4.2-18/20 & Table 4.2-9; Available at: <http://carlsbaddesal.com/eir>.

<sup>45</sup> DEIR/EIS, p. 4.11-12/13, 4.11-16/18, Table 4.11-4.

<sup>46</sup> MBUAPCD 2008, p. 5-4.

<sup>47</sup> MBUAPCD 2008, Table 5-3. Table 5-3.

The DEIR/EIS indicates that PG&E would supply the power. The sources of PG&E's power are known. As any source within PG&E's system and elsewhere on the grid could be used via purchases by PG&E, unless the EIR includes a condition limiting power sources, emissions should be estimated for the plausible worst case daily maximum emissions, which is the basis of MBUAPCD's significance thresholds for NOx and ROG. As the DEIR/EIS does not provide substantial evidence that these emissions are de minimus, they must be estimated. Further, the DEIR/EIS does not include any of the information required to estimate these emissions. Thus, it fails as an informational document under CEQA and forces the public to generate its own estimates in order to properly evaluate the Project's impacts.

CURE-Fox-45

As the DEIR/EIS contains none of the information required to estimate these emissions, I bounded the maximum plausible NOx emissions using two methods.

CURE-Fox-46

*First*, I used AP-42 emission factors for natural gas fired turbines,<sup>48</sup> the most likely electricity source for the Project. The maximum daily emissions would occur at an uncontrolled gas turbine plant, i.e., during a startup/shutdown or uncontrolled operation.

CURE-Fox-47

The NOx emission factor for an uncontrolled natural gas turbine plant is 2.56 lb/MWh.<sup>49</sup> The net increase in annual electrical power demand due to the Project is 51,698 MWh per year, relative to the baseline.<sup>50</sup> Thus, assuming a maximum day NOx emission factor of 2.56 lb/MWh, the Project would increase NOx emissions by up to 363 lb/day,<sup>51</sup> which exceeds the MBUAPCD's NOx significance threshold of 137 lb/day. Therefore, the NOx emissions from producing a net increase of 51,698 MWh per year of electricity to support the Project is large enough taken alone to exceed the MBUAPCD's NOx significance threshold.

CURE-Fox-48

Therefore, the NOx emissions from producing a net increase of 51,698 MWh per year of electricity to support the Project is large enough taken alone to exceed the MBUAPCD's NOx significance threshold. This is a significant impact that was not disclosed in the DEIR/EIS and that must be mitigated.

CURE-Fox-49

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<sup>48</sup> U.S. EP, Compilation of Air Pollutant Emission Factors, (AP-42), Chapter 3.1: Stationary Gas Turbines, April 2000, Table 3.1-1; Available at: <http://www.epa.gov/ttn/chief/ap42/ch03/final/c03s01.pdf>.

<sup>49</sup> NOx emission factor from Table 3.1-1: (0.32 lb/10<sup>6</sup> Btu)(8000 Btu/KWh)(1000 KW/MW) = **2.56 lb/MWh**.

<sup>50</sup> DEIR/EIS, p. 4.11-13.

<sup>51</sup> (2.56 lb/MWh)(51,698 MWh/yr)/365 day/yr = **363 lb/day NOx**.



Second, I identified all PG&E owned power plants in California.<sup>52</sup> I then determined the maximum daily emissions from each, using EPA's CAMD daily data for 2014. This analysis identified two fossil fuel fired PG&E owned power plants in California with the follow maximum daily emissions in 2014:

- Colusa Generating Station: 432 lb/day
- Gateway Generating Station: 1,152 lb/day

Thus, assuming 1,152 lb of NOx is emitted on the maximum day, operational NOx emissions would increase from 26.66 lb/day to 1,179 lb/day,<sup>53</sup> which exceeds the MBUAPCD's NOx significance threshold of 137 lb/day by a significant amount. Therefore, the NOx emissions from producing a net increase of 51,698 MWh per year of electricity is large enough taken alone to exceed the MBUAPCD's NOx significance threshold. This is a significant impact not disclosed in the DEIR/EIS that must be mitigated.

This impact could be mitigated by purchasing local and contemporaneous emission reduction credits or by collaborating with a nearby NOx source to reduce their NOx emissions. Alternatively, the increase in electricity demand could be met by using 100% renewable sources of electricity. Comment IV.B.

The DEIR/EIS should be revised to include indirect electricity generation emissions for all criteria pollutants and to mitigate the resulting significant NOx impacts.

### C. The DEIR/EIS Fails to Evaluate All Air Quality Impacts

The DEIR/EIS did not evaluate the significance of pollutants for which the Monterey Bay Unified Air Pollution Control District (MBUAPCD) had not set official CEQA significance thresholds. A lead agency has discretion to determine how to classify the significance of impacts. However, it does not have discretion to simply not evaluate the significance of impacts. Further, its judgment must be supported by scientific information and other factual data.<sup>54</sup> Here, the CPUC has simply failed to evaluate the significance of impacts from two pollutants: (1) NO<sub>2</sub> for impacts other than its contribution to ozone and (2) ROG for its impacts other than its contribution to ozone.

<sup>52</sup> Power\_Plants.xlsx; Available at: <http://energyalmanac.ca.gov/powerplants/>.

<sup>53</sup> Revised operational NOx emissions (DEIR/EIS, Table 4.10-7), to include electricity generation: 26.66 + 1,152 = 1,178.7 lb/day.

<sup>54</sup> CEQA Guidelines §15064(b).

CURE-Fox-50

CURE-Fox-51

CURE-Fox-52

CURE-Fox-53

## 1. Nitrogen Oxides (NOx) Significance Criteria

Nitrogen oxides (NOx) is a family of seven highly reactive gases. The EPA only regulates nitrogen dioxide (NO<sub>2</sub>) as a surrogate for this family, because it is the most prevalent in the atmosphere. NO<sub>2</sub> forms quickly from emissions from cars, trucks and buses; power plants; and off-road equipment. In addition to contributing to the formation of ground-level ozone, and fine particulate pollution, NO<sub>2</sub> is linked with a number of adverse effects on the respiratory system.<sup>55</sup>

CURE-Fox-54

The DEIR/EIS only evaluated NOx as an ozone precursor, as the MBUAPCD's significance criteria for NOx (137 lb/day) is based only on this endpoint. However, NOx not only contributes to ground-level ozone, it can also causes adverse health effects, acid rain, form particulate matter, and contribute to global warming, water quality deterioration, and visibility impairment.

Thus, there are primary and secondary state and federal ambient air quality standards for nitrogen oxides established using NO<sub>2</sub> as a surrogate for all nitrogen oxides.<sup>56</sup> The primary standards (1-hour) are set to protect public health, including the health of sensitive populations. The secondary standards (annual) are set to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.<sup>57</sup> The DEIR/EIS did not evaluate these primary and secondary impacts of NOx.

CURE-Fox-55

*First*, NOx is harmful to public health. Children, people with lung diseases such as asthma, people who work or exercise outside, children, and the elderly are susceptible to adverse effects such as damage to lung tissue and reduction in lung function.<sup>58</sup> Thus, the Project's NOx emissions also should have been evaluated to determine if the existing primary NO<sub>2</sub> ambient air quality standards, set to protect public health, would be violated. As these standards are based on a 1-hour average, it is plausible that they would be exceeded during construction.

CURE-Fox-56

*Second*, some of the emitted NOx (as well as SO<sub>2</sub>) can be converted in the atmosphere to sulfate and nitrates, which contribute to acid rain and fine particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>). These fine particulates can be breathed in and lodged deep in the lungs, leading to a variety of health problems and even premature death. The NOx and SOx contribution to PM<sub>10</sub> and PM<sub>2.5</sub> should have

CURE-Fox-57

<sup>55</sup> EPA, Nitrogen Dioxide, Available at: <http://www.epa.gov/airquality/nitrogenoxides/>.

<sup>56</sup> DEIR/EIS, Table 4.10-2.

<sup>57</sup> National Ambient Air Quality Standards (NAAQS), Available at: <https://www.epa.gov/criteria-air-pollutants#self>.

<sup>58</sup> U.S. EPA, Integrated Science Assessment for Oxides of Nitrogen – Health Criteria, EPA/600/R-08/071, July 2008, Available at: <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=194645#Download>.

been estimated and added to total PM10 and PM2.5 emissions, but was not. The DEIR/EIS failed to evaluate these impacts of NOx and (and SO2) thus fails as a public disclosure document.

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CURE-Fox-57  
cont.

*Third*, NOx emissions contribute to visibility reduction and damages animals, crops, vegetation, and buildings.<sup>59</sup> As the Project is near prime farmland, the DEIR/EIS should have evaluated the potential impacts of construction emissions on these endpoints to determine if the secondary NO<sub>2</sub> ambient air quality standards, set to protect public welfare, were violated. The DEIR/EIS failed to evaluate these secondary NOx impacts and thus is deficient as a public disclosure document.

CURE-Fox-58

Appendix G of the CEQA Guidelines indicates a project would have a significant impact if it also violates any air quality standard or exposes sensitive receptors to substantial pollutant concentrations. This determination can be made for NOx using dispersion modeling, which was not included in the DEIR/EIS, or CEQA significance thresholds from other air districts that are in attainment with ozone standards.

CURE-Fox-59

There are both federal and state 1-hour and annual average ambient NO<sub>2</sub> air quality standards, set to protect public health and welfare.<sup>60</sup> NO<sub>2</sub> is a respiratory irritant and may affect those with existing respiratory illness, including asthma. Elevated concentrations increase the risk of acute and chronic respiratory disease. The annual average state NOx standard is 0.030 ppm.<sup>61</sup> The DEIR/EIS indicates that the maximum hourly average NOx concentration for the period 2011 to 2015 has been 0.04 ppm, but fails to report any annual average NOx concentration data.<sup>62</sup> As construction will last for more than one year and emissions from construction equipment are released at ground level, in the breathing zone of nearby sensitive receptors, the DEIR/EIS should have evaluated whether construction emissions violate the ambient NOx standards or expose sensitive receptors to substantial pollutant concentrations in the vicinity of construction activities.

CURE-Fox-60

The absence of a MBUAPCD “CEQA significance threshold” for non-ozone precursor NOx impacts is not an impediment to evaluating this impact as the ambient air quality standards themselves are the CEQA significance thresholds. A

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CURE-Fox-61

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<sup>59</sup> EPA, Review of the National Ambient Air Quality Standards for Nitrogen Dioxide: Assessment of Scientific and Technical Information, OAQPS Staff Paper, EPA-452/R-95-005, September 1995; Available at: <http://www.epa.gov/ttn/naaqs/standards/nox/data/noxsp1995.pdf>.

<sup>60</sup> DEIR/EIS, Table 4.10-2.

<sup>61</sup> DEIR/EIS, Table 4.10-2.

<sup>62</sup> DEIR/EIS, Table 4.10-1.

significance threshold is just a surrogate or short cut for avoiding the more time intensive modeling required to evaluate compliance with the ambient standard. When a CEQA significance threshold is missing, a lead agency must model emissions to determine if they cause or contribute to an exceedance of the ambient standards or look to other sources for significance criteria expressed as emission rates, e.g., other air districts.

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CURE-Fox-61  
cont.

CEQA significance thresholds established by other air districts that are in attainment with ozone standards could be used to evaluate NOx health and other impacts. Four air districts that are in attainment with ozone standards have established CEQA significance thresholds for NOx and ROG based on other considerations:

- Mendocino County AQMD construction: 110 lb/day<sup>63</sup> for NOx and ROG<sup>64</sup>
- Mendocino County AQMD operation: 180 lb/day for ROG and 42 lb/day for NOx<sup>65</sup>
- Colusa County APCD construction: 25 lb/day for NOx and ROG<sup>66</sup>
- Modoc County APCD construction & operation: 250 lb/day for NOx and ROG<sup>67</sup>
- Shasta County AQMD construction & operation: 25 – 137 lb/day for NOx and ROG<sup>68</sup>

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CURE-Fox-62

As reported ROG emissions (34 lb/day) exceed the non-ozone significance thresholds of 25 lb/day for Colusa County APCD and Shasta County AQMD, non-ozone public health impacts for both ROG and NOx are significant. This is a new impact that was not disclosed in the DEIR/EIS.

## 2. Reactive Organic Gases (ROG) Significance Criteria

Reactive Organic Gases or ROG is a collection of volatile organic compounds (VOCs) that form ozone in the atmosphere in the presence of sunlight. The ROG

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CURE-Fox-63

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<sup>63</sup> BAAQMD, California Air District CEQA Significance Thresholds, Appendix A, Available at: [http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/Thresholds\\_Report\\_Revised\\_Appendices\\_082309.ashx?la=en](http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/Thresholds_Report_Revised_Appendices_082309.ashx?la=en).

<sup>64</sup> MCAQMD, Advisory, District Interim CEQA Criteria and GHG Pollutant Thresholds, Available at: [http://www.co.mendocino.ca.us/aqmd/pdf\\_files/ceqa-criteria-and-ghg.pdf](http://www.co.mendocino.ca.us/aqmd/pdf_files/ceqa-criteria-and-ghg.pdf).

<sup>65</sup> BAAQMD, Appendix A.

<sup>66</sup> BAAQMD, Appendix A.

<sup>67</sup> BAAQMD, Appendix A.

<sup>68</sup> BAAQMD, Appendix A.

emissions from construction of the Project originate largely from diesel exhaust, which is a known Toxic Air Contaminant.<sup>69</sup> Ozone is an oxidant that attacks synthetic rubber, textiles, and other materials and causes extensive damage to plants by leaf discoloration and cell damage. It is also a severe eye, nose, and throat irritant and increases susceptibility to respiratory infections. Ozone is not emitted directly, but rather forms from photochemical reactions in the atmosphere involving VOCs and NO<sub>x</sub>.

However, the reactions can be slow and not all of the VOCs are converted into ozone under all conditions. The original VOCs emitted from the source can remain in the atmosphere for significant periods, where they result in health impacts of a different nature than ozone, depending upon the specific Toxic Air Pollutants (TAPs) present. The DEIR/EIS only evaluated ROG as an ozone precursor.

The VOCs present in ROG, before it is converted into ozone, include volatile organic compounds that are additionally hazardous to human health.<sup>70</sup> The DEIR/EIS's health risk assessment (HRA) only evaluated diesel particulate matter (DPM). It did not evaluate health impacts from toxic air pollutants subsumed in ROG that are not converted to ozone when they reach sensitive receptors, such those only 25 to 100 feet away from active construction sites. These include acutely and chronically toxic chemicals such as toluene, xylene, ethylbenzene, and 1,3 butadiene and carcinogens such as benzene, formaldehyde, acrolein, and acetaldehyde.

The conversion of ROG to ozone is a slow process, so nearby receptors would initially be exposed to unconverted VOCs. The significance thresholds discussed above for ROG by air districts that are in attainment with ozone standards can be used as a first step to evaluate non-ozone construction and operational ROG impacts of the Project. However, a health risk assessment should be conducted due

CURE-Fox-63  
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<sup>69</sup> California Air Resources Board (CARB), Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998. See summary: Findings of the Scientific Review Panel on The Report on Diesel Exhaust as Adopted at the Panel's April 22, 1998, Meeting; Available at: <http://www.arb.ca.gov/toxics/dieseltac/de-fnds.pdf>.

<sup>70</sup> CARB 1998; H. Ogawa and T. Li, Volatile Organic Compounds in Exhaust Gas from Diesel Engines under Various Operating Conditions, *International Journal of Engine Research*, 2011, v. 12, 30-40; K. Tanaka et al., Simultaneous Measurements of the Components of VOCs and PAHs in Diesel Exhaust Gas using a Laser Ionization Method, SAE Technical Paper 2009-1, 2009; Y. Yamamoto et al., Measurement of Volatile Organic Compounds in Vehicle Exhaust Using Single-Photon Ionization Time-of-Flight Mass Spectrometry, *Anal. Sci.*, v. 28, no. 4, 2012, 385-90; G.J. Sheng et al., GS-MS Determination of Volatile Organic Compounds in Gasoline and Diesel Emissions, Spring 2006; Available at: <http://dujs.dartmouth.edu/wp-content/uploads/2008/05/sheng.pdf>; K.E. Ho et al, Vehicular Emissions of Volatile Organic Compounds (VOCs) from a Tunnel Study in Hong Kong, *Atmos. Chem. Phys.*, v. 9, 7491-7504, 2009, Available at: <http://www.atmos-chem-phys.net/9/7491/2009/acp-9-7491-2009.pdf>.

to the proximity of sensitive receptors. The health risk assessment in Appendix G1.4 only evaluated diesel particulate matter.

↑ CURE-Fox-63  
cont.

In sum, the DEIR/EIS did not evaluate the significance of emissions if a pollutant, such as NO<sub>x</sub> as respiratory irritant, does not have a MCUAPCD significance threshold because it failed to perform air dispersion modeling. In summary, NO<sub>x</sub> emissions have three separate impacts, of which only the first was considered in the DEIR/EIS.

┆ CURE-Fox-64

*First*, NO<sub>x</sub> forms ozone in the atmosphere and thus contribute to violations of ozone ambient air quality standards. The MBUAPCD NO<sub>x</sub> significance threshold was developed specifically to address this impact.<sup>71</sup>

┆ CURE-Fox-65

*Second*, NO<sub>x</sub> is a respiratory irritant. Separate, air quality standards to protect public health and welfare apply to NO<sub>2</sub> as itself, rather than just as an ozone precursor. The MBUAPCD's CEQA significance threshold for NO<sub>x</sub> is based on its impacts as an ozone precursor.<sup>72</sup> The MBUAPCD CEQA Guidelines do not include a significance threshold for this second set of impacts. These impacts are addressed by the primary NO<sub>2</sub> ambient air quality standards.

┆ CURE-Fox-66

*Third*, NO<sub>2</sub> is a PM<sub>10</sub>/PM<sub>2.5</sub> precursor, reduces visibility, and damages animals, crops, vegetation, and buildings. These impacts are addressed by the secondary NO<sub>2</sub> ambient air quality standards.

┆ CURE-Fox-67

The DEIR/EIS is totally silent on these additional NO<sub>x</sub> impacts. Thus, it fails as a public disclosure document.

┆ CURE-Fox-68

Other air districts that are in attainment with the state and federal ozone ambient air quality standards have established significance thresholds for NO<sub>x</sub> of 25 lb/day to 180 lb/day. The operational NO<sub>x</sub> emissions estimated in the DEIR/EIS of 26.66 lb/day<sup>73</sup> which excludes indirect emissions, exceed the 25 lb/day operational NO<sub>x</sub> significance threshold set by Shasta County AQMD. Thus they are *per se* significant without considering any other indiscretions. The DEIR/EIS failed to identify this significant impact, which must be mitigated.

┆ CURE-Fox-69

When indirect NO<sub>x</sub> emissions from power production are added (1152 lb/day), as discussed above, total NO<sub>x</sub> emissions increase from 26.66 lb/day to 1,179 lb/day, which exceeds the non-ozone attainment NO<sub>x</sub> significance thresholds of attainment air districts (25 lb/day to 250 lb/day) by a huge amount for all air districts that have

┆ CURE-Fox-70  
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<sup>71</sup> MBUAPCD 2006, p. 5-3.

<sup>72</sup> MBUAPCD 2006, p. 5-5 ("Projects which would emit 137 pounds per day or more of direct and indirect VOC emissions would have a significant impact on regional air quality by emitting substantial amounts of ozone precursors." NO<sub>x</sub> is indirect ozone.)

<sup>73</sup> DEIR/EIS, Table 4.10-7.



established NOx significance thresholds for operational emissions and are attainment for ozone. Thus, NOx emissions from power production, when evaluated for impacts other than ozone formation are significant under the NOx significance thresholds established by other air districts. The DEIR/EIS must disclose and analyze this significant impact.

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CURE-Fox-70  
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## II. HEALTH RISKS

The DEIR/EIS evaluated health risks of Project construction for diesel particulate matter (DPM) at two sites, the Carmel Valley Pump Station and ASR Injection/Extraction Wells.<sup>74</sup> This analysis concluded that cancer and chronic health risks are less than significant.<sup>75</sup> However, there are many problems with the DEIR/EIS's analysis, which when corrected, would result in a significant health impact. Further, the HRA analysis is unsupported, incomplete, and failed to include acute impacts.

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CURE-Fox-71

### A. All Sensitive Receptors Were Not Evaluated

The DEIR/EIS only evaluated the Carmel Valley Pump Station and the ASR Injection/Extraction well site. However, there are other facilities that are near sensitive receptors that were excluded from the HRA, including:

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CURE-Fox-72

- Wells ASR-5 and ASR-6 would be constructed within 50 feet of existing residences.<sup>76</sup>
- “The ASR Conveyance Pipeline, ASR Recirculation Pipeline, and the ASR Pump-to-Waste Pipeline would be within 250 feet of Seaside Middle School, and within 50 to 100 feet of residences in the Fitch Park military housing area along Hatten Road and Ardennes Circle.”<sup>77</sup>

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CURE-Fox-73

### B. The DEIR/EIS Did Not Follow OEHHA Guidelines, Substantially Underestimating Health Risk

The OEHHA's guidelines for preparation of health risk assessments, adopted in March 2015, explain that for short-term projects, such as construction of various components of the Project:

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CURE-Fox-74  
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<sup>74</sup> DEIR/EIS, p. 4.10-27/29; Appendix G1.4.1.

<sup>75</sup> DEIR/EIS, Table 4.10-6; Appendix G1.4.1.

<sup>76</sup> DEIR/EIS, pp. 4.10-7 and 4.8-11.

<sup>77</sup> DEIR/EIS, p. 4.10-7.

“We recommend that exposure from projects longer than 2 months but less than 6 months be assumed to last 6 months (e.g., a 2-month project would be evaluated as if it lasted 6 months). Exposure from projects lasting more than 6 months should be evaluated for the duration of the project

....

Finally, the risk manager may want to consider a lower cancer risk threshold for risk management for very short-term projects...There is a valid scientific concern that the rate of exposure may influence the risk – in other words, a higher exposure to a carcinogen over a short period of time may be a greater risk than the same total exposure spread over a much longer time period. In addition, it is inappropriate from a public health perspective to allow a lifetime acceptable risk to accrue in a short period of time (e.g., a very high exposure to a carcinogen over a short period of time resulting in a  $1 \times 10^{-5}$  cancer risk). Thus, consideration should be given for very short term projects to using a lower cancer risk trigger for permitting decisions.”<sup>78</sup>

CURE-Fox-74  
cont.

The DEIR/EIS’s analysis only evaluated risk for exposures of 0.25 years or 3 months after birth.<sup>79</sup> If the 3 months post-birth is increased to 6 months<sup>80</sup> per OEHHA guidance, the cancer risk increases from 5.2 in a million to 10 in a million, which is per se significant.

CURE-Fox-75

Further, the DEIR/EIS used the significance threshold for a lifetime exposure, which dilutes the risk when it is received over a very short period of time, as here. Babies exposed during the construction period would receive a lifetime dose of diesel exhaust in a 3 month period. This requires a lower significance threshold than the 10 in one million used in the DEIR/EIS for a 70 year exposure.

CURE-Fox-76

Historically, the significance threshold for cancer risk has been one in a million and still is for criteria set elsewhere, including Clean Water Act 304(a), Safe Drinking Water Act, and the National Toxics Rule.<sup>81</sup> The short-term cancer risks

CURE-Fox-77

<sup>78</sup> OEHHA, Air Toxics Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments, February 2015, Section 8.2.10: Cancer Risk Evaluation of Short Term Projects, pp. 8-17/18; Available at: [http://oehha.ca.gov/air/hot\\_spots/2015/2015GuidanceManual.pdf](http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf).

<sup>79</sup> DEIR/EIS, Appendix G1.4.1, pdf 119/120.

<sup>80</sup> Excel Spreadsheet G1.4.1 Health Risk Assessment Calculations, tab “HRA Calcs”, change cell E21 from 0.25 to 0.5. This increases the cancer risk from 5.2 per million to 10 per million.

<sup>81</sup> Cheryl Niemi, “Acceptable” Risk Levels for Carcinogens: Their History, Current Use, and How They Affect Surface Water Quality Criteria, Policy Forum #3, Human Health Criteria and Implementation Tools Rule-Makings, February 8, 2013; Available at: <http://www.tmw-law.com/news-pdf/SWQSPolicyForumRiskLevel%2002-08-213.pdf>.



estimated in the HRA are 5.2 to 6.4 in one million.<sup>82</sup> If the one in a million threshold were used to evaluate Project health impacts, these risk levels would be highly significant. Alternatively, if one assumes the risk is evenly spread out over a 70 year lifetime, the significant cancer risk threshold for a one-year-old would be 0.1 in one million. Under either scenario, cancer risk from diesel exhaust alone would be highly significant and unmitigated. This is a significant impact not disclosed in the DEIR/EIS. This impact could be and should be mitigated by requiring diesel particulate traps on all diesel fueled equipment.

CURE-Fox-77  
cont.

### C. All Hazardous Pollutants Were Not Included in the HRA

The HRA only evaluated diesel exhaust, which is emitted from construction equipment and on-road vehicles. As noted in Comment I.C, the VOCs present in ROG, before it is converted into ozone, include volatile organic compounds that are additionally hazardous to human health. The HRA only evaluated DPM and failed to evaluate the health impacts from toxic air pollutants subsumed in ROG that are not converted to ozone when they reach sensitive receptors. These include acutely and chronically toxic chemicals such as toluene, xylene, ethylbenzene, and 1,3 butadiene and carcinogens such as benzene, formaldehyde, acrolein, and acetaldehyde.

CURE-Fox-78

The conversion of ROG to ozone is a slow process, so nearby receptors would initially be exposed to unconverted VOCs. These should be included in the HRA, which as it standard, underestimates health impacts and further fails to evaluate acute health impacts.

### III. VALLEY FEVER

Valley Fever, or *Coccidioidomycosis* (Cocci), is an infectious disease caused by inhaling the spores of *Coccidioides ssp.* (“Cocci spores”)<sup>83</sup>, a soil-dwelling fungus. The fungus lives in the top 2 to 12 inches of soil. When soil containing this fungus is disturbed by activities such as digging, vehicles, construction activities, agricultural operations, dust storms, or during earthquakes, the fungal spores become air borne, exposing sensitive receptors. The Valley Fever fungal spores are too small to be seen by the naked eye, and there is no reliable way to test the soil for spores before working in a particular area.<sup>84</sup> The disease is endemic (native and

CURE-Fox-79

<sup>82</sup> DEIR/EIS, Table 4.10-6.

<sup>83</sup> Two species of *Coccidioides* are known to cause Valley Fever: *C. immitis*, which is typically found in California, and *C. posadasii*, which is typically found outside California. See Center for Disease Control, *Coccidioidomycosis (Valley Fever), Information for Health Professionals*; Available at: <https://www.cdc.gov/fungal/diseases/coccidioidomycosis/health-professionals.html>.

<sup>84</sup> California Department of Public Health, *Preventing Work-Related Coccidioidomycosis (Valley Fever)*, June 2013; Available at: <http://www.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf>.

common, regularly found in a particular area) in the semiarid regions of the southwestern United States.<sup>85</sup> As there is no reliable test, presence is assessed based on the known occurrence of the disease in a particular area. Valley Fever is endemic to Monterey County where the Project will be constructed.<sup>86</sup>

Monterey County, including the Project site, is located within the established endemic range of Valley Fever, as shown in Figure 1 below, with one of the highest infection rates in California. The disease has become an increasing concern for Monterey County Health Department.<sup>87</sup> In 2013, there were 70 new cases of Valley Fever reported among Monterey County residents. The rate of new cases in 2013 was 15.7 cases per 100,000 individuals, well above the California statewide rate of 10.8 in 2012. Between 2009 and 2011, there were 145 hospital admissions in Monterey County, costing over \$32 million. Forty one percent of these cases occurred in the north county area, which includes most of the project facilities.<sup>88</sup> There were 7 fatal cases in Monterey County between 2011 and 2013.<sup>89</sup> In recent years, reported Valley Fever cases in the southwestern United States have increased dramatically.<sup>90</sup>

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<sup>85</sup> San Luis Obispo County Public Health Department, What Is Valley Fever? July 20, 2011; Available at: [http://www.slocounty.ca.gov/Assets/PH/Epidemiology/ValleyFever\\_Info.pdf](http://www.slocounty.ca.gov/Assets/PH/Epidemiology/ValleyFever_Info.pdf).

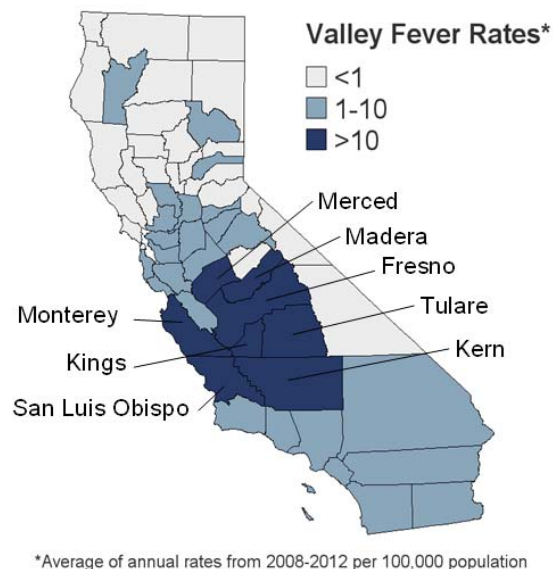
<sup>86</sup> CDPH June 2013.

<sup>87</sup> Valley Fever Cases Prompt Health Warning, Available At: <http://www.valley-fever.org/>.

<sup>88</sup> Monterey County Health Department (MCHD), Coccidioidomycosis in Monterey County. Quick Facts, May 2014, Available at: <https://www.mtyhd.org/wp-content/uploads/2014/09/Cocci-Fact-Sheet-2013.pdf>.

<sup>89</sup> DEIR/EIS, Appendix G1, Figure G1.1.2.

<sup>90</sup> See Center for Disease Control; Fungal Pneumonia: A Silent Epidemic, Coccidioidomycosis (Valley Fever); Available at: <http://www.cdc.gov/fungal/pdf/cocci-fact-sheet-sw-us-508c.pdf>.



**Figure 1. Endemic Areas for Valley Fever in California.**<sup>91</sup>

Typical symptoms of Valley Fever include fatigue, fever, cough, headache, shortness of breath, rash, muscle aches, and joint pain. Symptoms of advanced Valley Fever include chronic pneumonia, meningitis, skin lesions, and bone or joint infections. The most common clinical presentation of Valley Fever is a self-limited acute or subacute community-acquired pneumonia that becomes evident 13 weeks after infection.<sup>92</sup> No vaccine or known cure exists for the disease.<sup>93</sup> Between 1990 and 2008, more than 3,000 people have died in the United States from Valley Fever with about half in California.<sup>94</sup>

<sup>91</sup> California Department of Public Health, What you Need to Know About Valley Fever in California, May 2014, Available at: <http://www.cdph.ca.gov/HealthInfo/discond/Documents/EnglishValleyFeverBrochure.pdf>.

<sup>92</sup> See, e.g., Lisa Valdivia, David Nix, Mark Wright, Elizabeth Lindberg, Timothy Fagan, Donald Lieberman, Prien Stoffer, Neil M. Ampel, and John N. Galgiani, Coccidioidomycosis as a Common Cause of Community-acquired Pneumonia, *Emerging Infectious Diseases*, v. 12, no. 6, June 2006; Available at: <http://europepmc.org/articles/PMC3373055>.

<sup>93</sup> Rebecca Plevin, National Public Radio, Cases Of Mysterious Valley Fever Rise In American Southwest, May 13, 2013; Available at: <http://www.npr.org/blogs/health/2013/05/13/181880987/cases-of-mysterious-valley-fever-rise-in-american-southwest>.

<sup>94</sup> Jennifer Y. Huang, Benjamin Bristow, Shira Shafir, and Frank Sorvillo, Coccidioidomycosis-associated Deaths, United States, 1990–2008; Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3559166/>.

The disease debilitates the population and thus prevents them from working.<sup>95</sup> The longest period of disability from occupational exposure in California is to construction workers, with 62% of the reported cases resulting in over 60 days of lost work.<sup>96</sup> Another study estimated the average hospital stay for each (non-construction work) case of Coccidioidomycosis at 35 days.<sup>97</sup>

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CURE-Fox-80  
cont.

In spite of this evidence, which I presented in my 2015 comments, incorporated here by reference, the DEIR/EIS dismisses the risk of Valley Fever to Project workers and nearby sensitive receptors by making two irrelevant arguments, discussed below.

### **A. The DEIR/EIS Fails To Identify Significant Health Impacts Due to Valley Fever**

#### **1. The DEIR/EIS Misrepresents Status Quo**

First, the DEIR/EIS argues that cases of Valley Fever dropped substantially in 2014 (19 cases) compared to 2011-2013 (68-73 cases),<sup>98</sup> implying that Valley Fever is declining and thus not a concern. However, the Monterey County Health Department reported 73 confirmed cases in 2016, up more than 50% from 2015<sup>99</sup> and consistent with the 2011 to 2013 cases reported in the DEIR/EIS.<sup>100</sup> The decline in 2014 was an anomaly.<sup>101</sup> It is duplicitous for the CPUC to assert Valley Fever is declining based on an anomaly.

CURE-Fox-81

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<sup>95</sup> Frank E. Swatek, Ecology of *Coccidioides Immitis*, Mycopathologia et Mycologia Applicata, v. 40, Nos. 1-2, pp. 3-12, 1970.

<sup>96</sup> Schmelzer and Tabershaw, 1968, Table 4.

<sup>97</sup> Demosthenes Pappagianis and Hans Einstein, Tempest from Tehachapi Takes Toll on *Coccidioides* Conveyed Aloft and Afar, West J. Med., v. 129, Dec. 1978, pp. 527-530; Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1238466/pdf/westjmed00256-0079.pdf>.

<sup>98</sup> DEIR/EIS, p. 4.10-4.

<sup>99</sup> KION 5/46 News Channel, Valley Fever Cases up in Monterey County, Update, December 8, 2016; Available at: <http://www.kion546.com/news/valley-fever-cases-up-in-monterey-county/201939326>.

See also Pam Marino, Valley Fever on the Rise in the Salinas Valley and South County, December 10, 2016; Available at: <http://www.kion546.com/news/valley-fever-cases-up-in-monterey-county/201939326>.

<sup>100</sup> DEIR/EIS, p. 4.10-4.

<sup>101</sup> County of Monterey Health Department, Coccidioidomycosis – Local Data; Available at: <http://www.co.monterey.ca.us/government/departments-a-h/health/diseases/coccidioidomycosis-valley-fever/coccidioidomycosis-local-data>.

## 2. Valley Fever Impacts Are Significant

The DEIR/EIS argues that “much of the population of Monterey County has already been exposed to Valley Fever and would continue to be exposed because of the various earthmoving activities that have historically occurred and continue to occur as a result of agricultural and construction activities throughout the region. As a result of the endemic nature of the disease and the number of earthmoving activities in the County (e.g., grading and excavation for agriculture, as well as new residential, commercial, and industrial development and surface mining operations), there are new cases of Valley Fever documented in the County each year, however, many people who are exposed do not develop symptoms.”<sup>102</sup> The DEIR/EIS then concludes, without conducting any analysis whatsoever, that<sup>103</sup>:

Valley Fever-related impacts associated with the project would not be considered significant because ongoing ground-disturbing activities in the County currently represent a continual source of spores that contribute to the low number of Valley Fever cases reported each year. Construction activities associated with the project would result in similar localized ground disturbing activities to those that occur continually within the County and the project would not result in a substantial increase in spore release. Therefore, construction of the project would not represent an increased risk to public health. In addition, implementation of Mitigation Measure 4.10-1c (see above), which requires implementation of fugitive dust control measures, would ensure that fugitive dust that could contain *coccidioides immitis* spores would be controlled to the maximum extent feasible. Valley Fever-related impacts would be less than significant.

CURE-Fox-82

These assertions are inconsistent with CEQA, unsupported, and incorrect.

CEQA requires that impacts be evaluated relative to the baseline present at the time environmental review commenced. While some residents of Monterey County may have been exposed to Cocci spores as they live adjacent to agricultural fields or a construction site, this does not mean that an increase in the number spores due to Project construction would not result in an increase in Valley Fever cases. Even assuming, *arguendo*, that this line of argument is valid, the record contains no evidence that all residents downwind of Project construction and all construction workers who would build the Project have in fact been exposed to Cocci spores in sufficient amounts to assure immunity.

It is common, for example, to import construction workers when local skills are not available or cheaper wages can be gained by using out-of-state employees. The request for proposal for the slant wells, for example, requires that the Contractor “must make a good faith effort to employ qualified individuals who are, and have been for at least one year out of the three years prior to the opening of

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<sup>102</sup> DEIR/EIS, p. 4.10-28.

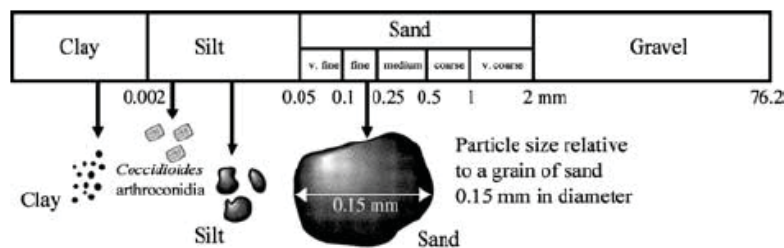
<sup>103</sup> DEIR/EIS, p. 4.10-28.

proposals, residents of Monterey County, San Benito County, or Santa Cruz County in sufficient numbers to achieve a goal of at least fifty percent of the Contractor’s total construction work force, including any subcontractor work force.”<sup>104</sup> The same condition is found in the RFP for the conveyance facilities.<sup>105</sup> Thus, it is duplicitous to suggest that all potentially exposed parties have already been exposed in Monterey County, which is a highly unlikely scenario.

Residents of the area also have been exposed to existing levels of PM10 and PM2.5, but the DEIR/EIS still evaluated the significance of an increase in PM10 and PM2.5 emissions relative to the baseline. The argument that County residents have been exposed to Cocci spores (a component of PM10, or PM2.5) (Figure 2) is simply a statement of the baseline or the status quo.

CURE-Fox-82  
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**Figure 2. Size of cocci spores compared to soil particles (in mm)**<sup>106</sup>



Valley Fever is contracted only by inhalation of Cocci spores, which are only inhaled when they become air borne, as during earth moving during construction of the Project, which increases PM10, PM2.5 and associated Cocci spores. If Cocci spores are present in the disturbed soil, which is highly likely given the Project location in an endemic area, they would increase in proportion to PM10 and PM2.5 emissions due to earth moving activities. Further, the fact that resident have been and are currently “exposed” to Cocci spores does not imply, nor can it guarantee, immunity to Valley Fever from increased exposure.

CURE-Fox-83

Digging, grading, trenching, and other earth disturbing activities will occur during construction of all Project’s components over the 24 month construction period,<sup>107</sup> which will increase PM10, PM2.5 and associated Cocci spores, relative to

CURE-Fox-84

<sup>104</sup> CalAm, Monterey Peninsula Water Supply Project, Request for Proposals for the Construction of Source Water Slant Wells, September 24, 2015, Section 2.10, p. 2-7; Available at: <http://www.watersupplyproject.org/about1>.

<sup>105</sup> CalAm, Monterey Peninsula Water Supply Project, Request for Proposals for the Construction of Conveyance Facilities, August 17, 2015, Section 2.10, p. 2-10; Available at: [http://media.wix.com/ugd/28b094\\_0f3fe76982564516a50c204aa1332cb1.pdf](http://media.wix.com/ugd/28b094_0f3fe76982564516a50c204aa1332cb1.pdf).

<sup>106</sup> Fisher et al., 2007, Fig. 3.

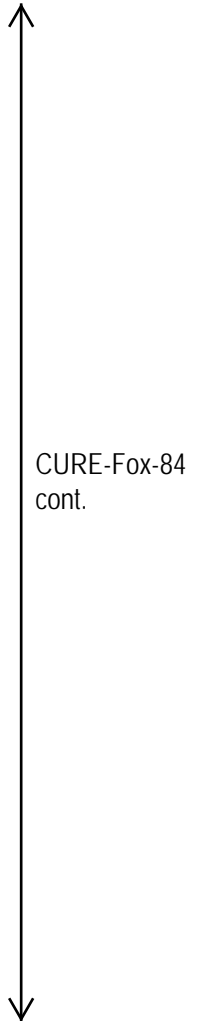
<sup>107</sup> DEIR/EIS, Appendix G1, Figure G1.1.2, pdf 3.



the CEQA baseline. These activities will disturb a significant amount of soil, including:

- slant wells (9 acres)<sup>108</sup>;
- desalination plant (25 acres);<sup>109</sup>
- source water pipeline construction (16.4 acres);<sup>110</sup>
- desalinated water supply pipeline (35.4 acres);<sup>111</sup>
- Castroville pipeline (15 – 16 acres);<sup>112</sup>
- brine discharge pipeline/pipeline to CSIP Pond alignments (6.6 acres);<sup>113</sup>
- ASR pipelines (8.8 acres);<sup>114</sup>
- ASR 5/6 water retention depression (7.0 acres);<sup>115</sup>
- ASR wells (0.9 acres);<sup>116</sup>
- new transmission main (27.1 acres);<sup>117</sup>
- Ryan Ranch-Bishop Interconnection improvements (7.3 acres);<sup>118</sup>
- Terminal Reservoir (6-6.7 acres);<sup>119</sup> and
- Pump stations (>7 acres).<sup>120</sup>

In total, Project construction would disturb over 173 acres of endemic land, likely to contain Cocci spores. Additional intimate contact with soil would occur during spoils management and disposal and during periodic maintenance of the



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<sup>108</sup> DEIR/EIS, pp. 3-47, 4.6-24, 4.6-70.

<sup>109</sup> DEIR/EIS, p. 3-49.

<sup>110</sup> DEIR/EIS, p. 4.6-76.

<sup>111</sup> DEIR/EIS, p. 4.6-78.

<sup>112</sup> DEIR/EIS, p. 4.6-79/80.

<sup>113</sup> DEIR/EIS, p. 4.6-81.

<sup>114</sup> DEIR/EIS, p. 4.6-82.

<sup>115</sup> DEIR/EIS, p. 4.6-82.

<sup>116</sup> DEIR/EIS, p. 4.6-215.

<sup>117</sup> DEIR/EIS, p. 4.6-83.

<sup>118</sup> DEIR/EIS, p. 4.6-86.

<sup>119</sup> DEIR/EIS, p. 3-54, 4.6-84.

<sup>120</sup> 2015 DEIR/EIS, p. 3-48.



slant wells, which would disturb roughly 6 acres every five years.<sup>121</sup> Thus, construction workers as well as maintenance workers during Project operation are at considerable risk of catching Valley Fever. This is a significant construction impact that was not identified in the DEIR/EIS. Further, many of the construction sites are very close to sensitive receptors, within 50 to 300 feet of residential areas, military housing, and schools, placing residents at risk.<sup>122</sup>

↑ CURE-Fox-84  
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CURE-Fox-85

Further, the potentially exposed population is much larger than construction workers because the very small spores – 0.002-0.005 millimeters (“mm”) – do not settle out as rapidly as other components of particulate matter and thus would be carried further, potentially into non-endemic areas, where they would expose large populations that may not have been previously exposed.<sup>123,124</sup> Valley Fever spores have been documented to travel as much as 500 miles<sup>125</sup> and, thus, dust raised during construction could potentially expose a large number of people hundreds of miles away, outside of endemic areas.

CURE-Fox-86

Further, there is no evidence that prior exposure to Cocci spores confers immunity, which is what the DEIR/EIS is arguing. *First*, this argument is fundamentally flawed because there is no “immunity” to Valley Fever. As explained by the Valley Fever Patient Advocacy Organization, “Once a person is infected with Valley Fever an immune resistance takes effect in the body, but this does not mean “immunity” in the sense that a person could never suffer from the disease again. Not only have reactivations occurred in many cases, but it has been proven that even “immune” hosts can suffer a severe case of Cocci if they inhale enough additional spores.”<sup>126</sup> Thus, even if everyone in Monterey County has been exposed to Cocci spores, this does not mean that an increase in the number of Cocci spores due to Project construction would not result in new cases of Valley Fever, or that construction workers from a non-endemic area brought into the area to construct the Project would not catch Valley Fever.

CURE-Fox-87

<sup>121</sup> DEIR/EIS, pp. 3-57, 4.3-110.

<sup>122</sup> DEIR/EIS, Tables 4.7-2, 4.12-10; Figure 4.7-2; p. 4.10-7.

<sup>123</sup> Schmelzer and Tabershaw, 1968, p. 110; Pappagianis and Einstein, 1978.

<sup>124</sup> Pappagianis and Einstein, 1978, p. 527 (“The northern areas were not directly affected by the ground level windstorm that had struck Kern County but the dust was lifted to several thousand feet elevation and, borne on high currents, the soil and arthrospores along with some moisture were gently deposited on sidewalks and automobiles as “a mud storm” that vexed the residents of much of California.” The storm originating in Kern County, for example, had major impacts in the San Francisco Bay Area and Sacramento).

<sup>125</sup> David Filip and Sharon Filip, Valley Fever Epidemic, Golden Phoenix Books, 2008, p. 24.

<sup>126</sup> Valley Fever Survivor, Frequently Asked Question; Available at: <http://www.valleyfeversurvivor.com/faq.html>.

In fact, dust exposure, which occurs during construction, is one of the primary risk factors for contacting Valley Fever.<sup>127</sup> Specific occupations and outdoor activities associated with dust generation such as construction, farming, road work, military training, gardening, hiking, camping, bicycling, or fossil collecting increase the risk of exposure and infection compared to baseline exposure to individuals who do not engage in these activities.<sup>128</sup>

CURE-Fox-88

It is well known that the most at-risk populations are construction and agricultural workers,<sup>129</sup> the former being the very population that would be directly exposed by the Project. The Monterey County Health Department notes: “Workers who disturb the soil by digging, operating earth-moving equipment, driving vehicles, or working in dusty, wind-blown areas are more likely to breathe in the fungal spores and become infected.”<sup>130</sup>

Similarly, a refereed journal article on occupational exposures notes that “[l]abor groups where occupation involves close contact with the soil are at greater risk, especially if the work involves dusty digging operations.”<sup>131</sup> One study reported that at study sites, “generally 50% of the individuals who were exposed to the dust or were excavating dirt at the sites were infected.”<sup>132</sup> The California Department of Public Health cites this as a typical example:

CURE-Fox-89

“In October 2007, a construction crew excavated a trench for a new water pipe. Within three weeks, 10 of 12 crew members developed coccidioidomycosis (Valley Fever), an illness with pneumonia and flu-

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<sup>127</sup> Rafael Laniado-Laborin, Expanding Understanding of Epidemiology of Coccidioidomycosis in the Western Hemisphere, *Ann. N.Y. Acad. Sci.*, v. 111, 2007, pp. 20-22; Frederick S. Fisher, Mark W. Bultman, Suzanne M. Johnson, Demosthenes Pappagianis, and Erik Zaborsky, Coccidioides Niches and Habitat Parameters in the Southwestern United States, a Matter of Scale, *Ann. N.Y. Acad. Sci.*, No. 1111, 2007, pp. 47-72 (“All of the examined soil locations are noteworthy as generally 50% of the individuals who were exposed to the dust or were excavating dirt at the sites were infected.”); Available at:

[http://www.researchgate.net/publication/6461426\\_Coccidioides\\_niches\\_and\\_habitat\\_parameters\\_in\\_the\\_southwestern\\_United\\_States\\_a\\_matter\\_of\\_scale/file/72e7e51c9b9f058a45.pdf?origin=publication\\_detail](http://www.researchgate.net/publication/6461426_Coccidioides_niches_and_habitat_parameters_in_the_southwestern_United_States_a_matter_of_scale/file/72e7e51c9b9f058a45.pdf?origin=publication_detail).

<sup>128</sup> CDPH June 2013; Center for Disease Control, Coccidioidomycosis (Valley Fever); Available at: <https://www.cdc.gov/fungal/diseases/coccidioidomycosis/health-professionals.html> and Kern County Public Health Services Department, Valley Fever (Coccidioidomycosis) in Kern County; Available at: <http://kerncountyvalleyfever.com/what-is-valley-fever/risk-factors/>.

<sup>129</sup> Lawrence L. Schmelzer and R. Tabershaw, Exposure Factors in Occupational Coccidioidomycosis, *Am. J. Public Health Nations Health*, v. 58, no. 1, 1968, pp. 107-113, Table 3; Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1228046/?page=1>.

<sup>130</sup> MCHD 2014, p. 2.

<sup>131</sup> *Ibid*, p. 110.

<sup>132</sup> Fisher et al., 2007.

like symptoms. Seven of the 10 had rashes, and one had an infection that had spread beyond his lungs and affected his skin. Over the next few months, the 10 ill crew members missed at least 1660 hours of work and two workers were on disability for at least five months.”<sup>133</sup>

Thus, the “potential” existing “background” exposure of the general population to Cocci spores is not a guarantee that Project construction workers, who are in intimate contact with soil in a Valley Fever endemic area, and many of whom may be from elsewhere or may have never worked in an endemic area, would not experience an increase in Valley Fever cases, relative to the baseline. The DEIR/EIS’s assertions as to background exposures in Monterey County is merely the statement of the baseline conditions. In fact, construction workers are in direct contact with soil and will inhale greater than baseline amounts of Cocci spores if construction occurs in an endemic area. Cocci spores are a component of PM10/PM2.5. Thus, it is indisputable that construction of the Project will increase not only PM10/PM2.5 but also Cocci spores.

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<sup>133</sup> CDPH June 2013, p. 1.

## B. The DEIR/EIS Fails to Mitigate Significant Valley Fever Health Risks

The DEIR/EIS asserts that Mitigation Measure 4.10-1c, a conventional construction fugitive dust mitigation measure<sup>134</sup>, would contain *Coccidioides immitis* spores to the maximum extent feasible, resulting in a less than significant impact.<sup>135</sup> It is well known that conventional dust control measures that are included in the mitigation measures for the Project are not effective at controlling Valley Fever<sup>136</sup> as they largely focus on visible dust or larger dust particles, the PM10 fraction, not the fine particles where the Valley Fever spores are found. The DEIR/EIS does not contain any mitigation whatsoever for the very fine fraction of particulate matter, PM2.5, as the air quality analysis concluded this impact was not significant, without considering the fact that it harbors Cocci spores.

CURE-Fox-90

While dust exposure is one of the primary risk factors for contacting Cocci spores and dust-control measures are an important defense against infection, it is important to note that PM10 and visible dust are only indicators that Cocci spores may be airborne in a given area. Freshly generated dust clouds usually contain a larger proportion of the more visible coarse particles. However, these larger particles settle more rapidly and the remaining fine respirable particles may be difficult to see and are not controlled by conventional dust control measures.

CURE-Fox-91

Spores of *Coccidioides ssp.* have slow settling rates in air due to their small size (2 to 5 micrometers), low terminal velocity, and possibly also due to their buoyancy, barrel shape and commonly attached empty hyphae cell fragments.<sup>137</sup> Thus spores, whose size is well below the limits of human vision, may be present in air that appears relatively clear and dust free. Such ambient, airborne spores with their low settling rates can remain aloft for long periods and be carried hundreds of kilometers from their point of origin. Thus, implementation of conventional dust control measures will not provide sufficient protection for both on-site workers and the general public.

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Further, infections by *Coccidioides ssp.* frequently have a seasonal pattern with infection rates that generally spike in the first few weeks of hot dry weather that follow extended milder rainy periods. In California, infection rates are

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<sup>134</sup> DEIR/EIS, p. 4.10-25/26.

<sup>135</sup> DEIR/EIS, p. 4.10-28.

<sup>136</sup> See, e.g., Cummings and others, 2010, p. 509; Schneider et al., 1997, p. 908 (“Primary prevention strategies (e.g., dust-control measures) for coccidioidomycosis in endemic areas have limited effectiveness.”).

<sup>137</sup> Frederick S. Fisher, Mark W. Bultman, and Demosthenes Pappagianis, Operational Guidelines (version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever), U.S. Geological Survey Open-File Report 00-348, 2000; Available at: <https://pubs.usgs.gov/of/2000/0348/pdf/of00-348.pdf>.

generally higher during the hot summer months especially if weather patterns bring the usual winter rains between November and April.<sup>138</sup> The majority of cases of Valley Fever accordingly occur during the months of June through December, when 16 of the 24 months of construction would occur. Typically, the risk of catching Valley Fever begins to increase in June and continues an upward trend until it peaks during the months of August, September and October.<sup>139</sup> The majority of the construction will occur during these dry summer months.<sup>140</sup>

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Drought periods can have an especially potent impact on Valley Fever if they follow periods of rain.<sup>141</sup> It is thought that during drought years the number of organisms competing with *Coccidioides ssp.* decreases and the fungus remains alive but dormant. When rain finally occurs, the arthroconidia germinate and multiply more than usual because of a decreased number of other competing organisms. When the soil dries out in the summer and fall, the spores can become airborne and potentially infectious.<sup>142</sup> The anticipated end of the current drought conditions in California coincides with the start of construction and may well have created ideal conditions for a uptick in Valley Fever cases.

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### C. Recommended Mitigation Measures to Reduce Risk of Valley Fever

In response to an outbreak of Valley Fever in construction workers in 2007 at a construction site for a solar facility within San Luis Obispo County, its Public Health Department in conjunction with the California Department of Public Health developed recommendations to limit exposure to Valley Fever based on scientific information from the published literature.<sup>143</sup> The recommended measures go far beyond the conventional dust control measures recommended in the DEIR/EIS to control PM10 emissions. They include the following measures that are not required in the DEIR/EIS to mitigate PM10 emissions from the Project:

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<sup>138</sup> *Ibid.*

<sup>139</sup> Kern County Public Health Services Department, What Is Valley Fever, Prevention, Valley Fever Risk Factors; Available at: <http://kerncountyvalleyfever.com/what-is-valley-fever/risk-factors/>.

<sup>140</sup> DEIR/EIS, Appendix G1. Figure G1.1.2. MPWSP Estimated Construction Phasing.

<sup>141</sup> Gosia Wozniacka, Associated Press, Fever Hits Thousands in Parched West Farm Region, May 5, 2013, citing Prof. John Galgiani, Director of the Valley Fever Center for Excellence at the University of Arizona; Available at: <http://www.huffingtonpost.com/huff-wires/20130505/us-valley-fever/>.

<sup>142</sup> Theodore N. Kirkland and Joshua Fierer, Coccidioidomycosis: A Reemerging Infectious Disease, *Emerging Infectious Diseases*, Vol. 3, No. 2, July-September 1996; Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2626789/pdf/8903229.pdf>.

<sup>143</sup> San Luis Obispo County Health Agency, Recommendations for Workers to Prevent Infection by Valley Fever in SLO County; Available at: <http://www.slocounty.ca.gov/Assets/PH/Epidemiology/Cocci+Recomendations.pdf>.

1. *Implement comprehensive Injury and Illness Prevention Program (required by Title 8, Section 3203) ensuring safeguards to prevent Valley Fever are included.*
2. *Work with a medical professional with expertise in cocci to develop a training program for all employees discussing the following issues: potential presence of C. immitis in soils; the risks involved with inhaling spores; how to recognize common symptoms (which resemble common viral infections, and may include fatigue, cough, chest pain, fever, rash, headache, and body and joint ache); requesting prompt reporting of suspected symptoms to a supervisor and health care provider; discussing worker entitlement to receive prompt medical care if they suspect symptoms of work-related Valley Fever; and requesting the use of personal protection measures as outlined below.*
3. *Control exposure to dust:*
  - Consult with local Air Pollution Control District Compliance Assistance programs and with California Occupational Safety and Health Administration (“Cal/OSHA”) compliance program regarding meeting the requirements of dust control plans and for specific methods of dust control.
  - Continuously wet the soil before and while digging or moving the earth. Landing zones for helicopters and areas where bulldozers, graders, or skid steers operate are examples where wetting the soil is necessary.
  - Wetting methods should use processes that do not raise dust or adversely affect the construction process.
  - Provide high-efficiency particulate (“HEP”)-filtered, air-conditioned enclosed cabs on heavy equipment. Train workers on proper use of cabs, such as turning on air conditioning prior to using the equipment and keeping windows closed.
  - Provide communication methods, such as 2-way radios, for use in enclosed cabs.
  - When exposure to dust is unavoidable, use National Institute for Occupational Safety and Health (“NIOSH”)-approved respirators rated as N95, N99, N100, P100, or HEPA. Respirators must be used within a Cal/OSHA compliant respiratory protection program that covers all respirator wearers and includes medical clearance to wear a respirator, fit testing, training, and procedures for cleaning and maintaining respirators.
  - Employees should be medically evaluated, fit-tested, and properly trained on the use of the respirators, and a full



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respiratory protection program in accordance with the applicable Cal/OSHA Respiratory Protection Standard (8 CCR 5144) should be in place.<sup>144</sup>

- Prohibit eating and smoking at the worksite, and provide separate, clean eating areas with hand-washing facilities.
- Promptly secure graded areas using seeding, soil binders or paving and by laying building pads as soon after grading as possible.
- When digging a trench or fire line or performing other soil-disturbing tasks, position workers upwind when possible.
- Place overnight camps, especially sleeping quarters and dining halls, away from sources of dust such as roadways.
- Stop outdoor construction operations during unusually windy conditions or in dust storms.
- Minimize the amount of digging by hand. Instead, use heavy equipment with operator in an enclosed, air-conditioned, HEP-filtered cab.
- Consider limiting outdoor construction during the fall to essential jobs only, as the risk of cocci infection is higher during this season.

4. *Prevent transport of cocci outside endemic areas:*

- Thoroughly clean equipment, vehicles, and other items before they are moved off-site to other work locations.
- Provide workers with coveralls daily, lockers (or other system for keeping work and street clothing and shoes separate), daily changing and showering facilities.
- Keep street clothes and work clothes separate by providing separate lockers or other storage areas.
- Clothing should be changed after work every day, preferably at the work site.
- Encourage workers to shower and wash their hair at the workplace or as soon as they get home if no on-site facilities are available.



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<sup>144</sup> Short-term skin tests that produce results within 48 hours are now available. See Nick VinZant, *New Skin Test for Valley Fever Produces Results within 48 Hours*, April 15, 2015, Available at: <http://www.abc15.com/news/region-west-valley/sun-city/new-skin-test-for-valley-fever-produces-results-within-48-hours>.



- Train workers to recognize that cocci may be transported offsite on contaminated equipment, clothing, and shoes; alternatively, consider installing boot-washing.
- Train workers to recognize symptoms and ways to minimize exposure.
- Post warnings onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection.

5. *Improve medical surveillance for employees*

- Employees should have prompt access to medical care, including suspected work-related illnesses and injuries.
- Work with a medical professional to develop a protocol to medically evaluate employees who have symptoms of Valley Fever.
- Consider preferentially contracting with 1-2 clinics in the area and communicate with the health care providers in those clinics to ensure that providers are aware that Valley Fever has been reported in the area. This will increase the likelihood that ill workers will receive prompt, proper and consistent medical care.
- Respirator clearance should include medical evaluation for all new employees, annual re-evaluation for changes in medical status, and annual training, and fit-testing.
- Skin testing is not recommended for evaluation of Valley Fever.
- If an employee is diagnosed with Valley Fever, a physician must determine if the employee should be taken off work, when they may return to work, and what type of work activities they may perform.

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Two other studies have developed complementary recommendations to minimize the incidence of Valley Fever. The U.S. Geological Survey (“USGS”) has developed recommendations to protect geological field workers in endemic areas.<sup>145</sup> An occupational study of Valley Fever in California workers also developed recommendations to protect those working and living in endemic areas.<sup>146</sup> These two sources identified the following measures, in addition to those identified by the San Luis Obispo County Public Health Department, to minimize the exposure to Valley Fever:

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<sup>145</sup> Fisher et al. 2000.

<sup>146</sup> Schmelzer and Tabershaw, 1968, pp. 111 - 113.

- Evaluate soils to determine if each work location is within an endemic area.
- Implement a vigorous program of medical surveillance.
- Implement aggressive enforcement of respiratory use where exposures from manual digging are involved.
- Test all potential employees for previous infection to identify the immune population and assign immune workers to operations involving known heavy exposures.
- Hire resident labor whenever available, particularly for heavy dust exposure work.
- All workers in endemic areas should use dust masks to protect against inhalation of particles as small as 0.4 microns. Mustaches or beards may prevent a mask from making an airtight seal against the face and thus should be discouraged.
- Establish a medical program, including skin tests on all new employees, retesting of susceptibles, prompt treatment of respiratory illness in susceptibles; periodic medical examination or interview to discover a history of low grade or subclinical infection, including repeated skin testing of susceptible.



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In addition to these generic measures that apply to all construction projects that disturb soil, others are feasible that specifically address Project components. For example, construction will generate 25,110 cubic yards of excess spoils and construction debris. The majority of this earthmoving is from pipeline construction, contributing 96% of total excess debris<sup>147</sup> and thus is a potential major source of exposure to Cocci spores. Further, sensitive receptors are 100 to 250 feet away from many pipeline construction sites.<sup>148</sup> Most of the pipeline s will be installed using conventional open-trench technology, except where these methods are not feasible. Where not feasible, trenchless methods would be used.<sup>149</sup>

CURE-Fox-96

However, trenchless methods are feasible for most all pipelines. These methods are preferable as they do not generate as much fugitive dust. These include jack-and-bore, drill-and-burst, horizontal directional drilling, and/or microtunnelling.<sup>150</sup> These alternate methods should be used to minimize fugitive dust and the release of Cocci spores. The applicant should evaluate each Project component to determine whether modifications in construction methods can be

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<sup>147</sup> DEIR/EIS, Table 3-5.

<sup>148</sup> DEIR/EIS, p. 4.10-7.

<sup>149</sup> DEIR/EIS, Section 3.3.4.2.

<sup>150</sup> DEIR/EIS, p. 3-52.

implemented to minimize the amount of soil that will be disturbed and released into the atmosphere. CURE-Fox-96  
cont.

The DEIR/EIS's PM10 control measures do not include the above listed measures specifically developed by regulatory agencies to control Valley Fever. Some similar measures are required in the DEIR/EIS to mitigate PM10 impacts, but they do not go far enough to control Valley Fever. Some examples follow. CURE-Fox-97

Mitigation Measures 4.10-1c (#1, #7) require that all active construction areas and stockpiles be watered at least twice daily. Mitigation Measure 4.10-1c (#3) requires the application of water three times daily on unpaved access roads, parking area, and staging areas.<sup>151</sup> The CDPH, on the other hand, recommends for Valley Fever control, that “[w]hen soil will be disturbed by heavy equipment or vehicles, wet the soil before disturbing it and continuously wet it while digging to keep dust levels down.”<sup>152</sup> The watering trucks themselves used in twice daily watering generate fugitive dust, which is not addressed by the DEIR/EIS's measure, but is addressed by CDPH by requiring the use of wetting methods that do not raise dust. CURE-Fox-98

Mitigation Measure 4.10-1a (#4, #5) requires daily sweeping, which generates fugitive dust that may contain spores.<sup>153</sup> CURE-Fox-99

Mitigation Measure 4.10-1a (#6) only requires hydroseeding or use of soil stabilizers in inactive construction areas (defined as previously graded areas that are inactive for 10 days or more) while CDPH's Valley Fever controls require “prompt” securing of graded areas.<sup>154</sup> CURE-Fox-100

Mitigation Measure 4.10-1a (#11) only requires wheel washers on trucks<sup>155</sup> while CDPH Valley Fever control requires “[t]horoughly clean equipment, vehicles, and other items before they are moved off-site to other work locations.”<sup>156</sup> CURE-Fox-101

In addition, major onsite and offsite soil-disturbing construction activities should be timed to occur outside of any prolonged dry period, when Cocci spores are most abundant. After soil-disturbing activities conclude, all disturbed soils should be sufficiently stabilized to prevent air-borne dispersal of Cocci spores. CURE-Fox-102

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<sup>151</sup> DEIR/EIS, p. 4.10-25.

<sup>152</sup> CDPH June 2013, p. 4.

<sup>153</sup> DEIR/EIS, p. 4.10-25.

<sup>154</sup> DEIR/EIS, p. 4.10-25.

<sup>155</sup> DEIR/EIS, p. 4.10-25.

<sup>156</sup> DEIR/EIS, p. 4.10-25.

In sum, the PM10 mitigation measures in the DEIR/EIS are not adequate to control Valley Fever or even PM10, as explained above. Projects that have implemented conventional PM10 dust control measures, such as those proposed here, have experienced several incidences of severe dust storms and reported cases of Valley Fever.

For example, construction of First Solar’s Antelope Valley Solar Ranch One (“AVSR1”) was officially halted in April 2013 due to the company’s failure to bring the facility into compliance with ambient air quality standards, despite dust control measures similar to those proposed here. A dust storm in Antelope Valley on April 8, 2013 was so severe that it resulted in multiple car pileups in the sparsely populated region, as well as closure of the Antelope Valley Freeway. The company was issued four violations by the Antelope Valley Air Quality Management District. Dust from the project led to complaints of respiratory distress by local residents and a concern of Valley Fever.<sup>157</sup>

CURE-Fox-103

At two photovoltaic solar energy projects in San Luis Obispo County, Topaz Solar Farm and California Valley Solar Ranch, 28 construction workers contracted Valley Fever. One man was digging into the ground and inhaled dust and subsequently became ill. A blood test confirmed Valley Fever.<sup>158</sup>

CURE-Fox-104

All of the above health-protective measures recommended by the San Luis Obispo County Public Health Department and the California Department of Public Health are feasible for the Project and must be required in an enhanced dust control plan to reduce the risk to construction workers, on-site employees and the public of contracting Valley Fever. Many of these measures have been required by the County of Monterey in other EIRs.<sup>159</sup> Even if all of the above measures are adopted, a recirculated DEIR/EIS is required to analyze whether these measures are adequate to reduce this significant impact to a level below significance.

CURE-Fox-105

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<sup>157</sup> Herman K. Trabish, Green Tech Media, Construction Halted at First Solar’s 230 MW Antelope Valley Site, April 22, 2013, Available at: <http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site>.

<sup>158</sup> Julie Cart, Los Angeles Times, 28 Solar Workers Sickened by Valley Fever in San Luis Obispo County May 01, 2013; available at <http://articles.latimes.com/2013/may/01/local/la-me-ln-valley-fever-solar-sites-20130501>.

<sup>159</sup> County of Monterey, California Flats Solar Project Final Environmental Impact Report, December 2014; Available at: [http://www.co.monterey.ca.us/Planning/major/California%20Flats%20Solar/FEIR/FEIR\\_PLN120294\\_122314.pdf](http://www.co.monterey.ca.us/Planning/major/California%20Flats%20Solar/FEIR/FEIR_PLN120294_122314.pdf).

#### IV. GREENHOUSE GAS (GHG) EMISSIONS

The DEIR/EIS concluded that greenhouse gas (GHG) emissions from construction and operation of the Project are significant.<sup>160</sup> Thus, it imposed Mitigation Measure 4.11-1 for Project GHG emissions and Mitigation Measure 4.18-1 for construction GHG emissions.<sup>161</sup> The DEIR/EIS concludes that GHG emissions remain significant and unmitigated after compliance with these measures as “it is not possible to substantiate numerically that the mitigated GHG emissions would be reduced to a less-than- significant level.”<sup>162</sup>

CURE-Fox-106

The DEIR/EIS failed to substantiate that its GHG emissions cannot be reduced to an insignificant level and failed to include all feasible mitigation measures.

##### A. The DEIR/EIS Failed to Adequately Explain Why the Project’s GHG Impacts Are Significant and Unavoidable

The DEIR/EIS jumps to the conclusion that GHG impacts are significant and unavoidable because “it is not possible to substantiate numerically that the mitigated GHG emissions would be reduced to a less-than- significant level.”<sup>163</sup> The only reason the CPUC cannot substantiate mitigated emissions numerically is because it has improperly deferred identification of mitigation measures to a future plan, as discussed below.<sup>164</sup> Other applicants and lead agencies have succeeded in quantifying GHG emission reductions.<sup>165</sup>

CURE-Fox-107

The DEIR/EIS must explain “why” the impact is significant and unavoidable. See *Keep Berkeley Jets Over the Bay Com. v. Board of Port Comrs.* (2001) which concluded: “simply labeling the impact “significant” without accompanying analysis” violates “the environmental assessment requirement of CEQA.” Before the DEIR/EIS can make the “significant and unavoidable” finding, it must specifically identify the GHG mitigation measures and estimate the reduction in GHG achieved.

CURE-Fox-108

<sup>160</sup> DEIR/EIS, p. 4.11-18 and Table 4.11-5.

<sup>161</sup> DEIR/EIS, p. 4.11-18.

<sup>162</sup> DEIR/EIS, p. 4.11-19.

<sup>163</sup> DEIR/EIS, p. 4.11-19.

<sup>164</sup> DEIR/EIS, p. 4.11-19, Mitigation Measure 4.11-1

<sup>165</sup> See, for example, Chevron Refinery Modernization Project EIR, March 2014, Section 4.8, Available at: [http://chevronmodernization.com/wp-content/uploads/2014/03/4.8\\_Greenhouse-Gases.pdf](http://chevronmodernization.com/wp-content/uploads/2014/03/4.8_Greenhouse-Gases.pdf) and resulting mitigation program, Final Environmental Impact Report, Chapter 5. Mitigation Measure Monitoring and Reporting Program, Available at: [https://s3.amazonaws.com/chevron/Final+EIR/5\\_MMRP.pdf](https://s3.amazonaws.com/chevron/Final+EIR/5_MMRP.pdf).

by each. Further, it must explain how the Project is or is not consistent with the State’s energy and climate objectives.

↑ CURE-Fox-108  
cont.

**B. The Proposed GHG Mitigation Measures Are Inadequate**

The DEIR/EIS concluded that greenhouse gas (GHG) emissions from construction and operation of the Project (8,370 MT/yr)<sup>166</sup> are significant. Thus, it imposed Mitigation Measure 4.11-1 for Project GHG emissions and Mitigation Measure 4.18-1 for construction GHG emissions.<sup>167</sup> These mitigation measures are fundamentally flawed as they are unenforceable, ambiguous, and do not include all feasible mitigation that would allow impacts to reduced to a less than significant level.

CURE-Fox-109

1. Mitigation Measure 4.11-1: GHG Emission Reductions

This measure requires CalAm to do two things. First, it must prepare a “GHG Emissions Reduction Plan” and submit it to the CPUC for approval prior to start of construction. The Plan “shall include a commitment by CalAm to incorporate all available feasible energy recovery and conservation technologies...” Second, CalAm “shall make good faith efforts to ensure that at least 20 percent of the approved project’s operational energy use requirements are achieved with “clean” renewable energy...”<sup>168</sup> This is not adequate mitigation under CEQA.

CURE-Fox-110

*First*, a “good faith effort” to use renewable energy to meet only 20% of the Project’s operational energy demand is not adequate CEQA mitigation. The DEIR/EIS concluded the increase in GHG emissions was a significant and unavoidable impact, which requires all feasible mitigation under CEQA. The use of 100% renewable energy to meet the Project’s demand of 51,698 MWh/yr<sup>169</sup> is feasible. The CPUC has procedures that would allow CalAm to pay to allow PG&E or other providers to build renewable generation to meet 100%of the Project’s operational electricity demand as well as the increase in GHG emissions due to construction. The new renewable facilities would be dedicated to the Project, and any excess electricity could be sold, offsetting costs.

The GHG-free electricity generation required to offset the GHG emissions associated with the Project's electricity use and construction emissions would not have to be occur simultaneously with the emissions it would displace, since GHG emissions are a multi-year problem. Rather, the Applicant could procure

CURE-Fox-111

<sup>166</sup> DEIR/EIS, Table 4.11-5.

<sup>167</sup> DEIR/EIS, pp. 4.11-19/20.

<sup>168</sup> DEIR/EIS, p. 4.11-20.

<sup>169</sup> DEIR/EIS, p. 4.11-16.

incremental renewable generation sufficient to offset the annual GHG emissions that will result from its construction and operation, without regard to the intra-year timing of when that incremental generation would operate. The important point is that, in order to count as mitigation for the Project, the mitigation generation would have to be incremental generation that did not already exist and would not have been built but for its procurement by the Project.

CURE-Fox-111  
cont.

The CPUC has previously addressed how to ensure that renewable generation that is dedicated to particular customers is indeed incremental. See D.15-01-051 creating a Green Tariff Shared Renewables (GTSR) program<sup>170</sup>, a program which might be one way for the Project to procure the 100% renewables proposed here as mitigation (D.15-01-051 authorized up to 207 MW of unreserved new renewable capacity for PG&E customers (D.15-01-051, Table 1); 51,698 MWh/year corresponds to the output of approximately 25 MW of solar PV capacity).

*Second*, preparation of the Emissions Reduction Plan is deferred until after Project approval, pre-empting public review. The Plan must be prepared as part of the DEIR/EIS and circulated for public review. Otherwise, the public does not have an opportunity to evaluate the effectiveness of the GHG reduction measures.

CURE-Fox-112

*Third*, under CEQA, an EIR must not only discuss measures to avoid or minimize adverse impacts, it also must ensure that mitigation measures are fully enforceable through permit conditions, agreements, or other legally binding instruments.<sup>171</sup> Mitigation measures that are vague (e.g., “good faith effort”) or so undefined [a future “plan”] that it is impossible to evaluate their effectiveness are inadequate.<sup>172</sup> A CEQA lead agency cannot make the required CEQA findings unless the record shows that all uncertainties regarding mitigation of impacts have been resolved. Further, an agency may not rely on mitigation measures of uncertain effectiveness or feasibility.<sup>173</sup> Thus, for example, “good faith efforts” to obtain “clean” renewable energy for project operation is not adequate. An enforceable condition requires that the CPUC obtain a commitment to use renewable energy, which is a feasible measure. The required findings cannot be made based on a Plan that will be prepared in the future, after the EIR has been certified, and “good faith efforts” to use “clean” renewable energy.

CURE-Fox-113

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<sup>170</sup> CPUC, Green Tariff/Shared Renewables Program (GTSR); Available at: <http://www.cpuc.ca.gov/General.aspx?id=12181>.

<sup>171</sup> CEQA Guidelines §15126.4, subd. (a)(2).

<sup>172</sup> See *San Franciscans for Reasonable Growth v. City & County of San Francisco* (1984) 151 Cal.App.3d 61, 79.

<sup>173</sup> *Kings County Farm Bur. v. County of Hanford* (1990) 221 Cal.App.3d 692, 727-28 (“a groundwater purchase agreement was inadequate mitigation because there was no record evidence that replacement water was available”).



*Fourth*, there is no assurance that all feasible measures will be identified unless the Plan is developed by a “qualified professional” as required in Mitigation Measure 4.18-1. The analyses and judgements required to draft this Plan fall under California’s engineering licensing laws<sup>174</sup>, specifically for Mechanical Engineers. This measure should be modified to require that a registered professional engineer (mechanical) in California confirm by stamp and signature that the Plan includes all feasible measures.

CURE-Fox-114

*Fifth*, the Plan does not require any post-Project construction confirmation and on-going verification that the approved Plan has in fact has been implemented and is being complied with. Monitoring is a key component of successful mitigation under CEQA. This measure should therefore be modified to require that a registered professional engineer (mechanical) in California confirm by stamp and signature that the Plan has been implemented. Further, annual tracking/reporting on implementation of all measures should be required via a compliance checklist or similar documentation.

CURE-Fox-115

*Sixth*, the Plan focuses only on Project operational facilities, i.e., “operational components” including the desalination plant, pipelines, and pumping system. It is silent as to construction GHG emissions. Further, there are other opportunities for CalAm to reduce GHG emissions.

CURE-Fox-116

CalAm provides water and wastewater services to over 600,000 people at multiple locations in California. It operates other water facilities in the Monterey area, including facilities to secure water from the Carmel River and Seaside Groundwater Basin.<sup>175</sup> CalAm also operates water and wastewater facilities elsewhere including in Sacramento, San Diego, Larkfield, Los Angeles, and Ventura<sup>176</sup> and is actively acquiring additional water production and service facilities elsewhere in California<sup>177</sup>. Thus, CalAm has opportunities throughout its system to reduce GHG emissions, not only at the Project facilities. These opportunities include:

CURE-Fox-117

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<sup>174</sup> Business & Professions Code §§ 6700 – 6799. See especially, §6731.6 (Mechanical Engineering Defined) and 6735.4 (Signing and Sealing of Mechanical Engineering Documents).

<sup>175</sup> DEIR/EIS, Sections 2.4.1 and 2.4.2.

<sup>176</sup> CalAm News, See: <http://www.amwater.com/caaw/About-Us/news.html>.

<sup>177</sup> See, e.g., California American Water Enters into Contract to Purchase Adams Ranch Mutual Water Company, June 16, 2015; Available at: [http://files.shareholder.com/downloads/AMERPR/337273308x0x835654/79470B9D-7EE8-488D-9392-66C25DA01B25/Adams\\_Ranch\\_Acquisition\\_PR\\_FINAL\\_061615.pdf](http://files.shareholder.com/downloads/AMERPR/337273308x0x835654/79470B9D-7EE8-488D-9392-66C25DA01B25/Adams_Ranch_Acquisition_PR_FINAL_061615.pdf) and California Public Utilities Commission Approves California American Water Acquisition of Ox Bow Marina Mutual Water Company, June 15, 2015; Available at: [http://files.shareholder.com/downloads/AMERPR/337273308x0x835474/94F6DA33-7B68-4E41-87E6-49F5499C9777/AL\\_1066\\_-\\_Ox\\_Bow\\_PR\\_FINAL\\_061115\\_CS.pdf](http://files.shareholder.com/downloads/AMERPR/337273308x0x835474/94F6DA33-7B68-4E41-87E6-49F5499C9777/AL_1066_-_Ox_Bow_PR_FINAL_061115_CS.pdf).

- **Energy Audits and Retrofits at Existing CalAm Buildings:** Mitigation could include offsetting the Project’s GHG emissions through a comprehensive audit of existing buildings owned by CalAm throughout California and processes to identify and implement energy saving measures, including improving the efficiency of existing equipment so that it uses less electricity or burns less fuel. As an example, in September 2007, the California Attorney General’s office came to an agreement with ConocoPhillips, in which ConocoPhillips agreed to mitigate greenhouse gas emissions for a planned hydrogen facility by, among other measures, undertaking an energy efficiency audit and carbon emissions audit for all of its California facilities.<sup>178</sup>

CURE-Fox-118

- **Community Energy Efficiency Building Retrofits:** Mitigation could include funding programs that provide for energy efficiency retrofits of existing buildings and housings in the local Project area, with a particular focus on rental and low-income housing. As one example, the Chula Vista Energy Upgrade Project included \$210,000 worth of mitigation funds “for energy efficiency and related improvements to local homes and business, ... intended to directly benefit the residents potentially most affected by the proposed project.”<sup>179</sup> These upgrades could include installation of a heat-reflecting “cool roof” and heat-reducing window awnings, high-efficiency air conditioning systems with programmable thermostats, and energy-saving fluorescent lighting fixtures that feature daylight and occupancy sensors.

CURE-Fox-119

- **Funding of Carbon Offset Programs:** Mitigation could include providing funds to the MBUAPCD, Audubon Society, California Wildlife ReLeaf, or other organizations to fund off-site carbon reduction or sequestration projects. AB 32 allows CARB to give credit for voluntary GHG reductions that are undertaken before the regulations require specific GHG reductions are adopted.<sup>180</sup> For example, the 2007 ConocoPhillips settlement included an agreement to mitigate and offset greenhouse gas emissions by providing: (1) \$7 million to the BAAQMD to create a fund for carbon offsets, (2) \$200,000 to the Audubon Society for restoration of wetlands in the San

CURE-Fox-120

<sup>178</sup> ConocoPhillips and California Attorney General Settlement Agreement, September 10, 2007); Available at: [http://ag.ca.gov/globalwarming/pdf/ConocoPhillips\\_Agreement.pdf](http://ag.ca.gov/globalwarming/pdf/ConocoPhillips_Agreement.pdf).

<sup>179</sup> California Energy Commission, Docket No. 07-AFC-4, Chula Vista Energy Upgrade Project, Final Staff Assessment, Addendum, p. 3, September 30, 2008; Available at: [http://www.energy.ca.gov/sitingcases/chulavista/documents/2008-09-29\\_FINAL\\_STAFF\\_ASSESSMENT\\_ADENDUM\\_TN-48266.PDF](http://www.energy.ca.gov/sitingcases/chulavista/documents/2008-09-29_FINAL_STAFF_ASSESSMENT_ADENDUM_TN-48266.PDF).

<sup>180</sup> Health & Safety Code, §38562, subd. (b)(2).

Pablo Bay for purposes of carbon sequestration, and (3) \$2.8 million to California Wildlife ReLeaf for reforestation projects, estimated to sequester 1.5 million metric tons of CO<sub>2</sub> over the lifetime of the forest. As another example, Chevron agreed to a \$30 million GHG reduction plan to offset the increase in GHG from its modernization project which included working with others to develop transportation and transit programs and a roof-top solar and energy retrofit program.<sup>181</sup> These programs also could include electric vehicle (EV) rebate; installation of EV charging stations; reserved parking for EV vehicles; clunker scraping programs with incentives for purchasing or leaving new or used EVs; and financing options for EVs for people with limited credit, among many other.

CURE-Fox-120  
cont.

- **Water Conservation:** CalAm's Monterey system is among the best in California at conserving water. Its daily per-capita water use in the SWRCB's most recent statewide survey for October 2014 to April 2015 is 55.8 gallons per person, while its facilities in San Diego reported 65 gallons per person; in Sacramento 80.2 gallons per person; and in Los Angeles, 126.2 gallons per person.<sup>182</sup> The Monterey Division has implemented an aggressive water conservation program under a settlement agreement.<sup>183</sup> This program includes residential audits, leak detection, a house call pilot program, residential and commercial plumbing retrofits, large landscape audits and water budgets, a landscape grant program, and rain sensor and soil moisture sensor installation programs. CalAm should expand these measures to its other systems which use substantially more water. This would significantly reduce GHG emissions by reducing water demand, which requires significant amounts of electricity to supply. Reducing electrical demand throughout CalAm's system could significantly offset GHG emissions from the Project. CalAm should also agree to make these measures in its Monterey District permanent.

CURE-Fox-121

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<sup>181</sup> Chevron Richmond Refinery Modernization, Environmental and Community Investment Agreement, October 7, 2014; Available at: <http://www.ci.richmond.ca.us/DocumentCenter/View/29755> and Chevron Refinery Modernization Project Environmental and Community Investment Agreement between City of Richmond, CA and Chevron Products Company, pp. 12-15, Available at: <http://www.ci.richmond.ca.us/DocumentCenter/View/30667>.

<sup>182</sup> Excel Spreadsheet: October 2014 – April 2015 Urban Water Supplier Report, Available at: [http://www.waterboards.ca.gov/water\\_issues/programs/conservation\\_portal/conservation\\_reporting](http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting).

<sup>183</sup> 2014 Monterey Peninsula Water Conservation Program Annual Report, Available at: [http://www.montereywaterinfo.org/documents/2014%20Conservation%20Report\\_FINAL%20SUBMITTED.pdf](http://www.montereywaterinfo.org/documents/2014%20Conservation%20Report_FINAL%20SUBMITTED.pdf).

- **On-Site Solar:** A UC Berkeley study found that in order to meet the State of California’s existing goal of 80% GHG reduction by 2050,<sup>184</sup> California must: (1) completely phase out fossil-fueled *electricity* and (2) electrify *transportation*. Thus, to comply with Executive Order S-3-05, the Project could install and operate a solar plant and battery storage facility on City property to supply 100% of its electricity needs.

CURE-Fox-122

2. Mitigation Measure 4.18-1: Construction Equipment Efficiency Plan

This measure requires CalAm to contract a “qualified professional” to prepare a “Construction Equipment Efficiency Plan” to identify specific measures that CalAm will implement as part of Project construction “to increase the efficient use of construction equipment to the maximum extent feasible.”<sup>185</sup> This measure has the same deficiencies as Mitigation Measure 4.11-1, discussed above.

CURE-Fox-123

*First*, preparation of the Efficiency Plan is deferred until after the Project is approved, pre-empting public review. The Plan must be prepared as part of the DEIR/EIS and circulated for public review.

*Second*, the measure does not clarify what constitutes a “qualified professional”. This measure should be modified to require that the qualified professional be a registered professional engineer (civil<sup>186</sup>) in California and the Efficiency Plan should be confirmed by stamp and signature that the Plan includes all feasible construction equipment efficiency measures.

CURE-Fox-124

*Third*, the Efficiency Plan<sup>187</sup> does not include all feasible mitigation measures. Many other such measures should have been identified in the DEIR/EIS as all feasible mitigation is required when the impact is not fully mitigated. These include the NOx and ROG mitigation measures identified above, plus measures recently required as GHG construction mitigation in the Chevron Modernization FEIR<sup>188</sup> (annotated here by “Chevron”):

CURE-Fox-125

<sup>184</sup> James H. Williams et al., The Technology Path to Deep Greenhouse Gas Emissions Cuts, *Science*, v. 335, pp. 53-59, January 6, 2012; Abstract available at <http://www.sciencemag.org/content/335/6064/53>.

<sup>185</sup> DEIR/EIS, p. 4.18-15.

<sup>186</sup> Business & Professions Code §§ 6700 – 6799. See especially, §6731 (Civil Engineering Defined) and 6735 (Preparation, Signing, and Sealing of Civil Engineering Documents).

<sup>187</sup> DEIR/EIS, p. 4.18-15.

<sup>188</sup> Chevron Refinery Modernization Project EIR, March 2014, Chapter 4.8, Greenhouse Gases; Available at: [http://chevronmodernization.com/wp-content/uploads/2014/03/4.8\\_Greenhouse-Gases.pdf](http://chevronmodernization.com/wp-content/uploads/2014/03/4.8_Greenhouse-Gases.pdf) and Chapter 5, Mitigation Measure Monitoring and Reporting Program; Available at: [https://s3.amazonaws.com/chevron/Final+EIR/5\\_MMRP.pdf](https://s3.amazonaws.com/chevron/Final+EIR/5_MMRP.pdf).

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator (Chevron). CURE-Fox-126
- The idling time of diesel-powered construction equipment shall be limited to 2 minutes rather than the 5 minutes in Mitigation Measure 4.10-1c, as required in the Chevron FEIR. Clear signage shall be provided for construction workers at all access points as required in the Chevron FEIR (Chevron). CURE-Fox-127
- All contractors shall be required to use equipment that meets CARB’s most recent certification standard for off-road heavy duty diesel engines (Chevron). CURE-Fox-128
- Reuse and recycle construction and demolition waste, including, but not limited to soil, vegetation, concrete, lumber, metal, and cardboard (Chevron). CURE-Fox-129
- Using alternative fueled, e.g., biodiesel, construction vehicles/equipment on at least 15% of the fleet (Chevron). CURE-Fox-130
- Consolidate truck deliveries. CURE-Fox-131
- Require a certified on-site inspector (licensed general contractor or similar) to confirm that the construction mitigation program is properly implemented. CURE-Fox-132
- Reduction in worker trips using carpooling or vans to transport construction workers from regional hubs. CURE-Fox-133

*Fourth*, no method to verify compliance is identified. To facilitate confirmation of compliance with the construction mitigation measures, and to verify the DEIR/EIS’s estimated construction emissions, the FEIR should include a comprehensive inventory of all off-road equipment that will be used to construct the Project. The inventory should include the horsepower rating, engine production year, hours of use, and amount and type of fuel used. At least 48 hours prior to the use of heavy-duty off-road equipment at a new construction site, the project representative shall provide the inspector and MBUAPCD with the construction timeline, including start date and name and phone number of project manager and on-site foreman. CURE-Fox-134

*Fifth*, the Efficiency Plan does not require any monitoring during construction to assure that the measures are implemented. The Efficiency Plan should require an on-site construction mitigation manager to oversee and enforce implementation of all mitigation measures and to proactively ensure that construction activities do not result in noise, odor, dust, or other complaints. The monitor should be a licensed and qualified professional (QEP, CIH, PE) who is CURE-Fox-135

continuously present at the construction site(s) to confirm that the Efficiency Plan is implemented. Further, annual tracking/reporting on implementation of all measures should be required via a compliance checklist or similar documentation.

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CURE-Fox-135  
cont.

Therefore, the Efficiency Plan fails to adequately mitigate the air quality impacts resulting from Project construction. The DEIR/EIS must be revised in accordance with these comments and recirculated before the Project can be lawfully approved under CEQA.

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CURE-Fox-136

## V. VIBRATION IMPACTS ARE SIGNIFICANT AND UNMITIGATED

Construction activities that use impact tools (e.g., pile drivers, drill rigs, bulldozers, jackhammers, vibratory rollers) can produce significant groundborne vibration that can damage nearby buildings and annoy sensitive receptors.<sup>189</sup> The Project will employ impact equipment within close proximity to residential, commercial, and historic receptors that can be annoyed and/or damaged by vibration. The DEIR/EIS evaluated vibration impacts using a methodology from FTA 2006<sup>190</sup> and summarized the results in DEIR/EIS Table 4.12-10 as a fait accompli.<sup>191</sup> However, the DEIR/EIS fails to present supporting calculations or cite to any specific pages from FTA 2006 or disclose input values used in the calculations. I was unable to reproduce the DEIR/EIS's vibration analysis. Thus, the DEIR/EIS fails as an informational document under CEQA as to vibration.

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CURE-Fox-137

This unsupported analysis concluded that vibration from pipeline installation using both compactors and pile drivers would result in significant building damage and annoyance from construction of the Castroville Pipeline and Source Water Pipeline, the new Desalinated Water Pipeline, and the new Transmission Main where trenchless construction methods are required.<sup>192</sup> The DEIR/EIS then imposes Mitigation Measures 4.15-1a and 4.12-3<sup>193</sup> to address construction-related vibration during pipeline installation and concludes that with mitigation, vibration impacts no longer would be significant.<sup>194</sup> These measures would restrict pile

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CURE-Fox-138  
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<sup>189</sup> DEIR/EIS, p. 4.12-42, pdf 1129.

<sup>190</sup> U.S. Department of Transportation, Transit Noise and Vibration Impact Assessment, Report FTA-VA-90-1003-06, May 2006; Available at: <https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/fta-noise-and-vibration-impact-assessment>.

<sup>191</sup> DEIR/EIS, Table 4.12-10, p. 4.12-43, pdf 1131.

<sup>192</sup> DEIR/EIS, Table 4.12-10, p. 4.12-43, pdf 1131 and p. 4.12-47, pdf 1136.

<sup>193</sup> DEIR/EIS, p. 4.12-48.

<sup>194</sup> DEIR/EIS, p. 4.12-62, pdf 1150.



driving to daytime hours, require vibration monitoring for the first 700 feet of pipeline construction and restrict the location of sheet piles, if necessary.<sup>195</sup>

However, the DEIR/EIS does not include any analysis to demonstrate that vibration impacts would be less than significant with the proposed mitigation. Further, the proposed mitigation is not adequate to reduce significant vibration impacts to a less than significant level, as asserted in the DEIR/EIS.<sup>196</sup> The DEIR/EIS proposes two mitigation measures to reduce significant vibration impacts to less than significant. These are both fundamentally flawed and not adequate to reduce vibration impacts to a less than significant level.

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cont.

### A. Avoidance Mitigation Measures

The DEIR/EIS proposes Mitigation Measure 4.15-1a: “Avoidance and Vibration Monitoring for Pipeline Installation in the Lapis Sand Mining Plant Historic District.”<sup>197</sup> It then refers the reader to Impact 4.15-1 in the Cultural and Paleontological Resources section for a description of this mitigation measure. However, this section does not propose any mitigation for Impact 4.15-1 (cause a substantial adverse change in significance of a historical resource) and thus proposes no mitigation.<sup>198</sup> Therefore, the DEIR/EIS contains no description of Mitigation Measure 4.15-1a and thus no explanation of what is encompassed in “avoidance and vibration monitoring for pipeline installation in the Lapis Sand Mining Plant Historic District”. In fact, this measure asserts, wrongly, that there are no historic resources within the direct or indirect APE of all project components. See Comment VI.

CURE-Fox-139

### B. Vibration Reduction Mitigation Measures

The DEIR/EIS next proposes a series of vibration reduction measures in Mitigation Measure 4.12-3.<sup>199</sup> These have many of the problems previously discussed elsewhere for other impacts (Comment I.A.2) because they are not practically enforceable. Further, the City of Monterey’s files include a “Vibration Control Plan for Monterey Pipeline Project,”<sup>200</sup> which identifies much more

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<sup>195</sup> DEIR/EIS, p. 4.12-45,

<sup>196</sup> DEIR/EIS, 4.12-48.

<sup>197</sup> DEIR/EIS, p. 4.12-48.

<sup>198</sup> DEIR/EIS, p. 4.15-45.

<sup>199</sup> DEIR/EIS, pp. 4.12-48/49.

<sup>200</sup> Response Dynamics, Vibration Control Plan for Monterey Pipeline Project, As Per Technical Specifications, Division 1: General Requirements, 01062: Environmental Requirements, November 14, 2016 (Vibration Control Plan) (Exhibit 1).



aggressive mitigation for vibration impacts than identified in the DEIR/EIS. These include:

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cont.

- Use construction practices that do not generate vibration levels at the closest sensitive land use above 0.1 in/se PPV (continuous or frequent intermittent level)
- Avoid use of impact sheet piles unless needed in situations in which the soil cannot be stabilized by standard methods, such as by use of manual shoring jacks;
- Sheet pile installation will be minimized and if needed, shall be conducted during daytime hours and access pits shall be located greater than 45 ft from standard structures and 80 feet from any listed historic resource
- Wet-saw cutting shall be used before excavations, to minimize the need for jackhammer use
- Whenever possible, the compaction requirement will be met by using a non-vibratory excavator-mounted compaction wheel, and a small smooth drum roller will be used for final compaction of asphalt base and asphalt concrete. If needed to meet compaction requirements, smaller vibratory rollers will be used to minimize vibration levels during repaving activities where needed to meet vibration standards
- Contractor will provide no less than 30 days notification prior to beginning improvements at all listed historic resources.

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In addition, the City's vibration monitoring plan includes the following requirements omitted from the DEIR/EIS:

- Monitor vibration at adjacent historic resources during compaction efforts in close vicinity of any listed historic resource. If measured vibration exceeds the threshold for historic structures, construction will be stopped and alternate methods of compaction used.
- If impact sheet pile installation is needed within 80 feet of any historical resource or within 80 feet of a historical district, vibration levels will be monitored to insure that the 0.12 in/sec PPV damage threshold is not exceeded. If vibration levels exceed the applicable threshold, alternate construction methods, such as vibratory pile drivers, will be used.
- The vibration monitoring will be conducted using calibrated, industry standard, Instantel Series portable seismograph units with redundant

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internal batteries and the measures will be achieved for the project duration.

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The City's Vibration Control Plan should replace the weak mitigation measures in the DEIR/EIS and the Plan itself should be included in full in an appendix to the DEIR/EIS.

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## VI. HISTORIC RESOURCES

The DEIR/EIS asserts in Impact 4.15-1 that construction will not cause an adverse impact to historical resources. This potential impact was narrowly evaluated only for historical resources listed in or eligible for listing in the California Register or historic properties listed in or eligible for listing in the National Register that are within the direct or indirect Area of Potential Impact of all project components.<sup>201</sup> However, CEQA Section 15064.5 defines "historical resources" much more broadly to include:

(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 4850 et seq.).

(2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

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(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code, § 5024.1, Title 14 CCR, Section 4852) including the following:

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<sup>201</sup> DEIR/EIS, p. 4.15-45.

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.

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cont.

The City of Monterey's Vibration Control Plan includes a list of historic architectural resources within the direct and indirect Area of Potential Impact (APE) of the Project. The list includes 24 historic structures that are close enough to be damaged from construction equipment induced vibration, based on the DEIR/EIS's analysis.<sup>202</sup> Thus, the Project would result in a significant adverse impact to historical resources. This is a new impact that was not disclosed or mitigated in the DEIR/EIS.

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<sup>202</sup> DEIR/EIS, Table 4.15-3, p. 4.15-43 and Figure 4.15-2.

# California Unions for Reliable Energy (CURE-Owens)

February 24, 2017

Linda Sobczynski  
Adams Broadwell Joseph & Cardozo  
601 Gateway Blvd., Suite 1000  
South San Francisco, CA 94080

Subject: Comments on the CalAm Monterey Peninsula Water Supply Project Draft Environmental Impact Report/Environmental Impact Statement

Dear Ms. Sobczynski,

This letter contains my comments on the Draft Environmental Impact Report / Environmental Impact Statement (DEIR/S) for the Monterey Peninsula Water Supply Project (Project or proposed Project).

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## Professional Background

I am a conservation biologist and environmental consultant with 25 years of professional experience in wildlife ecology and natural resource management, and since 1994 have maintained U.S. Fish and Wildlife (USFWS) Recovery permits for listed species under the federal Endangered Species Act (ESA). In addition to these I hold several California state and federal certifications for surveys and monitoring of protected and special status species. I have extensive experience monitoring and studying many species across several taxa, including reptiles and amphibians, passerines and raptors, and marine and terrestrial mammals. I have served as a biological resources expert on over a hundred projects involving water projects, urban and rural residential developments, and industrial scale energy projects; on private, public, and military lands; in California, the southwest, and Latin America.

The scope of work I have conducted as an independent environmental contractor, supervisor, and full time employee has included assisting clients to evaluate and achieve environmental compliance, restoration, mitigation, and research as related to biological resources; as well as submitting written reports and comments for such work. This work often included analyzing and reviewing actions pursuant to the California Environmental Quality Act CEQA and the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Clean Water Act, the Migratory Bird Treaty Act (MBTA), and other regulations, along with surveying for, and preparing Biological Technical Reports and Assessments. I have been

contracted as an environmental consultant and biologist by the USFWS, the USDA Forest Service, Ultrasystems, ICF, Helix Environmental, URS, AECOM, AMEC, GeomorphIS, DUDEK, ESA, Brian Smith and Associates, Tetra Tech, Bridgenet Bioacoustics, among others. I am also a core member of the National Sierra Club's Wildlife and Endangered Species Advisory Committee and Marine Advisory Committee.

My conservation and natural history research on endangered vertebrate species in Latin America has received various awards, including the National Geographic Research and Exploration Award and the National Commission for Scientific and Technological Research Award. My research has been featured on National Geographic Television and Discovery Channel documentaries, and I have served as an on- and off-camera technical consultant for wildlife documentaries filmed by National Geographic Television, Discovery Channel, BBC, and Animal Planet.

I have a Master's degree in Ecology and my professional experience includes college instruction at the college level since 1991. I was an adjunct instructor in Biology and Zoology at Palomar Community College and San Diego State University between 1991 and 1995, where I authored a laboratory text for Biology majors. In 1999-2000 I taught semester-long field courses in Tropical Ecology in Ecuador and the Galapagos for Boston University. In 2008 I was a Visiting Full Time Professor in Environmental Science and Botany at Imperial Valley College (IVC), and since 2012 have been teaching Environmental Science at IVC as an Adjunct Professor. At present I am completing a MS degree program in Environmental Studies from Green Mountain College, focusing on developing a Program in Environmental Science field study.

I have gained particular knowledge of the biological resource issues associated with the Project through my work on numerous other projects in California, including several years of surveys on coastal projects for pre-, ongoing, and post-construction activities. My comments are based upon first-hand observations, review of the environmental documents prepared for the Project, review of scientific literature pertaining to biological resources known to occur in and near the Project area, consultation with other biological resource experts, and the knowledge and experience I have acquired throughout my 25 years of working in the field of natural resources research and management.

Finally, pursuant the species discussions below, it is important to note that I have extensive experience conducting focused and protocol-level surveys for sensitive wildlife in various marine and terrestrial California ecosystems, including species of cetaceans, pinnipeds, eagles and other raptors (i.e. burrowing owls, Swainson's hawks), lizards, butterflies, frogs, plovers and terns, many nesting bird species protected under the Migratory Bird Treaty Act., and rare plants.

## I. PROJECT SCOPE

According to the DEIR/S the California-American Water Company's (CalAm or Applicant) proposed Project area extends about 18 miles from the from the town of Castroville in the north to the City of Carmel in the south (DEIR Figure ES-1)<sup>1</sup>, from the northern site of the proposed desalination plant to the western end of the associated proposed pipeline, and east approximately eight miles to the community of Hidden Hills. In addition to the construction of the desalination plant located on the Salinas River in unincorporated Monterey County northeast of the City of Marina, with related facilities that include pretreatment, reverse osmosis, and post-treatment systems; backwash supply and filtered water equalization tanks; chemical feed and storage facilities; brine storage and conveyance facilities; and other associated non-process facilities<sup>2</sup>. The Project's vast scope also includes development of ten subsurface slant wells in the northern coastal area of the City of Marina and extending offshore into the submerged lands of the Monterey Bay National Marine Sanctuary (MBNMS), approximately 21 miles of pipelines with associated pump stations and water storage tanks. The project also includes improvements to the existing Seaside Groundwater Basin (SGB) aquifer storage and recovery system facilities (ASR); including two new additional injection/extraction wells and various related pipelines.

## II. THE DEIR/S PROJECT FAILS TO ACKNOWLEDGE THE HIGH DEGREE OF IMPORTANCE OF THE PROJECT AREA TO REGIONAL CONSERVATION OF BIODIVERSITY

The area proposed for the Project is incredibly rich in biological terms, both in marine and terrestrial flora and fauna. The DEIR/S does mention how the MBNMS' biological marine communities host one of the highest levels of marine biodiversity in the world, including 27 federally listed threatened and endangered species. The report does not, emphasize the overall biological importance of the terrestrial habitats and species included in the Project footprint and buffer zone. Not only does Monterey County have some of the most diverse flora in California, the area has been identified as an important conservation "hot spot" due in part to its high endemism of species, and it has been described as one of the most essential coastal regions in the world in terms of conservation of biodiversity of plants and wildlife.<sup>3,4,5</sup> Biologists

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<sup>1</sup> DEIR/S ES-5

<sup>2</sup> DEIR/S ES-5

<sup>3</sup> Davis, E. B., Koo, M. S., Conroy, C., Patton, J. L., & Moritz, C. 2008. The California hotspots project: Identifying regions of rapid diversification of mammals. *Molecular Ecology*, 17(1), 120-138. doi:<http://dx.doi.org.jerome.stjohns.edu:81/10.1111/j.1365-294X.2007.03469.x>

<sup>4</sup> Keledjian, A. J., & Mesnick, S. 2013. The impacts of El Niño conditions on California sea lion (*Zalophus californianus*) fisheries interactions: Predicting spatial and temporal hotspots along the California coast. *Aquatic Mammals*, 39(3), 221-232. Retrieved from <http://search.proquest.com.jerome.stjohns.edu:81/docview/1439262501?accountid=14068>

<sup>5</sup> Maxwell, S. M. 2010. *Effectiveness of marine protected areas for top predators along the central west African and US west coasts* (Order No. 3421299). Available From ProQuest Dissertations & Theses Full

recognize the importance of thorough and enlightened management conservation strategies in the region, especially where coastal development pressures are increasing, stating that for this area’s rare habitats

“Habitat conversion will clearly outpace expansion of formal protected-area networks, and conservationists must augment this traditional strategy with new approaches to sustain the Mediterranean biota.”<sup>6</sup>

This statement emphasizes the importance of protections prescribed and implemented in areas exactly such as those proposed for development by this Project. Historical and recent data reflect the biological sensitivity of this area for both aquatic and terrestrial habitats and species. The U.S. Fish and Wildlife Service (2013)<sup>7</sup> reports no fewer than 35 listed threatened or endangered species that “occur within or may be affected by projects in the area”. In terms of terrestrial species only, the California Natural Diversity Database (CNDDDB) denotes within the Project area the occurrence of 17 Endangered Species Act (ESA) listed species, 10 California Endangered Species Act (CESA) listed species, and twenty-four Species of Special Concern. As such the DEIR/S should emphasize the importance, *and resultant fragility*, of the ecosystems, habitats, and sensitive species populations that are impacted by this project and incorporate this reality in impact analyses and mitigation measures discussions, especially in consideration of cumulative impacts.

### III. THE PROJECT PROPOSAL FAILS TO COMPLY WITH LOCAL REGIONAL LAND USE PLAN(S)

This high degree of importance of the local biota to conservation is reflected in how many habitat management and conservation plans already exist in the region; including habitat and species protections within the City of Marina General Plan, the City of Marina Local Coastal Land Use Plan, the Marine Municipal Code, the Ford Od Dunes State Park General Plan and EIR, the Monterey City Code, the Seaside General Plan, the Seaside Municipal Code, Carmel Valley Maser Plan, Greater Monterey Peninsula Area Plan, Monterey County Code, Monterey County General Plan, North County Land Use Plan, For Ord Reuse Plan.<sup>8</sup>

In the DEIR/S’ review (4.6.2.3) of these applicable regional and local land use plans, the authors identify where they believe the Project may be inconsistent with any given plan. They then state that, “Where the analysis concludes the proposed project would be potentially

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Text; ProQuest Dissertations & Theses Global. (751629118). Retrieved from <http://search.proquest.com.jerome.stjohns.edu:81/docview/751629118?accountid=14068>

<sup>6</sup> Cox, R. L., & Underwood, E. C. 2011. The importance of conserving biodiversity outside of protected areas in Mediterranean ecosystems. *PLoS One*, 6(1)

doi:<http://dx.doi.org.jerome.stjohns.edu:81/10.1371/journal.pone.0014508>

<sup>7</sup> USFWS. 2013. Endangered Species Division, Letter to Michelle Giolli. (Document Number 130408113454). 8 April. TS.

<sup>8</sup> DEIR/S table 4.6-4



inconsistent with the applicable plan, policy, or regulation, the reader is referred to Section 4.6.5, Direct and Indirect Effects of the Proposed Project. In that subsection, the significance of the potential conflict is evaluated. Where the effect of the potential conflict would be significant, feasible mitigation is identified to resolve or minimize that conflict.”<sup>9</sup>

Despite this claim, the DEIR/S does not adequately address each and every potential conflict (“inconsistency”) with these plans in future discussions by way of its proposed mitigation measures, thus leaving insufficient information regarding how impacts will be minimized. Additionally, some Plans intend for most impacts not simply to be minimized but avoided altogether, with very specific standards set regarding mitigation, success criteria, if and when it must occur prior to issuance of a development permit.

For example: The City of Marina Local Coastal Land Use Plan (CMLCLUP) has very specific policies regarding potential impacts to sensitive species and habitats, and any mitigation coinciding with such. Specifically, it states,

*“Much of the Marina Coastal Zone either is environmentally sensitive because of the presence of rare and endangered species or has the potential for supporting a rare and endangered species. In Marina, environmentally sensitive habitats include, but are not limited to area of undisturbed native dune vegetation [and other wetland habitats].... The precise limits of such habitats shall be confirmed by professional on-site evaluation at the time development is proposed and before a Coastal Development permit is issued. In addition to indicating the location of primary habitat areas for rare and endangered plant and animal species (which are to be protected), the evaluation shall address protective measures, such as setbacks, restoration of habitat areas where natural dune landform remains, and limitations to uses in secondary and/or support areas which are necessary to the health of the identified primary habitat area. **Because of the variety of plants and animals involved, the secondary or support area will have to be individually identified and specifically protected on a site-by-site or case-by-case basis.** For this reason, it is important that the City establish a list of biologists qualified to prepare habitat evaluation reports within the City’s Coastal Zone. Developers may then choose specialists from these lists. **In the case of wetlands, the biologists will have to determine the extent and landward boundary of the wetland. The biologist will then establish a 100 foot setback line from the boundary of the wetland.** This entire area, pond, wetland and setback, will be subject to Coastal Development Permit requirements as well as being in the Coastal Permit Appeal Zone. **In the case of dune habitat areas, the Environmental Analysis Report prepared for this plan identified a number of plant and animal species which are locally or generally rare, endangered, threatened, or are necessary for the survival of an endangered species. The habitats of these species, collectively referred to throughout this plan as “rare and endangered”, warrant protection as environmentally sensitive...the list***

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<sup>9</sup> Ibid, 4.6-99

**presently includes:**

1. *Smith's Blue Butterfly (Shijimiaeooides enoptes smithi)*
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 fasciculate)*
8. *Coast (sand-loving) Wallflower (Erysimum ammophilum)*
9. *Menzies' Wallflower (Erysimum menziesii)*
10. *Coastal Dunes Milk Vetch (Astragalus tener var. titi)*
11. *Dune (Sand) 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*.

*Minimum Habitat Mitigation/Restoration Plan Requirements*

**All direct and potential impacts to primary and secondary habitats shall be fully mitigated.** Appropriate acreage replacement/restoration ratios for any unavoidable direct impacts to habitat areas and buffer areas shall be applied to fully protect identified habitat. **Habitat restoration plans shall be prepared and approved prior to issuance of any grading or building permits.**

*Habitat Restoration Plan Requirement*

All habitat restoration, enhancement and/or buffering plans shall be prepared by a qualified biologist and where appropriate, with the assistance of a qualified hydrologist. Plans shall be developed in consultation with the Department of Fish and Game and the U.S. Fish and Wildlife Service in cases where these agencies have jurisdiction. The plans and the work encompassed in the plans shall be authorized by a coastal development permit. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the City. No changes to the approved final plans shall occur without a City-approved amendment.

**The elements of such plan shall at a minimum include:**

- a. A detailed site plan of the entire habitat and buffer area, with a topographic base map;



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b. A baseline ecological assessment of the habitat and buffer area, including but not limited to, assessment of biological, physical and chemical criteria for the area;

**c. The goals, objectives, performance standards and success criteria for the site, including specific coverage and health standards for any areas to be planted. At a minimum, explicit performance standards for vegetation, hydrology, sedimentation, water quality and wildlife and a clear schedule and procedure for determining whether they are met shall be provided. Any such performance standards shall include identification of minimum goals for each herbaceous species, by percentage of total planting and by percentage of total cover when defined success criteria are met; and specification of the number of years active maintenance and monitoring will continue once success criteria area met. All performance standards shall state in quantifiable terms the level and extent of the attributes necessary to reach the goals and objectives. Sustainability of the attributes shall be a part of every standard. Each performance standard shall identify:**

- 1. The attribute to be achieved;**
- 2. The condition or level that defines success; and**
- 3. The period over which success must be sustained.**

**The performance standards must be specific to provide for the assessment of habitat performance over time through the measurement of habitat attributes and functions including, but not limited to, wetland vegetation, hydrology and wildlife abundance.**

d. The final design, installation and management methods that will used to ensure the mitigation site achieves the defined goals, objectives and performance;

e. Provision for the full restoration of any impacts that are identified as temporary necessary to install the restoration or enhancement elements;

f. Provisions for submittal: Within 30 days of completion of initial (and subsequent phases, if any of) restoration work, of “as built” plans demonstrating that the restoration and enhancement has been established in accordance with the approved design and installation methods;

**g. Provision for a detailed monitoring program to include, at a minimum, provision for assessing the initial biological and ecological status of the site. The assessment shall include an analysis of the attributes that will be monitored pursuant to the program, with a description of the methods for making that evaluation;**

h. Provision to ensure that the site will be promptly remediated if the monitoring results indicate that the site does not meet the goals, objectives and performance standards identified in the approved mitigation program and provisions for such remediation. If the

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*final report indicated that the mitigation project has been unsuccessful, in part or in whole, based on the approved performance standards, the applicant shall submit a revised or supplemental mitigation program to compensate for those portions of the original program which did not meet the approved performance standards. Provisions for submission of annual reports of monitoring results to the City for the first five years after all restoration and maintenance activities have concluded (including but not limited to watering and weeding, unless weeding is part of an ongoing long-term maintenance plan) and periodic monitoring after that time, beginning that first year after submission of the “as-built” assessment. Each report shall also include a “Performance Evaluation” section where information and results from the monitoring program are used to evaluate the status of the project in relation to the performance standards. [Resolution No. 2001-118 (October 16, 2001); approved by CCC November 14, 2001]”<sup>10</sup> (bold emphasis only added).*

The DEIR/S notes that the Project is “potentially inconsistent” with the CMLCLUP by way of these project components: the installation of the subsurface slant wells, source water pipeline, new desalinated water pipeline, and new transmission main, and maintenance of the subsurface slant wells, since these developments would occur within special status species habitats, including wetlands and including those defined as primary and secondary habitat in the City of Marina LCLUP. The DEIR/S goes on to say these inconsistencies are addressed by way of mitigation measures that are “provided to reduce or avoid impacts on special-status species habitats. However, as described in Impact 4.6-4, construction of these facilities, and maintenance of the subsurface slant wells, would be inconsistent with the City of Marina LCLUP, a significant and unavoidable impact.”<sup>11</sup>

The DEIR/S’s mitigation measures provided may indeed reduce some of the impacts on special-status species and habitats, however they are not inclusive or detailed enough to demonstrate that all direct, indirect, and cumulative impacts can and will be reduced to below significant in a manner consistent with the City Plan. Additionally, the DEIR/S proposed mitigation measures fail to adequately comply with, or fulfill, the City of Marina’s minimum habitat mitigation/restoration plan requirements as described above, requirements approved and certified by the City Council and the California Coastal Commission<sup>12</sup>. The detailed standards iterated above (items a – h) require mitigation protocols be prepared according to standards with vastly greater detail than the DEIR/S provides in its mitigation measures. The “minimal requirements” drafted by the City of Marina must be described in detail according to the City’s (and possibly other) land use plans prior to any development permitting, not deferred

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<sup>10</sup> City of Marina Local Coastal Program Volume II Implementation Plan, 2013. pp 5-7. Retrieved from: <http://www.ci.marina.ca.us/DocumentCenter/View/4491>

<sup>11</sup> DEIR/S p. 4.6-104

<sup>12</sup> City of Marina Local Coastal Program Volume II Implementation Plan, 2013. pp 5-7. Retrieved from: <http://www.ci.marina.ca.us/DocumentCenter/View/4491>

until a later date after permit approval as the DEIR/S seeks to do. The Applicant does not provide data necessary to develop such detailed mitigation protocols, including a lack of wetland delineation report<sup>13</sup>, lack of reporting of protocol or focused surveys.

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cont.

**a. Sensitive Species Highlighted in the City of Marina’s LCLUP Are Not Analyzed in the DEIR/S**

The DEIR/S fails to analyze potential impacts to some species highlighted as of importance and required for minimum in the Coastal Land Use Plan’s requirements for mitigation with their district, namely, the globose dune beetle (*Coelus globosus*), Salinas kangaroo rat (*Dipodomys heermanni goldmani*), seaside painted cup (*Castilleja latifolia ssp. Latifolia*), and Eastwood’s Ericameria (*Ericameria fasciculata*). The Applicant’s review should include analysis of the potential for impacts to these species. These species are present in the region covered by the City’s Plan, therefore the burden is on the Applicant to explain why they are not necessary for consideration, including current ground-truthed evidence that potentially impacted habitat for these species does not exist within any of the Project’s footprint. If such habitat does exist, the Applicant must present data and reports of recent focused surveys (not merely reconnaissance surveys or habitat assessments) that demonstrate that these species are not present, along with a record in the database that shows them to be consistently absent in focused surveys for many years.

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Therefore the DEIR/S fails to provide essential data necessary to analyze the degree of significant biological impacts imposed by the Project, and thus how to adequately mitigate them. The Project’s lack of compliance with the City of Marina’s land conservation plan is not only of issue for state and federal statutory fulfillment, it represents a potential and serious precedent that could serve to diminish community efforts for conservation of biodiversity overall. Regardless of how much effort it may take for the Project Applicant to script specific plans that satisfy compliance, community plans like that of the City of Marina are agreements crafted, deliberated upon, and certified by many authorities and scientific experts throughout a long period of time, and thus have a weighty investment of deliberation whose purpose is to drive the actions and decisions for permitting of projects just like that of the one proposed in this DEIR/S. For this reason alone this project should be required to provide the necessary detail in its mitigation measures to meet the standards set by the City of Marina’s land use plan detailed above, and all other land use and conservation plants respective to the Project sites.

The DEIR/S correctly states that the City of Marina has jurisdiction via their Local Coastal Program and must permit development proposed in the Coastal Zone, where the CCC retains jurisdiction over appeals<sup>14</sup>. Therefore permission from the City to move forward for coastal

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<sup>13</sup> DEIR/S p. 4.6-35.

<sup>14</sup> DEIR/S 3-65

development is required, further reason for the Applicant to commit to fulfilling consistency with the City's Land Use Plan.

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#### **IV. THE DEIR/S FAILS TO ADEQUATELY SURVEY AND ANALYZE THE POTENTIAL IMPACT OF THE PROJECT ON TERRESTRIAL SENSITIVE SPECIES**

##### **a. Protocol and Focused Surveys Are Necessary To Establish Existing Conditions and Sufficient Mitigation Measures and Standards**

Studies in the Monterey Bay area show not only abundance but presence of coastal species of various taxa can be highly variable from year to year based upon factors such as drought, El Niño conditions, and related prey-predator cycles.<sup>15</sup> And yet, instead of conducting project level, protocol or focused surveys for the majority of the many sensitive wildlife species potentially present onsite as should have occurred, the DEIR/S relies largely on databases and outdated reports (some over 10 years old) not only to predict presence/absence of species, but for the degree to which such a predicted species' status may be mitigated if and when Project impacts to the species are deemed significant based upon this prediction. Such predictions are not supported by actual, ground-truthed observations made by biologists who specialize in detecting the species for which protocol surveys have been required due to their protected status and resultant sensitivity to harassment.

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For federally endangered and threatened species, protocol surveys are conducted by permitted biologists as they have the proven experience (as verified by USFWS, the permitting agency) to be able to detect the species and other essential characteristics important to individual and subpopulations assessments, including density, behavioral factors, breeding status, etc. Permitted biologists not only have the responsibility of formally reporting all such observations to USFWS, but also to insure harassment of species during surveys is minimized by default of their knowledge and training for the species in question.

The DEIR/S, however, does not recognize this important and widely accepted aspect of protected species surveys, and made little attempt to use focused surveys to determine the most current site-specific status threatened or endangered wildlife species on or near the site. It instead referred to habitat assessments to indicate, via anecdotal observations or assumptions from habitat onsite, to make protected species status determinations – and resultant creations of mitigation measures. This is a clear oversight in the DEIR/S, as species presence/ absence, and indications of 'likelihood to occur' are guidelines intended to assist consultants in determining where site-specific, protocol level surveys are warranted in order to determine essential details required for adequate mitigation analyses, such as current species

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<sup>15</sup> Benson, S. R. 2002. *Ecosystem studies of marine mammals and seabirds in Monterey bay, California, 1996--1999* (Order No. 1408777). Available From ProQuest Dissertations & Theses Full Text; ProQuest Dissertations & Theses Global.



density, nesting or breeding status, species richness, and all of the other components that are part of a protocol survey and cannot be completely derived from any given database.

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**b. Databases and Reconnaissance Level Surveys (habitat assessments) Do Not Provide a Complete Assessment to Determine Baseline, Existing Conditions for the Project**

Using databases is a standard part of gathering site-specific data, but it cannot replace focused or protocol surveys in its specificity or accuracy. For example, the CNDDDB is relied upon heavily by the DEIR/S to make species impact determinations. However, the CNDDDB is limited in its ability to predict species currently present at any given locale; instead it presents at best a conservative description of what may or may not be present on site. Many species sightings are not actually reported on the public CNDDDB. For instance, according to the California Department of Fish and Wildlife CNDDDB coordinator, for most birds the CNDDDB keeps track of and maps only those occurrences that can be associated with “evidence of nesting”. Observations of flyovers or foraging are generally not mapped into CNDDDB as an ‘Element Occurrence’, the standard mapping unit, based on NatureServe natural heritage program methodology.<sup>16</sup> The CNDDDB biologists state that the database represents summaries of species occurrences; not individual detections. “Given limited resources to map submissions, the CNDDDB tries a best to map occurrences that relate to an important aspect of life history.” (*pers. comm*, P. McIntyre, CDFW, June 6, 2015).

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As importantly, CNDDDB records are voluntarily reported and only exist for locations that have been surveyed to varying degrees. As a result, the lack of CNDDDB records, or records from any other database, does not mean a species is absent. To reinforce this fact the California Department of Fish and Wildlife posts a disclaimer on its CNDDDB website:

*“We work very hard to keep the CNDDDB and the Spotted Owl Database as current and up-to-date as possible given our capabilities and resources. However, we cannot and do not portray the CNDDDB as an exhaustive and comprehensive inventory of all rare species and natural communities statewide. Field verification for the presence or absence of sensitive species will always be an important obligation of our customers.”<sup>17</sup>*

Similarly, the California Native Plant Society’s Inventory of Rare and Endangered Species states the following: “A reminder: Species not recorded for a given area may nonetheless be present, especially where favorable conditions occur.”<sup>18</sup> The DEIR/S repeatedly mentions that they conducted “botanical” surveys. However, when focused surveys for sensitive species are conducted, they are termed rare plants species, yet this term is not used in the Report, and numbers (even estimates) of abundance, density, individual numbers of rare plants are not

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<sup>16</sup> <http://www.natureserve.org/conservation-tools/standards-methods>. (Retrieved June 18, 2015)

<sup>17</sup> [http://www.dfg.ca.gov/biogeodata/cnddb/cnddb\\_info.asp](http://www.dfg.ca.gov/biogeodata/cnddb/cnddb_info.asp) (Retrieved June 18, 2015)

<sup>18</sup> <https://archive.is/northcoastcnps.org> (Retrieved June 20, 2015)



provided or mapped in any documents with the DEIR/S. Once again the Report is lacking in specificity of on-the-ground data for protected species.

The DEIR/S does, however, recognize the difference between habitat assessments and focused, or protocol-level surveys where it states,

*“Reconnaissance-level field surveys are conducted for the purpose of generally describing the vegetation communities present within a project area and assessing the potential for special-status species to occur within the project area plus a 50-foot buffer (i.e., the survey area). Focused surveys are conducted to determine the presence or absence of a certain species or habitat type. Protocol level surveys are a type of focused survey using specific survey protocol as defined by a regulatory agency”.*<sup>19</sup>

The DEIR/S also acknowledges that reviewer comments to the previous DEIR for this Project (released in 2015) indicated that protocol surveys should have been included in the Draft EIR, and claims that such surveys have been completed and the “results are reflected in discussions of special status species and critical habitat in sections 4.6.1.4 and 4.6.1.10”<sup>20</sup>. Also, section 4.6.1.2 states that “The impact analysis described in this section [on terrestrial biological resources] is based on special-status species observations available to Environmental Science Associates (ESA) as of June 20, 2016.” However, observations or data from ESA surveys are not made available anywhere in the DEIR/S or its Appendices. There is one citation for ESA 2016 that lists GIS shapefiles. All other ESA citations are dated between 2010 and 2014 but only cite reconnaissance level survey shapefiles, a memorandum about the test well sites surveys, and an email about a rare plant survey in 2010. Nowhere is there a thorough, written biological technical report made available that describes in detail the results of project-wide, or facility-wide focused or protocol level surveys of special status plant or animal species.

The DEIR/S refers to sections 4.6.1.4 and 4.6.1.10 for details on the purported additional surveys. 4.6.1.4 discusses vegetation communities and habitat mapping surveys as follows: “This mapping was conducted by AECOM between 2013 and 2015 in support of federal and state regulatory permit applications (AECOM, 2016). ESA verified this survey data in the field in 2016.” Maps are provided that show habitat types throughout the Project, citing AECOM 2016, which it cited as “GIS shapefiles from biological surveys conducted by URS within the Monterey Peninsula Water Supply Project area”<sup>21</sup>. It is unclear what exactly is meant by the statement that ESA “verified” the survey data in the field in 2016; in fact it is impossible to analyze since no biological technical report (BTR) was presented for this entire DEIR/S, there is no citation for this 2016 reference cited, and the citation of shapefiles from “AECOM 2016” was also not provided for review in any Appendix. This omission will be discussed further below.

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<sup>19</sup> DEIR/S 4.6-5

<sup>20</sup> *Ibid* 4.6-1

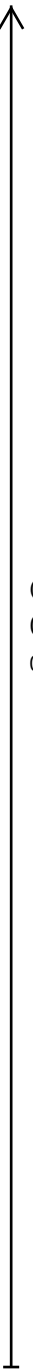
<sup>21</sup> DEIR/S 4.6-262

Section 4.6.1.10 discusses sensitive terrestrial biological resources in the study area, and states that the potential for terrestrial biological resources to occur at each facility in the study area are based upon databases, “site-specific **reconnaissance level (habitat assessments) of the project area, and focused and protocol-level surveys of special-status species at select facility locations**”<sup>22</sup>. However, a search for “focused” level surveys reveals only vague inferences, again relying on the same cited shapefiles for botanical surveys (not even “rare plant surveys” specifically) for sections, not all, of the Project; i.e. “focused botanical surveys of the project area [were conducted] along General Jim Moore Boulevard (ESA, 2016; AECOM, 2016)”;<sup>23</sup> and “coast horned lizard has been observed during focused surveys of the Terminal Reservoir site (AECOM, 2016)”<sup>24</sup>.

Mention of protocol level surveys in the DEIR/S are in the same preliminary section where it states that such surveys were conducted by AECOM, cites the same shapefile citations noted above, but provides no further evidence or detailed discussion regarding the results of any Project-wide rare plant surveys or habitat-wide special status animal surveys, and despite stating that “new” habitats were assessed and measured including wetlands, the DEIR/S claims that no wetland delineation report is available.

Not having, or providing for review, a formal wetland delineation report is an oversight that prevents the reviewer to adequately assess analyses, or subsequent mitigation, of any and all wetlands for this Project. Its absence may also preclude issuance of a 404 permit since this Project will impact waters of the U.S. for which a permit it required, as the DEIR/S states “The proposed project has potential to result in fill of wetlands or other waters regulated under Section 404 of the CWA or activities in, over, or under navigable waters regulated under Section 10 of the Rivers and Harbors Act, which would be inconsistent with each of these regulations.”<sup>25</sup>

Upon review of the entire discussion of terrestrial biological resources in the DEIR/S, it is apparent that every mention of focused, protocol, and most reconnaissance surveys for sensitive flora (not just habitat types) and fauna conducted for this Report hinge mostly upon data either not cited at all, vaguely alluded to by mentioning reports that covered only small sections of this Project footprint - some such report being 10 – 11 years old – and the citation of AECOM shapefiles, “AECOM 2016”. In fact, “AECOM 2016” is cited at least 50 times throughout the document. Yet no report of data on individual species accounts are provided. For such a large, well-funded, and public Project that has had ample opportunity to contract biological specialists to conduct protocol level surveys for threatened, endangered, and Special Concern species, this is an overt oversight.



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<sup>22</sup> *Ibid.* 4.6-70

<sup>23</sup> *Ibid.* 4.6-82

<sup>24</sup> *Ibid.* 4.6-85

<sup>25</sup> DEIR/S 4.6-3

**c. The DEIR/S Lacks the Necessary Data to Assess Existing Conditions of the Project**

The lack of focused and protocol surveys discussed above prevents the public reviewer of the DEIR/S from thoroughly assessing exactly what sensitive species are present throughout the Project site, and in what density or abundance. As noted, reconnaissance surveys, databases, and historic records are an important part of determining whether or not the habitat for special status species exists on site. However, they do not, and cannot, determine how many individuals of a species may be present, when, where, in what density, status of breeding and nesting, life stage (i.e. larvae or adult), and other important details that are necessary for developing an accurate impact assessment and, where necessary, developing appropriate standards and details for impact mitigation, including the type, size, and location of mitigation parcels designated to offset habitat and impacts that could result in ‘take’ for species listed under the federal and state Endangered Species Act.

A citation of a shapefile (a geospatial vector data format for GIS software, such as “AECOM 2016”) does not provide this type of necessary information the same as a standard Biological Technical Report (BTR) can. A standard BTR provides thorough data on protocol surveys required for listed species, and includes details on how the surveys were conducted so that others can determine if they were done adequately to detect species as prescribed by the lead wildlife permitting agencies. Dates, times, weather conditions, duration, and other important information regarding behavior, breeding status, exact location, territory use, etc. are all types of information that are required for preparation of site-specific mitigation measures, protocols, plans, including selection of specific parcels for mitigation banking or habitat offset.

The necessity of this type of data is underscored by the DEIR/S own claim that “the definition of a substantial [impact analyses] as used in the significance criteria above has three principal factors: magnitude or intensity and duration of the impact; rarity and context of the affected resource; and susceptibility of the affected resource to disturbance”<sup>26</sup> and, “The evaluation of significance must also consider the interrelationship of these three factors. **For example, a relatively small-magnitude impact on a state- or federally listed species could be considered significant if the species is rare and highly susceptible to disturbance**”.<sup>27</sup> This is true not only for determining significance of impact, but degree of significance in respect to what mitigation measures would be adequate. One cannot completely determine factors such as context and susceptibility of an entire population regarding impacts of the development of the Project if one does not know whether there may be one, ten, one hundred, or one thousand individuals of a special status species present. It is also impossible to determine, without such data, if any given mitigation measure can specifically reduce the Project impacts to below significant when the measure is based upon the assumption that the protected

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<sup>26</sup> DEIR/S 4.6-121

<sup>27</sup> DEIR/S 4.6-121

species is present, as opposed to how many may be present, and under what conditions they are present as iterated above.

Focused and protocol surveys are key for conservation and mitigation analyses and subject to agency oversight; the California and federal Fish and Wildlife Agencies require them for development permits where the habitat of protected species is at risk by a given project. Therefore, focused and protocol survey data are essential not only for adequate CEQA review of the analysis of potential impacts, such surveys are required for section 7 and section 10 consultation under the ESA, and will be necessary for this Project as it has the potential to impact ESA listed species and definitely their habitat. Focused and protocol surveys are conducted by biologists who have extensive and otherwise appropriate experience enabling them to observe and record all detectable individuals of the species in question, and are regulated by the agencies with certifications and permits. Reconnaissance surveys make observations at the habitat level, and any individual species observed are done so incidentally, not with a thorough procedure for which training and oversight (via project and annual reports) are required as is the case with biologists who hold ESA recovery permits (and certifications) for specific rare, threatened, and endangered species.

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**d. Incomplete Assessments of Special Status Species and Deferred Mitigation Contingent on Such Assessments and Surveys. This Results in an Incomplete Impact Analyses.**

The DEIR/S states that for Mitigation Measure 4.6-1e: Avoidance and Minimization Measures for Special-status Plants that prior to construction “CalAm or its contractor shall conduct focused botanical survey(s) for special-status plants in all potentially suitable habitat during the appropriate blooming period for each species. Special-status plant species are widespread throughout the project area, and could occur at the following facility locations subsurface slant well site, MPWSP Desalination Plant site, ASR-5 and ASR-6 Wells sites, Terminal Reservoir site, and along the Source Water Pipeline, new Desalinated Water Pipeline and new Desalinated Water Pipeline Optional Alignment, the Castroville Pipeline and Castroville Pipeline Optional Alignments, new Transmission Main and new Transmission Main Optional Alignment, ASR Conveyance Pipeline, ASR Pump-to-Waste Pipeline, and ASR Recirculation Pipeline, Ryan Ranch-Bishop Interconnection Improvements, and Main System-Hidden Hills Interconnection Improvements, and at proposed staging areas. The results of these final surveys shall be combined with previous survey results to produce habitat maps showing habitat where the special status plants have been observed during either of the focused botanical surveys conducted for each facility site.” Although future surveys as described are indeed helpful, what is missing are detailed accounts of the focused surveys already conducted.

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Simply stating that surveys revealing potential presence of a sensitive species in a particular habitat provides only a partial picture of what is necessary to develop baseline mitigation plans. For instance, the DEIR/S mitigation measures briefly describe rare plant relocation and/or avoidance as the foundation of impact reduction. However, a mitigation protocol that is effective for one to a dozen individual plants on a given site may be very

different, and thus ineffective, for a site that hosts a special status species that has several hundred or more individuals on the same size site. Whereas on a site with very low occurrence and density of rare plants avoidance of these plants may be feasible, a site with high rare plant density and occurrence may well require additional mitigation measures, including specific restoration or other kinds of compensatory mitigation, not detailed by this DEIR/S' impact reduction analyses, including things like requiring significant alteration or movement of soils, roads, access to roads, impacts to ephemeral ponds and puddles, etc. Appropriate timing of such measures is specific to accurate impact analyses as well, since, for example, some species are blooming while others are still dormant or not yet merged, contained mostly in soils and undetectable at certain times by even the most attentive onsite botanist conducting last minute pre-construction surveys as is typical in many such projects. In summary, simply assuming presence of a special status species is clearly inadequate for mitigation planning that is species and site appropriate. Not having such accuracy in mitigation measures precludes the Applicant from correctly claiming that such measures will indeed reduce potential impacts to below significant.

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Such information is necessary to draft appropriate mitigation measures **specific to species, and to each site, including parcels set aside for habitat loss compensation**. Such has not been provided in this DEIR/S, therefore it cannot be determined if proposed mitigation measures will effectively reduce potential impacts for rare plants to below significant, or if proposed measures are truly feasible, efficacious, and within the capabilities or expertise of the staff on hand to carry them out.

**e. DEIR/S Biological Resource Maps are Inadequate for Determining Existing Conditions Regarding Special Status Species Calling Attention to Need for Focused and Protocol Surveys**

The DEIR/S provides maps (figures 4.6-2a, 2b, 2c) that are of very limited utility regarding the existing status of sensitive species for the Project. The maps show circles and polygons to indicate presence of CNDDDB listed plants and animals, however the "occurrences" do not indicate which animals or plant species correspond to which circle or polygon, therefore one can only determine from these maps that some unspecified species from the long list on the map legend was recorded for a given area on the Project. To enable thorough review of the existing site conditions, the Applicant should present maps of known locations within each Project site of each of these sensitive species, labeled appropriately (especially for those for which mitigation is deemed required), including representations of how many individuals occur in any given location. At this point it should be obvious that focused and protocol level surveys of species are necessary to create such maps that are current for this Project footprint.

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## V. THE DEIR/S FAILS TO ADEQUATELY ANALYZE AND MITIGATE IMPACTS ON SNOWY PLOVER

### a. Western Snowy Plover Background and Relative Status for the Project Region

Historically, thousands of snowy plovers nested along the California coast, however by the late 1970s the snowy plover had disappeared from significant parts of its coastal California breeding range, and biologists estimate the breeding population along the coast has now dwindled to fewer than 1,500 birds.<sup>28, 29, 30</sup> The Pacific Coast population of the western snowy plover (*Charadrius nivosus nivosus*) was federally listed as Threatened in 1993,<sup>31</sup> and is a Bird Species of Special Concern in California. A Recovery Plan for the species was finally published in 2007, and a Final Rule for the revised designation of critical habitat was published in June 2012.<sup>32</sup>

### b. Threats and Types of Impacts to the Snowy Plover

The primary threats to Pacific coast population of the western snowy plover are decreased habitat availability and anthropogenic disturbances to habitat.<sup>33</sup> Specific causes and effects vary geographically, but include fragmentation, degradation, and loss of habitat due to encroachment, habitat erosion, expansion of urban development and increased recreational beach use.<sup>34</sup> Increasingly, the impacts of climate change and resultant sea level rise are contributing to the cumulative impacts on populations. These adverse effects often are exacerbated by various anthropogenic influences that benefit or attract predators of the snowy plover.<sup>35</sup>

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<sup>28</sup> WesternSnowyPlover.org. n.d. Western Snowy Plover Natural History and Population Trends. *Adapted from U.S. Fish and Wildlife Western Snowy Plover Pacific Coast Population Draft Recovery Plan*, May 2001. Available at: <[http://www.westernsnowyplover.org/pdfs/plover\\_natural\\_history.pdf](http://www.westernsnowyplover.org/pdfs/plover_natural_history.pdf)> Retrieved June 20 2015. See also Thomas SM, JE Lyons, BA Andres, EE T-Smith, E Palacios, JF Cavitt, JA Royle, SD Fellows, K Maty, WH Howe, E Mellink, S Melvin, T Zimmerman. 2012. Population Size of Snowy Plovers Breeding in North America. *Waterbirds* 35(1):1-14.

<sup>29</sup> *Ibid.*

<sup>30</sup> Morrison RIG, BJ McCaffery, RE Gill, SK Skagen, SL Jones, GW Page, CL Gratto-Trevor, BA Andres. 2006. Population estimates of North American shorebirds. *Wader Study Group Bulletin* 111:66-84.

<sup>31</sup> <http://www.fws.gov/arcata/es/birds/WSP/documents/1993Mar5%20Determination%20of%20Threatened%20Status%20for%20WSP%2058%20FR%2012864.pdf> (Retrieved June 20, 2015).

<sup>32</sup> [http://www.fws.gov/arcata/es/birds/WSP/documents/WSPCH\\_June2012/6-19-2012\\_FR\\_rule.pdf](http://www.fws.gov/arcata/es/birds/WSP/documents/WSPCH_June2012/6-19-2012_FR_rule.pdf) (Retrieved June 21, 2015)

<sup>33</sup> MacDonald B, Longcore, T Dark, S. 2010. Habitat suitability modeling for Western Snowy Plover in Central California. The Urban Wildlands Group, Los Angeles, California, 129 pp. See also United States Fish and Wildlife Service. 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). Sacramento, California. xiv + 751.

<sup>34</sup> United States Fish and Wildlife Service. 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). Sacramento, California. xiv + 751.

<sup>35</sup> *Ibid.*



The Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (Recovery Plan) specifically identifies habitat degradation caused by **human disturbance, urban development, introduced species** such as beachgrass, and expanding predator populations as resulting in significant decline in active nesting areas and in the size of the breeding and wintering populations, **while contributing to poorly analyzed, cumulative type of habitat loss for western snowy plovers.**<sup>36</sup> **In addition to causing direct loss of habitat, urban development causes a suite of other direct and indirect impacts that adversely affect plovers.** For example, increased development increases human use of the beach, thereby increasing disturbance to plovers.<sup>37</sup> In addition, the value of breeding and wintering habitat is diminished by increased levels of illumination at night (e.g., for parking, construction activities); increased sound and vibration levels; increased attraction of predators due to increased sources of garbage and other anthropogenic food attractants, and pollution drift.<sup>38</sup> Finally, activities such as beach raking and debris (e.g., driftwood) collection remove habitat features for both plovers and their prey, and precludes nests from being established.<sup>39</sup>

The Pacific coast population of the western snowy plover (SNPL) has continued to decline despite its listed status protections and development of the Recovery Plan. Point Blue Conservation Science (Point Blue), in collaboration with the USFWS and California Department of Parks and Recreation, has been monitoring the status of nesting snowy plovers along the coast of Monterey Bay and for the past 30 years, and in northern Santa Cruz County since 1988.<sup>40</sup> At the end of 2012 they issued a report of the snowy plover's nesting status in these areas, including an assessment of the species' response to management agencies efforts to enhance breeding success and population size.<sup>41</sup> According to the report the plovers experienced a 10% decrease from the previous year, with no plovers detected in Santa Cruz beaches for the third year, thus reinforcing the elevated importance of the nearby population in Monterey Bay area where the Project site is located. Specifically, the report stated, "The plovers experienced subpar breeding success in 2012. Their clutch-hatching rate was 51.0 % on Monterey Bay beaches. These rates were well below their respective averages from 1999-2011. The hatching rate on the beaches was 21% below the 64% average of the previous 13 years." They also reported that only 28-30% of the chicks that hatched on the beaches fledged; a rate about 32% below the average of 42.4% from 1999-2011. Fledging rates were below 10% at one survey site (Martin Property) that is in close proximity to the Project's proposed slant well site.

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<sup>36</sup> *Ibid.*

<sup>37</sup> *Ibid.*

<sup>38</sup> *Ibid.*

<sup>39</sup> *Ibid.*

<sup>40</sup> Point Blue Conservation Science. 2014. Nesting of the Snowy Plover in the Monterey Bay Area, California in 2013. Point Blue Conservation Science, Petaluma (CA). 32 pp.

<sup>41</sup> Page G. W, Neuman K. K., Warriner J. C., Warriner J. S., Eyster C., Erbes, Dixon D., and Palkovic A., (December 2012). Nesting of the Snowy Plover in the Monterey, California in 2012. PRBO Conservation Science Publication # 1898.



The sensitivity of this species, and its slow progress in recovering even under ESA protections, demonstrate the need for detailed information regarding just how close nesting birds are to the Project prior to issuance of a permit that approves scripted mitigation measures. However due to the DEIR's:

- (a) Complete lack of focused, protocol surveys for snowy plovers, or
- (b) Lack of provisioning of data for public review regarding nest monitoring by other research agencies, including specific nesting grounds locations and numbers of breeding pairs over the past 5 plus years by other researchers, and
- (c) Poor map detail and quality regarding adequate location details of Project components and proximity of current breeding pairs,

it is impossible to make such a determination, thus making it impossible for the public to thoroughly and accurately assess the impact of the Project's activities in this area to this segment of the plover population, and thus the regional population as a whole. This same argument can be made project-wide, since within the DEIR/S no such recent, detailed data regarding the specific subpopulation status of breeding pairs were provided for review, nor were protocol surveys conducted, or directly reported and mapped in detail for any segment of the Project, including Project development sites in close proximity to snowy plover critical habitat.

The Point Blue researchers concluded that the consequence of the low number of fledglings in 2012 will likely be a smaller breeding population in the Monterey Bay area in 2013, and their prediction was correct. The authors released a monitoring update for the 2013 breeding season, where once again breeding success was reported as declining compared to previous years: "Plovers experienced another year of subpar breeding success in the Monterey Bay area in 2013. Clutch hatching rate was 54% and chick fledging rate 31% below the prior 14-year average. As a result, the total of 116 fledges was 51% lower than the average of the prior 14 years. The consequence of the low number of fledglings produced in 2013 will likely be a smaller breeding population in the Monterey Bay area in 2014. One fledged young per male is necessary to sustain a population experiencing average mortality levels but only 0.6 chicks per male fledged in 2013."<sup>42</sup> Poor reproductive success has contributed to the decline and low population size of the western snowy plover, especially where it breeds on coastal beaches used by humans for recreation.<sup>43</sup> Due to increasingly low reproductive success, the Pacific coast population of the western snowy plover has become a management-dependent species.

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<sup>42</sup> *Ibid.*

<sup>43</sup> Colwell MA, CB Millett, JJ Meyer, JN Hall, SJ Hurley, SE McAllister, AN Transou, RR LeValley. 2005. Snowy Plover reproductive success in beach and river habitats. *Journal of Field Ornithology* 76(4):373-382.

**To sustain the breeding population requires provision of undisturbed nesting areas and wintering habitat, as well as protection from predators.**<sup>44</sup>

The DEIR/S states that, “Western snowy plover are known to nest in the beach and sand dunes between Reservation Road and the Salinas River National Wildlife Refuge (Page et al., 2015). In 2015 there were 469 individual snowy plovers in the Monterey Bay breeding population. During surveys conducted for the MPWSP in 2012 (ESA, 2012) and 2013 (ESA, 2013), western snowy plovers were observed at the beach located north and south of the CEMEX sand mining facility, respectively. Multiple western snowy plover nests have been observed on the beach and foredunes within and at the proposed northernmost subsurface slant well cluster in the CEMEX active mining area (PRBO, 2012 in Zander Associates, 2013). Several western snowy plovers were observed among the sparse central dune scrub and iceplant mats of the CEMEX active mining facility during reconnaissance surveys in May 2016 (ESA, 2016). Western snowy plover has a high potential to nest along the beach and foredunes in the vicinity of the northernmost subsurface slant well cluster at the western terminus of the proposed Source Water Pipeline alignment. Additionally, western snowy plover may use the beach and dunes within all subsurface slant well and Source Water Pipeline work areas for wintering, roosting, and foraging. Western snowy plover has potential to nest in the backdunes in the proposed subsurface slant well area.”<sup>45</sup>

This reviewer is unable to confirm any details about the current existing conditions (numbers and status of breeding and non-breeding, abundance, etc. ) of SNPL on the project footprint and its buffer zones, since the surveys cited here are not focused or protocol level but instead are habitat assessments conducted near, but not on the site. The most detailed record of such available is from Point Blue’s annual report from 2015<sup>46</sup>, however it is important to note: (a) Point Blue’s surveys did not cover all of the potential SNPL winter and breeding habitat potentially impacted by the Project, (b) Point Blue’s report says that only *preliminary results* are printed in their report, and that the results are not to be cited in other reports or the scientific literature without the authors’ permission. Also, the DEIR/S excuses the existence of a 2016 data on focused surveys of nesting or wintering SNPL by saying that, “ESA requested western snowy plover occurrence data from Point Blue Conservation Science, but Point Blue Conservation Science was unable to provide this data prior to publication of this EIR/EIS.”<sup>47</sup> It is not, however, the responsibility of Point Blue to render services for this Project’s timeline, and it appears nothing precluded the Applicant from hiring another biologist to conduct protocol

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<sup>44</sup> Colwell M, NS Burrell, MA. Hardy, K Kayano, JJ Muir, WJ Pearson, SA Peterson, KA Sesser. 2010. Arrival times, laying dates, and reproductive success of Snowy Plovers in two habitats in coastal northern California. *Journal of Field Ornithology* 81(4):349-360. *See also* Point Blue Conservation Science. 2014. Nesting of the Snowy Plover in the Monterey Bay Area, California in 2013. Point Blue Conservation Science, Petaluma (CA). 32 pp.

<sup>45</sup> DEIR/S 4.6-50

<sup>46</sup> Retrieved from:

[https://www.fws.gov/arcata/es/birds/wsp/documents/siteReports/California/2015\\_SNPL\\_Report\\_MBarea\\_Final\\_Jan.pdf](https://www.fws.gov/arcata/es/birds/wsp/documents/siteReports/California/2015_SNPL_Report_MBarea_Final_Jan.pdf). Report citation not permitted by the author without permission.

<sup>47</sup> *Ibid.* 4.6-2

surveys during breeding season to determine the number, and exact locations, of SNPL within and surrounding the Project footprint. Since Point Blue consistently publishes their annual reports in January for the previous year surveys, and since the Applicant has referenced these previous reports and is aware of this timeline, they could have predicted that a 2016 report from Point Blue would not be available for the DEIR/S timeline and thus hired an independent permitted biologist to conduct the necessary surveys.

In regards to the slant well construction and its impacts to SNPL, the DEIR/S compares results of mitigation for a single test well with this proposed development of ten wells by saying "...the analysis and findings from the test slant well support the conclusion that impacts to plovers can be reduced through implementation of avoidance and minimization measures." Again the authors blur the lines of adequate mitigation and impact reduction by comparing site conditions and development impacts that are not equivalent, and fail to demonstrate that impacts can be reduced to below significant when the report does not describe what that the conditions are in respect to exact numbers of terns impacted, breeding, overwintering, etc. within and near the Project footprint.

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### c. The DEIR Fails to Adequately Mitigate Impacts to Snowy Plover Critical Habitat

The Project site not only supports snowy plovers, but as mentioned above is also located adjacent to federally designated critical habitat for the species. Critical habitat is defined as "a specific geographic area that is essential for the conservation of a threatened or endangered species and that may require special management and protection."<sup>48</sup> Within designated critical habitat, the USFWS protects areas that provide **primary constituent elements** (PCEs), which are the physical and biological features of a landscape that a species needs to survive and reproduce.<sup>49</sup> PCEs of critical habitat for the western snowy plover include:

1. Areas that are below heavily vegetated areas or developed areas and above the daily high tides;
2. Shoreline habitat areas for feeding, with no or very sparse vegetation, that are between the annual low tide or low-water flow and annual high tide or high-water flow, subject to inundation but not constantly under water, that support small invertebrates, such as crabs, worms, flies, beetles, spiders, sand hoppers, clams, and ostracods, that are essential food sources;
3. Surf- or water-deposited organic debris, such as seaweed (including kelp and eelgrass) or driftwood located on open substrates that supports and attracts small invertebrates described in PCE 2 for food, and provides cover or shelter from predators and weather, and assists in avoidance of detection (crypsis) for nests, chicks, and incubating adults; and
4. **Minimal disturbance from the presence of humans, pets, vehicles, or human-attracted**

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<sup>48</sup> USFWS. 2002. Critical Habitat: What is it? Publication 703/358 2105. <http://endangered.fws.gov>. (Retrieved Jun 14, 2015).

<sup>49</sup> *Ibid.*

**predators, which provide relatively undisturbed areas for individual and population growth and for normal behavior.**<sup>50</sup> (Emphasis added).

Snowy plover critical habitat is within close proximity to the Project site, which currently provides these PCEs. It is essential to note that construction sites consistently create impacts that extend beyond the footprint boundaries in the form of temporary roads, parking areas, poorly contained construction vehicles, noise, erosion, dust and other pollutants that can markedly diminish the minimally disturbed quality of critical habitat as described above. It is therefore possible that the Project site could significantly reduce the quality of snowy plover critical habitat as defined by these PCEs.<sup>51</sup>

The Project proposes construction bordering critical habitat:

- (a) At the proposed slant well site,
- (b) At the west end of the proposed seawater intake system, and
- (c) Along approximately **9 miles of coastal snowy plover critical habitat** from the northern slant well proposed site to Monterey State Beach, at times within less than 400 feet of the development footprint, with virtually no major visual, structural, or auditory barriers (from existing development or geographic topography) between the proposed construction footprint and critical habitat. The majority of this critical habitat has historically been occupied by nesting plovers, and was recorded as having active nesting during breeding season 2012 and 2013 by Point Blue researchers. Also, the site of the proposed seawater intake system pipeline where it runs west from the shoreline is historic nesting habitat for the snowy plover, according to Point Blue studies (*pers. comm.* Kriss Neuman June 23, 2015).<sup>52,53</sup>

**d. The Importance of Avoiding Impacts to Non-breeding Season Snowy Plover Habitat is Underestimated**

It is important to note that critical habitat provision #4 above does not distinguish between breeding and non-breeding season; in other words minimization of disturbance to critical habitat is important regardless of the time of year. Western snowy plovers are non-migratory residents along the Monterey coast, studies of banded birds demonstrate that many individuals occupy the same general habitat with little to no migration to other locales;



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<sup>50</sup> Federal Register. 2012 Jun 19. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Pacific Coast Population of the Western Snowy Plover; Final Rule. Federal Register 77(118):36728-36869.

<sup>51</sup> USFWS. 2014 Apr 7. Letter to the California Coastal Commission. Attachment to Staff Report Addendum for April 8, 2014 for April 9, 2014 Hearing.

<sup>52</sup> Point Blue Conservation Science. 2014. Nesting of the Snowy Plover in the Monterey Bay Area, California in 2013. Point Blue Conservation Science, Petaluma (CA). 32 pp.

<sup>53</sup> Page G. W, Neuman K. K., Warriner J. C., Warriner J. S., Eyster C., Erbes, Dixon D., and Palkovic A., (December 2012). Nesting of the Snowy Plover in the Monterey, California in 2012. PRBO Conservation Science Publication # 1898.

researchers have discovered that banded plovers exhibited high site faithfulness, occupying small linear stretches of beach (752 +/- +/- 626 m).<sup>54</sup>

Successful management of highly sensitive, reduced populations such as those found along the Monterey coast require equal attention paid to avoiding significant impacts to occupied nesting habitat year-round, since the specific habitat, foraging, and predation factors continue to play a key role in population size and viability despite the time of year or breeding status of the individuals. In their Final Recovery Plan, the USFWS state that species' social factors play a role in attracting plovers to nest in any given area, and that the management of wintering flocks can be important relative to plover nesting sites.<sup>55</sup> In response to comments of their Final Recovery Plan, USFWS states that "Our designation of critical habitat recognizes the importance of both wintering and breeding areas."<sup>56</sup>

Western snowy plover research emphasizes the importance of careful management of habitat and nest sites during both breeding and non-breeding season, and how mitigation for impacts is not nearly as straightforward as avoiding major impacts during breeding season only, or relying on implementing avoidance measures for impact mitigation during breeding season only, such as fencing, nest exclosures, or 'educating' on-site workers about the presence of plovers.

Some snowy plover management scenarios have demonstrated that lethal predator removal and reducing human disturbance facilitate population recovery and may partially alleviate the reliance upon immigration of birds from other areas, a necessary function to maintain a viable subpopulation. However, in some cases the use of nest exclosures reduced population growth because they were found to compromise *adult* survival, thus highlighting the importance of maintaining viable source populations and re-evaluating the recovery objectives for plovers during both breeding and non-breeding seasons.<sup>57</sup>

It has been demonstrated that conservation of snowy plover populations in California, characterized by those located near and within the Project site, "requires managing habitat throughout the year, especially during winter when northern populations may be limited by



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<sup>54</sup> Brindock, K. M., & Colwell, M. A. 2011. Habitat selection by western snowy plovers during the nonbreeding season. *Journal of Wildlife Management*, 75(4), 786-793.

doi:<http://dx.doi.org.jerome.stjohns.edu:81/10.1002/jwmg.106>

<sup>55</sup> USFWS. 2007. Western snowy plover (*Charadrius alexandrinus nivosas*). Pacific coast population Recovery Plan, Portland, Oregon, USA.

<sup>56</sup> *Ibid.*

<sup>57</sup> Eberhart-Phillips, L., & Colwell, M. A. 2014. Conservation challenges of a sink: The viability of an isolated population of the snowy plover. *Bird Conservation International*, 24(3), 327-341.

doi:<http://dx.doi.org.jerome.stjohns.edu:81/10.1017/S0959270913000506>

food and predation”.<sup>58</sup> **Specific, often seemingly minor attributes of wintering sites can make a significant difference in survival and fecundity of individuals.** Northern coastal sites occupied by plovers had more brown algae (e.g., *Macrocystis*, *Nereocystis*, *Postelsia*, and *Fucus*) and associated invertebrates (e.g., amphipods and flies), were wider, and had less vegetation than unoccupied sites, suggesting that wintering plovers select habitats with more food and where they could more easily detect predators.<sup>59</sup> Maintaining habitat year-round with attributes that support abundant food and reduce predation risk (i.e., wide beaches, limited obstructive cover) is important to individual survival and maintaining the Pacific Coast population of snowy plovers. Specifically, researchers concluded that,

*“Protecting occupied sites from human disturbance, which adversely alters nonbreeding habitat and directly causes mortality, may be essential for conserving the Pacific coast population of the snowy plover, and it may benefit other shorebirds.”<sup>60</sup>*

For these highly sensitive nesting populations that occur near and on the Project site, within critical habitat, mitigation of the significant temporary, indirect, direct, and cumulative impacts of the Proposed Project requires more than is prescribed by the DEIR to reduce impacts below significant.

**e. Mitigation Measure 4.6-1d: Protective Measures for Western Snowy Plover is Inadequate to Reduce Impacts Below Significant**

The DEIR/S defers the mitigation impact analysis of the SNPL by stating that “for work that cannot be completed during the non-nesting season” SNPL surveys will be conducted as part of attempts to obtain approval by USFWS to develop SNPL habitat during breeding season. This infers that some construction must occur during breeding season. It goes on to say that “If nests are observed within 300 feet of construction activities, the qualified biologist shall notify and consult with USFWS to determine whether construction may proceed, based on detailed information on location of nest(s), proximity to construction, site lines and topography, and noise environment. Any additional avoidance or minimization measures shall be implemented prior to initiating construction activities.”<sup>61</sup>

What if the Applicant does not receive permission to continue with construction activities due to presence of too close, or too many nesting SNPL immediately prior to development commencement, or during development? Or if such is the case and the developer is not given permission to continue, will the developer then pressure USFWS to allow such, claiming to delay construction for months is an undue hardship (for the company, or for the

<sup>58</sup> Brindock, K. M., & Colwell, M. A. 2011. Habitat selection by western snowy plovers during the nonbreeding season. *Journal of Wildlife Management*, 75(4), 786-793.

doi:<http://dx.doi.org.jerome.stjohns.edu:81/10.1002/jwmg.106>

<sup>59</sup> *Ibid.*

<sup>60</sup> *Ibid.*

<sup>61</sup> DEIR/S 4.6-169

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community's water needs), especially if it is for the duration of nesting and fledging as the mitigation measure explains could be the case? Such a tactic by developers is one I have commonly witnessed as a consulting biologist, increasingly so over the years, wherein the developer's mitigation measures are insufficient for various reasons including poor ground-truthing and poor knowledge of existing conditions for any given sensitive species. Despite this, permits are approved based upon vaguely described, deferred mitigation. And yet this deferred mitigation has less than rigorous oversight for many reasons, is lacking in details and insight, and sometimes the result is that construction must be temporarily halted to avoid take of a species. This incurs pushback from the developer claiming hardship, and such delays are often not upheld by USFWS due to this pressure.

In my years as an environmental consultant I have witnessed that it is far more common for the agency to give a "variance" of a permit and defer to the complaints of the developer when construction is at risk of being seriously delayed. These variances for the prescribed mitigation can and do lead to mitigation measures that are altered and diminished in effectiveness from their written prescriptions on paper, resulting in unmitigated, significant impacts, unanticipated (and sometimes unreported) take of species. This is an all-too common practice among developers and environmental consultants that I have personally witnessed as an independent biologist for construction sites with sensitive species of nesting birds and other rare animals present. Certain actions by the developer, including violations of regulations and mitigation measures, go unreported in part due to environmental consultants' ubiquitous use of extreme and rigid non-disclosure agreements (NDA), where biologists are required to sign strict NDAs to be employed and subsequently are at risk of losing their jobs, or worse, if they report any unpermitted harassment or take of protected species.

In short, these mitigation measures that seek to develop SNPL habitat during breeding season are unacceptable for reasons outlined above. To ensure adequate mitigation of indirect, direct, and cumulative impacts, the Applicant should commit to withholding all construction activities within SNPL habitat during SNPL breeding season, without exception.

The DEIR/S concludes impacts to SNPL would be significant throughout at least 9 acres of the Project footprint, yet they do not describe in detail the degree of such an impact since they do not provide any data on exactly how many of the birds have nested within and near the SNPL habitats within the Project footprint. The Report states, "Construction of the slant wells in the CEMEX active mining area could occur year-round"<sup>62</sup> where impacts could result in flight of breeding birds, nest abandonment, or nest failure, and "construction activities would be implemented in or around areas where plovers may occur during the winter. Construction during the snowy plover wintering season (October 1 through February 28) could directly or indirectly impact individual birds if present within or adjacent to the construction area. Human presence and construction noise and activities can cause roosting plovers to fly and disturb resting or foraging activities. This would be a significant impact."<sup>63</sup>

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<sup>62</sup> *Ibid.* 4.6-129

<sup>63</sup> DEIR/S 4.6-130

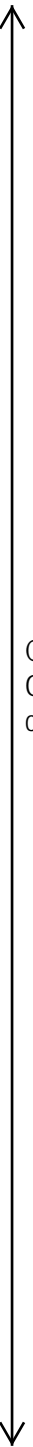


The DEIR/S acknowledged impacts to wintering plovers would be significant, and states its primary mitigation measure to reduce ongoing construction during non-breeding season impacts as follows: “For work conducted during the non-nesting season, a qualified biologist will evaluate the nature and extent of wintering plover activity in the project area several days prior to construction and inform CalAm so they can make construction decisions that avoid or minimize disturbance to plovers. The biologist shall conduct periodic monitoring during construction to ensure that minimization measures are implemented to avoid or minimize disturbance to plovers.”

This measure is not specific enough to ensure confidence in avoidance measures for temporary impacts that include harassment and possibly species take. Details must be provided as to exactly how the developers will avoid harassment, and to what degree of impact. For instance, to avoid one or two plovers may be easier than if many are found to be using the area to forage regularly on and near the site. If the latter is the case, what measures can be taken to avoid a moving target of foraging plovers, especially given the natural history details provided above regarding plover sensitivity to human disturbance, and importance of lack of disturbance of wintering habitat for breeding success?

The DEIR/S infers that direct, indirect, and cumulative impacts to SNPL by development of their habitat may be partly minimized by the simple fact that they have abundant habitat to the north and south of the site in which to relocate, forage, and breed; and that they would only be temporarily displaced by construction. They claim that harassed (“displaced”) birds can simply move elsewhere due to there being abundant habitat nearby. This argument is biologically flawed and should be summarily dismissed. If impacts to species could be avoided simply by default of the existence of the presence of similar habitat nearby, much of the impacts of any given development on a given species could be ignored by default.

There is abundant evidence demonstrating how erroneous the DEIR’s assumption here regarding how an animal (not just the SNPL) can simply just “go elsewhere” thanks to nearby habitat that it can use being present. It is an assumption that affects mitigation analyses and thus should not be ignored as minor. Nearby habitat of the same category may or may not be as adequate for an individual’s needs as habitat already occupied. There is no way for the Applicant to determine to what degree ‘nearby’ habitat destinations for displaced birds may be occupied by conspecifics that may defend resources, or to what density predators may occur, or if, for instance, whether nearby habitat may or may not have adequate microsites or other resources for optimal foraging, thus potentially impacting foraging success and fecundity.<sup>64</sup> For instance, years of personal observations have revealed that Diegan coastal sage scrub, the habitat used by breeding California gnatcatchers (CAGN) (a federally threatened ESA species), can be quite different from one location to the next. Whether or not the CAGN chooses to use a



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<sup>64</sup> Nol, E., MacCulloch, K., Pollock, L., & McKinnon, L. 2014. Foraging ecology and time budgets of non-breeding shorebirds in coastal Cuba. *Journal of Tropical Ecology*, 30(4), 347-357. doi:<http://dx.doi.org.jerome.stjohns.edu:81/10.1017/S0266467414000182>

particular causal sage scrub habitat for nesting depends invariably on characteristics including dominant shrub species, grade, slope, percentage of bare ground, and sometimes heterogeneity of the shrub habitat. Such choosiness for appropriate breeding, and nesting microhabitats is common for many species within all taxa. This factor is an important one when it comes to mitigation prescriptions for impacted habitats, including selection and analysis of efficacy of parcels for compensatory mitigation that are species-specific.

Additionally, research demonstrates that when birds and other vertebrates emigrate to a new location, risk of mortality increases due to factors such as increased visibility, decreased familiarity with a new area relative to competitors, predators, and resources.<sup>65</sup> Mortality for passerine juveniles during their first year, including during non-breeding season, is typically very high and based on many factors that can be compromised by anthropogenic influences.<sup>66, 67, 68,</sup><sup>69</sup> The Applicant provides no way of determining the degree to which direct and indirect impacts from harassment will reduce survival of first year juveniles, especially given the DEIR/S makes little attempt to discuss actual site population details such as number of breeding pairs, local breeding success in terms of chicks fledged in a given area each year, etc. Such oversights in isolation may appear minor, however when considered as part of a cumulative impact over time, especially in light of the difficulty of recovering threatened and endangered species that reside in areas increasingly urbanized and developed as California is, they become significant. As the USFWS Recovery Plan indicates, snowy plover population recovery requires undisturbed wintering as well as breeding habitat; this fact must be taken into consideration for impact analysis. (See below for additional supporting evidence regarding wintering habitat, cumulative impacts, and resultant inadequacy of snowy plover impact analysis.)

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<sup>65</sup> Guy Morrison, R.I., R, K. R., & Niles, L. J. 2004. Declines In Wintering Populations Of Red Knots In Southern South America. *The Condor*, 106(1), 60-70. Retrieved from <http://search.proquest.com.jerome.stjohns.edu:81/docview/211249469?accountid=14068>

<sup>66</sup> Vitz, A. C., & Rodewald, A. D. 2011. Influence of condition and habitat use on survival of post-fledging songbirds. *The Condor*, 113(2), 400-411.  
doi:<http://dx.doi.org.jerome.stjohns.edu:81/10.1525/cond.2011.100023>

<sup>67</sup> Cano, L. S., Franco, C., Doval, G., Torés, A., Carbonell, I., & Tellería, J. L. 2013. Conservation of iberian black storks (*Ciconia nigra*) outside breeding areas: Distribution, movements and mortality. *Bird Conservation International*, 23(4), 463-468.  
doi:<http://dx.doi.org.jerome.stjohns.edu:81/10.1017/S0959270912000482>

<sup>68</sup> Tökölyi, J., Mcnamara, J. M., Houston, A. I., & Barta, Z. 2012. Timing of avian reproduction in unpredictable environments. *Evolutionary Ecology*, 26(1), 25-42.  
doi:<http://dx.doi.org.jerome.stjohns.edu:81/10.1007/s10682-011-9496-4>

<sup>69</sup> Sandercock, B. K., Székely, T., & Kosztolányi, A. 2005. The Effects Of Age And Sex On The Apparent Survival Of Kentish Plovers Breeding In Southern Turkey. *The Condor*, 107(3), 583-596. Retrieved from <http://search.proquest.com.jerome.stjohns.edu:81/docview/211305157?accountid=14068>

**f. Plover Mortality Will Increase Due to Increase in Human Disturbance Despite Proposed Mitigation Measures**

Disturbance by humans is a key factor in reducing or eliminating snowy plover nesting habitat.<sup>70</sup> Humans negatively impact plovers by causing: (1) destruction of nests and chicks; (2) increased disturbance leading to reduced incubation or brooding constancy; and (3) decreased foraging opportunities by adults and chicks.<sup>71</sup>

Direct mortality can occur when humans inadvertently step on chicks or them with mechanized vehicles.<sup>72</sup> Neither is mortality to birds due to nearby construction activities limited to chicks. As a professional environmental consultant specializing (in part) in wildlife monitoring for over 20 years, I have personally witnessed, as have other biologist construction monitors I have communicated with over time, that for various types of development - including pipeline installation – that despite a myriad of mitigation protocols and best management approved and imposed under standard multi-agency permitting processes, mortalities of ground nesting and foraging birds, along with reptiles and rodents, are an inevitable result of construction traffic on any given construction site that occurs in a species habitat (*pers. comm*, Patrick Hord, Jan 2014; Jane Higginson June 2015; Dr. Kelly Smith May 2015). These mortalities occur despite imposed speed reductions, fencing, signage, right-of-way-restrictions, imposed nest ‘buffers’, educational trainings for workers, pre-construction nest surveys, and other typical mitigation measures that purport to reduce impacts during both breeding and non-breeding season development. For instance, on one construction site for a large industrial complex, within the span of one month along one dirt road designated for construction traffic, over 30 flat-tailed horned lizards (a special status species) were inadvertently run over and killed due to their cryptic nature and attraction to the moisture provided by erosion control water trucks. The degree to which this phenomenon occurred was partly due to the construction site occurring near, but not within, occupied critical habitat for the species, and had little to do with breeding season or status of the individuals.

Although it can be argued whether or not such inevitable mortalities are significant based on the numbers of individuals injured or killed, it cannot be denied that when the mortalities occur among individuals of endangered or threatened species such as the Western snowy plover, it must be concluded that each breeding individual loss results to some degree in reduced viability of the population.

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<sup>70</sup> MacDonald B, T Longcore, S Dark. 2010. Habitat suitability modeling for Western Snowy Plover in Central California. The Urban Wildlands Group, Los Angeles, California, 129 pp.

<sup>71</sup> Colwell MA, CB Millett, JJ Meyer, JN Hall, SJ Hurley, SE McAllister, AN Transou, RR LeValley. 2005. Snowy Plover reproductive success in beach and river habitats. *Journal of Field Ornithology* 76(4):373-382. See also United States Fish and Wildlife Service. 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). Sacramento, California. xiv + 751.

<sup>72</sup> *Ibid.*

As significantly, indirect mortality occurs because high levels of human activity hinder normal brooding, foraging, and sheltering activities. As mentioned above, snowy plover chicks are precocial. After hatching, the male bird cares for the chicks for approximately 28 days.<sup>73</sup> However, the chicks quickly must learn how to feed themselves, balance thermoregulatory needs, and avoid predators without assistance. Human activities can be especially detrimental to survivorship during this critical period in the species' life cycle. When a brooding adult is disturbed, it often leaves chicks exposed, and hence vulnerable to predation, inclement weather, and reduced foraging time.<sup>74</sup> Human activity may also cause brood movement, resulting in the separation of one or more chicks from the rest of the brood.<sup>75</sup> In addition, movement into adjacent territories can result in attacks on the young by other adult plovers, resulting in chick death and abandonment.<sup>76</sup>

Predation, by both native and nonnative species, has also been identified as a cause of mortality to plovers even in the presence of applied certain mitigation measures to reduce impacts of development projects, and is a major factor limiting western snowy plover reproductive success at many Pacific coast sites.<sup>77</sup>

While predominantly a natural phenomenon, predation is enhanced through the introduction of nonnative predators and unintentional human encouragement of larger populations of native predators (e.g., by providing supplemental food, water, and nest sites). Elevated predation pressures result from both temporary and permanent landscape-level alterations in coastal dune habitats that, in turn, now support increased predator populations within the immediate vicinity of nesting habitat for western snowy plovers.<sup>78</sup>

Because anthropogenic disturbance is the primary threat to the western snowy plover, numerous biologists have concluded that protecting occupied sites from human disturbance during both breeding and non-breeding season is essential to the conservation and recovery of the species.<sup>79</sup>

#### **g. Case Studies Substantiating the Effects of Snowy Plover Disturbance**

Numerous studies have demonstrated that human activities are affecting the

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<sup>73</sup> Colwell MA, SJ Hurley, JN Hall, SJ Dinsmore. 2007. Age-Related Survival and Behavior of Snowy Plover Chicks. *Condor* 109(3):638-647.

<sup>74</sup> *Ibid.*

<sup>75</sup> Ruhlen TD, S Abbott, LE Stenzel, GW Page. 2003. Evidence that human disturbance reduces snowy plover chick survival. *Journal of Field Ornithology* 74(3):300-304.

<sup>76</sup> *Ibid.*

<sup>77</sup> *Ibid.*

<sup>78</sup> *Ibid.*

<sup>79</sup> United States Fish and Wildlife Service. 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). Sacramento, California. xiv + 751. See also Brindock KM, MA Colwell. 2011. Habitat Selection by Western Snowy Plovers During the Nonbreeding Season. *Journal of Wildlife Management* 75(4):786-793.



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survivorship, numbers, and activity patterns of western snowy plovers. Escofet and Espejel concluded that human encroachment has caused nesting snowy plovers to completely disappear from many coastal breeding locations in California. Habitat that is opened to human disturbance, such as the Project construction proposed over a minimum of a six month period in occupied plover nesting habitat, even while temporary and possibly during non-breeding season may have permanent impacts on snowy plovers. Lafferty reported that snowy plovers immediately stopped breeding at the Reserve when it was opened to recreation, and ultimately permanently abandoned the site for wintering.<sup>80</sup> Page et al. observed western snowy plovers' response to human disturbance at two coastal beaches where normal beach use ranged from light to heavy.<sup>81</sup> When humans approached western snowy plovers, adults left their nests 78% of the time when people were within 50 meters and 34% of the time when people were over 100 meters away. Ruhlen et. al. examined the effects of human disturbance on snowy plover chick survival at Point Reyes National Seashore, California.<sup>82</sup> Chick loss on weekends and holidays was 72% greater than expected in 1999 and 69% greater than expected in 2000. This suggested that increased human recreation on Point Reyes beaches over weekends and holidays negatively affected snowy plover chick survival, even though humans were not observed to cause direct impacts to chicks. Rather, results suggest that the increased associated potential for anthropogenic disturbance (noise, predator attraction) was primarily responsible for chick mortality.

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#### **h. Summary about Impacts to Snowy Plover**

First, Mitigation Measure 4.6-1d defers aspects of mitigation to consultation with USFWS. This prohibits the reviewer to analyze the efficacy of details of mitigation protocols (or success criteria for such), as they cannot be provided when they are as of yet to be determined. Deferment of mitigation measures and relevant details to some point in the future does not allow for adequate impact analysis as required under CEQA, and provides no guarantee such measures will even be undertaken.

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Second, for construction during the breeding season, visual barriers are proposed to reduce impacts. In light of the complex causes and results of anthropogenic disturbances to breeding pairs and chicks, such barriers will not serve to significantly reduce the direct and indirect impacts of noise on breeding birds. Based upon the abundant evidence regarding the negative impact of human proximity to nesting birds, all construction during breeding season

<sup>80</sup> Lafferty KD. 2001. Human disturbance to wintering western snowy plovers at a southern California beach. *Biological Conservation* 10:1-14. See also University of California, Santa Barbara Natural Reserve System. 2001. Snowy Plover Management Plan (SPMP) – 2001. Available at: <<http://coaloilpoint.ucnrs.org/SnowyPloverProgram.html>>. (Retrieved Jun 19, 2015).

<sup>81</sup> Page GW, JS Warriner, JC Warriner, RM Halbeisen. 1977. Status of the snowy plover on the northern California coast. Part I: Reproductive timing and success. California Department of Fish and Game Nongame Wildlife Investigations, Sacramento, CA. 6 pp.

<sup>82</sup> Ruhlen TD, S Abbott, LE Stenzel, GW Page. 2003. Evidence that human disturbance reduces snowy plover chick survival. *Journal of Field Ornithology* 74(3):300-304.

should simply be avoided, as impacts will be inevitable and unavoidable despite construction of a barrier, or the presence of a biologist on-site to detect breeding birds. The Applicant should be reminded that detection, imperfect avoidance mechanisms, and reporting cannot and will not serve to restore the impacts that will inevitably occur to birds in the form of harassment, injury, and possibly mortality if construction occurs within their nesting area during breeding season.

The DEIR/S states that impacts will be minimized, under Measure 4.6-1d, by having an onsite biologist survey for nests and then consult with experts to determine any additional avoidance or minimization measures should be implemented prior to initiating construction activities. Once again mitigation is deferred to a future consult / plan, thus making it impossible for the public to review the efficacy proposed mitigation. This is important because although agency consultation for protected species take is required under the ESA, the agencies do not conduct oversight of all mitigation measure for such species, therefore confirming due diligence of mitigation detail is necessary prior to issuance of a development permit while oversight is still a reality.

Adequate details for analysis are not only preferable, but essential. For example, the snowy plover management plans for the proposed Monterey Bay Shores Resort – to be constructed in snowy plover occupied habitat in proximity to the Project’s western Source Water pipeline - prescribed establishing exclosures around the nesting area “during fledging” (the interval between hatching and flight) as a method to reduce breeding season construction impacts.<sup>83</sup> However, this has little value as a take avoidance measure because snowy plovers have precocial chicks that leave the nest within hours after hatching.<sup>84</sup> Snowy plover chicks coming from nests on the project site or adjacent areas would be susceptible to direct (e.g., crushing) and indirect (heightened vigilance that precludes normal foraging activities) impacts from Project construction activities.<sup>85</sup>

Additionally, Muir and Colwell (2010) studied the response of incubating plovers to an observer approaching the nests. Incubating plovers ceased incubation and left nests when an observer approached to within a mean distance of  $80 \pm 33$  meters,<sup>86</sup> thus further demonstrating the ease at which harassment to plovers can occur with the presence of humans in the general area. This is just one example of where a thorough analysis of mitigation protocols is essential for determining adequacy of mitigation measures; without such an accurate assessment of impact reduction is impossible. **Ultimately, the only reliable way to prevent such impacts is to prohibit construction activities during the entire snowy plover breeding season.**

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<sup>83</sup> <http://www.landwatch.org/pages/issuesactions/gm-ecoresort.html> Retrieved June 22, 2015.

<sup>84</sup> Precocial chicks are well developed, feed themselves, run about, and regulate their body temperature.

<sup>85</sup> Muir JT, MA Cowell. 2010. Snowy Plovers Select Open Habitats for Courtship Scrapes and Nests. *Condor* 112(3):507-510.

<sup>86</sup> *Ibid.*

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Third, the Applicant proposes to develop a Habitat Mitigation and Monitoring Plan (HMMP) to complete its obligation to reduce impacts to below significant for sensitive species including the snowy plover. Once again the description of adequate impact reduction is deferred, and as a result the reviewer is unable to determine the adequacy of the measures given that no site-specific or species-specific details or methodology have been provided for a plan that has yet to be created. This prohibits adequate review by the public to determine if impacts will satisfactorily be reduced to below significant as required. Not only does it prohibit thorough analysis, it provides no guarantee that the HMMP will actually be developed and function as promised to reduce impacts as proposed, nor are any standard success criteria for such presented. The DEIR/S states the HMMP will be given to the appropriate agencies for approval, but it does not discuss what, if any, actions will be taken if any of the “appropriate” agencies (such as USFWS, or CDFW, or a local jurisdiction) do not all approve the final HMMP, nor how such an impasse would affect impact mitigation as the DEIR/S asserts will occur be default of the mention of a Plan that has yet to be created.

Fourth, in respect to movement of SNPL and assuming that displacement can be easily mitigated partly because it is a temporary impact: it is important to note that the USFWS Recovery Plan specifically states,

*“A portion of the Pacific coast population of western snowy plovers do not migrate up or down the coast and are year round residents. Additionally, the majority of western snowy plovers that do migrate are site-faithful, returning to the same breeding areas in subsequent breeding seasons (Warriner et al. 1986, Stenzel et al. 1994). Western snowy plovers occasionally nest in exactly the same location as the previous year (Warriner et al. 1986).”<sup>87</sup>*

The USFWS Snowy Plover Recovery Plan concludes that to bring the snowy plover population back to numbers above threatened status, it is essential to

*“prevent disturbance of breeding **and wintering** western snowy plovers by people and domestic animals. **Disturbance by humans and domestic animals causes significant adverse impacts to breeding and wintering western snowy plovers.** Because human disturbance is a primary factor affecting western snowy plover reproductive success, land managers should give the highest priority to implementation of management techniques to prevent disturbance of breeding birds. Management plans (Actions 3.3.1, 3.3.2, and 3.4) should include appropriate human/domestic animal access restrictions to prevent disturbance of western snowy plovers [emphasis added]”.*

#### **i. Cumulative Impacts to Snowy Plovers are Not Adequately Analyzed**

<sup>87</sup> USFWS. 1986. Snowy Plover Recovery Plan. p. 138



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Several other projects have been proposed for the coastal zone in the vicinity of the Project site, and proximal to snowy plover critical habitat, including:<sup>88</sup>

1. The Collection at Monterey Bay Project (development of a 342-room coastal resort on a 26.46-acre site located west of State Route 1 in Sand City).
2. A new campground at Fort Ord Dunes State Park (development of 100 campsites, parking areas, an internal trail network with beach access, and various other infrastructures).
3. The Monterey Bay Shores Resort Project (development of a 40 acre parcel in Sand City, including approximately 680,000 cubic yards of grading)

The Fort Ord coastal HCP includes the creation of a new campground at Fort Ord beach and will greatly increase human use in plover habitat, causing significant impacts to wintering and breeding birds and habitat within the general region of this Proposed Project's pipeline development.

The Monterey Bay Shores Resort, an exceedingly large coastal hotel to be constructed at the southern boundary of Fort Ord, will preclude nesting and wintering of plovers within and adjacent to the Project footprint, thus causing permanent direct and long term impacts to nesting to the regional population. The California Coastal Commission, amazingly, did not require any sort of concurrence with USFWS when it issued its conditional development permit, and as a result impacts to snowy plovers (and other resident sensitive species) remain inadequately mitigated, thus contributing further to local impacts to plovers in close proximity to the Project proposal. The Collections is another hotel proposed slightly south of the Monterey Bay shores Resort, and is also in Sand City, with similar significant impacts to snowy plovers.

The DEIR/S acknowledges the potential for cumulative impacts as follows, "Specifically, the Monterey Shores Resort (No. 19), 90-Inch Bay Avenue Outfall Phase 1 (No. 43), Slant Test Well Project (No. 47), Moss Landing Community Plan (No. 37), and The Collection at Monterey Bay Resort (No. 56) would affect beach or dune areas that may support western snowy plover. Implementation of the Monterey Bay Shores Resort and Moss Landing Community Plan projects could occur at the same time as the proposed MPWSP construction and therefore could adversely affect western snowy plover and its habitat through heavy equipment use, dust generation, elevated noise levels, and increased human activity" but claims that the mitigation measures provide will reduce impacts to below significant. However, what is not addressed is that a comprehensive strategy for the conservation of western snowy plover breeding and wintering locations has not been incorporated into the Sand City General Plan, Local Coastal Program, or their implementing ordinances. The USFWS has expressed concern about the

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<sup>88</sup> DEIR p. 5-4

aforementioned projects being addressed in a piecemeal fashion, **which does not allow an adequate assessment of their cumulative effects.**<sup>89</sup> **As a result, the USFWS and others have recommended the preparation of a habitat conservation plan (HCP) to adequately address cumulative effects.**<sup>90</sup> The City of Sand City, City of Marina, and the Monterey Bay Shores Resort developers each committed to preparing an HCP for the western snowy plover. None of these entities have fulfilled their commitment. To date, there exists no definitive habitat plan by any of these entities that addresses cumulative impacts to the plover, or proposes a strategy for conserving snowy plovers in the specific region. In light of these oversights the DERI/S has not provided a complete discussion of all projects and development plans that contribute to cumulative impacts of the species.

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**j. Compensatory Mitigation Details are Necessary for Complete Snowy Plover Impact Analysis.**

Under Mitigation Measure 4.6-1n (discussed above) the DEIR/S does state that the HMMP would include a description of any compensation in the form of land purchase or restoration. Not only should a land purchase or restoration be considered with appropriate compensation ratios of habitat gained to habitat lost of a least 2:1, but ideally would collaborate with local SNPL conservationists. According to Point Blue snowy plover biologist Kriss Neuman (*pes. comm.* June 23, 2015),

*“There is currently no dedicated funding to support the monitoring and conservation activities that are conducted to support this regional plover population and in particular at this site. The landowner [of the Cemex site] gladly allows Point Blue, California State Parks, and USFWS refuge staff to access habitat, and we jointly install protective fencing, manage habitat and predators, and monitor nesting. A dedicated conservation fund supporting these activities on the site and possibly in the region as well would help to ensure population stability in the region.”*

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Given that the Point Blue, in coordination with California State Parks, and the local USFWS Wildlife Refuge have been working to monitor and conserve snowy plovers for the past 30 years, it would appear that two of the most effective measures that could be taken to truly reduce the cumulative impacts to this sensitive species would be for the applicant to

- (1) Contribute to a conservation fund, to be overseen by the appropriate oversight agency, that will be used for monitoring, habitat restoration, and other conservation actions that are key to the populations’ viability over time, and
- (2) Contribute to a region-wide Snowy plover Habitat Management Plan that incorporates

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<sup>89</sup> United States Fish and Wildlife Service. 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). Sacramento, California. xiv + 751.

<sup>90</sup> *Ibid.*

all of the relevant municipalities and agencies that are stakeholders for this regional plover population's habitat and conservation. Any such Plan should coordinate and consult with the Point Blue, California State Parks, and USFWS biologists who have been researching this region's snowy plovers for decades.

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The hydrology of sand systems such as those found in dune habitats is complicated.<sup>91</sup> In a coastal setting such as this, the dune plants are typically neither xerophytic nor halophytic.<sup>92</sup> They typically germinate during a rain event and rapidly send down a fine root through wet sand until it reaches the water table. Fresh water "floats" on the salt. The ground water is drawn toward the surface, and if the dune gets built higher, complicated physics results in the water being drawn up so that the freshwater lens used by the plants stays a relatively stable distance from the surface of the dune, whether the dune is being built higher, or eroded lower.<sup>93</sup> In short, the effect and resultant impacts of imposing the construction of ten extraction wells through this intricate and sensitive hydrological system, and providing a strong pull toward the ocean, is not addressed but should be for adequate impact analysis.

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#### **VI. ADDITIONAL MITIGATION MEASURES PROPOSED FOR TERRESTRIAL BIOLOGICAL RESOURCES IMPACTS ARE INADEQUATE**

In addition to those discussed above, there are other incidences where impacts proposed as significant are considered mitigated to below significance with the following measures, despite the fact that the specifics of these measures and their standard criteria for success are not adequately identified, and at times deferred to the future, preventing complete analysis of their efficacy.

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##### **a. Mitigation Measure 4.6-1a. Retain a Lead Biologist to Oversee Implementation of Protective Measures<sup>94</sup>**

First, in the case of a potential sensitive species take or harassment, the lead biologist is said to have direct stop work authority, as is a typical prescription for construction sites, and most onsite mitigation protocols and potential actions rest on this unadulterated authority of the lead biologist. However in reality the lead biologist is often not actually onsite, and his/her responsibilities are handed to a subordinate who theoretically has power to stop work, but in reality does not due to the realities of who is asserting authority over construction, aggressive

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<sup>91</sup> Zarnetske, P. L. 2011. *The influence of biophysical feedbacks and species interactions on grass invasions and coastal dune morphology in the pacific northwest, USA* (Order No. 3492886). Available From ProQuest Dissertations & Theses Full Text; ProQuest Dissertations & Theses Global. (918818070). Retrieved from

<http://search.proquest.com.jerome.stjohns.edu:81/docview/918818070?accountid=14068>

<sup>92</sup> Martinez, M. L. and Psuty, N.P. (eds.) 2004. *Coastal Dunes: Ecology and Conservation*. Ecological Studies Vol. 171, Springer-Verlag Berlin.

<sup>93</sup> *Ibid.*

<sup>94</sup> DEIR/S 4.6-164

pressure from the developer to never stop work more than momentarily, and other pressures including the NDAs mentioned above that tie the hands of biologists who observe violations of permits but are at risk of losing jobs if they report them. This reality is the norm, not the exception (*pers. comm.* Patrick Hord, Sage Wildlife Biology; Kim Davis, Helix Environmental; Frank Dittmer, AECOM, 2016).

I have witnessed this scenario many times in my experience as an environmental consultant, where the onsite lead biologist is not in reality given full authority to cease any actions that threaten or are in the process of causing impact to sensitive species or their habitats, or any other related environmental violations of air or water. This remains a growing and serious problem on these construction sites, due largely to the delays inherent within the process, and the conflicts inherent when relying on construction or operational site supervisors to stop work on projects for which their primary responsibility, reinforced by their employer, is ensuring work proceeds with no interruption or delays. This scenario is ripe for conflict, and more often than not results in the impacts to species and habitats going unreported, under-reported, or the situation being settled in a manner that does not comply with the spirit or intent of the mitigation measure or protocol(s). The Applicant may claim that they have little control of conflicting parties onsite, but by default they do have authority of oversight to fix these problems given that as part of CEQA compliance they are tasked with creating mitigation measure that are actually effective, with criteria for measuring success that are relevant and enforceable.

Therefore the Applicant should provide some standard or assurance within the mitigation measures that insures that the lead biologist, onsite, has the un-revocable authority to stop work when needed, and is **working as an independent third party** (independent of the primary environmental consultant, and of the developer) assigned to such a duty with the responsibility of reporting violations or takes of species to the agencies. As importantly, any reports of mitigation monitoring, violations, daily or monthly activities, etc. related to biological resource protection shall be given to the agencies first, developer second. The developer should not be allowed to alter or suggest alterations to any reports prior to delivery to the regulatory agency(ies). As a consultant for a quarter of a century observing the on-the-ground interactions on construction sites, I can say with confidence that without such measures in place, the role of the lead biologist is often reduced to that of a paper tiger, one hired to appease the developer as employer, and not one hired to adequately comply with all mitigation measures and standards.

Second, according to this mitigation measure it appears that the lead biologist is expected to relocate any special status species that are 'at risk'. The DEIR/S does not specify what 'at risk' entails, yet such a definition for plants and animals of different taxa is extremely broad, nor any protocol for relocation methodology, nor even which species or taxa are being referred to in the first place. Confusingly, Mitigation Measure 4.6-1c(10) says that if special



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status species are found on site during construction, construction activities shall cease (under whose authority it does not say) while everyone waits for the animal to move “on its own outside of the project area (if possible)”. What makes this impossible, what are the parameters? If a sensitive species of reptile is sleeping under the parked truck of a construction worker - a common occurrence on some site - does s/he have to wait until the lizard moves before he can drive his vehicle? If a burrowing owl takes up residence overnight next to a pipeline trench, what then? If it is a plant species to be relocated, which is an almost inevitable reality, the DEIR/S does not identify to where the plant species shall be relocated, or with what methodology, despite the fact that areas of the Project site have been determined to be occupied by threatened and endangered plants species for which the risk of impacts on site could arise frequently, and despite the fact that different species can require vastly different relocation protocols. Consideration of where to relocate the animal to has been deferred and delegated to the field biologist, and thus goes undescribed. There is no consideration that it might not be possible to easily locate certain species, nor any discussion of what measures would be undertaken to reduce impacts if such is the case. This results in a failure to meet the assumption of these measures reducing impacts below significant.

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**b. Mitigation measure 4.6-1e Avoidance and Minimization Measures for Special-status Plants.<sup>95</sup>**

First, the DEIR/S states that focused surveys will be conducted in the future prior to development. However, it also says that based upon the results of these surveys, sensitive plants will be flagged and avoided where possible, *or salvaged, or a take permit may be solicited, and impacts may be mitigated as a result of a consult with USFWS and/or CDFW, the details for which are not provided to any degree<sup>96</sup>*. At present, focused, protocol level, and rare plant surveys have not been conducted in the recent past, and therefore no data is available for review, beyond some predictions of presence and likelihood to occur. As iterated previously, the lack of data on existing conditions at the species-specific level makes it impossible for the reviewer to predict the efficacy of these mitigation measures that are mostly deferred to the future. It is inevitable that mitigation measures’ efficacy can be quite different based upon how many individuals of a sensitive species are present.

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Second, the DEIR/S also states that “compensation for temporary or permanent loss of special status plant occurrences, in the form of land purchase or restoration [on or off site], shall be provided to a level acceptable to the resource agencies with jurisdiction over those species.” This is also deferment of mitigation prescriptions, it also provides no information for the reviewer to determine if and how impacts will be adequately reduced below significant, nor does it make any mention of what success criteria will be used to determine impacts have been adequately reduced, or for which species specifically. It additionally puts the entire burden of

<sup>95</sup> DEIR/S 4.6-171

<sup>96</sup> *Ibid.*

determining this Project’s mitigation efficacy on one or a few individuals assigned to this project within a given lead agency. This negates the role of CEQA here, which exists in part to allow the public to provide input to impact mitigation including its applicability and efficacy, presuming the public has been provided with sufficient data to make such a review.

Experts on measuring effectiveness of mitigation measures, especially ones regarding compensatory tradeoffs as alluded to here, correctly state that, “Public choice theory suggests officials and traders have more incentive to facilitate barter than to ensure biodiversity protection. Thus, given the option of saying to developers “yes, with conditions” rather than “no,” officials will prefer “yes, with conditions” — particularly when compliance with conditions cannot be credibly measured and officials can avoid accountability for outcomes. Legitimized bartering can thus create a policy situation “obscure enough to please all parties . . . and so ill-defined that failures will be difficult to detect.”<sup>97</sup> This statement speaks profoundly to why so many compensatory conservation deals have failed to meet the goals of mitigation for projects over the years. If the CPUC and the Monterey Bay National Marine Sanctuary are truly concerned with their role in insuring adequate mitigation of all of the significant impacts described herein to plants and animal species, they will require detailed description and discussion of the adequacy of compensatory mitigation plans (such as funds for sensitive species research, HMPs, HCPs) and parcels prior to issuance of a development permit, and not leave all such prescriptions solely up to individuals of a lead agency.

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**c. Mitigation measure 4.6-1f Avoidance and Minimization Measures for Smith’s Blue Butterfly.<sup>98</sup>**

As with most if not all other special status species discussed in this document, the DEIR/s fails to conduct focused or protocol-level surveys for the Smith’s Blue butterfly throughout any of the Project site. For reason already discussed above, such lack of data prevents the reviewer from adequately assessing existing status and resultant measures and standards necessary to mitigate potential impacts to this ESA listed species. The DEIR/S indicates that Slant Wells, Pipelines, Transition main, the CEMEX active mining area, CEMEX access road and the surrounding sand dunes, and staging areas all have Smith’s Blue butterfly habitat (its host planta, coast and seacliff buckwheat, specifically). It states that construction within these areas has the potential to “temporarily impact” Smith’s blue butterfly habitat, “which would be a significant impact. The impact is considered temporary because coast

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<sup>97</sup> Walker, S.; Brower, A.; Stephens, R,T.; and Lee, W. 2009. Why Bartering Biodiversity Fails. *Conservation Letters* 2:149–157. Retrieved from:

[http://www.azoresbiportal.angra.uac.pt/files/publicacoes\\_Walker%20et%20al%202009.pdf](http://www.azoresbiportal.angra.uac.pt/files/publicacoes_Walker%20et%20al%202009.pdf)

<sup>98</sup> DEIR/S 4.6-172

buckwheat is relatively easy to cultivate and reestablish in dune scrub habitat, and would be returned to pre-construction conditions”.<sup>99</sup>

As its primary mitigation measure the Applicant states it will conduct a section 7 consultation implement all measures required by USFWS. This amounts to mitigation measures being deferred, unspecified, and thus impossible to assess for efficacy, regardless of a statement that purports compliance with the ESA contingent on future discussions.

Measure 4.6-1f states that ‘floristic botanical surveys of all suitable habitat for coast buckwheat and seacliff buckwheat, both of which are host plants to Smith’s blue butterfly, shall be conducted by a qualified biologist during project design and prior to project implementation. Maps depicting the results of these surveys shall be prepared to document the location of the host plants within or adjacent to the project area. Construction of project elements shall be planned to avoid mapped host plants for Smith’s blue butterfly whenever feasible.”<sup>100</sup> This is also deferral of mitigation planning and descriptions, and prevents thorough analysis of mitigation efficacy. Minimum required impact reduction actions can vary widely from standard avoidance procedures if just a few host species are present, to major changes necessary in development footprint and design and/or timing of construction if there are many host plants and even butterflies on site. The Applicant needs to provide not only complete habitat maps of the host plants, but also focused butterfly surveys, especially considering the sensitivity of this species and its slow road to recovery since its listing in 1976.

The unique natural history of the Smith’s blue butterfly is important to be aware of, since it represents some of the difficulties in relying on mitigation measures whose details are generic or deferred to the future in order to address reduction in impacts to the species and its host plants. For example, individual adult males and females live approximately one week, therefore detecting them at the adult stage can be very difficult and depend on long term surveys efforts. Therefore presence of butterflies can be easily missed.<sup>101</sup> Young larvae feed on the pollen and developing flower parts, while older larvae feed on the seeds. Older larvae are tended by ants, which may provide some protection from parasites and predators. Upon maturing in about one month, the larvae pupate in the flowerheads or in the leaf litter and sand at the base of the buckwheat plant. Pupae that form in the flowerheads later drop to the ground. Some adults are quite sedentary, with home ranges no more than a few acres, however others may disperse farther and use home ranges between 20-30 acres.<sup>102</sup> This species prefers

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<sup>99</sup> DEIR/S 4.6-129

<sup>100</sup> *Ibid.* 4.6-172

<sup>101</sup> Arnold, R.A. 1983b. Ecological studies of six endangered butterflies: Island biogeography, patch dynamics, and the design of habitat preserves. Univ. of Calif. Publications in Entomology 99: 1-161. Retrieved from: <https://searchworks.stanford.edu/view/1049101>

<sup>102</sup> USFWS. 2006. Smith’s Blue Butterfly Five Year Review: Summary and Evaluation. Retrieved from: <https://www.fws.gov/cno/es/Smith's%20blue%20butterfly%205-year%20review.FINAL.pdf>



to feed on mature, robust individuals of the perennial buckwheats because they produce more flowers. Thus buckwheat stands that consist of younger or older, senescent individuals, which produce fewer flowers, may not be visited by the butterfly, and are of lesser value for this species' conservation.

These characteristics demonstrate that (a) detection of the species requires very specific training and a knowledge of the species natural history, and (b) host plants and habitats are not all alike in terms of viability and resultant importance for the species conservation. Thus treating any and all buckwheat habitats equally, especially in terms of both construction mitigation and parcel selection for compensatory mitigation, can result in failure to reduce potential impacts. Additionally, USFWS recommends that grading involving motor vehicles, heavy equipment, or ground disturbance will be scheduled outside the potential flight period of the Smiths blue butterfly (June-September)<sup>103</sup>, and yet there is no mention of construction avoidance during this specific flight period in the mitigation measures. Also, since there are no surveys that provide estimates of the numbers of Smith's blue butterflies that might exist within or bordering the Project site, it is not possible to quantify the exact number of individual butterflies or host plants that could be taken, and thus impacted, by the removal of buckwheat in the area. Thus overall impacts and resultant detailed mitigation analyses for the Smith's blue butterfly by the Project cannot be thoroughly assessed.

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**d. Mitigation measure 4.6-1g Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard.<sup>104</sup>**

Due to their cryptic nature and difficulty to detect without conducting focused surveys for such, reptiles are historically underestimated in all aspects of conservation, including surveys, monitoring, and impact analysis. I was co-researcher on the world's most extensive study in the wild of the world's largest snake species, the green anaconda (*Eunectes murinus*). This species had not been studied to any extent previously due primarily to the false belief that they were not in high abundance anywhere and thus difficult to observe for research. Even expert herpetologists recommended against commencing the study, convinced we would find very few of the snakes in the wild. However, once we began focused surveys in their known habitat, as just two researchers we caught and released over 800 green anacondas within a small region (a few square kilometers). We found the snakes primarily by tactile searching (walking the shallow wetlands until we stepped on them), due to the fact that visual searching of this cryptic predator would result in missing up to 90% of the individuals we encountered.<sup>105</sup> I mention this research to underscore the reality that even one of the largest reptile species in

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<sup>103</sup> USFWS. 1984. Smith's Blue Butterfly Recovery Plan.

<sup>104</sup> DEIR/S 4.6-173

<sup>105</sup> Rivas, J. A. (1999). *The life history of the green anaconda (Eunectes murinus), with emphasis on its reproductive biology* (Order No. 9973496). Retrieved from: <http://www.anacondas.org/diss/disser.pdf>

the world can be very difficult to detect if one is not conducting focused surveys with a protocol designed for species-specific detection. Even during my research on the Orinoco crocodile – a species that can get upwards of 800 pounds – our biggest research challenge was visually locating them in known occupied habitats.<sup>106</sup>

This Project’s underestimation of the impacts to reptiles – by way of zero attempts to survey them anywhere, or create species-specific mitigation protocols - falls within this sort of erroneous assumption that if individuals are not detected anecdotally, they are likely not abundant or not present, and/or can easily be detected in a very short period of time when construction monitoring requires such. Reptiles have a wide range of preferences for heat tolerance, some being purely nocturnal, while many will retreat into shallow burrows or rapidly shuffle from side to side to burrow into the sand in order to avoid extreme heat and cold, including sensitive lizard species including the black legless lizard, silvery legless lizard, and coast horned lizard. Environmental impacts assessments are notorious for underestimating, undervaluing, and under-mitigating reptile species, and this Project’s Report is no different.

These lizard species forage and move within a broad range of habitats, beyond those identified in the DEIR/S as preferred habitats or optimal foraging habitats, and as a result the impact analyses estimating the “potential to occur” of these species based only such assertions of “preferred habitat” in the literature, and not focused field ground-truthing, fall short of accurate site assessments regarding species presence, density, and abundance.<sup>107,108,109,110</sup> For instance, I have observed flat-tailed horned lizards and fringe-toed lizards – both sensitive species that prefer small dunes and loose sandy soils– frequent very rocky and disturbed habitats. The fact that the Applicant also failed to conduct any focused migratory bird or raptor surveys only reinforces the importance of reptiles surveys, as these provide an important prey item for many species of birds.

Additionally, unexpected consequences of other practices on construction sites can negatively impact local species. On one such site I repeatedly observed workers spreading insecticide to kill all species of ants, in areas proximal to critical habitat occupied by protected flat-tailed horned lizards whose primary prey are various ant species. Avoidance of such actions

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<sup>106</sup> Rivas, J.A. and Owens, Renee Y. 2002. Orinoco crocodile (*Crocodylus intermedius*): Age at First Reproduction. *Herpetological Review*. 33 (3): 203.

<sup>107</sup> Gerson, M. M. 2004. *Aspects of the ecology of a desert lizard, Callisaurus draconoides (blainville 1835), in Joshua Tree National Park with an emphasis on home range and diet* (Order No. 3146172).

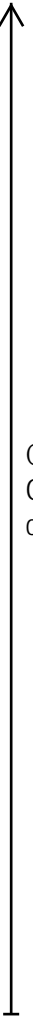
<sup>108</sup> Heaton, J. S. 2002. *The LizLand model: Geomorphic landform and surface composition analysis of lizard habitat in the California Mojave desert* (Order No. 3029564).

<sup>109</sup> Williams, A. K. 2004. *The influence of probability of detection when modeling species occurrence using GIS and survey data* (Order No. 3123715).

<sup>110</sup> Rosen, P. C. 2000. *A monitoring study of vertebrate community ecology in the northern Sonoran desert, Arizona* (Order No. 9965915).

are one of the specific details that are important, but consistently omitted, by mitigation protocols for reptiles.

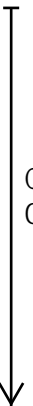
The lead biologist for this Project is presumed to prepare a relocation plan, and use relocation as a primary mitigation measure. The DEIR/S states that “only relocation sites that are not over-populated and have suitable habitat conditions (e.g., soils, moisture content, vegetation, aspect) shall be used”, however provides inadequate details on how these conditions may be determined, which is important considering preferred habitats and prey items are different for each species of lizard. There is no information provided about the existence of such sites nearby, nor is there data, criteria, or standards established on likelihood of survival via relocation. The DEIR/S says the biologist shall survey for lizards by raking under bushes and walking “appropriately spaced transects” prior to construction. These mitigation descriptions and methods are inadequate, partly for the same reasons described above, since no ground-truthing has been conducted to assess or estimate whether or not these species are present and to what degree, result in the reviewer being unable to reasonably determine the efficacy of mitigation based upon generic protocols. Each species has different natural histories, and different characteristics in respect to detectability during any given time, temperature, and type of habitat. To assume the same protocol will work in detecting, not to mention relocating, these species will be adequate is unsupported. In my experience the taxa most susceptible to incidental mortality on construction sites are snakes and lizards, due to difficulty of detection by biologists and ease of hidden movements on the part of the animal. I have caught, documented, and released over 1,000 reptiles in the course of my natural history and consulting research, and to say these animals are highly susceptible to anthropogenic impacts would be an understatement. Such realities must be taken into consideration when reviewing mitigation measures, something the reviewing public cannot do in this case because no necessary details are provided.



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**e. Mitigation Measure 4.6-1i: Avoidance and Minimization Measures for Nesting Birds**

This measure states that, “For all construction activities scheduled to occur during the nesting season (February 1 to September 15), the qualified biologist shall conduct a preconstruction avian nesting survey within 14 days of site clearing and/or ground disturbance. Copies of the survey results shall be submitted to the CPUC. If construction activities at any given facility site begins in the non-breeding season and proceeds continuously into the breeding season, no surveys are required. However, if there is a break of 14 days or more in construction activities during the breeding season, a new nesting bird survey shall be conducted before reinitiating construction.”<sup>111</sup>



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<sup>111</sup> DEIR/S 4.6-176

1. Pre-construction nesting survey reports must also be provided to the USFWS, since they have primary jurisdiction over enforcement and implementation of the Migratory Bird Treaty Act, and would be the agency providing a take permit if the developer seeks approval for any activities that risk violation of the MBTA.

2. There is no reason why ongoing construction activities that proceed into breeding season should not require nesting bird surveys; such surveys are required to insure nesting birds are not harassed by Project actions. As someone who has conducted hundreds of MBTA breeding bird surveys on and near construction sites, I can say with complete confidence that birds can, and often do, commence nesting within construction footprints, sites, and along construction access roads due to many species having high natal site fidelity, philopatry, and established territoriality, even despite human interference.<sup>112,113,114</sup>

Therefore any and all development activities can significantly impact a breeding bird regardless of when the actual construction began onsite, and nesting / breeding bird surveys should be conducted not only prior to any activities during breeding season, but throughout construction activities during breeding season. Sweeps for nesting birds should be made on a daily basis, and more thorough surveys conducted weekly. This includes surveys for ground-nesting birds as well as others.

**f. Mitigation Measure 4.6-1n: Habitat Mitigation and Monitoring Plan**

This Measure states that part of its criteria for reduction of significant impacts to special status species includes the “Description of any other compensatory mitigation in the form of land purchase, establishment of conservation easements or deed restrictions, contribution of funds in lieu of active restoration, or purchase of mitigation bank credits, or other means by which the mitigation site will be preserved in perpetuity.”<sup>115</sup>

This Measure is inadequate for CEQA purposes of review and analysis since it is based upon deferral of mitigation, thus lacking in data, description, detail, and standard criteria to even begin to analyze its efficacy and success. Compensatory mitigation is highly variable in its targets (species and habitats) goals, efficacies, and prescriptions, and the reviewer is unable to make any determinations regarding the success when no further detail is provided on a habitat and species-specific basis. As such, this measure’s contribution to impact reduction fails, and considering what a key part of most mitigation reductions compensatory tradeoffs must be, this

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<sup>112</sup> Sedgwick, J. (2004). Site Fidelity, Territory Fidelity, and Natal Philopatry in Willow Flycatchers (*Empidonax traillii*). *The Auk*, 121(4), 1103-1121. doi:10.2307/4090479

<sup>113</sup> Reed, J., & Oring, L. (1993). Philopatry, Site Fidelity, Dispersal, and Survival of Spotted Sandpipers. *The Auk*, 110(3), 541-551. doi:10.2307/4088418

<sup>114</sup> Robert A. James, Jr. (1995). Natal Philopatry, Site Tenacity, and Age of First Breeding of the Black-Necked Stilt. *Journal of Field Ornithology*, 66(1), 107-111.

<sup>115</sup> 4.6-181

means the Applicant has failed to demonstrate impacts have been reduced below significant for every species and habitat for which this measure is used.

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**g. Field Case Study Supporting the Problem of Deferral of Mitigation Prescriptions to the Future**

The following example demonstrates how:

- (a) Mitigation measure deferred to the future can fail to reduce impacts including sensitive species mortality,
- (b) Failure to recognize the importance of nearby critical habitat to a Project footprint can cause unanticipated sensitive species mortalities, and
- (c) Failure to consider the natural history of lizard species or creating species-specific mitigation measures can result in species mortalities.

I and my biologist colleagues have witnessed an important phenomenon on project construction sites in arid regions, and during warmer spring and summer seasons in semi-arid temperate regions similar to that of this Project, where lizard species are present, and pre-construction surveys require minimal pre-construction surveys for reptiles along roads and within construction zones (similar to the mitigation measure for lizards discussed above for this DEIR/S regarding pre-construction survey to be conducted immediately before and during construction). Specifically, I have observed that lizards are directly and immediately attracted to roads on and around construction sites where trucks spraying water and other erosion control liquids are used to reduce airborne dust. We have observed that this practice serves to attract lizards of a variety of species, including coast horned lizards, to the higher moisture levels on the roads, resulting in marked increased lizard mortality and injury due to being hit by construction site traffic that use the roads subsequent to the water trucks passing. For instance, within the course of one month this phenomenon resulted in the mortality of over 20 flat-tailed horned lizards (*Phrynosoma mcallii*) (FTHL) (a state Species of Special Concern and previously petitioned for listing under the CESA and FESA) on one construction site in Southern California during the summer of 2014, and where an additional 110 FTHLs were relocated to avoid injury or mortality from vehicle impacts during several weeks of the construction phase.<sup>116</sup> During the construction of the Sunrise Powerlink gen-tie line just April to November, 103 flat-tailed horned lizards were relocated and 25 mortalities were recorded.<sup>117</sup>

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<sup>116</sup> Wilton, Ben. Tenaska (*Pers. comm.*, March 19, 2015)

<sup>117</sup> [FTHLICC] Flat-tailed Horned Lizard Interagency Coordinating Committee. (2011). Annual Progress Report: Implementation of the Flat-tailed Horned Lizard Rangeland Management Strategy, January 1, 2010 to December 31, 2010. Report prepared by the Flat-tailed Horned Lizard Interagency Coordinating Committee. Retrieved from: <https://webcache.googleusercontent.com/search?q=cache:swX3uX5D8OsJ:https://www.fws.gov/sout>

What is key here is that this industrial project failed to anticipate significant impacts to lizards due primarily to the phenomenon described above, despite the site bordering habitat known to be occupied and critical to the species, despite recommendations by conservationists that mitigation measures as written in the EIR/S were inadequate, and as a result the developer had to completely stop work for at least two weeks. One independent contractor reported losing an alleged \$146,000 a week due to the unexpected delay.<sup>118</sup> It is also important to note that because the FTHL mortalities were vastly beyond any predicted by the EIR/S and its mitigation measures for the project, the lead biologist was unable to compensate for the additional time requirements needed to relocate lizards, thus four more biologists had to be hired simply to monitor and relocate lizards. However, even despite this, the mortalities of lizards resulted in failed mitigation. Additionally relocations were haphazard and not assessed for success, and now the already at-risk population of this species has been reduced by this oversight that began with a lack of focused surveys, ignoring the importance of FTHL critical habitat proximal to the site, and providing vague mitigation measures mostly deferred to the future for development.

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In order to adequately mitigate for such potential risks to the sensitive lizards species with high potential to occur on site, this phenomenon must be taken into consideration, and mitigation measures to reduce resultant impacts may include additional biologists, enhanced traffic restrictions, and a reptile relocation Plan and Monitoring Strategy during the construction phase.

## VII. WILDLIFE CORRIDORS IMPACTS INAPPROPRIATELY DISMISSED AS NOT SIGNIFICANT

The DEIR/S asserts that there would be no significant impacts to species due to the lack of established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites because “the proposed project does not include the placement of structures within creeks, rivers, or other waterways and there are no established native resident or migratory wildlife corridors or wildlife nurseries within the project area<sup>119</sup>...The terrestrial wildlife habitat in the project area is fragmented by agricultural fields, residential developments, commercial / industrial developments, and roads and does not serve as wildlife movement corridors.”<sup>120</sup>

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There is abundant evidence in the literature regarding species that use wildlife corridors and nurseries in agricultural and industrial areas. The highest incidence of **burrowing owls** in

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hwest/es/arizona/Documents/SpeciesDocs/FTHL/FTHL\_Annual\_report\_2010\_Final.pdf+&cd=1&hl=en&ct=clnk&gl=us

<sup>118</sup> Clarke, C. March 2015. Work on Solar Project Halted to Protect Lizard. KCET. Retrieved from:

<http://www.kcet.org/news/define/rewire/solar/work-on-solar-project-halted-to-protect-lizard.html>

<sup>119</sup> DEIR/S 4.6-119

<sup>120</sup> *Ibid.*



the state of California – almost 70% - occur and move throughout agricultural regions in Imperial county, and utilize the soft soils from agricultural disturbance in which to establish burrows and raise young.<sup>121,122,123</sup> As a biologist I have spent many months studying burrowing owls and other species, including American kestrels, cattle egrets, gray foxes, and various other passerines, that use corridors primarily within agricultural areas, bordering urbanized areas, to travel and get from one destination to the next for foraging and other territory requirements. For instance, research on peregrine falcons - a sensitive species known to have occurred recently within or near the Project area according to the CNDDDB - have been observed to utilize non-forested and agricultural habitat as important post-fledgling corridors.<sup>124</sup> Red-tailed hawks and owls that live in highly urbanized areas travel between their urban nest sites and less urbanized areas to forage<sup>125</sup>. Snakes have been found to use agricultural habitats as important corridors, particularly in urbanized landscapes.<sup>126</sup> Movement corridors for various taxa often occur along (not just within) watercourses, coastal borders, or follow the cover of shrubs or trees; especially hedgerows or grassy areas between developed habitat, often found along roadsides to block residences from a view of the road. Such vegetation corridors bordering roads are characteristic of the footprint to be impacted by the pipeline development of the Project.

Corridors and nursery areas vary widely in characteristics and type of wildlife species that use them, and include movement to and from nesting areas to foraging areas, feeding areas to hilltopping areas, one part of range to another part of range, allowing genetic

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<sup>121</sup> Poulin, R. G. (2003). *Relationships between burrowing owls (Athene cunicularia), small mammals, and agriculture* (Order No. NQ87138). Available from ProQuest Dissertations & Theses Global. (305315258). Retrieved from

<http://jerome.stjohns.edu:81/login?url=http://search.proquest.com.jerome.stjohns.edu:81/docview/305315258?accountid=14068>

<sup>122</sup> Estabrook, T. S. (1999). Burrow selection by burrowing owls in an urban environment (Order No. 1394137). Available from ProQuest Dissertations & Theses Global. (304494873). Retrieved from <http://jerome.stjohns.edu:81/login?url=http://search.proquest.com.jerome.stjohns.edu:81/docview/304494873?accountid=14068>

<sup>123</sup> Moulton, C., Brady, R., & Belthoff, J. (2006). Association between Wildlife and Agriculture: Underlying Mechanisms and Implications in Burrowing Owls. *The Journal of Wildlife Management*, 70(3), 708-716.

<sup>124</sup> Dzialak, M. R. (2003). *Peregrine falcon, Falco peregrinus, reintroduction in cliff habitat in Kentucky* (Order No. 3117498). Available From ProQuest Dissertations & Theses Full Text; ProQuest Dissertations & Theses Global. (305319211).

<sup>125</sup> William F. Minor, Maureen Minor, & Michael F. Ingraldi. (1993). Nesting of Red-Tailed Hawks and Great Horned Owls in a Central New York Urban/Suburban Area (Anidamiento de Buteo jamaicensis y de Bubo virginianus en un area urbana/suburbana de la parte central de New York). *Journal of Field Ornithology*, 64(4), 433-439. Retrieved from <http://proxy.greenmtn.edu:2074/stable/4513852>

<sup>126</sup> Andrus, W. (2011). *Ecology and conservation of prairie rattlesnakes (Crotalus viridis viridis) in relation to movement in a fragmented urban environment* (Order No. MR80171). Available From ProQuest Dissertations & Theses Full Text; ProQuest Dissertations & Theses Global. (895976697). Retrieved from <http://search.proquest.com.jerome.stjohns.edu:81/docview/895976697?accountid=14068>



exchange and viability.<sup>127, 128</sup> Considering that the Project includes at least 18 miles of more or less linear development along and near the coast, there is actually a high potential for construction, with its requisite erosion control fencing, other physical barriers, noise, and lighting to cause displacement and avoidance of wildlife along their habitual corridors, resulting in a significant impact including death due in part to the phenomenon that animals displaced in areas with many roads significantly increase their likelihood of being hit by traffic<sup>129</sup>. Therefore this development certainly could impact corridors by impeding movement of wildlife moving within in established territories.

Therefore the conclusion that the project does not significantly impact corridors is not supported. Existing corridors within and next to the project, including those incorporating agricultural, partly developed, and disturbed habitat, must be assessed with greater detail and supporting documentation, and mitigated with appropriate actions to allow movement and dispersal of native wildlife along this 18 + miles of Project development. Mitigation should include an analysis of the potential for increased mortality and harassment of native species due to various factors including time duration of development, acreage impacted, sensitive species potentially present, and ways to reduce the negative impact of movement barriers within corridors that cross and parallel the project footprint and buffer zones.

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### VIII. IMPACTS TO COASTAL DUNES NOT ADEQUATELY ANALYZED

Coastal dune habitat has been virtually extirpated from most parts of southern California. As such, in California it is one of our most impacted, most rare, and most fragile habitats. Yet because it is critical as a barrier to the sea, it is also one of our most important habitats.<sup>130</sup> Part of the project site is considered mostly primary habitat according to the City of Marina’s Local Coastal Plan, with some secondary habitat (habitat adjacent to primary), and constitutes an environmentally sensitive habitat area” pursuant to the Coastal Act.<sup>131</sup> The habitat should thus by definition be protected against habitat losses; where only uses dependent on coastal resources shall be permitted in such areas.<sup>132</sup> The DEIR/S’s proposed

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<sup>127</sup> Nabe-Nielsen, J., Sibly, R. M., Forchhammer, M. C., Forbes, V. E., & Topping, C. J. (2010). The effects of landscape modifications on the long-term persistence of animal populations. *PLoS One*, 5(1) doi:http://dx.doi.org.jerome.stjohns.edu:81/10.1371/journal.pone.0008932

<sup>128</sup> Sales, J. (2007). *Determining the suitability of functional landscapes and wildlife corridors utilizing conservation GIS methods in Denton County, Texas* (Order No. 1449625). Available From ProQuest Dissertations & Theses Full Text; ProQuest Dissertations & Theses Global. (304827551). Retrieved from http://search.proquest.com.jerome.stjohns.edu:81/docview/304827551?accountid=14068

<sup>129</sup> Garrah, E., Danby, R. K., Eberhardt, E., Cunnington, G. M., & Mitchell, S. (2015). Hot spots and hot times: Wildlife road mortality in a regional conservation corridor. *Environmental Management*, 56(4), 874-889. doi:http://dx.doi.org.jerome.stjohns.edu:81/10.1007/s00267-015-0566-1

<sup>130</sup> Martinez, M. L. and Psuty, N.P. (eds.) 2004. *Coastal Dunes: Ecology and Conservation*. Ecological Studies Vol. 171, Springer-Verlag Berlin.

<sup>131</sup> DEIR/S 4.6-70

<sup>132</sup> *Ibid.*

actions appear to conflict with this description of this Environmentally Sensitive Habitat Area required management.

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## **IX. CONCLUSION**

Based on the issues described in this letter, it is my professional opinion that the Applicant has not met the obligations of CEQA, and that the Project would result in significant and unmitigated impacts to several sensitive biological resources.

Sincerely,



Renée Owens, M.S.

Conservation Ecologist



Comments  
on  
Draft Environmental Impact Report/  
Environmental Impact Statement  
for the  
CalAm Monterey Peninsula  
Water Supply Project

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February 24, 2017

## I. Introduction

California American Water Company (CalAm) has proposed a desalination plant for Marina City, California: the CalAm Monterey Peninsula Water Supply Project (Project or MPWSP). This Project will utilize subsurface slant wells as the water intake points. In 2014, the National Oceanic and Atmospheric Administration (NOAA) and the Monterey Bay National Marine Sanctuary (MBNMS) evaluated the impact of installing one test slant well in an Environmental Assessment (EA).<sup>1</sup> The test slant well was built in Monterey Bay at the CEMEX sand mining site to inform the geologic conditions for the full-scale project. If this Project is approved the test slant well will be converted to a permanent well and nine other wells will be built. The draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) evaluates the impact of the full-scale Project, *i.e.*, the Proposed Project, as well as alternatives to the Proposed Project.<sup>2</sup> This letter evaluates the slant well intake technology.

The subsurface slant wells will draw from subsea aquifers. Due to the risk to marine life as a result of open-water intakes, several agencies have shown a preference for subsurface intake systems:

*Several state and federal regulatory and permitting agencies (SWRCB, California Coastal Commission (CCC)) will not consider permitting an open-water intake unless a subsurface intake has been deemed infeasible or would result in greater environmental impacts. NOAA's MBNMS and National Marine Fisheries Service also established guidelines for discretionary approvals for new intake structures stating that subsurface intakes should be used where feasible and beneficial.*<sup>3</sup>

However, as I will set out below, I demonstrate that the DEIR/EIS fails to consider a number of conditions which may lead to an adverse environmental impact in the Monterey Bay National Marine Sanctuary.

I am qualified to evaluate the technical merits of the subsurface slant well, the potential physical and chemical impacts resulting from the slant well intake, and identify where the DEIR/EIS should disclose additional information. I have over thirty-five years of experience in the field of physical and natural sciences. I earned a doctorate degree in plasma chemistry diagnostics and laser spectroscopy, and a master's degree in spectroscopy and physical chemistry. I hold two US patents and one International and two more are pending. I have subject matter expertise in evaluating prior art patents and public domain proposals in spectroscopy and physical chemistry, and in utilizing high

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<sup>1</sup> Draft Environmental Impact Report/ Environmental Impact Statement for the Monterey Peninsula Water Supply Project, January, 2017. California Public Utilities Commission and National Oceanic and Atmospheric Administration: Monterey Bay National Marine Sanctuary, *available at* [http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/deir-eis\\_toc.html](http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/deir-eis_toc.html) ("DEIR/EIS") at ES-6.

<sup>2</sup> DEIR/EIS, ES-9-10.

<sup>3</sup> DEIR/EIS, ES-16.

performance computational methods for imaging and analytical chemistry applications.

My curriculum vitae is attached to this letter.

## II. Background: Slant Well Technology

Dennis Edgar Williams, Ph.D., holds the patent for subsurface slant wells.<sup>4</sup> The patent was published on November 15, 2011, but has a priority date of January 7, 2010.<sup>5</sup> In 2015, Dr. Williams presented a paper entitled “Yield and Sustainability of Large Scale Slant Well Feedwater Supplies for Ocean Water Desalination Plants” for the International Desalination Association World Congress on Desalination and Water Reuse in San Diego.<sup>6</sup> In that paper Dr. Williams discussed the slant well technology. He begins:

*Originating out of the necessity to explore subsea aquifers near Dana Point, CA, the first test slant well was constructed in 2006. . . . As of this writing, a 724 ft test slant well completed in March of 2015 near Monterey, California as part of the Monterey Peninsula Water Supply Project (MPWSP) is currently undergoing long-term test pumping.<sup>7</sup>*

Unlike open-ocean intakes, which draw water from above the sea floor, subsurface slant wells draw water from aquifers.

*Slant wells receive recharge from vertical leakage through the sea floor (i.e., benthic zone) and horizontal flow from subsea and near shore aquifer systems.<sup>8</sup>*

The aquifer water is drawn through the seabed, through an artificial filter, and then finally through a mesh screen. The intake is made possible by a high power 300 hp submersible pump contained within the slant. Each slant well is capable of drawing in 3-4 million gallons of water per day of untreated ocean water, which equates to four-and-a-half Olympic swimming pools or a cube that is 74 feet long, 74 feet wide, and 74 feet high. The Project calls for a total of ten slant wells with eight operating at any given time.

Overtime, the slant well technology should draw primarily from “young” ocean water.

*Geochemical tracers used to quantify water sources to the Doheny test*

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<sup>4</sup> Williams, D.E., 2011. Slant Well Desalination Feedwater Supply System and Method for Constructing Same, US Patent 8,056,629 B2 (“Slant Well Patent, 2011”).

<sup>5</sup> Slant Well Patent, 2011.

<sup>6</sup> Williams, D.E., 2015. Yield and Sustainability of Large Scale Slant Well Feedwater Supplies for Ocean Water Desalination Plants, *available at* <http://201.199.127.109/textos/Desalinizacion/Tomas%20de%20agua/slant%20wells%202015.pdf>, (“Williams 2015”).

<sup>7</sup> Williams, 2015, at pg. 2.

<sup>8</sup> Williams, 2015, at pg. 2.

*slant well during an almost two year pumping test (2010-2012) were used to estimate slant well connectivity to the ocean and relevant amounts of water sources.*

*Test results support the increased capture of shallow, young marine ground water. Natural isotope data showed after one year of pumping, recharge to the slant well consisted of a mixture of brackish ground water (which showed a decreasing trend), ocean water (which showed an increasing trend), and old marine ground water which initially increased and then slightly decreased as it was being removed from the aquifer. This reflected the fresh/salt interface being induced to migrate toward the well. The geochemical data combined with a three-dimensional variable density flow and solute transport model predicted that the old marine ground water would be fully removed from the subsea aquifer within approximately one year at the full scale production rate of 30 mgd. Furthermore, upon reaching steady state conditions, (approximately one year), and after removal of the old marine ground water, the source of water to the feed water supply wells was predicted to consist of 95% “younger” ocean water (with very low levels of dissolved iron/manganese, ~ 2 µg/L), and 5% brackish ground water (~2 mg/L of dissolved iron/manganese), resulting in a blended concentration of approximately 0.10 mg/L.<sup>9</sup>*

The anticipated hydrogeologic transition is illustrated in the Figure 1 below, which is from the Final Summary Report for the Doheny Ocean Desalination Project Phase 3 Investigation, prepared by the Municipal Water District of Orange County (MWDOC) in 2014.<sup>10</sup> This report for the Doheny wells indicated that the wells would draw 95% young ocean water once the project reached steady state operations. For the MPWSP, the slant wells “are projected to pull 93 percent seawater from the Monterey Bay and 7 percent groundwater from the surrounding area when the MPWSP is operating (GeoScience 2014b).”<sup>11</sup>

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<sup>9</sup> Williams, 2015, pg. 5, 15 (“Slant wells completed in subsea aquifers typically produce over 95% of their supply from ocean water sources (vertical leakage through the sea floor) and lateral flow from subsea aquifers.”)

<sup>10</sup> Final Summary Report for the Doheny Ocean Desalination Project Phase 3 Investigation: Extended Pumping and Pilot Plat Test Regional Watershed and Groundwater Modeling Full Scale Project Conceptual Assessment, January 2014. Municipal Water District of Orange County (MWDOC), *available at* <https://www.scwd.org/civica/filebank/blobdload.asp?BlobID=5592> (“MWDOC – Final Summary, 2014”); *see also* Williams, 2015, at pg. 3 (evaluating the Doheny wells at Dana Point and the Monterey test slant well).

<sup>11</sup> DEIR/EIS, at Appx. G2, pg. 3.

- Illustration of Slant Well Source Water Production vs. Time

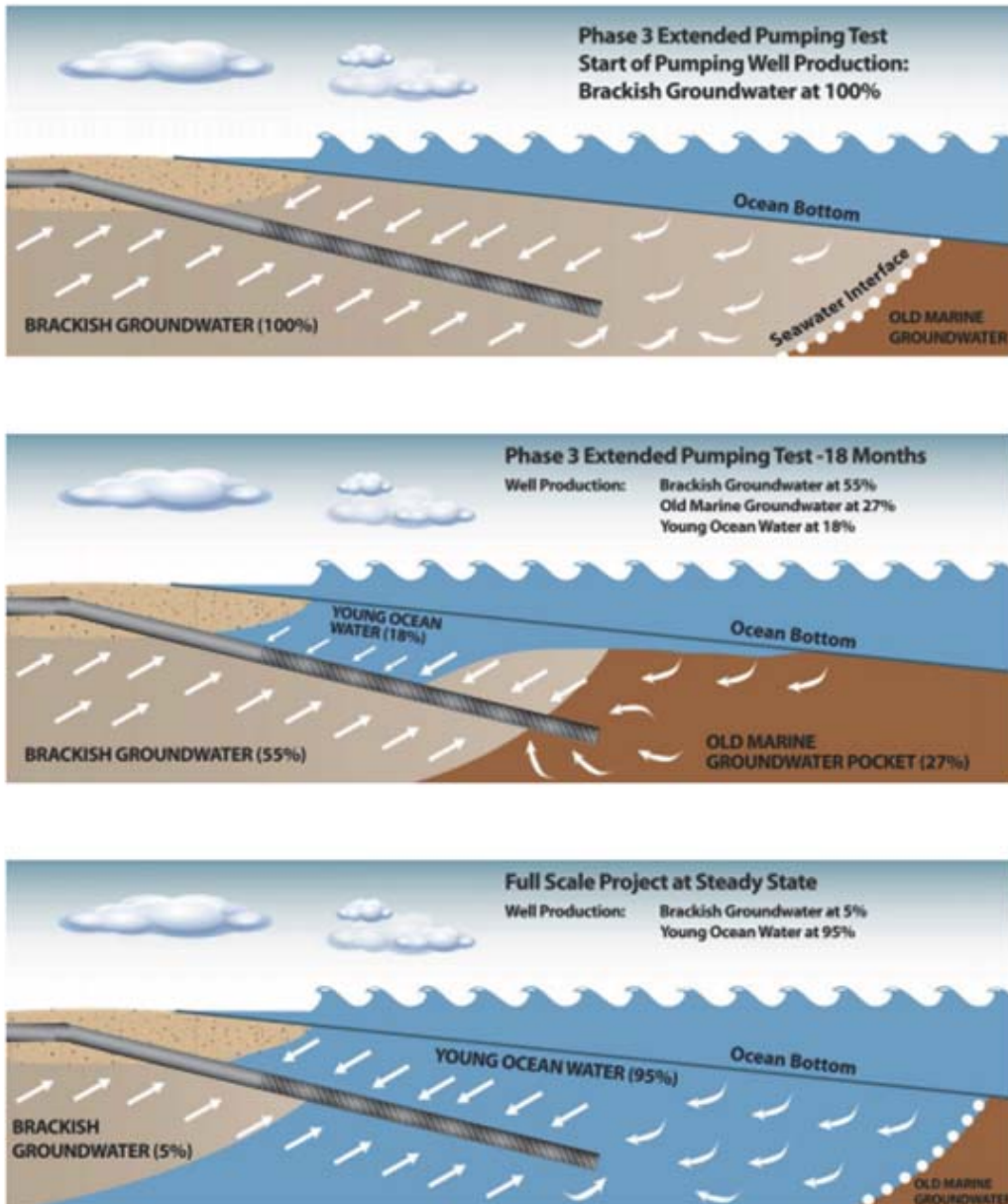


Figure 1. Final Summary Report Doheny Wells<sup>12</sup>

### III. Analysis

First, the DEIR/EIS underestimates the actual infiltration rate of water through the seafloor to the slant well. This estimation is based on the average bulk flow rate of the

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<sup>12</sup> MWDOC – Final Summary, 2014, at pg. 19.



water over a 1,000,000 square foot area<sup>13</sup> and calculations done by Williams with respect to the Doheny slant wells.<sup>14</sup>

In reality, the flow rate will vary along the length of the slant well. The following factors will vary the flow rate: the utilization of the submersible pump in the slant well, filter medium and composition, the use of inflatable packers to limit flow to certain sections of the well, and the accumulation of suspended organic material (SOM), detritus and other biomass which would lower hydraulic conductivity of the medium around the slant well. Additionally, the DEIR/EIS does not consider the flow rate as it changes due to erosion, compaction, strong wave action, or violent storm events over the 40 year lifetime of the project.

When each factor is considered, the infiltration rate based on preliminary flow modeling of a 19-degree<sup>15</sup> axis angle slant well, will be 0.00052 ft/sec ( $1.6 \times 10^{-4}$  m/s) at its peak above the submersible pump and 0.000033 ft/sec ( $1.0 \times 10^{-5}$  m/s) at the well bore end. The infiltration rate for 14-degree axis angle yielded 0.0016 ft/sec ( $5 \times 10^{-4}$  m/s), see Figure 11. The DEIR/EIS is therefore deficient as it does not properly analyze the specific factors along each slant well which will create drastically higher infiltration rates at the slant well intake sites.

As a consequence of failing to accurately calculate the vertical infiltration rate, the DEIR/EIS also does not account for accumulation of biomatter in the seabed.<sup>16</sup> The DEIR/EIS states that biomatter will not accumulate because strong wave actions will prevent accumulation.<sup>17</sup> This statement is unsupported, as I will examine in further detail below.

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<sup>13</sup> DEIR/EIS, at pg. 4.5-52.

<sup>14</sup> Williams, D.E., 2010. South Orange Coastal Ocean Desalination Project – Vertical Infiltration Rate of Ocean Water Migrating Through the Seafloor in the Vicinity of the Slant Well Intake System, *available at* <http://www.mwdoc.com/cms2/ckfinder/files/files/Evaluation%20of%20Potential%20Impacts%20to%20Marine%20Life%20by%20Slant%20Wells%20-%20MLPA%20DEIR%20Comment%202010-10-13.pdf>, at pgs. 2-3 (“Williams, 2010”). The Williams, 2010 paper, and the Jenkins, 2010 paper (cited later) are included as support in the State Water Resources Control Board (SWRCB), 2015. California Ocean Plan, *available at* [http://www.swrcb.ca.gov/water\\_issues/programs/ocean/docs/cop2015.pdf](http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf) and in this DEIR/EIS at pg. 4.2-52. Collectively, the Williams, 2010, and Jenkins, 2010 papers, and a cover letter written by Dr. Noel Davis, are referred to as “MWDOC, 2010.” The full citation for this document is Davis, N., 2010, Memorandum to Richard Bell, P.E., Municipal Engineer, Municipal Water District of Orange County (MWDOC), Subject: Evaluation of Potential Impacts to Marine Life Due to Operation of Slant Beach Wells, *available at* <http://www.mwdoc.com/cms2/ckfinder/files/files/Evaluation%20of%20Potential%20Impacts%20to%20Marine%20Life%20by%20Slant%20Wells%20-%20MLPA%20DEIR%20Comment%202010-10-13.pdf>.

<sup>15</sup> The test slant well was installed at a 19-degree angle, the proposed slant wells will be installed at 14-degree angle. The DEIR/EIS does not account for how this angle change may impact the vertical infiltration rate. The DEIR/EIS does not inform the public if the 1,000,000 square foot area was derived based on the 19 degree test slant well, the 14 degree proposed wells, or a combination.

<sup>16</sup> DEIR/EIS, at pgs. 4.5-53.

<sup>17</sup> DEIR/EIS, at pgs. 4.5-52-53; see also State Water Resources Control Board, 2014. Appendix I Responses to the External Peer Review of the Proposed Desalination Amendment Associated with the Draft Staff Report Including the Draft Substitute Environmental Documentation For the Proposed Desalination Amendment, *available at* [http://www.waterboards.ca.gov/water\\_issues/programs/ocean/desalination/docs/amendment/150320\\_appendix\\_i.pdf](http://www.waterboards.ca.gov/water_issues/programs/ocean/desalination/docs/amendment/150320_appendix_i.pdf), at pg. I-19-20 (citing Williams, 2010.)

**A. The DEIR/EIS underestimates the infiltration rate through the sea floor. In actuality, the infiltration rate at some sections of the well will be much higher.**

The DEIR/EIS calculates the vertical infiltration rate by taking the entire 24.1 mgd amount of seawater and dividing approximately 1,000,000 square feet by that amount.<sup>18</sup> Using this method, the DEIR/EIS arrives at a vertical infiltration rate of 0.0000373 ft/sec or 0.011 mm/sec.<sup>19</sup> The DEIR/EIS compares this number to the infiltration rate, which Williams calculated in 2010<sup>20</sup> with site specific information for the Doheny wells. Williams used an entirely different methodology to calculate the infiltration rate, examining the hydraulic conductivity of seafloor sediments, effective porosity of seafloor sediments, hydraulic head difference between the ocean surface, and groundwater levels in the vicinity of feed water supply wellfield, and the average vertical distance from the seafloor to the middle of the intake well screen sections.<sup>21</sup> Williams arrived at an infiltration rate of 0.000051 ft/sec or 0.016 mm/sec, and 0.00000078 ft/sec at the outer limits of the ocean water source area.<sup>22</sup> The DEIR/EIS then proclaims because its number is “very similar” to the Williams’ calculation, it will use a potential infiltration rate band of 0.011 to 0.016 mm/sec.<sup>23</sup>

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This methodology fails to take into consideration fundamental physical and chemical properties. As such, the DEIR/EIS is deficient at properly disclosing impacts.

**1. Factors that Influence Infiltration Rate: Submersible Pump**

The DEIR/EIS does not fully disclose the fluid mechanics along the screened segment of the slant well. We know from the patent that inventions incorporated into the well construction are important in terms of controlling the flow (*i.e.*, utilizing a submersible pump, inflatable/deflatable packers).<sup>24</sup> As is, the DEIR/EIS fails to recognize that the greatest draw of water will be above the submersible pump.

Based on the 2015 Williams White Paper<sup>25</sup>, descriptions of the slant well in the patent<sup>26</sup>, geometries from a 2006 test slant well drawing (“Well As Built, Test Slant Well

<sup>18</sup> DEIR/EIS, at pg. 4.5-52.

<sup>19</sup> *Id.*

<sup>20</sup> Williams, 2010, at pgs. 1-4; see also Jenkins, S. A., 2010. Potential Impact on Wave and Current Transport Process Due to Infiltration Rates Induced by the South Orange Coastal Ocean Desalination Project, available at <http://www.mwdoc.com/cms2/ckfinder/files/files/Evaluation%20of%20Potential%20Impacts%20to%20Marine%20Life%20by%20Slant%20Wells%20-%20MLPA%20DEIR%20Comment%202010-10-13.pdf> (“Jenkins, 2010”).

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> DEIR/EIS, at pg. 4.5-52

<sup>24</sup> Slant Well Patent, 2011.

<sup>25</sup> Williams, 2015, at pg. 4 (“The Monterey test slant well has an 18 in. pump house casing which can accommodate placement of large development pumps with capacities over 3,000 gpm.”)

<sup>26</sup> Slant Well Patent, 2011 (“In one embodiment of the invention, the slant wells include a unique telescoping set of casings and screens. This design allows for a larger pump house casing near the land surface, with successively smaller casing and screen diameters as the well extends downward. The telescoping casings and screens facilitate extending the well to lineal lengths of 1,000 feet or greater beneath the floor of the saline water body, with angles below horizontal ranging from zero to ninety degrees.”)

SL-1")<sup>27</sup>, and the Request for Proposals (RFP) for the Project's slant wells<sup>28</sup>, we have assumed that the submersible pump location is at the vertical depth of approximately 60-70 feet in the dune sand zone. This Project's RFP do not clearly identify the location of the submersible pump, but based on information from the documents above, the pump might possibly be as shallow as 48 feet for one of the proposed slant wells.<sup>29</sup> But, most submersible pump locations in the RFP appear to be at a depth of 65-76 feet, which is consistent with my assumption.<sup>30</sup> Similarly, it seems most pumps would be located 140-280 lineal feet.<sup>31</sup> Based on the RFP and the documents above, I assume that the pump is located at a depth of about 62 feet (19 meters) and a length of about 230 feet (70 meters). The DEIR/EIS should accurately disclose the location of the submersible pump because the submersible pump creates a pressure zone, which pulls seawater from above the seafloor via induced infiltration. This pressure zone should be adequately disclosed to the public in order to accurately evaluate the Project's impacts.

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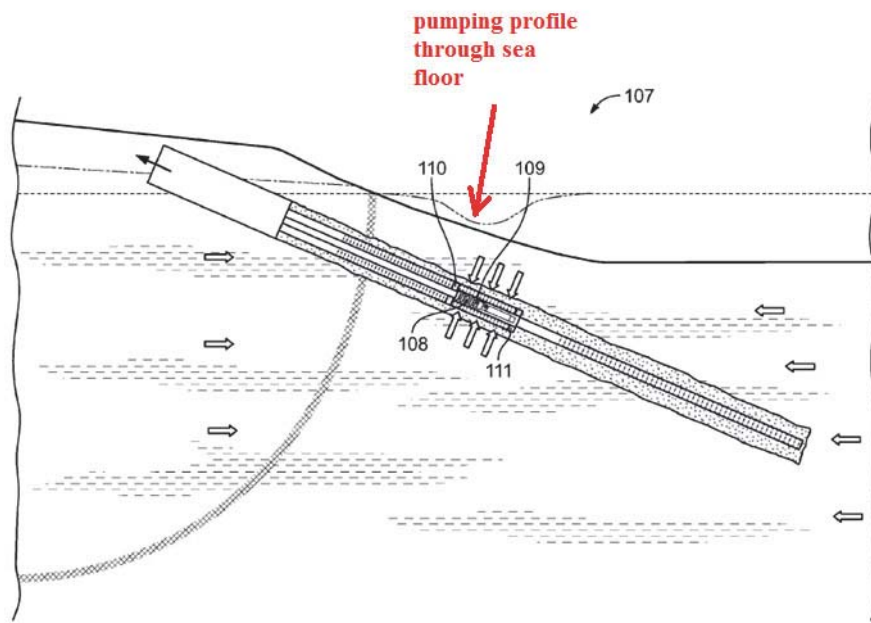
<sup>27</sup> Municipal Water District of Orange County, Well as Built Test Slant Well SL-1, <http://www.mwdoc.com/cms2/ckfinder/files/files/Test%20Slant%20Well%20-%20As%20Built%20Drawing.pdf> (the geometry of the well to estimate the location of the submersible pump and other relevant parameters were taken from this drawing).

<sup>28</sup> Monterey Peninsula Water Supply Project: Subsurface Source Water Slant Wells Design Documents, 2015, available at <https://www.dropbox.com/s/xs6tdmtg6qvk0fc/draft%20Source%20Water%20Slant%20Well%20supplemental%20conditions%20and%20tech%20specs%20and%20drawings.pdf?dl=0>, at pgs. 108-116 (showing the location of the "18 in. id well casing 2507 super duplex ss, 0.25 in. wall thickness, 18.500 in.od," which is a possible location of the submersible pump at 140-355 lineal feet (34-55 meters) and at a depth ranging from 48feet to 76 feet, with most locations [8 out of 9] at a depth of 65-76 feet (20-23 meters).

<sup>29</sup> *Id.* at pg. 102

<sup>30</sup> *Id.* at pgs. 108-116

<sup>31</sup> *Id.*

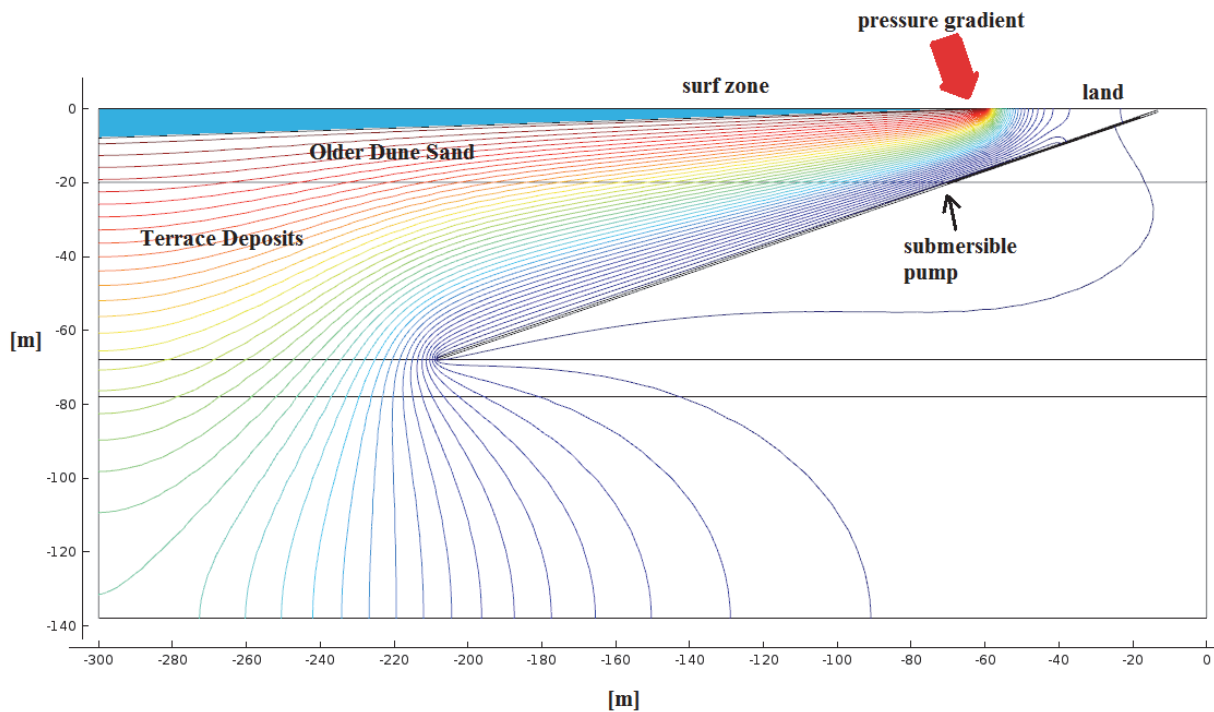


U.S. Patent Nov. 15, 2011 Sheet 19 of 23 US 8,056,629 B2

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Figure 2. Slant Well Patent, 2011,<sup>32</sup> showing the inflow directly above the submersible pump. The presented upside down bell curve (red arrow), is the anticipated pumping profile through the sea floor. More elaboration about induced infiltration can be found in Williams 2015.<sup>33</sup>

<sup>32</sup> Slant Well Patent, 2011.  
<sup>33</sup> Williams, 2015.



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**Figure 3. Qualitative illustration of pressure gradient present at pumping speed of  $0.132\text{m}^3/\text{s}$  by the submersible pump. Position of submersible pump is at  $x=-70\text{m}$ , and  $y=-19\text{m}$**

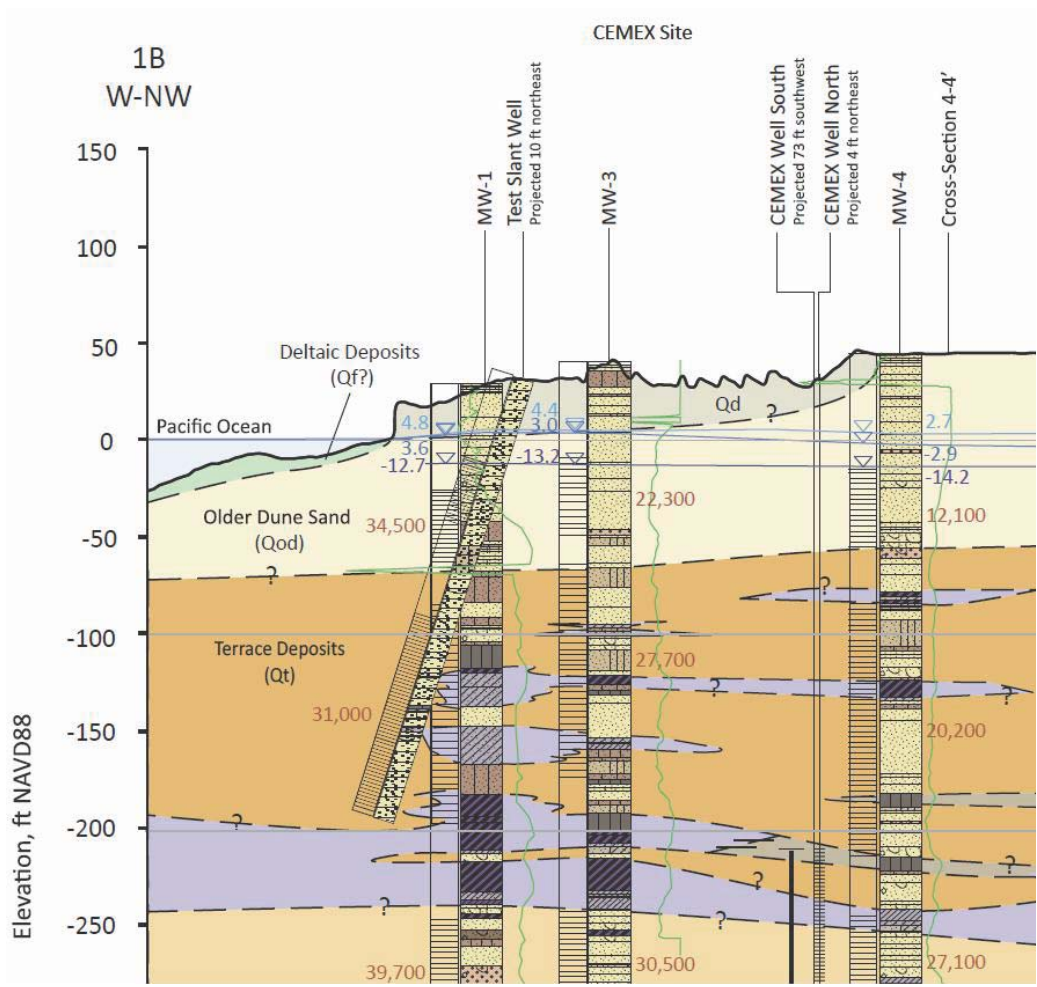
## 2. Factors that Influence Infiltration Rate: Location of Slant Wells With Respect to the Sediment Profile

The DEIR/EIS analysis of the infiltration rate is flawed because it does not account for the sediment composition of the Monterey Bay which will direct the flow of water to specific parts of the slant well as opposed to evenly distributing the infiltration rate force along the entirety of the well. Therefore, the DEIR/EIS's assumption that water will flow evenly through 1,000,000 square feet, is inaccurate.<sup>34</sup>

Section 4.2.1.1 of the DEIR/EIS presents a diagram for where the test slant well exists in the Monterey Bay geology.<sup>35</sup>

<sup>34</sup> DEIR/EIS, at pg. 4.5-52

<sup>35</sup> DEIR/EIS, at pg. 4.2-5.



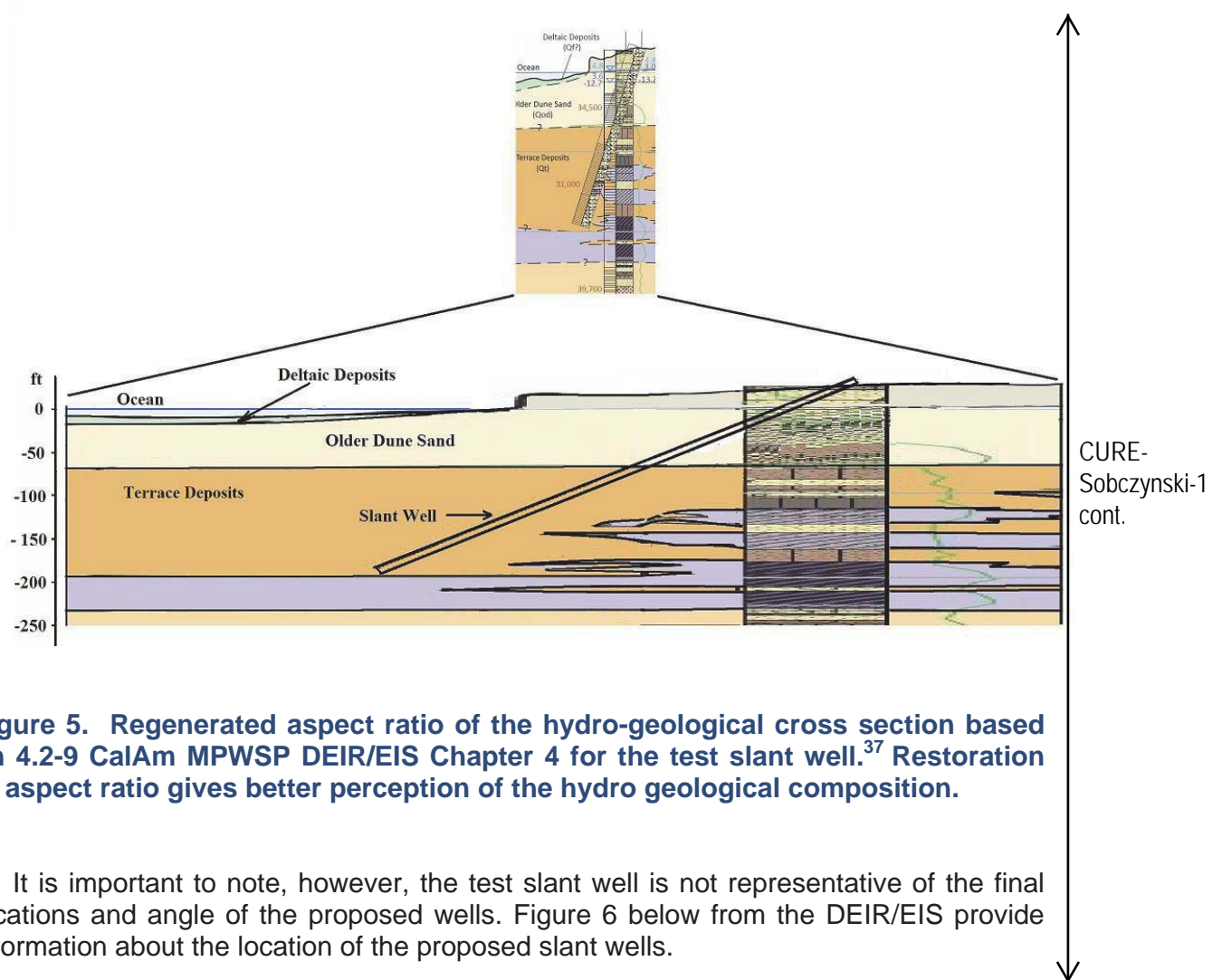
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**Figure 4. Geological cross section through the project site. The drawings aspect ratio has not been preserved.<sup>36</sup>**

Note, however, that this picture does not preserve the actual angle the test slant well was designed to operate at. When accounting for the approximate 19 degree angle, the picture of the slant well becomes clearer.

<sup>36</sup> DEIR/EIS, at pg. 4.4-9.



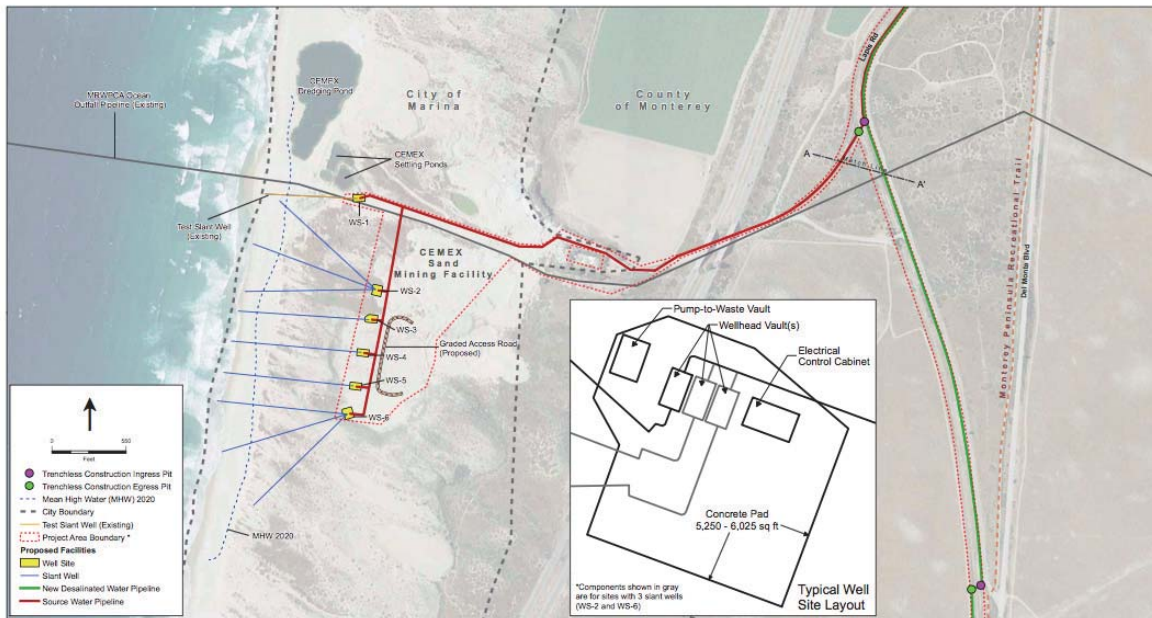


**Figure 5. Regenerated aspect ratio of the hydro-geological cross section based on 4.2-9 CalAm MPWSP DEIR/EIS Chapter 4 for the test slant well.<sup>37</sup> Restoration of aspect ratio gives better perception of the hydro geological composition.**

It is important to note, however, the test slant well is not representative of the final locations and angle of the proposed wells. Figure 6 below from the DEIR/EIS provide information about the location of the proposed slant wells.

<sup>37</sup> DEIR/EIS, at pg. 4.4-9.

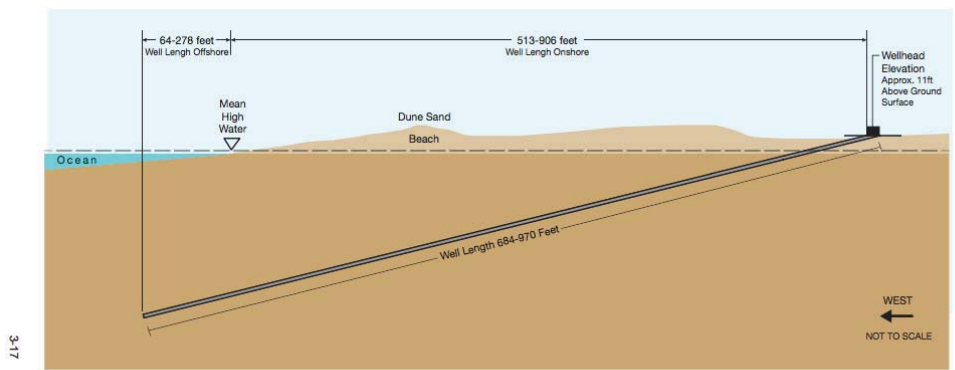




NOTE: Project area boundary refers to the area within which all construction-related disturbance would occur.  
SOURCE: ESA, 2015

205335.01 Monterey Peninsula Water Supply Project  
Figure 3-3a  
MPWSP Seawater Intake System

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3-17

| WELL NUMBER     | DEPTH OF WELL CASING (BELOW WELL HEAD) | WELL LENGTH (PLAN) | WELL LENGTH ONSHORE (PLAN) | WELL LENGTH OFFSHORE (PLAN) |
|-----------------|----------------------------------------|--------------------|----------------------------|-----------------------------|
| 1               | 242'                                   | 970'               | 906'                       | 64'                         |
| 2               | 242'                                   | 970'               | 757'                       | 213'                        |
| 3               | 242'                                   | 970'               | 830'                       | 140'                        |
| 4               | 242'                                   | 970'               | 826'                       | 144'                        |
| 5               | 242'                                   | 970'               | 780'                       | 190'                        |
| 6               | 242'                                   | 970'               | 725'                       | 245'                        |
| 7               | 242'                                   | 970'               | 736'                       | 234'                        |
| 8               | 242'                                   | 970'               | NA                         | NA                          |
| 9 (Stand-by-2)  | 242'                                   | 970'               | 692'                       | 278'                        |
| Test Slant Well | 263'                                   | 684'               | 513'                       | 171'                        |

SOURCE: ESA, 2015

205335.01 Monterey Peninsula Water Supply Project  
Figure 3-3b  
Illustrative Cross-Sectional View of Subsurface Slant Wells

Figure 6. Project's slant well array.<sup>38</sup>

<sup>38</sup> DEIR/EIS, at pgs. 3-15, 3-17.

As one can see, the slant wells will traverse the older dune sand. This dune sand has “high permeability ... suitable for the infiltration of water.”<sup>39</sup> The proposed slant wells are at an even shallower angle (14 deg) than the test slant well (19 deg).<sup>40</sup> Therefore a greater percentage of the proposed slant wells will traverse the dune sand.

Utilizing the DEIR/EIS’s maps and the models below, we have determined that most of the water will be drawn through this older dune sand, which is highly permeable and closest to the submersible pump, thus rendering only the upper third, approximately, of the well productive, unless the packers will be engaged.<sup>41</sup> Without additional details, which the DEIR/EIS does not provide, it is difficult to estimate the intake zone. Well’s location figure 14 (see Appendix section in this report) is departing from conceptual presentations in figure 4, patent US 8,056,629 B2, William’s 2015 white paper.

By averaging the expected infiltration rate,<sup>42</sup> the DEIR/EIS does not take into account the fact the infiltration rate will vary dramatically based on the sediment profile of the ocean floor and the location of the submersible pump, which will draw water along the shortest path of least resistance. The water flow will not be evenly distributed along the length of the slant well.

### 3. Factors that Influence Infiltration Rate: Inflatable/Deflatable Packers

The DEIR/EIS fails to consider the distribution of infiltration rate due to the internal flow pattern controlled by inflatable/deflatable “packers.” The patent describes this packer device as follows:

*The slant well can be equipped with a submersible pumping system fitted with a dual-packer shroud assembly. Using the dual-packer shroud assembly, the slant well can selectively pump from upper or lower portions of the subsea aquifer, thereby varying feedwater salinity as required to help minimize variations in feedwater salinity due to hydrologic cycles. The dual-packer shroud assembly (DPSA) allows selective production from well screens both above and below the packers (maximum production), well screens above the upper packer only (lower salinity), well screens below the lower packer only salinity), or well screens between the packers (focused salinity).<sup>43</sup>*

Figures 17, 18, 19 of the slant well patent<sup>44</sup> show infiltration zones depending on the packer’s activations. Whether the slant well deploys inflatable packers to block the well

<sup>39</sup> DEIR/EIS, at pg. 4.2-67.

<sup>40</sup> Final Environmental Assessment for the California American Water Slant Test Well Project, September 2014, available at [http://montereybay.noaa.gov/resourcepro/resmanissues/desal\\_projects/pdf/140912calam-slantwell\\_ea-final.pdf](http://montereybay.noaa.gov/resourcepro/resmanissues/desal_projects/pdf/140912calam-slantwell_ea-final.pdf) (“EA, 2014”), at pg. 43.

<sup>41</sup> For a discussion about the packers, see Section III.C. Factors that Influence Infiltration Rate: Inflatable Packers.

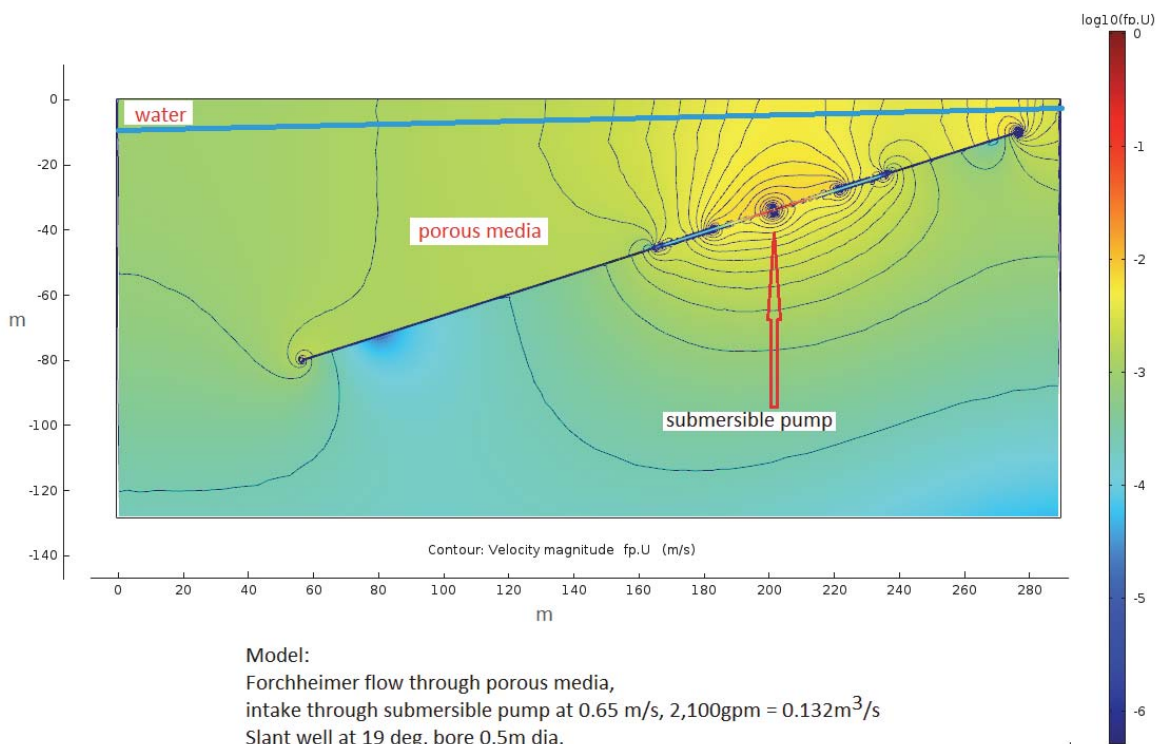
<sup>42</sup> DEIR/EIS, at pg. 4.5-52.

<sup>43</sup> Slant Well Patent, 2011, column 3, row 25-40

<sup>44</sup> *Id.*

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will impact how the water flows into the slant well. Figure 7 demonstrates the flow rate assuming both packers are deflated, so the entire length of the well is participating as the water feeding source. Even so, my results suggest preferential flow in close proximity of the submersible pump. Since details about inner flow are missing from DEIR/EIS, I cannot provide detailed evaluation of the infiltration zones.



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**Figure 7. Illustrative model of intake zone velocity field for single slant well, per assumption that all packers are deflated, however it can be noticed that the strongest intake velocity field is above the submersible pump. It is not clear from the DEIR/EIS, how effective the control of the flow inside the bore is and which part of well is active. The invention disclosed in the patent clearly identifies the use of packers as an improvement in slant well technology.<sup>45</sup>**

The test slant well appears to have had inflatable packers, but the DEIR/EIS is silent about this feature for the proposed slant wells.

*This [operations] phase may also include a one-time repositioning of the packer device that is used to isolate one aquifer for testing and pumping. This special operation would involve removal of the submersible pump and pump column, removal of the initial packer, insertion of the second packer, and replacement of the pump. This modification would take 2 to 3 days to accomplish. Equipment and operations required for the repositioning of the device, including temporary laydown of the pump*

<sup>45</sup> Slant Well Patent, 2011.

column, would be located within the original construction footprint shown in Figure 3a.<sup>46</sup>

By failing to disclose whether the proposed wells, like the test slant well, will have inflatable packers, and whether they would be deployed, the DEIR/EIS is factually insufficient. If the packers are used, the vertical infiltration rate would be far higher.

#### 4. Factors that Influence Infiltration Rate: Clogging in the Seabed

The most glaring hindrance to water flow is clogging. This can occur at the intake screens and throughout the seabed. To maintain the intake screens, the DEIR/EIS states that the slant wells will need regular cleaning by using mechanical brushes, and possibly inert chemicals.<sup>47</sup> This requires taking the well out of service and brushing the screens. However the slant wells can only be cleaned from the inside, while the subsurface filter media and outer shell will still have substantial and permanent waste buildup.

Dr. Williams admits that clogging can be an issue for slant wells. In his patent, he claims:

*In the past, slant well technology has not been successfully applied to subsea construction of desalination feedwater supplies, as the well screen slots have become clogged during pumping. Once the well screen slot openings are clogged, it becomes difficult or impossible to continue to pump water. Accordingly, there is a need for a reliable slant well system that is able to supply water from near-shore or subsea aquifers to a desalination plant without becoming clogged with fine-grained materials (e.g., fine sands and silts) over time. There is also a need for a method of constructing such a system—especially at low angles below horizontal in order to minimize impacts to inland fresh water sources. The present invention satisfies these needs and provides further related advantages, especially with regard to regulation of feedwater salinity.*<sup>48</sup>

Despite his assurances, the invention did not prevent clogging at the Doheny wells at Dana Point.

*During the two year pilot testing, the Doheny test slant well produced approximately 3 mgd with relatively stable drawdowns. When it was constructed in 2006, it was test pumped at approximately 2,100 gpm and displayed a well efficiency of 95%. During the extended pilot testing the well efficiency dropped from the original value of 95% in 2006 to 52% in 2012.*<sup>49</sup>

<sup>46</sup> EA, 2014, available at pg. 39.

<sup>47</sup> DEIR/EIS, at pg. 3-57.

<sup>48</sup> Slant Well Patent, 2011.

<sup>49</sup> Williams, 2015, at pg. 3.

Lessons learned from the Doheny wells indicated that the pump casing was too small, causing the loss of efficiency,<sup>50</sup> and that sand clogging can impair the well at the construction stage.<sup>51</sup>

*Design and construction of the full scale slant wells will need to be approached similarly to conventional water well design and drilling, but since the wells will be relatively flat in slope, additional care must be taken in gravel placement and well development. The design and construction will be aided through the experience gained in design and construction of the Test Slant Well. A key to the long-term success of the wells will be to provide thorough development work to assure minimum levels of sand clogging to the gravel pack. Sand clogging can occur over time in a well when it is not properly designed, constructed and/or developed. Causes include too large of well screen slot spacing, too large of gravel size in the gravel pack, gaps in the gravel pack, and most commonly, insufficient development of the well. The well screen and gravel pack size can be properly sized assuming the well designer has good technical capability and experience. Improper well development can occur due to insufficient swabbing, bailing and/or air lifting and due to insufficient development pumping rate and time.<sup>52</sup>*

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Though Williams has claimed “improvements” that assure clogging will not be a problem for this Project, I challenge his assumptions in Section II, Calculating the Adjusted Infiltration Rate.<sup>53</sup>

Additionally, the DEIR/EIS does not consider the flow rate as it changes due to erosion, compaction, strong wave action, or violent storm events over the 40 year lifetime of the project. This is discussed in further detail in Section B and Section C, below.

## **B. Calculating the Adjusted Infiltration Rate**

My analysis examines the effect of the flow dynamics and water intake pattern through the ocean floor driven by the required pumping rate. By reconstructing models and conducting computational hydro-dynamical flow analysis by the methods of Finite Element Analysis, I have estimated that the infiltration rate of the water through sea floor interface, presented in Figure 9, is a nonlinear function. This has not been adequately explained in the DEIR/EIS.

First, my analysis examines the well geometry in reference to the sea floor slope. Bathymetric charts of the project area and descriptions provided in patent<sup>54</sup>, and the

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<sup>50</sup> Williams, 2015, at pg. 4.

<sup>51</sup> MWDOC – Final Summary, 2014, at p. 57.

<sup>52</sup> *Id.*

<sup>53</sup> Williams, 2015, at pg. 3.

<sup>54</sup> Slant Well Patent, 2011



2015 Williams White Paper<sup>55</sup> were used. Second, the analysis looks at the slant wells' pump outflow rate. Third, the analysis applies the hydraulic conductivities of the media, Darcy's and Forchheimer physics laws.<sup>56</sup> Finally, and fourth, computational fluid dynamics (CFD), based on Finite Element Analytical (FEA) method to determine zonal vertical infiltration rates. Note, the DEIR/EIS fails to mention the exact operational flow pattern and does not discuss the inflatable packers. Therefore my modeling did not consider flow control by inflatable packers, rather my modeling assumed only the full well length. If inflatable packers are used, the flow distribution will have to be recalculated.

The initial modeling was performed for a single well pumping with a rate of 2,100 mgd based on the 2015 Williams White Paper.<sup>57</sup> For my qualitative results, I can only compare with the drawings in the patent<sup>58</sup>, and drawings published in the 2015 Williams. My qualitative results confirmed that the pumping profile is non linear. Though the proposed slant wells can have a pumping rate of up to 2,500 mgd,<sup>59</sup> the purpose of this initial modeling was to qualitatively demonstrate the pumping profile using CFD<sup>60</sup> methods. The flow profile, is non linear function, which in my expert opinion should apply to the test slant well and the proposed slant wells.

My decision to use the CFD method is to provide more detail about flow dynamics than the general draw down equations used by Williams.<sup>61</sup> Williams refers to this equation as "UDE" in his 2015 White Paper.<sup>62</sup>

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<sup>55</sup> Williams, 2015.

<sup>56</sup> See Glossary of Terms in Section V.

<sup>57</sup> Williams, 2015, at pg. 3 ("When it was constructed in 2006, it was test pumped at approximately 2,100 gpm and displayed a well efficiency of 95%."); see also EA, 2014 at pg. 39 ("The water flow rate during the operational period would vary from 1,000 gallons per minute (gpm) to 2,500 gpm.")

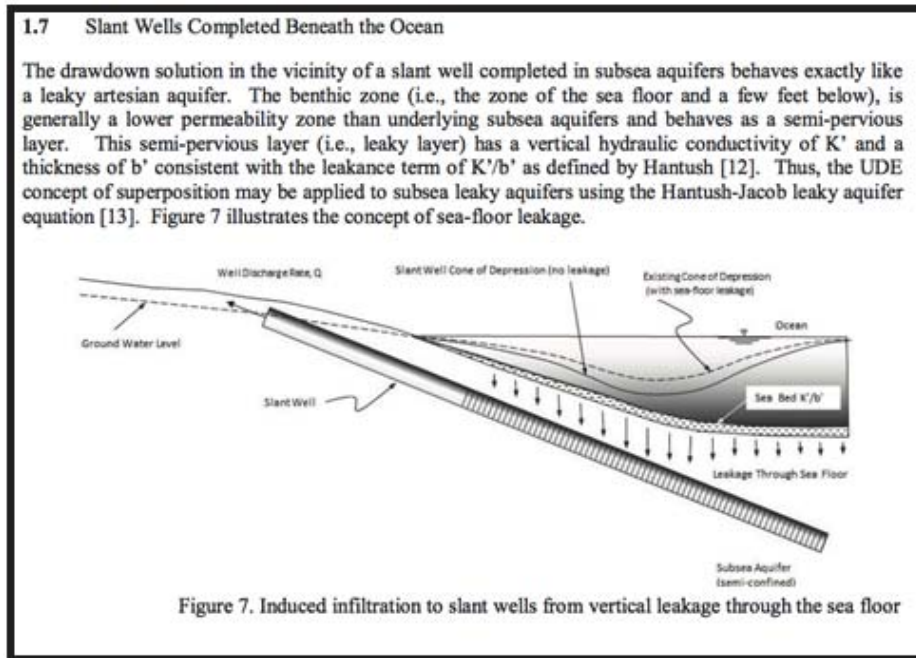
<sup>58</sup> Slant Well Patent, 2011.

<sup>59</sup> DEIR/EIS, at pg. 4.12-52.

<sup>60</sup> See Glossary of Terms in Section V.

<sup>61</sup> Williams, 2015, at pgs. 7,8.

<sup>62</sup> *Id.* at pgs. 5-7.



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**Figure 8. 2015 Williams White Paper, figure explaining infiltration.<sup>63</sup>**

Contrary to the DEIR/EIS, the flow velocities cannot be approximated by averaging total volume over the area of project field.<sup>64</sup> In fact, other literature has put the infiltration rate at a much higher rate than the DEIR/EIS's estimate of 0.011 mm/sec – 0.016 mm/sec. Inflow rates of 0.1- 2mm/sec are typical with rapid infiltration rates through the sand medium.<sup>65</sup>

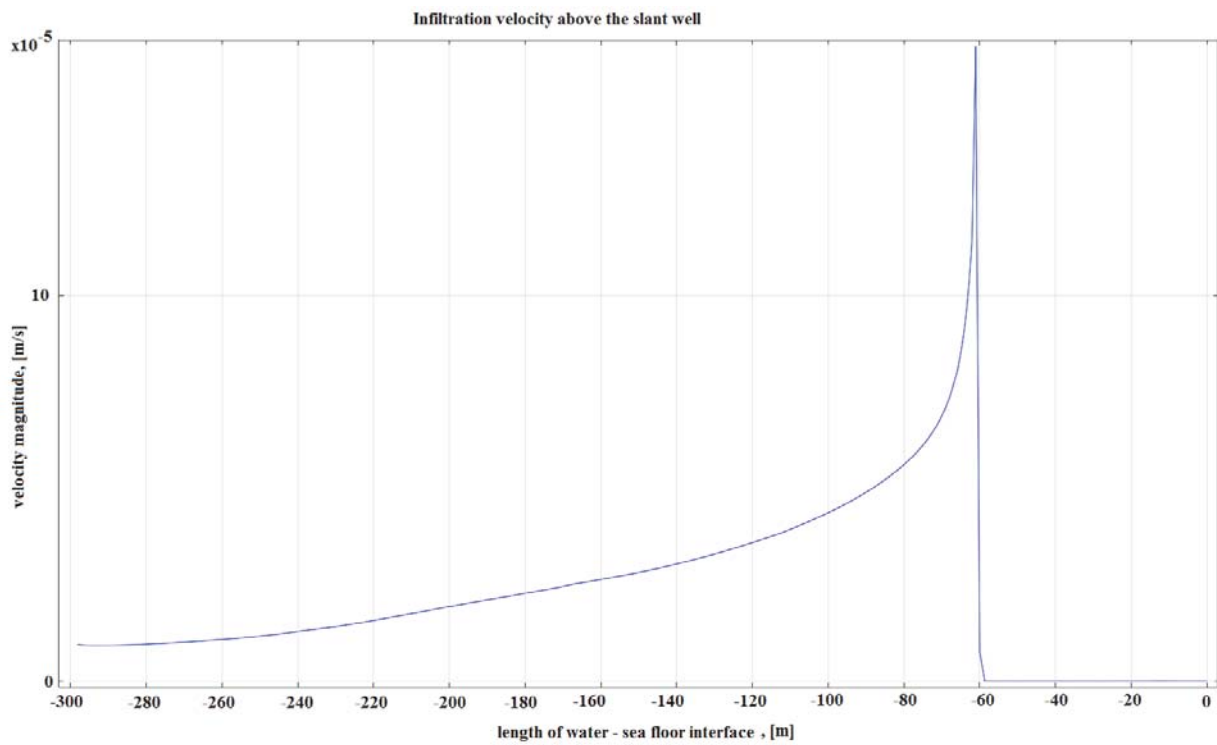
However, for the purposes of being conservative in my calculations I did not use this much faster infiltration rate, and rather used the infiltration rate the DEIR/EIS provides. Thus, my calculations started with an infiltration rate based on the average bulk volume flow over 1,000,000 ft<sup>2</sup> flow provided by DEIR/EIS which I selected at 0.015mm/sec, which is within the range provided. I allowed the computational model to self adjust flow dynamics through the iterative steps, without any additional bias or intervention. The result is presented in Figure 9, which shows that at the peak (located at -60 meters or -196 feet) the infiltration velocity is 10x higher than the average infiltration published by EIR/EIS. For this modeling, the submersible pump was modeled at -70m along the x-axis and -18m along the y-axis.

<sup>63</sup> *Id.* at pg. 7.

<sup>64</sup> DEIR/EIS, at pg. 4.5-52.

<sup>65</sup> Ives, K J (1990). "Deep Bed Filtration." Chap. 11 of *Solid-Liquid Separation, 3rd Ed.*, Svarovsky L (ed). Butterworths. ISBN 0-408-03765-2; Sand Filter, Wikipedia, available at [https://en.wikipedia.org/wiki/Sand\\_filter](https://en.wikipedia.org/wiki/Sand_filter), and references therein.





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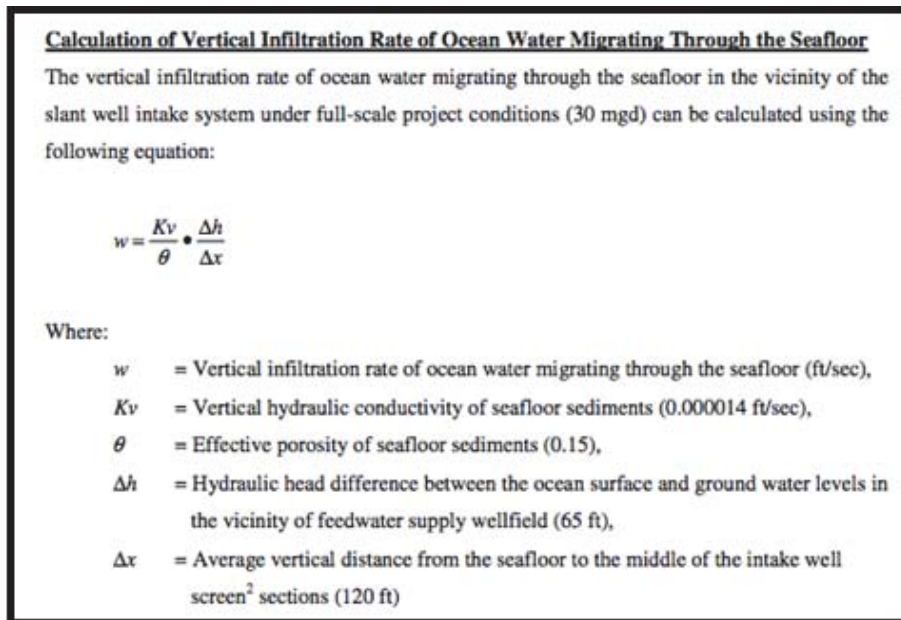
**Figure 9. Infiltration profile above the slant well through the water sea floor interface.**

**For this modeling, the submersible pump was set at  $x=-70, y=-18$ m. I obtained an infiltration rate at the -60m point, which is equal to 0.16 mm/s which is about 10x larger values reported by DEIR/EIS.**

Our infiltration rate resulting from careful modeling shows a 10x higher number than what is provided by GeoScience in 2010<sup>66</sup>, and which was then used in Jenkins's calculations to determine impacts to marine biology.<sup>67</sup>

<sup>66</sup> Williams, 2010, at pgs. 1-4; Jenkins, 2010., at pgs. 1-8.

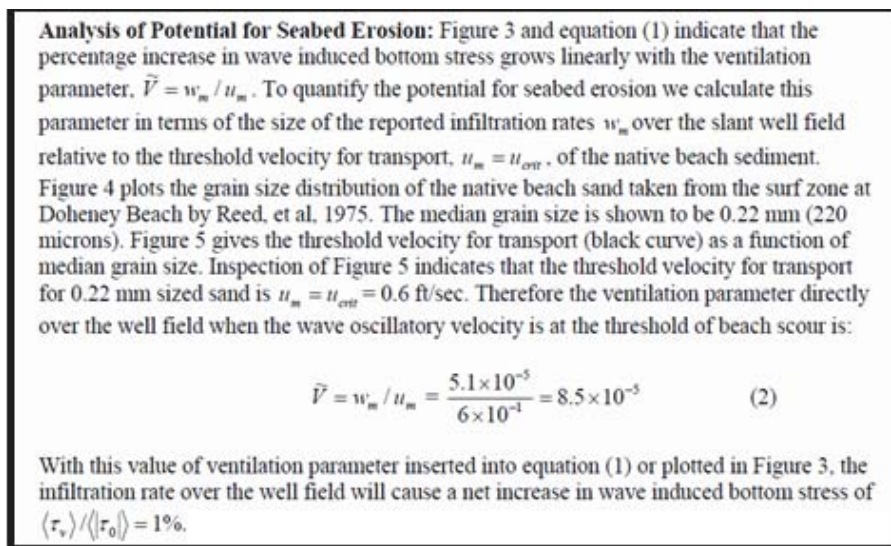
<sup>67</sup> Jenkins, 2010, at pgs. 1-8



**Figure 10. GeoSciences Vertical Infiltration Rate Calculation of Ocean Water Migrating Through the Seafloor, 2010.<sup>68</sup>**

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This vertical infiltration rate 0.016 mm/sec, which Dr. Williams calculated in his 2010 White Paper,<sup>69</sup> was then used to calculate the potential for seabed erosion by Dr. Scott A. Jenkins.<sup>70</sup> Jenkins's calculation for ventilation parameter and infiltration rate is below:



Jenkins determined that the infiltration rate will increase in wave induced bottom stress

<sup>68</sup> Williams, 2010, at pg. 2.

<sup>69</sup> *Id.*

<sup>70</sup> Jenkins, 2010, at pg. 4.

of 1%.<sup>71</sup> However, if the Williams's infiltration rate is higher than  $5.1 \times 10^{-5}$  ft/s, which I demonstrate is possible in my modeling, then this implies a significantly higher stress than what Jenkins calculated. In fact, I calculated the ventilation parameter (to then determine bottom stress) using the same assumption as Jenkins, above, but I was using the infiltration rate from our model.<sup>72</sup> I found that the ventilation parameter yields  $9 \times 10^{-4}$ . This would imply a 10% stress value at the intake zone directly above the well, not 1%.

Since the DEIR/EIS is relying on Williams's and Jenkins's calculation<sup>73</sup> for the impact analysis for this Project, it is in my professional opinion that closer scrutiny and reexamination of the erosion — based on specifics of the actual site — is needed and such request is justified. I have shown that the value of infiltration can be 10x larger than what has been reported, and thus the bottom stress of 1%, calculated by Jenkins and later used by DEIR/EIS is underestimated.

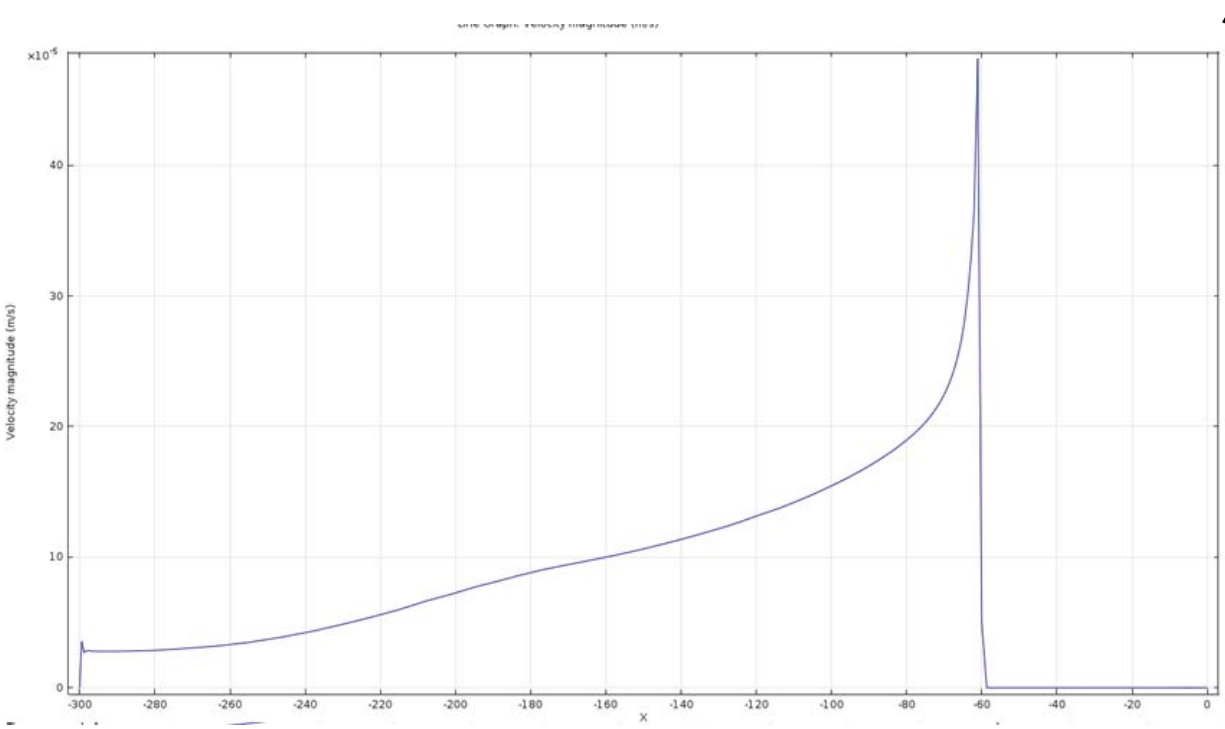
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<sup>71</sup> *Id.*

<sup>72</sup> *See id.*

<sup>73</sup> DEIR/EIS, at pg. 4.5-52 (referring to the Municipal Water District of Orange County (MWDOC) document which includes Jenkins, 2010 and Williams, 2010 papers); *see also* State Water Resources Control Board, 2014. Appendix I Responses to the External Peer Review of the Proposed Desalination Amendment Associated with the Draft Staff Report Including the Draft Substitute Environmental Documentation For the Proposed Desalination Amendment, *available at* [http://www.waterboards.ca.gov/water\\_issues/programs/ocean/desalination/docs/amendment/150320\\_appendix\\_i.pdf](http://www.waterboards.ca.gov/water_issues/programs/ocean/desalination/docs/amendment/150320_appendix_i.pdf), at pg. I-19-20 (citing Williams, 2010 and Jenkins, 2010.)



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**Figure 11. Infiltration rate, modeling of well drilled at 14 deg.**

The modeling of the well drilled at 14 degrees, resulted in a peak infiltration rate five times higher than my calculations for the 19-degree well. I found the 14-degree well could have an infiltration rate equaling 0.5mm/s. The reason behind such further infiltration increase is that the well will be, in this instance, closer to the sea floor. This result raises a concern that if the pump is operating during a storm then violent wave actions could pierce through the seafloor and be in close proximity to the slant well's screened intake. In such a case high turbidity water will enter the slant well (foregoing the usual natural filtration process)<sup>74</sup> and enter the desalination facilities.<sup>75</sup> This could damage the pre-treatment systems and the RO membrane. However an economical analysis of such catastrophic event is outside my expertise.

**C. The DEIR/EIS fails to accurately evaluate the potential buildup of biomass.**

The DEIR/EIS fails to account for the buildup of biomass within the sedimentary strata. The buildup of biomass in the sedimentary strata over time will result in a lower infiltration rate, thus restricting the flux of dissolved oxygen, which can lead to anaerobic conditions for bacteria respiration. A possible result is the release of toxic hydrogen sulfide and other chemicals.

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To accurately analyze this impact, the DEIR/EIS must provide existing dissolved

<sup>74</sup> DEIR/EIS, at pg. 1-6 ("The proposed slant wells would draw ocean water through the seafloor sediments, which would pre-filter the seawater for use at the desalination plant.")

<sup>75</sup> DEIR/EIS, at pg. ES-5.

oxygen levels (which it does in 4.3-8, but primarily in the context of salinity and temperature), and the Dissolved Organic Matter (DOM) or Suspended Organic Matter (SOM) levels. The DEIR/EIS proposes that the Dissolved Oxygen level is not less than 7.0 mg/L.<sup>76</sup> However, critically, the DEIR/EIS does not include the Dissolved Organic Matter (DOM), or Suspended Organic Matter (SOM) levels.

The DEIR/EIR does not adequately analyze the issue of biomatter accumulation. It focuses on entrainment and impingement issues of marine organisms in evaluating the marine impact.<sup>77</sup> It provides the following explanation for why entrainment and impingement, will not occur.<sup>78</sup> First, the DEIR/EIS argues the orbital currents at the sea floor are so aggressive that any small micro-organisms near the sea floor will be swept away and will not have the opportunity to settle on the sea floor before being pulled into the sedimentary layers.<sup>79</sup> Second, the DEIR/EIS states the infiltration rate is so low that those forces will be overwhelmed by the orbital currents and thus the slant well's suction will play no role in pulling micro-organisms into the sea floor.<sup>80</sup> These conclusions<sup>81</sup> are based on the work of Jenkins,<sup>82</sup> discussed above, which relied on the infiltration rate ( $5.1 \times 10^{-5}$  ft/sec) that Williams's found in his 2010 White Paper.<sup>83</sup> Jenkins's conclusion is as follows:

**Conclusions:** Analytic calculations were made to determine the potential for seabed erosion and micro-organism impingement on the seabed due to infiltration rates and pressure gradients induced by the slant well field of the South Orange Coastal Ocean Desalination Project. The calculations were based on infiltration rates and seabed pressure gradients modeled by Geoscience, (2010). While the modeled infiltration rates were found to increase net bottom shear stress by no more than 1% at the onset of erosion, this value is considered statistically insignificant as it is nine times smaller than the error implicit in the net shear stress increases determined under controlled laboratory conditions. Even then, whatever sediment transport is attributable to this 1% increase in bottom stress is both limited to the immediate vicinity of the slant well intake and is insignificant in comparison to naturally occurring seasonal beach profile variation and storm induced erosion. Force balance calculations show that the ocean would have to become perfectly quiescent in order for nano- and netplankton and other neutrally buoyant, freely drifting micro-organisms to become impinged or trapped on the seabed by the vertical pressure gradient induced by the slant well field. Such a quiescent wave climate has never been measured or observed at this site.

In his analysis, Jenkins examines the effects of orbital velocities on organisms occupying the area just above the sea floor. Based on his equations and examination of vertical pressure gradients, Jenkins concludes that nanoplankton and net plankton of a spherical size between 5µm and 20-30µm have no chance of being impinged or trapped

<sup>76</sup> DEIR/EIS, at pg. 4.3-36.

<sup>77</sup> DEIR/EIS, at pg. 4.5-52-53.

<sup>78</sup> DEIR/EIS, at pg. 4.5-53 ("Even though impingement of plankton and larval fish is not expected to occur from the intake of ocean water into the slant wells, the operation of the slants wells could impinge fine organic matter against the sea floor, cause a build-up and change the normal distribution of sediment grain size.")

<sup>79</sup> *Id.* ("Consequently, normal wave generated water velocities at the sea floor locations of the slant wells is predicted to be 8 to 20 times greater than that required for fine-grained material to accumulate on the sea floor over the subsurface slant wells. As a result, there would be no potential for the impingement of fine organic matter on the sea floor or changes to soft substrate habitat.")

<sup>80</sup> *Id.*

<sup>81</sup> DEIR/EIS, at pgs. 4.5-52-53 (referring to SWRCB, 2015 and MWDOC, 2010, which includes Jenkins, 2010 and Williams, 2010 – see explanation of relationship among these references in fn. 14.).

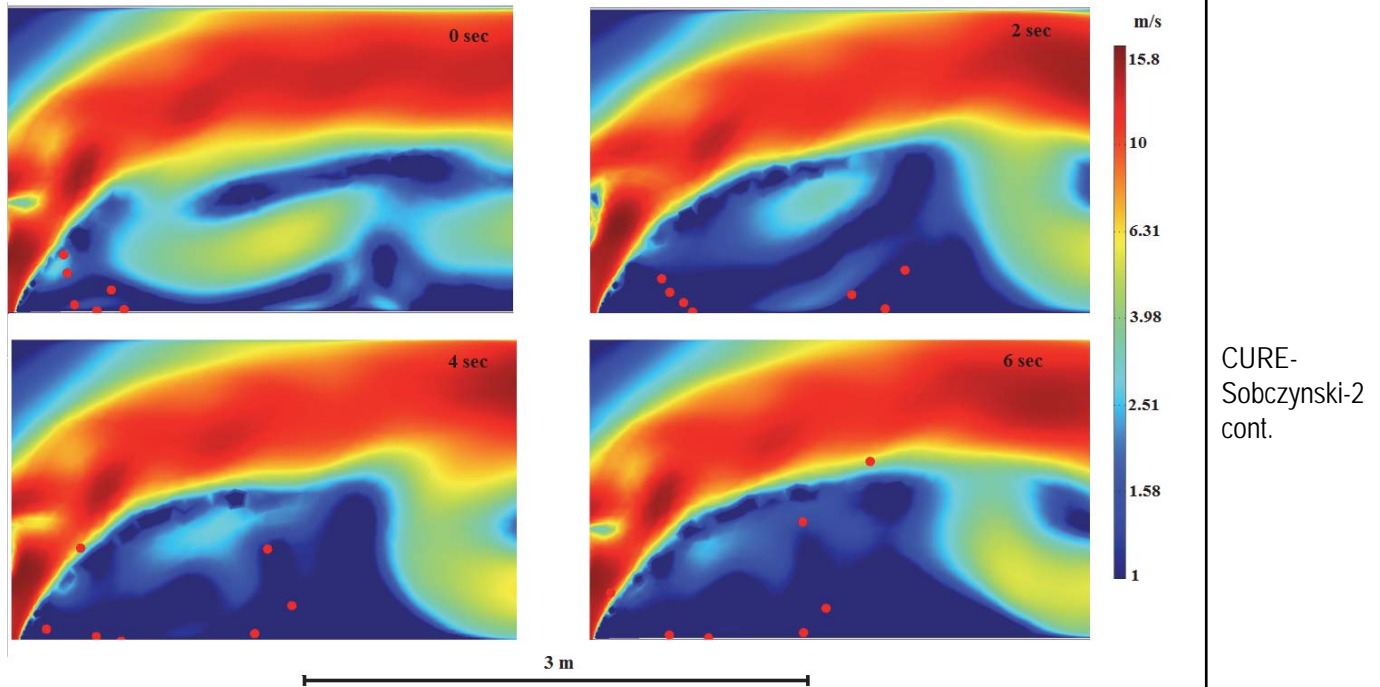
<sup>82</sup> Jenkins, 2010.

<sup>83</sup> Williams, 2010.



on the seabed unless the ocean is completely still.<sup>84</sup>

This, however, is an oversimplification of the fluid mechanics operating on these creatures. I utilized hydro-mechanical theories to demonstrate that particles as large as 10 $\mu$ m can still be trapped in vortices on the sea floor even when the current is at 10m/s. The particles will be caught in a vortex. They may then be subject to the vertical forces of the infiltration rate and will be drawn into the sea floor.



**Figure 12. Numerically modeled snapshots of the particles (red dots) of size 10 $\mu$ m trapped by vortices in highly turbulent current, the pseudo-color surface encodes velocity field ranging from 1 to 15.8 m/s, (3 to 47 ft/s)**

The DEIR/EIS relies on Jenkins’s assertion that no biomatter could ever make it into the sea floor. This is inaccurate. First, the DEIR/EIS should provide existing levels of SOM and DOM from the sea floor to the intake. Second, the DEIR/EIS should reconsider the possibility that SOM and DOM can permeate the sea floor and build up in the sediment above the slant wells. Though the slant wells may be cleaned, the DEIR/EIS provides no proposal for cleaning the subsurface sediment.

This assumption that biomass need not be considered is undermined by the DEIR/EIS itself, which seeks to use the seabed as a “pre-filter”<sup>85</sup>:

<sup>84</sup> Jenkins, 2010, at pg. 8.

<sup>85</sup> Bar-Zeev, E., Belkin, N., Liberman, B., Berman, T., Berman-Frank, I. (2012). *Rapid sand filtration pretreatment for SWRO: Microbial maturation dynamics and filtration efficiency of organic matter.*

*The Applicant proposes to use subsurface intakes (slant wells) to supply the desalination plant with source water. The well casings, or pipes, would extend seaward of MHW and would require a Special Use Permit to be present within MBNMS. The proposed slant wells would draw ocean water through the seafloor sediments, which would pre-filter the seawater for use at the desalination plant.<sup>86</sup>*

Use of the sediment seafloor as a natural filter to remove bacteria, parasites, and other organic and inorganic impurities, besides sourcing the ocean water is the major driving force for the filtration, see illustration of source water in Figure 1. This is to ensure the water can be treated at the desalination plant without requiring extensive filtering.

*Natural filtration in the subsea permeable deposits results in low turbidity and reduction or elimination of seawater reverse osmosis (SWRO) pretreatment.<sup>87</sup>*

Additionally, studies by Borodovskiy<sup>88</sup> and references contained within that study conclude that one cubic meter of surface sea water contains 0.5-1.5 grams of SOM. The estimated total mass of SOM above this Project's infiltration zone is 90 to 150kg/day. Based on our models, 50% of the SOM's flux will become concentrated within the 30 meter (98 foot) radius in the sand stratum above the highest water intake.

Distribution of the infiltrated organic matter in sediment may vary, however once matter enters the filter medium it has no chance to escape, unless the deposit is scrubbed or dredged<sup>89</sup>. The rapid infiltration rate caused by the submersible pump only accelerates the process.

This result — i.e., the sand medium surrounding the intake zone has a high potential for plugging — is seen in other intake systems<sup>90</sup> with engineered filtering medium, such as infiltration gallery systems, not just slant wells.



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cont.

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<sup>86</sup> DEIR/EIS, 1-6.

<sup>87</sup> Williams, 2015 at pg. 1.

<sup>88</sup> Borodovskiy, O. K., 1965. Marine Geology 3 at 33-82 – Elsevier Publishing Company

<sup>89</sup> Hendrix, D., 2010. Fundamentals of Water Treatment Unit Processes, Physical, Chemical, Biological, IWA Publishing, CRC Press ISBN- 978-1-4200-6192-5

<sup>90</sup> Scwd2 Seawater Desalination Intake Technical Feasibility Study, by Kennedy/Jenkins Consultants – September 2011. KIJ Project No. 0868005\*03, available at [http://www.swrcb.ca.gov/water\\_issues/programs/peer\\_review/desalination/docs/reports/intake\\_feasibility\\_study.pdf](http://www.swrcb.ca.gov/water_issues/programs/peer_review/desalination/docs/reports/intake_feasibility_study.pdf). (“Scwd2, 2011”)



**Offshore Engineered Infiltration Gallery** – An offshore engineered infiltration gallery is not expected to be able to reliably provide the required production capacity. The gallery would likely be plugged by fine sediment from winter storm discharge from the San Lorenzo River, which would reduce the production capacity and reliability. The engineered media would likely need to be dredged and replaced every few years, at great expense, and production would be stopped during those periods. Further, large storm events could also potentially reduce production capacity by eroding away the engineered media. Therefore, because an offshore infiltration gallery would have a high potential for plugging and erosion, and would not provide reliable production capacity, this alternative fails the screening level criterion, is not technically feasible and therefore is eliminated from further consideration.

In the case of strong storms, the layers covering the waste can be uncovered, see excerpt from section 7.1.1.1 below.<sup>91</sup> Based on USGS data to protect engineered media for an infiltration gallery, the gallery should be placed 30 to 40 feet deep and 3,000 feet offshore. The slant well array is not being proposed to be built at distances of 3000 ft offshore. Therefore there is a risk that storm flows could “dig up” sediment that has accumulated. If toxic material has accumulated due to vertical infiltration, a storm will release the accumulated toxic material, which will spread and contaminate waters severely impacting the environment.<sup>92</sup>

#### 7.1.1.1 Wave Energy and Storm Flow Impacts on an Engineered Infiltration Gallery

Section 4 describes the impacts of wave and storm flows on the seafloor off the Santa Cruz coastline. Because wave energy could “dig up” an engineered infiltration gallery in the near-shore area, depending on where the waves are breaking and the orbital energy levels from the waves at the seafloor, an engineered infiltration gallery would need to be located farther offshore in deeper water. In the area near the Santa Cruz Municipal Wharf, Point Santa Cruz helps to protect this area from the predominant ocean wave energy. USGS data indicate that in the area of the offshore alluvial channel, approximately 3,000 ft offshore and approximately 30 to 40 ft depth, the typical wave energy does not cause significant erosion of the seafloor. Therefore, an engineered infiltration gallery would need to be placed at least 3,000 feet offshore (past the end of the wharf) to protect the engineered media from being scoured out by typical storm waves.

Based on this concern raised for infiltration galleries, it is in my opinion that the project has severe deficiencies in terms of planning for long term operations and storm events.

### **1. Additional Factors that Lead to Bioaccumulation Impact: Colloidal Buildup**

Compounding the issue of collected SOM is the problem of colloidal buildup of organic matter.<sup>93</sup> Colloidal buildup occurs when SOM attaches to clays contained within the sedimentary layers.<sup>94</sup> Once the SOM attaches to the clay, it can continue to grow

<sup>91</sup> *Id.* at pg. 7-2.

<sup>92</sup> *Id.*

<sup>93</sup> Moe, M. A., 1993. *The Marine Aquarium Reference Systems and Invertebrates*,. ISBN-0-939960-05-2

<sup>94</sup> Stevenson F.J., 1994. *Humus Chemistry: Genesis, Composition, Reactions*. New York: John Wiley & Sons.

and flourish<sup>95</sup>, being supplied by oxygen pulled into the sedimentary layers by the slant well operations.

Thus, as the SOM follows hydrodynamic laws<sup>96</sup> it will bond to clays that are in the soil and directly above the submersible pump. As this detritus builds up above the pump, it will lead to reduced efficiency of the well resulting in clogging. The DEIR/EIS claims it will solve the issue of clogging through the application of mechanical brushes.<sup>97</sup> However, the DEIR/EIS does not account for how it will remove the organic detritus from the sediment above the slant wells. Without cleaning the sediment, the wells will continue to operate at low capacity.

The DEIR/EIS is inconsistent with respect to the presence of clay, stating “in the specific area of the slant wells, the materials are dune sands with little to no fine-grained components (silt and clay) or soil components (organic materials) that would impede infiltration.”<sup>98</sup> However, the test slant well’s borehole lithologic log indicates that clay is present, see borehold lithologic log below.<sup>99</sup> The DEIR/EIS also states that “muds and clay slurry would be generated during the drilling and development of the subsurface slant wells.”<sup>100</sup> Thus, the DEIR/EIS recognizes that clay will be present in the sedimentary layers around the well, but then provides no explanation as to how the project will address the buildup of organic matter that adheres to that clay.

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<sup>95</sup> Thurman, E.M., 1985. Organic Geochemistry of Natural Waters. Kluwer Academic, Boston.

<sup>96</sup> Sirivithayapakorn, S., & Keller, A. 2003. Transport of colloids in saturated porous media: A pore-scale observation of the size exclusion effect and colloid acceleration, Water resources research, vol 39 issue 4;. Auset, M, & Keller, A., 2004. Pore-scale processes that control dispersion of colloids in saturated porous media. Water resources research, vol. 40.

<sup>97</sup> DEIR/EIS, at pg. 3-57

<sup>98</sup> DEIR/EIS, at pg. 4.2-67.

<sup>99</sup> MPWSP, Procurement: Source Water Slant Wells RFP, *available at* [http://media.wix.com/ugd/28b094\\_d40d9b99079e40a687789b86742c997b.pdf](http://media.wix.com/ugd/28b094_d40d9b99079e40a687789b86742c997b.pdf), at Appx. A (Well Number: Test Slant Well).

<sup>100</sup> DEIR/EIS, at pg. 4.3-39.

| WELL NUMBER<br><b>Test Slant Well</b> |              | <b>BOREHOLE LITHOLOGIC LOG (continued)</b> |                               |                                                                                                                                                                                                                                                                                                                                             |               |                           |                          |
|---------------------------------------|--------------|--------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|--------------------------|
| CLIENT<br>PROJECT NUMBER              |              | RBF/Cal Am<br>13027-14                     | LOCATION<br><b>Marina, CA</b> |                                                                                                                                                                                                                                                                                                                                             |               |                           |                          |
| Depth<br>(ft)                         | (continued)  | Zone<br>Test                               | Graphic<br>Log                | NOTE: Grain size distribution percentages are approximate. Material code (e.g. SP) reference Unified Soil Classification visual method. Color code (e.g. 10YR 5/2) reference Munsell Soil Color Charts.                                                                                                                                     | Depth<br>(ft) | Soils<br>Sample<br>Number | Drill<br>Rate<br>(ft/hr) |
| 160                                   | Well screen  |                                            |                               | SAND (SP): olive brown (2.5Y 4/3), 100% fine grained sand, subangular to subrounded; trace silt; trace clay; well sorted; contains quartz, feldspar, mica and amphibole, trace moderately cemented silty/clayey sand balls to 20 mm; trace medium plasticity sandy clayballs.                                                               | 160           |                           |                          |
| 165                                   |              |                                            |                               | SILT WITH SAND (ML): light olive brown (2.5Y 5/3), 70% silt, 28% fine grained sand, subangular to subrounded; 5% clay; moderate cementation; contains quartz, feldspar, mica and amphibole, transitions from moderately cemented sandy silt to low plasticity silt w/sand; trace medium plasticity sandy clayballs; trace rusty alteration. | 165           |                           |                          |
|                                       |              |                                            |                               | CLAY (CL): light olive brown (2.5Y 5/3), 80% clay, medium plasticity, 15% silt; 5% fine grained sand, subangular to subrounded, well sorted; contains quartz, feldspar, mica and amphibole, trace rust colored alteration; trace moderately cemented silt balls.                                                                            |               |                           |                          |
| 170                                   |              |                                            |                               | SANDY SILT (ML): light olive brown (2.5Y 5/3), 60% silt; 35% fine grained sand, subangular; 5% clay; contains quartz, feldspar, mica and amphibole, low plasticity.                                                                                                                                                                         | 170           |                           |                          |
|                                       |              |                                            |                               | SILTY SAND (SM): light olive brown (2.5Y 5/3), 60% fine grained sand, subangular to subrounded, well sorted; 30% silt; 10% clay, medium plasticity; trace fine gravel up to 8mm, subangular to subrounded; well sorted; contains quartz, feldspar, mica and amphibole.                                                                      |               |                           |                          |
| 175                                   | Fiber pack   |                                            |                               | SILT (ML): light olive brown (2.5Y 5/3), 75% silt; 20% clay, medium plasticity and weak cementation; 5% fine grained sand, subangular to subrounded, very fine, well sorted; contains quartz, feldspar, mica and amphibole.                                                                                                                 | 175           |                           |                          |
|                                       |              |                                            |                               | SAND (SP): light olive brown (2.5Y 5/2), 95% fine to coarse grained sand, angular to subrounded; 5% silt; trace fine gravel up to 8mm, angular to subrounded; poorly sorted; contains quartz, feldspar, mica and amphibole.                                                                                                                 |               |                           |                          |
| 180                                   |              |                                            |                               | SAND (SP): light olive brown (2.5Y 5/2), 100% fine to coarse grained sand, angular to subrounded; trace fine gravel up to 12mm, angular to subrounded; trace silt; poorly sorted; contains quartz, feldspar, mica and amphibole.                                                                                                            | 180           |                           |                          |
|                                       |              |                                            |                               | CLAYEY SAND (SC): light olive brown (2.5Y 5/3), 80% fine to coarse grained sand, angular to subrounded; 15% clay, medium plasticity; 5% silt; trace fine to coarse gravel up to 25mm, angular to subrounded; poorly sorted; contains quartz, feldspar, mica and amphibole.                                                                  |               |                           |                          |
| 185                                   |              |                                            |                               | SAND (SP): olive brown (2.5Y 4/3), 100% fine grained sand, subangular to subrounded; well sorted; contains quartz, feldspar, mica and amphibole.                                                                                                                                                                                            | 185           |                           |                          |
|                                       |              |                                            |                               | SAND WITH GRAVEL (SP): olive brown (2.5Y 4/4), 85% fine to coarse grained sand, subangular to subrounded; 15% fine to coarse gravel up to 25mm, subangular to subrounded; trace silt, silt balls; trace clay, clayballs; poorly sorted; contains quartz, feldspar, mica and amphibole.                                                      |               |                           |                          |
| 190                                   |              |                                            |                               | SAND (SP): olive brown (2.5Y 4/4), 100% fine grained sand, subangular to subrounded; trace silt; trace clay, clayballs; well sorted; contains quartz, feldspar, mica and amphibole.                                                                                                                                                         | 190           |                           |                          |
|                                       |              |                                            |                               | SAND (SP): olive brown (2.5Y 4/4), 100% fine to coarse grained sand, subangular; trace fine gravel up to 16mm, subangular; trace silt; trace clay; poorly sorted; moderate cementation; contains quartz, feldspar, mica and amphibole.                                                                                                      |               |                           |                          |
|                                       |              |                                            |                               | SAND (SP): brown (10YR 4/2), 100% fine to coarse grained sand, subangular to subrounded; trace coarse; trace silt; trace clay; well sorted; contains quartz, feldspar, mica and amphibole.                                                                                                                                                  |               |                           |                          |
| 195                                   | Blank casing |                                            |                               | SAND (SP): dark yellowish brown (10YR 4/4), 100% fine to coarse grained sand, subangular to subrounded, trace coarse; trace silt; trace clay; well sorted; contains quartz, feldspar, mica and amphibole.                                                                                                                                   | 195           |                           |                          |
|                                       |              |                                            |                               | SAND (SP): dark yellowish brown (10YR 4/4), 100% fine to coarse grained sand, subangular to subrounded, trace coarse; trace silt; trace clay; well sorted; contains quartz, feldspar, mica and amphibole, trace shell fragments.                                                                                                            |               |                           |                          |
| 200                                   |              |                                            |                               | SAND (SP): olive brown (2.5Y 4/3), 100% fine grained sand, subangular to subrounded; trace silt; well sorted; contains quartz, feldspar, mica and amphibole.                                                                                                                                                                                | 200           |                           |                          |

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WELL CONSTRUCTION LOG TEST SLANT WELL, GSI, GEOSCIENCE (GIT) 8/20/15

## **2. Additional Factors that Lead to Bioaccumulation Impact: Gas Discussion**

In addition to reduced slant well efficiency, the presence of accumulated bio-matter in the sediment presents the threat of the creation of toxic gas. As the bio-matter builds up on the colloidal deposits, it will serve as a nutrient for bacteria. This does not present a problem at first. As long as the slant wells are operational, then fresh, oxygenated sea water will be pulled through the sediment and supply the bacteria with oxygen. However, the DEIR/EIS admits the wells will periodically need maintenance and assumingly those wells would be taken offline.<sup>101</sup> At any given time, only eight wells will be operational, meaning the two on standby can be activated, while one of the eight deactivates.

When the wells go offline, the supply of oxygen will be cut off to the now thriving bacteria colonies. The bacteria will switch to anaerobic respiration. In anaerobic decay, the bacteria reduces organic matter to methane (CH<sub>4</sub>), hydrogen sulfide (H<sub>2</sub>S), ammonia (NH<sub>3</sub>), amines (RNH<sub>2</sub>), and methanethiol (CH<sub>3</sub>SH).<sup>102</sup> Very few lifeforms can exist in this kind of a toxic environment.<sup>103</sup>

It is unclear how these gases will affect both the Monterey Bay environment as well as the quality of the water extracted by the desalination plant. While any slant well is offline, the hazardous gases will outgas through the sedimentary layers, entering back into the ocean water supply. However, once the slant wells are turned back on, the chemicals can potentially be taken in by the slant wells, leading to toxic corrosion of the slant well itself.

Regardless of the eventual effects, the DEIR/EIS should have considered the presence of these gases, estimated the quantity of the gases, determined how those gases would interact with the environment and the slant well equipment, and provided a mitigation plan. The DEIR/EIS does not account for even the presence of the gas. As such, it is once again deficient.

## **IV. Conclusion**

The DEIR/EIS paints a rosy picture of the functioning of the slant wells in Monterey Bay. It underestimates the vertical infiltration rate and does not considering accumulation of any detritus, and permanent attachment of humic acids in the natural filter body. In reality, and without having been provided the necessary information, we can expect a negative impact on the environment from the slant wells. As it is, the DEIR/EIS fails to consider numerous environmental impacts generated as part of this project and is deficient as a public disclosure document.

<sup>101</sup> DEIR/EIS, at pg. 3-57.

<sup>102</sup> Methanethiol, PubChem, *available at* <https://pubchem.ncbi.nlm.nih.gov/compound/methanethiol>

<sup>103</sup> Center for Disease Control and Prevention: Environmental Data, Biologic Effects of Exposure, Publication number 74-136, <https://www.cdc.gov/niosh/pdfs/78-213b.pdf>

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If you have any questions about this analysis, I can be reached at [rs@chemled-technologies.com](mailto:rs@chemled-technologies.com).

## V. Glossary <sup>104</sup>

- **Forchheimer** assumption requires that the water table will be flat, and groundwater be hydrostatic, i.e. equipotential lines are vertical to water table.

$$\frac{\partial P}{\partial z} = -\gamma = -\rho g$$

$$\frac{\partial h}{\partial z} = 0$$

where  $\partial P/\partial z$  is the vertical pressure gradient,  $\gamma$  is the specific weight  $\rho$  is the density of water,  $g$  is the standard gravity and  $\partial h/\partial z$  is the vertical hydraulic gradient.

- **Darcy's law**, at constant elevation is a proportional relationship between the instantaneous discharge rate through a porous medium, the viscosity the fluid and the pressure drop over a given distance.

$$Q = -\frac{\kappa A (p_b - p_a)}{\mu L}.$$

$Q$  (units of volume per time, e.g.,  $\text{m}^3/\text{s}$ ) is equal to the product of the intrinsic permeability of the medium,  $\kappa$  ( $\text{m}^2$ ), the cross-sectional area to flow,  $A$  (units of area, e.g.,  $\text{m}^2$ ), and the total pressure drop  $p_b - p_a$  (pascals), all divided by the viscosity,  $\mu$  ( $\text{Pa}\cdot\text{s}$ ) and the length over which the pressure drop is taking place ( $L$ ).

- **Computational fluid dynamics (CFD)** is a branch of fluid mechanics that

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<sup>104</sup> Based in full or partially on articles published in Wikipedia. Forchheimer Assumption, Wikipedia, [https://en.wikipedia.org/wiki/Dupuit%E2%80%93Forchheimer\\_assumption](https://en.wikipedia.org/wiki/Dupuit%E2%80%93Forchheimer_assumption); Darcy's Law, Wikipedia, [https://en.wikipedia.org/wiki/Darcy%27s\\_law](https://en.wikipedia.org/wiki/Darcy%27s_law); Computational Fluid Dynamics, Wikipedia, [https://en.wikipedia.org/wiki/Computational\\_fluid\\_dynamics](https://en.wikipedia.org/wiki/Computational_fluid_dynamics).

uses numerical analysis and data structures to solve and analyze problems that involve fluid flows. Computers are used to perform the calculations required to simulate the interaction of liquids and gases with surfaces defined by boundary conditions. With high-speed supercomputers, better solutions can be achieved. Ongoing research yields software that improves the accuracy and speed of complex simulation scenarios such as transonic or turbulent flows. Initial experimental validation of such software is performed using a wind tunnel with the final validation coming in full-scale testing, e.g. flight tests.

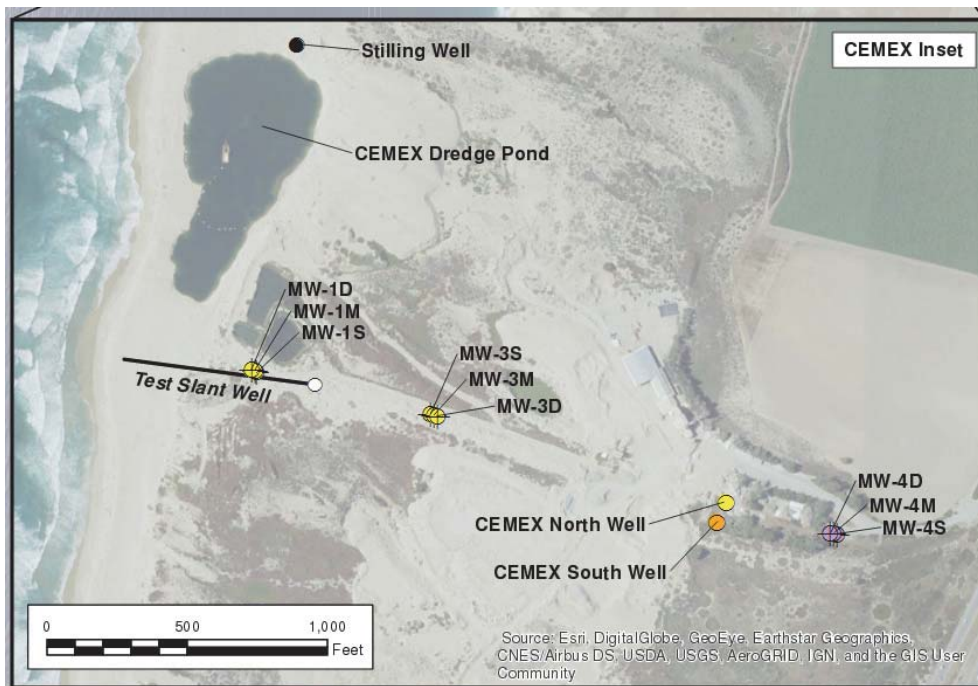
Appendix



**Figure 3-9: Infiltration gallery in operation (LBWD, 2008)**

(a) Note: At low tide the area above the infiltration gallery is apparent from the "drier sand"

**Figure 13. Scwd2,2011 – Seawater Desalination Intake Technical Feasibility Studies, picture shows sand morphology change due to infiltration.<sup>105</sup>**



**Figure 14. Test Slant Well actual location.<sup>106</sup>**

<sup>105</sup> Scwd2, 2011, at pg. 3-11.



The general disadvantages of the slant well intake technology include:

- The production capacity from slant well intake is highly dependent on the local geological conditions and they need to be carefully studied prior to implementation.
- Fine sediments and silts can cover the ocean floor and create a cap that can impede water flow that goes vertically down to the slant well screens and reduce the well capacity.
- Shallow alluvial materials, faults and silts and clays in the alluvium can impede water flow that moves both horizontally and vertically to the well and reduce the well capacity.
- Depending on the location and sand depth over the intake, storm events could expose the well components leading to damage or destruction of the system.
- Slant wells may draw in fresh groundwater from coastal aquifers and could impact the groundwater basin and potentially accelerate seawater intrusion.
- Slant well capacity can degrade over time. Several slant wells are recommended to permit rotating of the wells during operation for maintenance and well restoration.
- Full scale slant wells have not been constructed and operated. As a result the long-term operational issues associated with this technology are not well understood.

**Figure 15. Bullet points from Scwd2, 2011<sup>107</sup>**

In my professional opinion each presented bullet point<sup>108</sup> is valid and supports my independent analysis.

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<sup>106</sup> MPWSP, Test Slant Well Long Term Pumping, Dec 27<sup>th</sup>, 2016 pg. 14 available from [http://media.wix.com/ugd/28b094\\_e431fc8629c04f13bc89f8e35a047870.pdf](http://media.wix.com/ugd/28b094_e431fc8629c04f13bc89f8e35a047870.pdf).

<sup>107</sup> Scwd2, 2011, at pg. 62.

<sup>108</sup> *Id.*

### 8.6.3 California-American Water Company (Cal-Am)

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March 29, 2017

Mary Jo Borak, CEQA Lead  
California Public Utilities Commission  
c/o Environmental Science Associates  
550 Kearny Street, Suite 800  
San Francisco, CA 94108

Karen Grimmer, NEPA Lead  
Monterey Bay National Marine Sanctuary  
99 Pacific Avenue  
Building 455a  
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS)

Dear Ms. Borak and Ms. Grimmer:

On behalf of California-American Water Company (Cal-Am), the Applicant for the Monterey Peninsula Water Supply Project (Project), we appreciate the opportunity to provide written comments on the Draft EIR/EIS for the Project prepared jointly by the California Public Utilities Commission (CPUC) and Monterey Bay National Marine Sanctuary (MBNMS).

Cal-Am supports the analysis in the Draft EIR/EIS and believes the CPUC and MBNMS have performed an extremely thorough analysis of the Project and fully complied with their responsibilities under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), respectively, to assess the Project's potential adverse environmental impacts.

We understand that the CPUC, through its environmental consultants at Environmental Science Associates, and MBNMS will now begin the process of preparing the Final EIR/EIS for the Project, including responses to comments made on the Draft EIR/EIS, and any necessary corrections and additions to the Draft EIR/EIS. In reviewing the Draft EIR/EIS, Cal-Am identified various areas in the document that would benefit from some technical corrections, clarifications, and/or revisions. Accordingly, to assist the CPUC and MBNMS in preparing the Final EIR/EIS, we are attaching to this letter, as **Exhibit 1**, a matrix containing Cal-Am's suggested technical corrections, clarifications, and/or revisions to the Draft EIR/EIS.

CalAm-1  
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We believe that the comments and suggestions set forth in the attached matrix are technical corrections that fall within the scope of items to be addressed in the Final EIR/EIS. We have identified no issues that would warrant recirculation of the EIR/EIS per Public Resources Code section 21092.1 and CEQA Guidelines section 15088.5, and 40 Code of Federal Regulations section 1502.19.

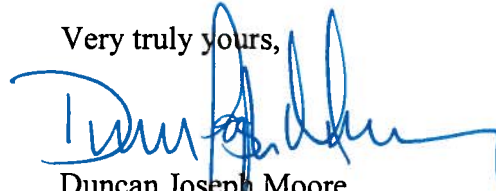
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CalAm-1  
cont.

In addition, as **Exhibit 2** to this letter we are providing you with a summary of Cal-Am's legal ability to develop water rights for the Project. This summary is intended to respond to several questions and comments that were raised by members of the public during public workshops on the Draft EIR/EIS in February 2017. As described in detail in this summary, Cal-Am can develop appropriate groundwater rights for the Project with respect to any water it may incidentally pump from the Salinas Valley Groundwater Basin as part of the Project. We hope that this summary helps clarify Cal-Am's position concerning groundwater rights.

↑  
CalAm-2

Cal-Am fully supports the Project and looks forward to the CPUC's and MBNMS's continued review of the Project. Cal-Am would be happy to respond to any further questions you may have during the CEQA/NEPA process for the Project.

Very truly yours,



Duncan Joseph Moore  
of LATHAM & WATKINS LLP

- cc: Richard Svindland, California-American Water Company  
Kathryn Horning, California-American Water Company  
Ian Crooks, California-American Water Company  
Robert Donlan, Ellison Schneider Harris & Donlan LLP

| Comment #                     | Section Name                                      | Page # | Paragraph or Table #         | Issue                                                                                                                                                                                                                                                                                  | Suggested Resolution                                                                                                                                                                                                                                  |
|-------------------------------|---------------------------------------------------|--------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ES – Executive Summary</b> |                                                   |        |                              |                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                       |
| 1.                            | Dear Reviewer Letter                              | N/A    | N/A                          | CalAm is not defined.                                                                                                                                                                                                                                                                  | Please define CalAm as California American Water Company.                                                                                                                                                                                             |
| 2.                            | ES.2 Project Background                           | ES-2   | First paragraph              | The current language in the Draft EIR/EIS is somewhat vague about exactly what kind of entity CalAm is, and what it provides to customers.                                                                                                                                             | Please clarify that CalAm is a public water utility and that its Service District is the geographic area where it provides water to customers consisting of residential, commercial and industrial uses, among others.                                |
| 3.                            | ES.5.1 Description of Proposed Project            | ES-5   | First paragraph              | Current description should explain what the Source Water Pipeline would do and to where it would convey water.                                                                                                                                                                         | We suggest clarifying that Source Water Pipeline would convey water from the slant wells to the proposed desalination facility.                                                                                                                       |
| 4.                            | ES.5 The Proposed Project                         | ES-5   | Second paragraph; sentence 2 | Current description of the desalination plant should also discuss the proposed treated water storage tanks.                                                                                                                                                                            | Consider adding text in <b>bold</b> to sentence 2 "... equalization tanks, <b>treated water tanks</b> , chemical feed . . ."                                                                                                                          |
| 5.                            | ES.5.1 Description of the Proposed Project        | ES-6   | Footnote 2                   | The City of Marina did not complete CEQA review of the test slant well project because its MND was not adopted, and instead its denial of the CDP was appealed to the Coastal Commission. The Coastal Commission then became the lead agency for CEQA review of the test well project. | Request that this be clarified in Footnote 2.                                                                                                                                                                                                         |
| 6.                            | ES.6.5 Alternative 4                              | ES-10  | First sentence               | Typo – says Alternative 3 instead of Alternative 4.                                                                                                                                                                                                                                    | Please correct typo.                                                                                                                                                                                                                                  |
| 7.                            | ES Summary of Impacts and Mitigation Measures     | ES-42  | Table ES-2                   | There is an incorrect reference to the Presidio of Monterey Historic District, which would not be affected by the proposed project.                                                                                                                                                    | We request that the text be modified to read: "4.15-1a: Avoidance and Vibration Monitoring for Pipeline Installation in the <del>Presidio of Monterey Historic District, Downtown Monterey, and the</del> Lapis Sand Mining Plant Historic District." |
| <b>1. Introduction</b>        |                                                   |        |                              |                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                       |
| 8.                            | 1.4.2 The Monterey Peninsula Water Supply Project | 1-9    | Paragraph 7; Item 2          | Current description of the desalination plant should also discuss the proposed treated water storage tanks.                                                                                                                                                                            | Consider adding text in bold to sentence 2: "... equalization tanks, <b>treated water tanks</b> , chemical feed ..."                                                                                                                                  |
| 9.                            | 1.4.4 Revisions Made in This EIR/EIS              | 1-11   | Footnote 7                   | Similar to the comment in Executive Summary above, the City of Marina did not complete CEQA review of the test slant well project because its MND was not adopted, and instead its denial of the CDP was appealed to the Coastal                                                       | Request that this be clarified in Footnote 7.                                                                                                                                                                                                         |

CalAm-3  
 CalAm-4  
 CalAm-5  
 CalAm-6  
 CalAm-7  
 CalAm-8  
 CalAm-9

| Comment #                                    | Section Name                             | Page # | Paragraph or Table #        | Issue                                                                                                                                                                                                                                                                                                              | Suggested Resolution                                                                                                                                                                                                                                                                    |
|----------------------------------------------|------------------------------------------|--------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              |                                          |        |                             | Commission. The Coastal Commission then became the lead agency for CEQA review of the test well project.                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                         |
| 10.                                          | References – Introduction and Background | 1-18   |                             | NOAA 216-6A is cited but not placed in the List of References for that section.                                                                                                                                                                                                                                    | Suggest adding citation to NOAA 216-6A.                                                                                                                                                                                                                                                 |
| <b>2. Water Demand, Supplies, and Rights</b> |                                          |        |                             |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                         |
| 11.                                          | 2.4.5 Groundwater Replenishment Project  | 2-20   | Last paragraph of section   | The Draft EIR/EIS references a September 15, 2016 CPUC decision allowing Cal-Am to enter a Water Purchase Agreement with the MRWPCA and MPWMD. The decision citation is not provided, although other CPUC decision citations are provided in this chapter. The correct citation is D.16-09-021.                    | We suggest that CPUC include the citation to this CPUC decision, which is D.16-09-021.                                                                                                                                                                                                  |
| 12.                                          | 2.4.6.2 Malpas Water Company LLC         | 2-21   | Second paragraph of section | We note that the SWRCB recognizes that CalAm's interim use is offsetting Carmel River diversions.                                                                                                                                                                                                                  | We suggest a minor clarification to describe that excess water not used by Malpas may be diverted for CalAm's use, and that such diversion offsets CalAm's Carmel River diversions. In other words, it is not an unauthorized diversion by CalAm, because it is under Malpas's license. |
| 13.                                          | 2.5.3.3 Non-revenue Water Reduction      | 2-26   | Footnote 29                 | Reference to Section 2.2.2 should be to 2.2.3.                                                                                                                                                                                                                                                                     | Please revise Footnote 29 to correct reference.                                                                                                                                                                                                                                         |
| 14.                                          | 2.6 Water Rights                         | 2-31   | First full paragraph        | This paragraph discusses "[n]umerous court cases" but does not cite any cases.                                                                                                                                                                                                                                     | Suggest adding citation to relevant court cases in References section.                                                                                                                                                                                                                  |
| 15.                                          | 2.6 Water Rights                         | 2-31   | Footnote 33                 | Footnote 33 repeats text in the previous paragraph.                                                                                                                                                                                                                                                                | Suggest deleting footnote.                                                                                                                                                                                                                                                              |
| <b>3. Project Description</b>                |                                          |        |                             |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                         |
| 16.                                          | 3.1 – Introduction                       | 3-2    | First new paragraph         | The proposed project would require 10 wells in total, and not nine wells                                                                                                                                                                                                                                           | Suggest addition of a footnote to clarify that the existing test well would be converted to permanent 10 <sup>th</sup> well if project is approved.                                                                                                                                     |
| 17.                                          | 3.1 Introduction                         | 3-2    | Footnote 2                  | Similar to comments above, the City of Marina did not complete CEQA review because its MND for the test slant well project was not adopted, and instead its denial of the CDP was appealed to the Coastal Commission. The Coastal Commission then became the lead agency for CEQA review of the test well project. | Clarify in footnote.                                                                                                                                                                                                                                                                    |
| 18.                                          | 3.2 Project Components                   | 3-7    | First paragraph; Bullet 2   | Current description of the desalination plant should also discuss the proposed treated water storage tanks.                                                                                                                                                                                                        | Consider adding text in bold to sentence 2: "... equalization tanks, <b>treated water tanks</b> , chemical feed ..."                                                                                                                                                                    |

↑ CalAm-9 cont.

CalAm-10

CalAm-11

CalAm-12

CalAm-13

CalAm-14

CalAm-15

CalAm-16

CalAm-17

CalAm-18

| Comment # | Section Name                   | Page #     | Paragraph or Table #                 | Issue                                                                                                                                                                               | Suggested Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |
|-----------|--------------------------------|------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 19.       | 3.2 Project Components         | 3-8        | Table 3-1; Row 6, Column 2, Bullet 1 | The pretreatment building will be approximately 4,000 sf; not 6,000 sf.                                                                                                             | Suggest changing "6,000-square foot" to "4,000-square foot."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | CalAm-19 |
| 20.       | 3.2 Project Components         | 3-8        | Table 3-1                            | Table 3-1 should be updated to clarify the nature of specific project components. Specific text revisions are recommended as noted in the following column.                         | The description of subsurface slant wells in Table 3-1 should be modified as follows: <ul style="list-style-type: none"> <li>Each well site would have one wellhead <del>vault</del> (Sites 1, 3, 4, and 5) or three wellheads <del>vaults</del> (Sites 2 and 6), <del>aboveground</del> mechanical piping <del>vault</del> (meter, valves, gauges), one electrical control cabinet, and one pump-to-waste <del>vault basin</del>.</li> <li><del>Except for Site 1 (test slant well site), the aboveground facilities (at Sites 2 through 6) would be built on a concrete pad ranging between 5,250 and 6,025 square feet in area.</del></li> </ul>              | CalAm-20 |
| 21.       | Section 3.2 Project Components | 3-8        | Table 3-1                            | Table 3-1 should be updated to show the need for two (2) surge vessels on site.                                                                                                     | The DESCRIPTION SECTION of source water pipeline in Table 3-1 should be modified as follows:<br>" <del>A Two (2) hydraulic surge facility comprising valves or hydro-pneumatic</del> tanks would be located near the collector pipe/Source Water Pipeline connection point, south of the CEMEX access road and inland of the dunes."<br>The PURPOSE SECTION of source water pipeline in Table 3-1 should be modified as follows:<br>"The surge <del>facility tanks</del> would <del>control the</del> <b>protect the wells and pipeline infrastructure from</b> hydraulic <b>surge events (i.e., power loss) that could occur</b> in the Source Water Pipeline." | CalAm-21 |
| 22.       | 3.2 Project Components         | 3-8 & 3-15 | Table 3-1                            | Under the Subsurface Slant Wells portion of the table, the term "#8" is used without further explanation. This also occurs on page 3-15 under the Permanent Slant Wells discussion. | We believe this reference is to well 8 out of the 10 slant wells. We ask that this please be clarified, and suggest that a notation be added to a figure identifying which of the wells is being addressed here.                                                                                                                                                                                                                                                                                                                                                                                                                                                 | CalAm-22 |
| 23.       | 3.2 Project Components         | 3-10       | Table 3-1                            | Brine Storage and Disposal – Brine Discharge Pipeline listed as 30 inch diameter. Correct diameter is 36 inch.                                                                      | Please revise Brine Discharge Pipeline diameter to 36 inch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CalAm-23 |
| 24.       | 3.2 Project Components         | 3-10       | Table 3-1; Row 10, Column 2          | The current design includes two (not four) large treated water pumps (each 4.8 mgd and 600 hp).                                                                                     | Request changing "- Four 4.8 mgd, 600 hp treated water pumps . . ." to "- Two 4.8 mgd, 600 hp treated water pumps . . ."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | CalAm-24 |
| 25.       | 3.2.1 Seawater Intake System   | 3-13       | Figure 3-3a                          | We believe some minor corrections to this Figure are necessary to show the current slant well layout.                                                                               | See redlined figures provided.<br>Please see Attachment A to this chart for corrections to this Figure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | CalAm-25 |
| 26.       | 3.2.1 Seawater Intake          | 3-13       | Figure 3-3a                          | Sizing and specific project components require minor clarifications in this Figure.                                                                                                 | We request the following additional minor clarifications to the Figure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |



| Comment # | Section Name                   | Page # | Paragraph or Table # | Issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Suggested Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|           | System                         |        |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>Pump-to-Waste <del>Vault</del> <b>Basin (Rip Rap) (12' x 8')</b><br/> <b>Mechanical Piping Wellhead</b> Vault(s) <b>(14' x 8')</b><br/>                     Electrical Control Cabinet – <b>Concrete Pad (12' x 4')</b><br/> <b>Graded Area Concrete Pad</b> 5,250 – 6,025 sq ft</p> <p><b>ADD:</b> “Surge Tank Location 1” (See Attachment A – marked-up Figure 3-3a)</p> <p><b>ADD:</b> “Surge Tank Location 2” (See Attachment A – marked-up Figure 3-3a)</p> <p><b>ADD:</b> “HDD Pipeline Route” (See Attachment A – marked-up Figure 3-3a)</p> <p><b>ADD:</b> “Alternative (NO HDD) Pipeline Route” (See Attachment A – marked-up Figure 3-3a). In addition, revise line type to <b>dashed</b> for alternative route (Attachment A – marked-up Figure 3-3a)</p> <p><b>ADD:</b> “HDD Pipeline Route” (See Attachment A – marked-up Figure 3-3a)</p> <p><b>ADD:</b> “Typical Surge Tank Layout” (See Attachment B provided with this chart)</p> |
| 27.       | 3.2.1.1 Subsurface Slant Wells | 3-15   | First paragraph      | Reference to City of Marina in CEQA process for the test slant well.                                                                                                                                                                                                                                                                                                                                                                                                      | Suggest removing reference to City of Marina in discussion of test well evaluation in accordance with CEQA, since the Coastal Commission was the lead agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 28.       | 3.2.1.1 Subsurface Slant Wells | 3-17   | Figure 3-3b          | The lengths listed for onshore and offshore well lengths appear to require minor corrections. Please see table attached as Attachment C to this chart for values calculated by GEOSCIENCE (and refer to Attachment A – marked-up Figure 3-3a for well naming used for measurements/calculations). The updated well layout was used for the measurements. For comparison, lengths were calculated for current (2015) Mean High Water and the 2020 MHW used on Figure 3-3a. | The markups, from north to south, are:<br>SW-1<br>Stand-by-1<br>SW-2<br>SW-3<br>SW-4<br>SW-5<br>SW-6<br>SW-7<br>Stand-by-2<br>Stand-by-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 29.       | 3.2.1.1 Subsurface Slant Wells | 3-18   | First paragraph      | Clarifications to certain project components are needed.                                                                                                                                                                                                                                                                                                                                                                                                                  | Sites 1 through 6 include the following <b>aboveground</b> facilities: <b>aboveground wellhead(s)</b> , <del>one wellhead vault per slant well,</del> <b>a below ground mechanical piping vault (12' x 6' x 6') for</b> (meters, valves, gauges, etc.) <b>per well</b> , an electrical <b>enclosure control cabinet</b> , and a pump-to-waste <b>basin vault</b> . Each wellhead would be <b>enclosed in an-located</b> aboveground <b>for ease of maintenance. 12 foot long, 6 foot wide, and 8 inch</b>                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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 CalAm-25 cont.  
 CalAm-26  
 CalAm-27  
 CalAm-28  
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| Comment # | Section Name                           | Page # | Paragraph or Table #               | Issue                                                                                                                                  | Suggested Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |
|-----------|----------------------------------------|--------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|           |                                        |        |                                    |                                                                                                                                        | <p><del>tall precast concrete vault</del>. Each slant well would be equipped with <b>up to</b> a 2,500 gpm, 300 hp submersible well pump. The electrical controls for operation of the slant wells would be housed in a single story, <del>1617</del>-foot long, by <del>710</del>-foot wide, <b>10 foot high</b> fiberglass <del>electrical control cabinet</del> enclosure located at each of the six well sites. Each site would also have a pump-to-waste <del>vault basin</del> for the percolation of turbid water produced during slant well startup and shutdown. The pump-to-waste <del>vault basin</del> would <b>be constructed of Rip Rap material, approximately 1-2 feet deep (12' x 8')</b> <del>be a precast 12 foot long, 8 foot wide, and 1 foot tall concrete vault covered with a metal grate and underlain by clean gravel and permeable textile fabric</del>. The new permanent slant wells and associated <del>aboveground</del> infrastructure at Sites 2 through 6 would be constructed on a 5,250- to 6,025-square foot <del>concrete graded</del> pad located above the maximum high tide elevation on the inland side of the dunes (<del>no concrete pad would be built at Site 1</del>). A 750-foot long, 42-inch diameter buried NSF/ANSI 615 certified pipe would collect the seawater pumped from Sites 2 to 6 and convey it to the proposed buried Source Water Pipeline located at the existing CEMEX access road.</p> | CalAm-28 cont. |
| 30.       | 3.2.1.2 Source Water Pipeline          | 3-18   | Line 1                             | Source Water Pipeline incorrectly listed as NSF/ANSI 61                                                                                | Remove NSF/ANSI 61                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CalAm-29       |
| 31.       | 3.2.1.2 Source Water Pipeline          | 3-18   | Line 8                             | "The alignment would continue north along Lapis Road for 0.5 miles."                                                                   | Revise to "The alignment would continue north within the TAMC ROW, along Lapis Road for 0.5 miles."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CalAm-30       |
| 32.       | 3.2.2.1 Pretreatment System            | 3-21   | First paragraph; Sentences 3 and 4 | Sentence 3 describes pretreatment requirements and identifies "membrane filtration" but not multimedia gravity filtration.             | Consider revising the text to read "The pretreatment requirements for seawater collected by the proposed slant wells has been determined through operation of the test slant well and pilot program, and would likely include pressure filters or multimedia gravity filters, a backwash supply storage tank, and backwash settling basins. If necessary, the pretreatment system could also include coagulation, flocculation, or membrane filtration."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | CalAm-31       |
| 33.       | 3.2.2.5 Brine Storage and Disposal     | 3-27   | First paragraph; line 8            | Brine Discharge pipeline listed as 30-inch diameter. Correct diameter is 36 inch.                                                      | Please revise to 36-inch diameter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CalAm-32       |
| 34.       | 3.2.3.2 Desalinated Water Pumps        | 3-28   | First paragraph; Sentence 3        | The current design includes two (not four) large treated water pumps (each 4.8 mgd and 600 hp).                                        | Suggest changing "There would be four 4.8 mgd, 600 hp pumps ..." to "There would be two 4.8 mgd, 600 hp pumps ..."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CalAm-33       |
| 35.       | 3.2.3.3 New Desalinated Water Pipeline | 3-29   | First paragraph                    | Minor correction needed to the following language: "... approximately 800 feet to Lapis Road, and continue south along Lapis Road ..." | Request revising this language to read "... approximately 800 feet to Lapis Road, and continue south within TAMC ROW along Lapis Road ..."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | CalAm-34       |
| 36.       | 3.2.3.7                                | 3-35   | Second                             | The draft EIR/EIS should also consider alternative placement of water pipe in the                                                      | We request expanding the discussion to include the potential alternative placement of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | CalAm-35       |

| Comment # | Section Name                                                                                                         | Page # | Paragraph or Table #  | Issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Suggested Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|----------------------------------------------------------------------------------------------------------------------|--------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | Castroville Pipeline                                                                                                 |        | paragraph             | county road ROW instead of within the TAMC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | pipeline within the County Road ROW along the same general route from Lapis Road and Del Monte, north on Monte Road, across county bridge, continue north in Monte Road ROW to Nashua Road and then continue back to TAMC route.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 37.       | 3.2.3.9 Interconnections with Highway 68 Satellite Systems                                                           | 3-36   | Last paragraph        | The pipeline route does not include Blue Larkspur Lane, which is currently referenced.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Please revise as follows: "The pipeline would be installed within the rights-of-way of Ragsdale Drive, Lower Ragsdale Drive, and Wilson Drive, <del>and Blue Larkspur Lane.</del> "                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 38.       | 3.2.3.9 Interconnections with Highway 68 Satellite Systems<br>Main System- Hidden Hills Interconnection Improvements | 3-43   | First paragraph       | There are currently four pump stations in this area: Tierra Grande, Lower Tierra Grande, Middle Tierra Grande, and Upper Tierra Grande. The Tierra Grande and Lower Tierra Grande are new pump stations and appear to have been recently upgraded. The Lower Tierra Grande has two pumps with Pump 1 rated at 328 gpm at 195 ft TDH and Pump 2 rated at 370 gpm at 200 ft TDH. The Upper Tierra Grande Booster Station appears to have been recently upgraded to two 237 gpm pumps (not the 350 gpm mentioned in the Draft EIR/EIS). The Middle Tierra Grande Booster Station does require upgrades, as its pumps appear to be in the 165 gpm range. | Please consider revising as follows: "The existing interconnection between the main CalAm distribution system and the Hidden Hills system would be improved by installing approximately 1,200 feet of 6-inch-diameter pipeline along Tierra Grande Drive, <del>with a connection to the existing Upper Tierra Grande Booster Station. The Upper Tierra Grande Booster Station has an existing capacity of 129 gpm. A new 350 gpm pump would be added to the booster station. In addition, the existing pump capacity of the Middle Tierra Grande Booster Station, located on lower Casiano Drive, would be upgraded from 161 gpm to 400 gpm by adding a new 350 gpm pump (CalAm, 2013a)</del> <b>There are four pump stations in this area (from lowest to highest): Tierra Grande, Lower Tierra Grande, Middle Tierra Grande, and Upper Tierra Grande. The lowest station pumps into the next station and so on. The Middle Tierra Grande Booster Station pumps require an upgrade in capacity to approximately 400 gpm.</b> "                                                                                                                                                                                                                                                                        |
| 39.       | 3.2.4 Proposed ASR Facilities                                                                                        | 3-43   | General               | The Draft EIR/EIS contains a very short discussion of the ASR system.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Suggest describing purpose and function of the existing ASR system so that the reader understands more clearly what the ASR system does.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 40.       | 3.2.4 Proposed ASR Facilities                                                                                        | 3-44   | Second paragraph      | ASR 5 and 6 wells are incorrectly listed to have a combined injection capacity of 2.2 mgd (1,050 gpm).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Request that the text be revised to explain that the combined injection capacity is 4.3 mgd (3,000 gpm), which is the same as the extraction capacity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 41.       | 3.3.2.1 Subsurface Slant Wells                                                                                       | 3-48   | Second full paragraph | Clarifications to certain project components are needed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Please consider revising as follows: "The slant wells would be completed using telescoping casing ranging from 22 to 36 inches in diameter and super-duplex 12- to 20-inch diameter stainless steel well screens. A submersible pump would be lowered several hundred feet into each well. To develop the slant wells, each well would be pumped for 2 to 6 weeks during slant well completion and initial well testing. The groundwater pumped from the wells during well development would be discharged to the ocean within the waters of MBNMS via the test slant well discharge pipe and the existing MRWPCA ocean outfall. This well development process would produce a volume of water too great to percolate into the ground at the CEMEX mining area, as compared to the drill phase described above. Once built, <del>each the wellheads</del> would include <u>up to</u> 12-inch-diameter <u>mechanical</u> discharge piping (i.e., flow meter, isolation valve, check valve, pump control valve, air <u>release</u> valve, and pressure gauge). This discharge <u>mechanical</u> piping would <u>be located in a below ground vault (12' x 6')</u> . <u>The electrical controls would be located in a fiberglass enclosure approximately 2 to 3 feet above the ground on an estimated</u> |

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| Comment #                                                         | Section Name                                        | Page #       | Paragraph or Table # | Issue                                                                                                                                                                                                                                                                                                                                                | Suggested Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                                                                   |                                                     |              |                      |                                                                                                                                                                                                                                                                                                                                                      | <del>6,000 square foot concrete pad, with some of the mechanical and electrical gear covered by a pre-manufactured shelter to protect them from the elements.</del> The discharge piping would then transition underground via trenching and connect to the buried source water pipeline. The wellheads would be accessible and grade level once completed."                                                                                                                                                                                                                                      |
| 42.                                                               | 3.3.4 Pipeline Installation                         | 3-50         | Table 3-5            | The table shows that construction of the desalination plant would result in 0 cy of excess spoils or construction debris, which is correct. However, we suggest a minor revision to the text associated with construction.<br><br>In addition, there is an errant comment remaining in the document that needs to be removed. (see LB1 in last row). | It would be helpful in the construction description of the plant to note that cut and fill on the project site will not result in off-site transport of soils                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 43.                                                               | 3.4.1 Operation of the Seawater Intake System, etc. | 3-58         | Table 5-7            | Table includes a typo and references 9.5 mgd for daily production. Daily production is 9.6 mgd as correctly noted in the remainder of the section..                                                                                                                                                                                                  | Please correct typo in Table 5-7, as 9.6 mgd is the correct number.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 44.                                                               | 3.4.5 Power Demand                                  | 3-60 to 3-61 | First Paragraph      | Clarification to power demand numbers is necessary due to the metrics used.                                                                                                                                                                                                                                                                          | We request the following changes: <ul style="list-style-type: none"> <li>• "Under existing conditions, the electrical power needed to operate the water supply system in CalAm's Monterey District Service Area is 11,466,000 <del>million</del> kilowatt hours per year (kWh/yr)."</li> <li>• "...the average annual power demand for the Monterey District Service Area would be 63,164,000 <del>million</del> kWh/yr."</li> <li>• "Therefore, the net increase in annual electrical power demand for water production would be approximately 51,698,000 <del>million</del> kWh/yr."</li> </ul> |
| 45.                                                               | 3.5 Permits, Approvals, and Regulatory Requirements | 3-65         | Table 3-8; Row 3     | CDPH no longer regulates public water systems. The California Environmental Protection Agency, State Water Resources Control Board, Division of Drinking Water regulates public water systems.                                                                                                                                                       | Suggest replacing references to "CDPH" with "Division of Drinking Water."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>4. Environmental Setting, Impacts, and Mitigation Measures</b> |                                                     |              |                      |                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>4.1 Overview</b>                                               |                                                     |              |                      |                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 46.                                                               | 4.1 Overview                                        | 4.1-24       | Table 4.1-2, Row 60  | No location is listed for the Monterey Pipeline and Pump Station                                                                                                                                                                                                                                                                                     | Suggest including location for Monterey Pipeline and Pump Station                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 47.                                                               | 4.1 Overview                                        | 4.1-25       | Figure 4-1           | The Monterey Pipeline is not shown on map with cumulative projects                                                                                                                                                                                                                                                                                   | Suggest including Monterey Pipeline on map.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| Comment #                                            | Section Name                                                    | Page #           | Paragraph or Table #                           | Issue                                                                                                                                                                                                                                                                                                                                                                                                  | Suggested Resolution                                                                                                                                                                                                                                    |          |
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| <b>4.2 Geology, Soils, and Seismicity</b>            |                                                                 |                  |                                                |                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                         |          |
| 48.                                                  | 4.2.2.3<br>Applicable Land Use Plans, Policies, and Regulations | 4.2-37 to 4.2-43 | Table 4.2-6                                    | Discussions of certain relevant policies disclose a "potential inconsistency" between the project and such policies. The Table is confusing because the project would be consistent with the applicable policies upon the implementation of mitigation (i.e., Impact 4.2-10's conclusion is that the project will be consistent with such policies upon implementation of Mitigation Measure 4.2-9).   | Suggest revising Table 4.2-6 to note – for those policies where the project would be potentially inconsistent – that the project would be consistent with implementation of the applicable mitigation measure.                                          | CalAm-46 |
| 49.                                                  | 4.2.4.1<br>Geotechnical Investigations for Project Facilities   | 4.2-46           | First paragraph                                | The Draft EIR/EIS indicates that it "used geotechnical information and data derived from project-specific geotechnical studies, including geotechnical investigations conducted for the proposed MPWSP Desalination Plant at Charles Benson Road (PCE, 2014; Zinn, 2014) and the conveyance pipelines (AECOM, 2015)." However, none of these studies are incorporated into the EIR/EIS as an appendix. | Consider including these studies as appendices or providing weblinks to the studies if they are available online.                                                                                                                                       | CalAm-47 |
| 50.                                                  | 4.2.5.2<br>Operational and Facility Siting Impacts              | 4.2-69           | Impact 4.2-10 (Coastal Erosion/Sea Level Rise) | Although the Draft EIR/EIS correctly describes how the profiles for erosion/sea level rise/storm events established in the modeling for the 2014 study caused CalAm to resite the slant well clusters, the Draft EIR/EIS does not state that the Figures (Profiles 4a and 4b) from the 2014 study (which is attached as Appendix C2) are now no longer current.                                        | Consider revising this in the Final EIR/EIS.                                                                                                                                                                                                            | CalAm-48 |
| <b>4.3 Surface Water Hydrology and Water Quality</b> |                                                                 |                  |                                                |                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                         |          |
| 51.                                                  | 4.3.1.3<br>Surface Water Quality                                | 4.3-9            | Footnote 11                                    | Typo - reference to Section 4.3.2.1 should be 4.3.2.2                                                                                                                                                                                                                                                                                                                                                  | Please correct typo in Final EIR/EIS.                                                                                                                                                                                                                   | CalAm-49 |
| 52.                                                  | 4.3.2<br>Regulatory Framework                                   | 4.3-17           | Figure 4.3-3                                   | This figure shows areas subject to sea level rise in the Project Area. This figure should also be included and/or referenced in the discussion of sea level rise impacts in Section 4.2.                                                                                                                                                                                                               | Please include reference to Figure 4.3-3 (or actual figure) in Section 4.2.                                                                                                                                                                             | CalAm-50 |
| 53.                                                  | 4.3.2.1<br>Federal Regulations                                  | 4.3-21           | Fourth bullet                                  | "EHF" is not defined.                                                                                                                                                                                                                                                                                                                                                                                  | Please define "EHF" in Final EIR/EIS.                                                                                                                                                                                                                   | CalAm-51 |
| 54.                                                  | 4.3.2.2<br>State Regulations                                    | 4.3-34           | First paragraph                                | Typo requiring minor correction.                                                                                                                                                                                                                                                                                                                                                                       | Please correct in Final EIR/EIS as follows: "The Monitoring and Reporting Plan would require review and approval by the RWQCB and MBNMS prior to implementation of the MPWSP, and <b>be</b> revised if necessary, as part of the NPDES permit process." | CalAm-52 |
| 55.                                                  | 4.3.5.2<br>Operational and Facility Siting Impacts              | 4.3-71           | Impact 4.3-3                                   | Sentence lacks units of measurement: "Seasonal average temperatures ranged between 11.5 and 14.5 and seasonal salinity levels ranged from 33.3 to 33.9 at the depth of the diffuser."                                                                                                                                                                                                                  | Please add measurement units.                                                                                                                                                                                                                           | CalAm-53 |

| Comment #                                              | Section Name                 | Page #          | Paragraph or Table #             | Issue                                                                                                                                                                                                                                             | Suggested Resolution                                                                                                                                                                                                                                                                                                                                                                                           |          |
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| <b>4.4 Groundwater Resources</b>                       |                              |                 |                                  |                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| 56.                                                    | 4.4 Groundwater Resources    | 4.4-1           | First paragraph, second sentence | Typo requiring minor correction.                                                                                                                                                                                                                  | Please revise sentence to read: "Specifically, this analysis focuses on how the proposed subsurface slant wells and aquifer storage and recovery (ASR) system improvements would change the groundwater aquifers adjacent to the coast <b>and</b> further inland beneath the Salinas Valley, and would change the groundwater levels, flow direction, and water quality within the Seaside Groundwater Basin." | CalAm-54 |
| <b>4.6. Terrestrial Biological Resources</b>           |                              |                 |                                  |                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| 57.                                                    | 4.6.2.2 State Regulations    | 4.6-99          | Second paragraph                 | The Draft EIR/EIS states that FORA's Draft Habitat Conservation Plan for the former Fort Ord military base is expected to be complete in late 2016.                                                                                               | Determine whether an update to the schedule for the HCP can be provided in the Final EIR/EIS. [Note: This statement is also repeated on page 4.6-252.]                                                                                                                                                                                                                                                         | CalAm-55 |
| 58.                                                    | 4.6.5.1 Construction Impacts | 4.6-170         | Mitigation Measure 4.6-1d        | Mitigation Measure 4.6-1d requires that, for work conducting during the non-nesting season, a qualified biologist will evaluate the nature and extent of wintering plover activity in the project area "several days" prior to construction.      | We request that a specific number of days or range of days prior to construction be provided for clarity.                                                                                                                                                                                                                                                                                                      | CalAm-56 |
| 59.                                                    | 4.6.5.1 Construction Impacts | 4.6-179         | Mitigation Measure 4.6-11        | Mitigation Measure 4.6-11 requires pre-construction surveys for special-status bats, but does not specifically state when the surveys should occur.                                                                                               | We request that a specific number or days or range of days prior to construction be provided for clarity.                                                                                                                                                                                                                                                                                                      | CalAm-57 |
| 60.                                                    | 4.6.5.1 Construction Impacts | 4.6-231         | Mitigation Measure 4.6-4         | Mitigation Measure 4.6-4 requires Cal-Am to perform a comprehensive survey within the project footprint to identify, measure, and map trees subject to local tree removal ordinances, but does not specify when such surveys should be conducted. | We request that a specific number or days or range of days prior to construction be provided for clarity..                                                                                                                                                                                                                                                                                                     | CalAm-58 |
| <b>4.8 Land Use, Land Use Planning, and Recreation</b> |                              |                 |                                  |                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| 61.                                                    | 4.8.1 Setting                | 4.8-5           | Figure 4.8-1                     | The Coastal Zone boundary does not clearly identify that Coastal Zone extends over the ocean.                                                                                                                                                     | Suggest revising figure to make clear that Coastal Act governs the area that is seaward of beach.                                                                                                                                                                                                                                                                                                              | CalAm-59 |
| 62.                                                    | 4.8.1 Setting                | 4.8-8           | Figure 4.8-3                     | The Main System-Hidden Hills Interconnection is missing from figure due to the location of the legend.                                                                                                                                            | Suggest providing an alternate figure in the Final EIR/EIS that includes Main System-Hidden Hills Interconnection.                                                                                                                                                                                                                                                                                             | CalAm-60 |
| 63.                                                    | 4.8.1.3 to 4.8.1.12          | 4.8-9 to 4.8-13 | General                          | Descriptions of pipeline segments do not expressly state that pipelines would be subterranean.                                                                                                                                                    | Suggest clarifying that pipelines would be constructed underground and note which pipelines are being constructed in public rights of way.                                                                                                                                                                                                                                                                     | CalAm-61 |
| 64.                                                    | 4.8.2.1 State Regulations    | 4.8-16          | Fort Ord Reuse Plan              | The Draft EIR/EIS is not clear what type of development is allowed within areas governed by Fort Ord Reuse Plan                                                                                                                                   | Suggest clarifying any applicable use requirements/allowances for these properties.                                                                                                                                                                                                                                                                                                                            | CalAm-62 |
| 65.                                                    | 4.8.2.1 State Regulations    | 4.8-17          | Coastal Act                      | The discussion of Coastal Act does not make clear that the Coastal Commission has appeal authority over LCP determinations for major public works projects like the MPWSP.                                                                        | Suggest addressing this fact in technical correction to the text in the Final EIR/EIS.                                                                                                                                                                                                                                                                                                                         | CalAm-63 |



| Comment #                             | Section Name                 | Page # | Paragraph or Table #                         | Issue                                                                                    | Suggested Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| 66.                                   | 4.8.2.3<br>Local Regulations | 4.8-19 | Monterey County Municipal Health & Saf. Code | The discussion of CPUC preemption mentions the CalAm Settlement Agreement.               | Consider including the Settlement Agreement as an appendix to the Final EIR/EIS, given that it is being relied on in the analysis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>4.11. Greenhouse Gas Emissions</b> |                              |        |                                              |                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 67.                                   | 4.11.1.1<br>Climate Change   | 4.11-2 | 4.11.1.1                                     | There is no framing of the role desalination can fill in response to a changing climate. | <p>We suggest including a discussion of how desalination is addressed favorably in state policy documents regarding climate change.</p> <p>For example, see <i>Safeguarding California: Reducing Climate Risk – An update to the 2009 California Climate Adaptation Strategy</i>, California Natural Resources Agency, at 233-234 (July 2014) (“Droughts are also expected to increase in frequency, duration, and intensity; and drought affects all sectors - impacting public health, biodiversity, agriculture, and the economy. ... To mitigate potential shortages during drought, a variety of measures may be utilized. State, regional and local agencies have increasingly been pursuing a strategy of making regions more self-reliant by developing new or underused water resources locally; improving water storage capacity may be another important strategy for preparing for drought risks. For instance, new or underused water resources may come from including: improved water conservation and water use efficiency, expanded water recycling, improved stormwater management, conjunctive use (coordinated management of local surface and groundwater), <u>desalination</u>, and groundwater remediation.”)(emphasis added).</p> <p>The <i>Safeguarding California</i> Plan also identifies “Actions Needed to Prepare for Climate Risks to California Water Resources.” One of those actions is “Diversify Local Supplies and Increase Water Use Efficiency,” which provides: “Increasing regional self-reliance and diversification of local water supplies will enable Californians to better respond to changing economic and climactic conditions while ensuring a reliable water supply for the diversity of the state’s water needs. California’s water agencies utilize a variety of water management measures to improve local water supply reliability. These measures include agricultural and urban water use efficiency, local storage, conjunctive use, increasing stormwater capture and infiltration, recycled water, and <u>ocean and brackish water desalination.</u>” <i>Id.</i> at 247 (emphasis added).</p> <p>One recommendation to achieve this action is “Develop a coordinated streamlined permitting process for desalination projects that provides strong environmental protection.” <i>Id.</i> at 249.</p> <p>Another action is “Prepare California for hotter and dryer conditions and improve water storage capacity,” which provides “[A] variety of measures may be utilized to mitigate potential shortages during drought, including minimizing reliance on imported water, improved water conservation and water use efficiency, expanded water recycling,</p> |

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| Comment #                                  | Section Name                                                  | Page #  | Paragraph or Table #                              | Issue                                                                                                                                                                                                                                                                                                                        | Suggested Resolution                                                                                                                                                                                                                                                                                                                  |
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|                                            |                                                               |         |                                                   |                                                                                                                                                                                                                                                                                                                              | improved stormwater management, <u>desalination</u> , groundwater remediation, conjunctive use, firming up existing water transfer agreements, and entering into spot transfer or short-term water transfer agreements." <i>Id.</i> (emphasis added).                                                                                 |
| 68.                                        | 4.11.2.2<br>State Regulations                                 | 4.11-8  | Mandatory Reporting Requirements                  | The Draft EIR/EIS contains an imprecise discussion of the applicability of MRR.                                                                                                                                                                                                                                              | We request adding the following sentence to the end of the paragraph: "In addition, many of the proposed project's sources of GHG emissions are not directly subject to CARB's reporting program."                                                                                                                                    |
| 69.                                        | 4.11.2.2<br>State Regulations                                 | 4.11-9  | Market-Based "Cap-and-Trade" Compliance Mechanism | The Draft EIR/EIS contains an imprecise discussion of the applicability of cap-and-trade program.                                                                                                                                                                                                                            | We request adding the following sentence to the end of the paragraph: "In addition, many of the proposed project's sources of GHG emissions are not directly subject to the cap-and-trade program."                                                                                                                                   |
| 70.                                        | 4.11.4.3<br>Evaluation of GHG Emissions                       | 4.11-14 | First paragraph                                   | The last sentence of the paragraph does not flow well from the prior sentence.                                                                                                                                                                                                                                               | Suggest revising sentence to read: "While <del>this particular</del> the 10,000 metric tons CO <sub>2</sub> e per year significance threshold is not used, indirect emissions associated with electricity consumption are calculated and impacts are fully assessed in this chapter."                                                 |
| 71.                                        | 4.11.5<br>Operational Emissions                               | 4.11-17 | Bottom of page                                    | The Draft EIR/EIS incorrectly states: "As of July 2016, state policymakers have not enacted this RPS program expansion into law."                                                                                                                                                                                            | We suggest replacing this sentence with the following: "Senate Bill 350 was signed by Governor Brown on October 7, 2015, codifying the 50% RPS."                                                                                                                                                                                      |
| <b>4.12. Noise and Vibration</b>           |                                                               |         |                                                   |                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                       |
| 72.                                        | 4.12.6<br>Direct and Indirect Effects of the Proposed Project | 4.12-34 | Mitigation Measure 4.12-1d                        | The last sentence of Mitigation Measure 4.12-1d states that "Barrier blankets are available with a sound transmission class rating of 32, providing 16 to 40 dBA of sound transmission loss, depending on the frequency of the noise source (ENC, 2014)." It is not clear whether blankets meeting this rating are required. | Recommend clarifying whether blankets meeting this rating will be required.                                                                                                                                                                                                                                                           |
| <b>4.13. Public Services and Utilities</b> |                                                               |         |                                                   |                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                       |
| 73.                                        | 4.13.2.2<br>State Regulations                                 | 4.13-7  | California Coastal Act                            | The first paragraph states that a preliminary assessment of MPWSP consistency with Coastal Act priorities concerning designing and limiting new or expanded public works facilities such that they are protective of costal resources "is provided here."                                                                    | As written, it is unclear what "here" refers to. Consider adding a reference to particular section in which these priorities are discussed, or if discussed in the subsequent paragraphs of Section 4.13.2.2, consider changing "here" to "below." If "here" refers to the entire EIR, consider changing "here" to "in this EIR/EIS." |
| 74.                                        | 4.13.5.1<br>Construction Impacts                              | 4.13-17 | Consistency with Regulatory Requirements          | Typo of "L-U6.1."                                                                                                                                                                                                                                                                                                            | Revise to "LU-6.1."                                                                                                                                                                                                                                                                                                                   |
| 75.                                        | 4.13.5.1<br>Construction                                      | 4.13-18 | Mitigation Measure 4.13-                          | Typo. MM 4.13-1c provides: "Construction managers shall hold regular tailgate meetings with construction staff on days when work near high-priority utilities will                                                                                                                                                           | Remove em-dash at the end of the sentence.                                                                                                                                                                                                                                                                                            |

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| Comment #                           | Section Name                                   | Page #  | Paragraph or Table #                         | Issue                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Suggested Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------|------------------------------------------------|---------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | Impacts                                        |         | 1c                                           | occur to review all safety measures regarding such excavations, including measures identified in the Mitigation Monitoring and Reporting Program and in construction specifications—.”                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 76.                                 | 4.13.5.1 Construction Impacts                  | 4.13-18 | Mitigation Measure 4.13-1e                   | MM 4.13-1e states that “CalAm or its contractor(s) shall notify local fire departments in advance of any time work that is to be performed in close proximity to a gas utility line, or any time damage to a gas utility line results in a leak or suspected leak, or whenever damage to any utility results in a threat to public safety.”                                                                                                           | We request that the phrase “close proximity” be made more specific so that it provides an objective standard/distance.<br>In addition, please revise sentence as follows:<br>“CalAm or its contractor(s) shall <b>notify meet with</b> local fire departments in advance of <b>any time commencing</b> work that is to be performed in close proximity to a gas utility line <b>to establish a protocol and procedures for notification of work occurring near gas utility lines and a list of emergency contacts, and to provide the local fire department with a copy of the Emergency Response Plan required by Mitigation Measure 4.13-1d, or any time damage to a gas utility line results in a leak or suspected leak, or whenever damage to any utility results in a threat to public safety.</b> ” |
| <b>4.14. Aesthetic Resources</b>    |                                                |         |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 77.                                 | 4.14.3.2 State Regulations                     | 4.14-22 | California Coastal Act                       | The Draft EIR/EIS states that the operation of the project would be potentially inconsistent with Coastal Act policies re: scenic resource protection. Table 4.14-2, which contains a comparison of plans, policies, and goals against the project, does not include Coastal Act policies.                                                                                                                                                            | While Table 4.14-2 does include some LCP policies, if there is no desire to include actual policy sections of the Coastal Act, we suggest modifying the language on p. 4.7-22 to clarify that the policies in the table are LCP policies re: scenic resource protection that implement the Coastal Act.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 78.                                 | 4.14.6.1 Construction Impacts                  | 4.14-29 | Subsurface Slant Wells – Second Paragraph    | The Draft EIR/EIS states, “Construction of the remaining subsurface slant wells in the CEMEX active mining area would take approximately 15 months to complete, and could take place anytime throughout the overall 24-month construction duration for the proposed project.” However, this sentence does not take into account the durational limitations on slant well construction due to restrictions in the terrestrial bio mitigation measures. | Clarify that construction timing is subject to mitigation measures governing terrestrial bio impacts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>4.18. Energy Conservation</b>    |                                                |         |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 79.                                 | 4.18.2.2 State Regulations                     | 4.18-6  | State of California Integrated Energy Policy | The Draft EIR/EIS only discusses the 2013 Integrated Energy Policy Report (IEPR). The 2015 IEPR was adopted 2/10/2016 and the 2016 IEPR Update is scheduled to be considered for adoption at the CEC’s 2/15/2017 meeting.                                                                                                                                                                                                                             | Update language to address 2015 IEPR and 2016 IEPR Update.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>4.19. Population and Housing</b> |                                                |         |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 80.                                 | 4.19.1.2 Employment                            | 4.19-3  | 2 <sup>nd</sup> on page                      | In the second sentence, the Draft EIR/EIS states that “the county” lost about 1,500 jobs, but does not specify which county.                                                                                                                                                                                                                                                                                                                          | The language should be clarified (appears to be Monterey County based on context).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 81.                                 | 4.19.5 Direct and Indirect Effects of Proposed | 4.19-5  | Header                                       | Inconsistency noted: the header of section 4.19.5 includes “Indirect Effects,” but section 4.19.3 states that indirect impacts are analyzed in the Growth Inducement chapter.                                                                                                                                                                                                                                                                         | Address inconsistency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

↑ CalAm-73 cont.  
 CalAm-74  
 CalAm-75  
 CalAm-76  
 CalAm-77  
 CalAm-78  
 CalAm-79  
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| Comment #                                             | Section Name                                              | Page #  | Paragraph or Table #                                                  | Issue                                                                                                                                                               | Suggested Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------|-----------------------------------------------------------|---------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                       | Project                                                   |         |                                                                       |                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>4.20. Socioeconomics and Environmental Justice</b> |                                                           |         |                                                                       |                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 82.                                                   | 4.20.2.3<br>Local Regulations                             | 4.20-12 | Settlement Agreement on MPWSP Desalination Plan Return Water          | The first paragraph of section states that “[u]nder this agreement, CCSD will purchase water at a discounted cost pursuant to Item 4, Payment Provisions.”          | Consider defining CCSD. Also, is the title of subsection should read “Desalination Plant,” not “Desalination Plan”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>5. Alternatives Screening and Analysis</b>         |                                                           |         |                                                                       |                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 83.                                                   | 5.3.5<br>Desalination Plan Site Options Screening Results | 5.3-27  | First paragraph                                                       | The Draft EIR/EIS assumes that a minimum of 10 acres is needed to accommodate desalination plant facilities, but does not explain why this minimum acreage is used. | Recommend providing additional information in comment letter to explain why an alternative site must be at least 10 acres.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 84.                                                   | 5.4.2.4<br>Ability to Meet Project Objectives             | 5.4-11  | Second paragraph                                                      | The sentence that reads “The GWR Project, when constructed, would provide 3,500 of potable supply for the CalAm service area” contains a typo.                      | This should read “The GWR Project, when constructed, would provide 3,500 <u>afy</u> of potable supply for the CalAm service area.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 85.                                                   | 5.4<br>Description of Alternatives Evaluated in Detail    | 5.4-53  | Table 5.4-9<br>Alternative 5A<br>Facilities<br>Subsurface Slant Wells | Number of well sites needs to be corrected.                                                                                                                         | We request the following clarifications to the text: <ul style="list-style-type: none"> <li>Seven slant wells located the CEMEX site, extending offshore beneath Monterey Bay (the conversion of an existing test slant well into a permanent well plus six new wells at <del>four</del> <u>five</u> new well sites) into MBNMS, with four to five wells operating under normal operating conditions but all wells could under certain operating conditions at any given time and two wells maintained on standby.</li> <li>The slant wells would be grouped into <del>five</del> <u>six</u> wells: <del>four</del> <u>five</u> sites with one well each and one site with <del>three</del> <u>two</u> wells. Each well would have a wellhead <del>vault</del>, and <del>aboveground</del> mechanical piping <del>vault</del> (meter, valves, and gauges); each well would have one electrical <del>control cabinet</del> enclosure, and one pump-to-waste <del>vault basin</del> (same as proposed project).</li> </ul> |
| 86.                                                   | 5.4<br>Description of Alternatives Evaluated in Detail    | 5.4-53  | Table 5.4-9<br>Alternative 5A<br>Facilities<br>Source Water Pipeline  | Minor clarifications required                                                                                                                                       | We request the following clarifications to the text: <ul style="list-style-type: none"> <li>2.7 mile longs versus 2.2 miles long in Table 3.1. Verify.</li> <li><b>ADD:</b> “Two (2) hydraulic surge tanks would be located near the collector pipe/Source Water Pipeline connection point, south of the CEMEX access road and inland of the dunes.”</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 87.                                                   | 5.4.7.1                                                   | 5.4-54  | Table 5.4-9;                                                          | The current design does not include a “Clearwell Pump Station.”                                                                                                     | Consider the following changes:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

↑ CalAm-79  
↓ cont.

CalAm-80

CalAm-81

CalAm-82

CalAm-83

CalAm-84

↓ CalAm-85

| Comment # | Section Name                                                                                     | Page #             | Paragraph or Table #                                                                                  | Issue                                                                                                                                                                                                                                                             | Suggested Resolution                                                                                                                                                                                                                                                                                                                                                                                                             |                  |
|-----------|--------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|           | Overview – Description of the Reduced Project                                                    |                    | Row 6, Columns 1 and 2                                                                                |                                                                                                                                                                                                                                                                   | Column 1: Change “Clearwells (Water Storage Tanks) and Clearwell Pump Station” to “Treated Water Storage Tanks”<br>Column 2: Delete “6.4 mgd capacity, 120-horsepower pump”                                                                                                                                                                                                                                                      | ↑ CalAm-85 cont. |
| 88.       | 5.4.7.1 Overview – Description of the Reduced Project                                            | 5.4-54             | Table 5.4-9; Row 7, Columns 1 and 2                                                                   | Descriptions of the treated water pumps for the 6.4 mgd plant need to be clarified.                                                                                                                                                                               | Consider the following changes:<br>Column 1: Change “Desalinated Water Pump Station” to “Desalinated Water Pumps”<br><br>Column 2, Bullet 1: Change “6.4 mgd capacity, 800-horsepower pump . . .” to “Two 3.2 mgd capacity, 400-horsepower pumps and two 1.6 mgd capacity, 200-horsepower pumps”<br>Column 2, Bullet 2: Change “1.4 mgd capacity, 20-horsepower pump . . .” to “Two 1.4 mgd capacity, 10-horsepower pumps . . .” | CalAm-86         |
| 89.       | 5.5.5.5 Direct and Indirect Effects of Project Alternative 2 – Open-Water Intake at Moss Landing | 5.5-116 to 5.5-117 | Mitigation Measure ALT 2-Marine-1: Marine Construction Measures                                       | The Draft EIR/EIS includes mitigation measures that apply only to certain alternatives. For example, Mitigation Measure ALT 2-Marine-1: Marine Construction Measures, only applies to alternatives with open-water intakes.                                       | Suggest clarifying that these measures do not apply to the proposed project or any ultimately-approved project that does not include an open-water intake.                                                                                                                                                                                                                                                                       | CalAm-87         |
| 90.       | 5.5.5.5 Direct and Indirect Effects of Project Alternative 2 – Open-Water Intake at Moss Landing | 5.5-119            | Mitigation Measure ALT 2-Marine-2: Minimization of and Mitigation for Loss of Marine Life and Habitat | The Draft EIR/EIS includes mitigation measures that apply only to certain alternatives. For example, Mitigation Measure ALT 2-Marine-2: Minimization of and Mitigation for Loss of Marine Life and Habitat, only applies to alternatives with open-water intakes. | Suggest clarifying that these measures do not apply to the proposed project or any ultimately-approved project that does not include an open-water intake.                                                                                                                                                                                                                                                                       | CalAm-88         |
| 91.       | 5.5.6.5 Direct and Indirect Effects of Project Alternative 2 – Open-Water Intake at Moss Landing | 5.5-144            | Last paragraph                                                                                        | There appears to be a missing word in the sentence: “Construction of the Alternative 2 intake would have the potential for indirect impacts on sensitive habitats, as none are located adjacent to sites where construction of the intake would occur.”           | May need to be revised to say: “Construction of the Alternative 2 intake would <b>not</b> have the potential for indirect impacts on sensitive habitats, as none are located adjacent to sites where construction of the intake would occur.”                                                                                                                                                                                    | CalAm-89         |
| 92.       | 5.5.12.6 Direct and Indirect Effects of                                                          | 5.5-250 to 5.5-251 | Mitigation Measure ALT 3-NO:                                                                          | The Draft EIR/EIS includes mitigation measures that apply only to certain alternatives. For example, Mitigation Measure ALT 3-NO: Operational Performance Noise Standard for Data Center Generators, only applies to                                              | Suggest clarifying that this measure does not apply to the proposed project.                                                                                                                                                                                                                                                                                                                                                     | CalAm-90 ↓       |

| Comment #          | Section Name                                                                                                 | Page #             | Paragraph or Table #                                                                                             | Issue                                                                                                                                                                                                                                                 | Suggested Resolution                                                                                                  |
|--------------------|--------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|                    | Alternative 3 - the Monterey Bay Regional Water Project                                                      |                    | Operational Performance Noise Standard for Data Center Generators                                                | Alternative 3.                                                                                                                                                                                                                                        |                                                                                                                       |
| 93.                | 5.5.12.7 Direct and Indirect Effects of Alternative 4 - the Peoples' Moss Landing Water Desalination Project | 5.5-253 to 5.5-254 | Mitigation Measure ALT 4-NO: Operational Performance Noise Standard for Desalination Facilities and Pump Station | The Draft EIR/EIS includes mitigation measures that apply only to certain alternatives. For example, Mitigation Measure ALT 4-NO: Operational Performance Noise Standard for Desalination Facilities and Pump Station, only applies to Alternative 4. | Suggest clarifying that this measure does not apply to the proposed project.                                          |
| 94.                | 5.5.15.4 Direct and Indirect Effects of Alternative 1 – Slant Wells at Potrero Road                          | 5.5-298            | Mitigation Measure ALT 1-CULT (Conduct Subsurface Investigation)                                                 | The Draft EIR/EIS includes mitigation measures that apply only to certain alternatives. For example, Mitigation Measure ALT 1-CULT (Conduct Subsurface Investigation), only applies to Alternatives 1, 2, 3, and 4.                                   | Suggest clarifying that this measure does not apply to the proposed project.                                          |
| <b>Appendix G2</b> |                                                                                                              |                    |                                                                                                                  |                                                                                                                                                                                                                                                       |                                                                                                                       |
| 95.                | Appendix G2                                                                                                  |                    | Title Page                                                                                                       | The word “Trussel” is misspelled in the title of Appendix G2.                                                                                                                                                                                         | The title should read:<br>“Trussel <del>l</del> Technologies Inc. Technical Memorandum, Response to CalAm MPWSP DEIR” |

↑ CalAm-90 cont.

CalAm-91

CalAm-92

CalAm-93

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**From:** Ian Crooks [mailto:ian.Crooks@amwater.com]  
**Sent:** Tuesday, March 13, 2018 2:58 PM  
**To:** Eric Zigas <EZigas@esassoc.com>  
**Subject:** APM

Eric –

CalAm submits the attached revised Applicant Proposed Measure 4.4-3 for inclusion in the Final EIR/EIS. Also attached is a redline comparing the revised measure to the version included in the Draft EIR/EIS. | CalAm-94

Please let me know if you have any questions.

Ian C. Crooks  
Vice President, Engineering  
California American Water  
Hawaii American Water  
916-568-4296 (O)  
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### **Applicant Proposed Measure 4.4-3: Groundwater Monitoring and Avoidance of Well Damage.**

Prior to the start of MPWSP slant well construction, CalAm, working with MCWRA, shall develop a groundwater monitoring and reporting program (the “Program”) to the satisfaction of MCWRA. All costs of Program development and implementation shall be borne by CalAm either directly or through funding of MCWRA’s staff, consultants and Program activities. The Program shall augment the MCWRA’s existing regional groundwater monitoring network to focus on the area that could be affected by the proposed slant wells. The geographic area of the Program shall be within the model domain of the North Marina Groundwater Model, also referred to as NMGWM<sup>2016</sup> and include the Dune Sand Aquifer, the 180-Foot Aquifer, the 400-Foot Aquifer and the Deeper Aquifer (i.e., the 900-Foot Aquifer) of the Salinas Valley Groundwater Basin (the “Monitoring Area”). The purpose of the Program is to ensure that owners of existing public or private groundwater supply wells within the Monitoring Area on the date the MPWSP commences slant well pumping (“Active Supply Wells”) suffer no harm as a result of MPWSP slant well pumping. The elements of the Program proposed under this measure are described below.

1. A network of monitoring wells has been completed on and near the CEMEX property as part of the CalAm test slant well project. These well clusters monitor water elevation and quality at various depth intervals within the Dune Sand Aquifer, the 180-Foot Aquifer, and the 400-Foot Aquifer and shall be included in the Program's monitoring network. These existing monitoring wells are subject to relocation, replacement, or substitution by new or other monitoring wells developed as part of the Program as determined by MCWRA.
2. In addition, using information from the Groundwater Extraction Management System (GEMS) maintained by MCWRA and from the State Water Resources Control Board’s Division of Drinking Water, CalAm, in coordination with MCWRA, shall identify Active Supply Wells in the Monitoring Area and offer to owners of identified Active Supply Wells the opportunity to participate in the Program for groundwater elevation and water quality monitoring. The owners of Active Supply Wells in the Monitoring Area will receive at least 60 days’ notice (via email, if available, and via certified mail) of the opportunity to participate in the Program, and may elect in writing to participate in the Program as to their Active Supply Wells (“Participating Active Supply Wells”). This opt-in process must occur sufficiently in advance of MPWSP slant well pumping so that information on pre-MPWSP conditions can be obtained for each Participating Active Supply Well. Prior to the start of MPWSP slant well pumping, an independent California-certified hydrogeologist retained and directed by MCWRA (the “Hydrogeologist”) shall evaluate the conditions and characteristics (e.g., well depth, well screen interval, pump depth and condition, flow rates, and drawdown) of each Participating Active Supply Well to develop pre-pumping data for each well. Water elevation and quality monitoring pursuant to the Program shall begin

following initial groundwater well assessment, and shall continue at intervals specified in the Program (e.g., more frequently at the beginning of MPWSP slant well pumping and less often after stabilization of groundwater levels) until the well owner ceases pumping from the monitored well, or until the well owner agrees that monitoring is no longer required.

3. Prior to the start of MPWSP slant well pumping, CalAm and MCWRA shall review the current (as updated if needed) inventory of monitoring wells within the Monitoring Area, and identify locations within the Monitoring Area lacking monitoring coverage and that warrant monitoring in order to evaluate potential effects on Participating Active Supply Wells from MPWSP slant well pumping. Based upon that review, MCWRA may require that CalAm fund the installation of new monitoring wells in the Monitoring Area to be installed before MPWSP slant well pumping begins. The number of new monitoring well sites in the Monitoring Area and the location of those new monitoring well sites shall be determined by MCWRA. The area of groundwater monitoring under the Program may be extended outside of the Monitoring Area if warranted to evaluate potential MPWSP slant well pumping effects on Participating Active Supply Wells and recommended by the Hydrogeologist.
4. The groundwater data developed through the Program shall be collected by or provided to MCWRA at intervals identified in the Program, but in no event longer than 45 days from such data being obtained, to evaluate whether MPWSP slant well pumping is causing consistent and measurable drawdown of local groundwater levels that is distinguishable from seasonal or multi-year groundwater level fluctuations. In the event that MCWRA identifies a consistent and measurable drawdown in groundwater levels and determines that such drawdown is potentially attributable to MPWSP slant well pumping and independent of seasonal or multi-year groundwater level fluctuations or any regional trends, the Hydrogeologist shall then determine if the observed degree of drawdown would damage or otherwise adversely affect any existing Participating Active Supply Wells. Adverse effects from lowered groundwater levels in Participating Active Supply Wells may include water elevation acute and long-term declines that draw water below pump intakes, causing cavitation due to exposure of the well screen, reduced well yields and pumping rates, increased energy costs to power the well, or changes in groundwater quality indicating that MPWSP slant well pumping is drawing lower quality water toward the well. Active Supply Wells that are not Participating Active Supply Wells will be considered for a determination by the Hydrogeologist of potential damage or adverse effects reasonably attributable to MPWSP slant well pumping (as described above) if substantial, credible evidence is submitted by the owners of such Active Supply Wells concerning damage or adverse effects at such wells, and such effects are verified by CalAm and the Hydrogeologist.



5. If the Hydrogeologist determines that a Participating Active Supply Well or an Active Supply Well that Cal-Am and the Hydrogeologist have verified for damage or adverse effects pursuant to Section 4 above has been damaged or otherwise negatively affected by MPWSP slant well pumping, CalAm and the Hydrogeologist shall coordinate with the well owner to develop and implement a mutually agreed upon course of action. Such course of action may include but not be limited to repairing or deepening the existing well, restoring groundwater yield by improving well efficiency, facilitating an interim or long-term replacement of water supply, constructing a new well, or compensating the owner for increased pumping costs. Any interim or long-term replacement water supply shall be of the same or better quality (i.e., potable or non-potable) and predicted quantity as the existing supply of the Active Supply Well and shall be suitable for the purposes served by the existing Active Supply Well. Before CalAm undertakes any course of action to remedy the MPWSP slant well pumping effects on an Active Supply Well, the Hydrogeologist shall authorize such action and provide notice of such action to MCWRA.

### **Applicant Proposed Measure 4.4-3: Groundwater Monitoring and Avoidance of Well Damage.**

Prior to the start of MPWSP slant well construction, ~~the project applicant~~ CalAm, working with ~~the~~ MCWRA, shall ~~fund and~~ develop a groundwater monitoring and reporting program ~~that expands the current~~ (the “Program”) to the satisfaction of MCWRA. All costs of Program development and implementation shall be borne by CalAm either directly or through funding of MCWRA’s staff, consultants and Program activities. The Program shall augment the MCWRA’s existing regional groundwater monitoring network to include focus on the area near that could be affected by the proposed slant wells. Once expanded, the program will monitor groundwater levels and water quality within the area where groundwater elevations are anticipated to decrease in The geographic area of the Program shall be within the model domain of the North Marina Groundwater Model, also referred to as NMGWM<sup>2016</sup> and include the Dune Sand Aquifer and, the 180-Foot Aquifer, the 400-Foot Aquifer and within at least one mile outside of the predicted radius of influence. The area of groundwater monitoring shall be determined by MCWRA and the MPWSP HWG, the Deeper Aquifer (i.e., the 900-Foot Aquifer) of the Salinas Valley Groundwater Basin (the “Monitoring Area”). The purpose of the Program is to ensure that owners of existing public or private groundwater supply wells within the Monitoring Area on the date the MPWSP commences slant well pumping (“Active Supply Wells”) suffer no harm as a result of MPWSP slant well pumping. The elements of the ~~groundwater monitoring program~~ Program proposed under this measure are described below.

~~Using a current survey of wells within the pumping influence of the slant wells, CalAm will offer to private and public well owners the opportunity to participate in a voluntary groundwater monitoring program to conduct groundwater elevation and quality monitoring. The voluntary groundwater monitoring program shall include retaining an independent hydrogeologist to evaluate the conditions and characteristics (e.g., well depth, well screen interval, pump depth and condition, and flow rate) of participating wells prior to the start of slant well pumping. Water elevation and quality monitoring shall begin following initial groundwater well assessment.~~

~~Based on a review of the well network of voluntary well owners, CalAm will identify areas lacking adequate groundwater data and if deemed necessary, install new monitoring wells. These new wells would be in the 180-Foot Aquifer.~~

1. Seven clusters A network of monitoring wells ~~were recently~~ has been completed on and near the CEMEX property as part of the CalAm test slant well project. These well clusters monitor water elevation and quality at various ~~depths~~ depth intervals within the Dune Sand Aquifer, the 180-Foot Aquifer, and the 400-Foot Aquifer and shall be included in the Program’s monitoring network. These existing monitoring wells are subject to relocation, replacement, or substitution by new or other monitoring wells developed as part of the Program as determined by MCWRA.

2. In addition, using information from the Groundwater Extraction Management System (GEMS) maintained by MCWRA and from the State Water Resources Control Board's Division of Drinking Water, CalAm, in coordination with MCWRA, shall identify Active Supply Wells in the Monitoring Area and offer to owners of identified Active Supply Wells the opportunity to participate in the Program for groundwater elevation and water quality monitoring. The owners of Active Supply Wells in the Monitoring Area will receive at least 60 days' notice (via email, if available, and via certified mail) of the opportunity to participate in the Program, and may elect in writing to participate in the Program as to their Active Supply Wells ("Participating Active Supply Wells"). This opt-in process must occur sufficiently in advance of MPWSP slant well pumping so that information on pre-MPWSP conditions can be obtained for each Participating Active Supply Well. Prior to the start of MPWSP slant well pumping, an independent California-certified hydrogeologist retained and directed by MCWRA (the "Hydrogeologist") shall evaluate the conditions and characteristics (e.g., well depth, well screen interval, pump depth and condition, flow rates, and drawdown) of each Participating Active Supply Well to develop pre-pumping data for each well. Water elevation and quality monitoring pursuant to the Program shall begin following initial groundwater well assessment, and shall continue at intervals specified in the Program (e.g., more frequently at the beginning of MPWSP slant well pumping and less often after stabilization of groundwater levels) until the well owner ceases pumping from the monitored well, or until the well owner agrees that monitoring is no longer required.
  
3. Prior to the start of MPWSP slant well pumping, CalAm and MCWRA shall review the current (as updated if needed) inventory of monitoring wells within the Monitoring Area, and identify locations within the Monitoring Area lacking monitoring coverage and that warrant monitoring in order to evaluate potential effects on Participating Active Supply Wells from MPWSP slant well pumping. Based upon that review, MCWRA may require that CalAm fund the installation of new monitoring wells in the Monitoring Area to be installed before MPWSP slant well pumping begins. The number of new monitoring well sites in the Monitoring Area and the location of those new monitoring well sites shall be determined by MCWRA. The area of groundwater monitoring under the Program may be extended outside of the Monitoring Area if warranted to evaluate potential MPWSP slant well pumping effects on Participating Active Supply Wells and recommended by the Hydrogeologist.
  
4. ~~Using the~~ The groundwater data developed through the **voluntary well monitoring program and data gathered at the new monitoring wells**, CalAm will Program shall be collected by or provided to MCWRA at intervals identified in the Program, but in no event longer than 45 days from such data being obtained, to evaluate whether ~~project~~ MPWSP slant well pumping is

causing ~~acon~~consistent and measurable ~~and consistent~~ drawdown of local groundwater levels ~~in nearby wells~~ that is distinguishable from seasonal ~~or multi-year~~ groundwater level fluctuations. In the event that MCWRA identifies a consistent and measurable drawdown ~~is identified, CalAm will~~in groundwater levels and determines that such drawdown is potentially attributable to MPWSP slant well pumping and independent of seasonal or multi-year groundwater level fluctuations or any regional trends, the Hydrogeologist shall then determine if the observed degree of drawdown would damage or otherwise adversely affect ~~active water supply wells~~any existing Participating Active Supply Wells. Adverse effects from lowered groundwater levels in ~~existing active groundwater supply wells can~~Participating Active Supply Wells may include ~~cavitation<sup>26</sup> due to exposure of the well screen,~~ water elevation ~~acute and long-term~~ declines that draw water below pump intakes, ~~causing cavitation due to exposure of the well screen,~~ reduced well yields and pumping rates, ~~and~~increased energy costs to power the well, or changes in groundwater quality indicating that ~~project~~MPWSP slant well pumping is drawing lower quality water toward the well. ~~Adverse effects would only occur in active wells; inactive wells would not~~ Active Supply Wells that are not Participating Active Supply Wells will be considered for ~~mitigation.~~a determination by the Hydrogeologist of potential damage or adverse effects reasonably attributable to MPWSP slant well pumping (as described above) if substantial, credible evidence is submitted by the owners of such Active Supply Wells concerning damage or adverse effects at such wells, and such effects are verified by CalAm and the Hydrogeologist.

~~• If it is determined that a nearby active groundwater well has been damaged or otherwise negatively affected by the project pumping of the slant wells, the project applicant shall coordinate with the well owner to arrange for an interim water supply and begin developing a mutually agreed upon course of action to repair or deepen the existing well, restore groundwater yield by improving well efficiency, provide long term replacement of water supply, or construct a new well.~~

5. If the Hydrogeologist determines that a Participating Active Supply Well or an Active Supply Well that Cal-Am and the Hydrogeologist have verified for damage or adverse effects pursuant to Section 4 above has been damaged or otherwise negatively affected by MPWSP slant well pumping, CalAm and the Hydrogeologist shall coordinate with the well owner to develop and implement a mutually agreed upon course of action. Such course of action may include but not be limited to repairing or deepening the existing well, restoring groundwater yield by improving well efficiency, facilitating an interim or long-term replacement of water supply, constructing a new well, or compensating the owner for increased pumping costs. Any interim or long-term replacement water supply shall be of the same or better quality (i.e., potable or non-potable) and predicted quantity as the existing supply of the Active Supply Well and shall be suitable for the purposes served by the existing Active Supply Well. Before CalAm undertakes any course of action to

remedy the MPWSP slant well pumping effects on an Active Supply Well, the Hydrogeologist shall authorize such action and provide notice of such action to MCWRA.

**8.6.4 Carmel River Steelhead Association (CRSA)**



**Carmel River Steelhead Association**  
**501 (c)(3) TIN 77-0093979**  
**P.O. Box 1183**  
**Monterey, CA 93942**

CPUC/MBNMS  
c/o ESA  
550 Kearney  
San Francisco, CA 94108

March 22, 2017

**RE: DEIR/DEIS MONTEREY PENINSULA WATER SUPPLY PROJECT**

Gentleman:

The Carmel River Steelhead Association (CRSA) has been involved in water issues on the Monterey Peninsula, especially in regards the Carmel River, for forty years and makes the following comments on the Draft EIR/EIS for the Cal-Am Monterey Peninsula Water Supply Project.

CRSA has been in favor of this project since the beginning and is still in favor of the project. We do have one comment or item we would like added to the Final EIR/EIS when issued.

In reading the document we fail to see where it notes how Cal-Am will use its remaining legally permitted water; specifically when the pumping of that water will occur. We have been told on many occasions that Cal-Am will pump the majority of its legally permitted water during the wet season or when the river is running above 120 cubic feet per second. We have also been told that Cal-Am must pump some water during the dry season to keep their pumps and treatment facilities operational, but that necessary summer pumping would be at a minimum.

CRSA feels it is necessary to include language in the Final EIR/EIS that spells out the Cal-Am pumping regime once the Monterey Peninsula Water Supply Project is complete or the benefit to Carmel River Steelhead will not be as significant as required. If such a request is in the scope of this EIR/EIS then CRSA insists it be added to the document.

CRSA-1

Sincerely,

Brian LeNeve  
President CRSA

## 8.6.5 Carmel River Watershed Conservancy (CRWC)



**Carmel River Watershed Conservancy**  
PO Box 223833, Carmel, CA 93922

### **Board of Directors:**

Michael Waxer, President  
Paul Bruno, Vice President  
Abbie Beane, Treasurer  
Gabriela Alberola, Secretary  
Lorin Letendre, Exec Dir  
Catherine Stedman  
Andy Magnasco  
Vince Voegeli  
Rafael Payan

February 27, 2017

CPUC/Monterey Bay National Marine Sanctuary  
c/o Environmental Science Associates  
550 Kearney Street, Suite 800  
San Francisco, CA 94108

RE: Draft Environmental Impact Statement for the Monterey Peninsula Water Supply Project

**The Carmel River Watershed Conservancy wishes to express its support for the Monterey Peninsula Water Supply Project and in particular the proposed desalination plant with subsurface seawater intake system.**

It is our strong belief that this Project is the most likely project that has been proposed that will increase the in-stream flows in the Carmel River and improve the chances of recovery of the South Central California Steelhead (a federally listed threatened species). Like any project, there are obstacles that must be overcome (such as permits to be issued) and mitigations that will be necessary, but the alternative proposed water supply project would also be required to test subsurface intake wells and that would greatly delay that project, possibly beyond the extension that has been granted by the SWRCB.

Our Conservancy conducted the first watershed-wide assessment of the Carmel River Watershed in 2004-05 with a grant from the SWRCB, and developed the Watershed Assessment and Action Plan from that project. That Action Plan was revised in 2007 and 2015, and one of the highest-priority actions was “Support implementation of a water supply project that minimizes the export of water from the Carmel River basin during the dry season that causes a chronic reduction in flow and meets the goals of State Water Resources Control Board Order 95/10.” In addition, the NOAA’s National Marine Fisheries Service has issued a South-Central California Steelhead Recovery Plan (December 2013) that recommends as a “Critical Recovery Action” for the Carmel River to “Develop and implement alternative off channel water supply project to eliminate or decrease water extractions from the channel...” (page 7-12). The Carmel River has been over-drafted for decades to supply the water needs of the

CRWC-1





**Carmel River Watershed Conservancy**  
**PO Box 223833, Carmel, CA 93922**

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Catherine Stedman  
Andy Magnasco  
Vince Voegeli  
Rafael Payan

Monterey Peninsula, and to eliminate such over-drafting an alternative water supply is absolutely essential.

The Water Supply Project's desalination plant is the only proposed project that is likely to provide such an alternative water supply source in sufficient quantity to preclude further over-drafting of the Carmel River and its aquifer and thereby restore high stream flows for much of the year that are critical to the recovery of our steelhead populations. Supplemented by the Aquifer Storage and Recovery (ASR) and the Pure Water Monterey Groundwater Replenishment (GWR) projects, this proposed desalination plan would enable California American Water to choose to take only its legal right of 3,376 acre feet of water annually from the Carmel River and its aquifer. While the River might still dry up in portions during the dry season and in drier water years, the amount of water flowing in the River will be substantially higher than it is now during those times. That is our goal if we are to accomplish our mission to restore the health and beauty of the Carmel River and watershed.

↑  
CRWC-1  
cont.

Sincerely,

Lorin Letendre  
Executive Director



Patrick G. Mitchell  
pmitchell@mitchellchadwick.com  
916-462-8887  
916-788-0290 Fax

March 29, 2017

**VIA ELECTRONIC MAIL AND U.S. MAIL**

Mary Jo Borak  
California Public Utilities Commission  
c/o Environmental Science Associates  
550 Kearny Street, Suite 800  
San Francisco, CA 94108

Karen Grimmer  
Monterey Bay National Marine Sanctuary  
99 Pacific Ave.  
Building 455a  
Monterey, CA 93940

**Re: CalAm Monterey Peninsula Water Supply Project Revised Draft EIR-EIS**

Dear Ms. Borak and Ms. Grimmer:

I submit this letter on behalf of my client, CEMEX, for public comment on the Revised Draft Environmental Impact Report Environmental Impact Statement (DEIR/EIS) prepared for the Monterey Peninsula Water Supply Project (MPWSP or “Project”). The Project is proposed by California American Water Company (“CalAm”). The DEIR/EIS was prepared jointly by the California Public Utilities Commission (the “Commission”), as the lead agency under the California Environmental Quality Act (CEQA), and the National Oceanic and Atmospheric Administration (NOAA), Monterey Bay National Marine Sanctuary (MBNMS), as the lead agency under the National Environmental Policy Act (NEPA). The DEIR/EIS was released for public review and circulation in January 2017, and the public review period was subsequently extended until March 29, 2017. If, after public comment and review, the Commission approves the Project as proposed, CalAm will install ten subsurface slant wells on an existing CEMEX property with an active sand mine, known as the Lapis Site. The slant wells would provide water to a new desalination plant capable of producing 10,750 acre-feet per year of potable water.

The Commission previously issued a Draft EIR for the Project on April 30, 2015. CEMEX reviewed that Draft EIR and, on September 30, 2015, submitted a timely formal comment letter to the Commission. (Attachment A hereto.) CEMEX notes that, unfortunately, many of the concerns raised in that prior letter almost one and a half years ago still have not been addressed in the DEIR/EIS. As summarized in CEMEX’s prior comment letter, CalAm proposes co-locating the slant wells and other Project-critical infrastructure on CEMEX’s 400-acre Lapis Site, which CEMEX currently uses for active mining operations. The Lapis Site, which is located in the northern part of the City of Marina, has been actively and continuously mined since 1906 under a constitutionally-protected vested right to operate a sand production business. (See, e.g., Lapis Site Reclamation Plan approved by City of Marina in August 1989.) In addition, the Lapis

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Site is subject to an approved reclamation plan pursuant to the Surface Mining and Reclamation Act (SMARA). (See Cal. Pub. Res. Code §§ 2710 et seq.)

To the extent that any of CEMEX’s prior comments from 2015 are not addressed in the DEIR/EIS, CEMEX reincorporates those comments with this letter. Furthermore, the failure of this letter to comment on any other DEIR/EIS inconsistencies with CEMEX’s operation processes and rights and CEMEX’s property rights should not be considered agreement by CEMEX with any such misstatements or construed as a waiver of any rights or remedies to which CEMEX may be entitled. In this context I submit the following comments for the Commission’s consideration when preparing the Final EIR/EIS.

**I. CEMEX’s Global Comments on the DEIR/EIS Regarding Project Use of CEMEX Property**

**A. The 1996 Annexation Agreement speaks for itself, and the DEIR/EIS must analyze the impacts of a potential injection well on CEMEX property.**

The DEIR/EIS states that an “issue to be resolved” and an “area of controversy” regarding CalAm’s proposed use of subsurface slant wells to withdraw source water for the Project includes “whether CalAm has the legal right to extract groundwater from the Salinas Valley Groundwater Basin (SVGB).” (DEIR/EIS, p. ES-13.) This issue implicates the *Annexation Agreement and Groundwater Mitigation Framework for Marina Area Lands* (the “Annexation Agreement”) executed in 1996 by the Marina Coast Water District (MCWD), the Monterey County Water Resources Agency (MCWRA), the owners of the Armstrong Ranch, RMC Lonestar (“RMC,” CEMEX’s predecessor in interest for the Lapis Site), and the City of Marina. The DEIR/EIS discusses the Annexation Agreement in section 2.6.4.

CEMEX-1

DEIR/EIS section 2.6.4 includes an additional discussion of whether CalAm has the legal right to extract groundwater from the SVGB. The DEIR/EIS concludes that implementation of the Project will be compatible with the Annexation Agreement, because CalAm “could conceivably construct and employ an injection well on CEMEX property.” (DEIR/EIS, p. 2-42.) First, the Annexation Agreement speaks for itself, so CEMEX does not consider the DEIR/EIS’s interpretations to be binding in any way regarding that Agreement. Second, the DEIR/EIS must analyze the impacts on CEMEX’s property and active sand production operations of constructing an injection well on CEMEX property, since the DEIR/EIS acknowledges construction of the well is a reasonably foreseeable outcome of the Project.

**B. CalAm’s construction and Project operation ground disturbance will need to be addressed in a reclamation plan amendment.**

Disturbance of land proposed by CalAm for construction and operation of the subsurface slant wells and the source water pipeline on the Lapis Site will need to be accounted for and addressed by a reclamation plan amendment in effect for CEMEX’s operations pursuant to the

CEMEX-2

requirements of SMARA. (See Cal. Pub. Res Code § 2777.) DEIR/EIS section 4.17.1.2 states that “CEMEX, as the land owner, would need to amend the Reclamation Plan to include the construction and operation of the slant wells in the retired portion of CEMEX property and the source water pipeline underneath the CEMEX access road.” (DEIR/EIS p. 4.17-3.) The DEIR/EIS does not address necessary coordination or cost of this undertaking. As CalAm is proposing this Project necessitating a reclamation plan amendment, CalAm must indemnify CEMEX for the monetary cost of any increase in CEMEX’s reclamation obligations. As noted previously, CEMEX has an established vested right to mine the property, so the DEIR/EIS’s reference to potential review by state and federal agencies does not reduce CalAm’s obligations to either prepare or bear the cost of a reclamation plan amendment.

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CEMEX-2  
cont.

**C. Project construction, operation, and mitigation must be consistent with the Mine Safety and Health Administration Requirements.**

As previously noted by CEMEX, the DEIR/EIS does not address how CalAm will ensure compliance with the federal Mine Safety and Health Administration (MSHA) and the California Division of Occupational Safety and Health (also known as “Cal/OSHA”), Division of Mining and Tunneling, mine safety requirements. Section 4.7 should be revised to address this issue, and its current failure to do so is improper.

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The proposed siting of the Project on an active mine site requires compliance during construction, operation, and decommissioning with MSHA and Cal/OSHA. The DEIR/EIS fails to address site-specific safety issues in any appreciable detail. For example, the DEIR must include a mitigation measure that commits CalAm to chocking tires of parked construction vehicles.

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CEMEX-3

Considering the fundamental importance of safe operations on an active mine site and CEMEX’s potential MSHA liability for CalAm’s actions relating to the Project, the Commission must ensure through a condition of approval or other legal instrument that CalAm both indemnifies CEMEX for its actions and obtains its own Mine Identification Number from MSHA, so that CalAm will be the entity cited for any potential violations it commits, rather than CEMEX. This revision to the DEIR/EIS could be coordinated with the Health and Safety Plan required by DEIR/EIS mitigation measure 4.7-2a. (DEIR/EIS p. 4.7-29.) For these same reasons, CalAm must coordinate with CEMEX personnel to review the Traffic Control and Safety Assurance Plan, and the DEIR/EIS mitigation measure 4.9-1 should be updated to reflect this requirement.

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CEMEX-4

**D. CalAm’s revisions to the Project, including well and pipeline locations and construction schedules, should be coordinated with CEMEX to ensure they do not interfere with operations and reclamation activities.**

Due to revisions to the locations and configurations of the slant wells, CalAm must coordinate with CEMEX to review the revised Project design and ensure that no adverse impacts to

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CEMEX-5  
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CEMEX’s sand production operations and reclamation activities will occur. (DEIR/EIS p. 3-13, Figure 3-3a.) Additionally, the DEIR/EIS now describes the need for new aboveground and underground power lines at the Lapis site. (DEIR/EIS p. 3-44.) The location of these power lines should also be reviewed by and coordinated with CEMEX to ensure that the location will not interfere with its operations and reclamation activities. Finally, sections 3.3.2, 3.3.9, and 3.4 of the DEIR/EIS describe the construction activities and schedule associated with construction and maintenance of the slant wells. (DEIR/EIR pp. 3-47, 3-55, 3-57.) Construction activities and maintenance, as well as the location of temporary facilities, should also be coordinated with CEMEX to ensure locations and activities will not interfere with its operations and reclamation activities.

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CEMEX-5  
cont.

**II. The DEIR/EIS Does Not Sufficiently Address Potentially Significant Geologic, Soils, and Seismicity impacts**

The geology and soils analysis concludes that there will be no impact from subsidence associated with the subsurface slant wells on CEMEX’s property. (DEIR/EIS p. 4.2-66.) This conclusion is based on the assumption that the slant wells will be drawing water from offshore coastal aquifers. However, the groundwater resources section acknowledges the slant wells could draw some portion of inland groundwater from the underlying aquifer. (DEIR/EIS p. 4.4-60.) Thus, potential impacts to CEMEX’s property due to subsidence from the slant wells drawing some portion of groundwater must be analyzed.

CEMEX-6

In addition, the slant wells appear to be located in an area of moderate to high liquefaction susceptibility, but the potential impacts of liquefaction on the slant wells, including associated above-ground structures, are not addressed. (DEIR/EIS p. 4.2-60 to 4.2-61.) The potential for seismic influence to damage the slant wells, and any related impacts to CEMEX’s on-going mining operations must be addressed.

CEMEX-7

Furthermore, the DEIR/EIS concludes that, based on the relocation of slant wells, the wells would remain buried and not exposed until sometime after 2060. (DEIR/EIR p. 4.2-70.) However, Mitigation Measure 4.2-9 requires that the wells be abandoned before the slant wells are exposed. (DEIR/EIS p. 4.2-71.) Thus, the DEIR/EIS must address necessary coordination with CEMEX on the abandonment procedure for the slant wells.

CEMEX-8

**III. The DEIR/EIS Does Not Adequately Address Potentially Significant Hydrology Impacts to CEMEX’s Property and Active Operations**

**A. Potential surface hydrology impacts to CEMEX’s property must be analyzed.**

The DEIR/EIS states that any flood flows diverted by the electrical control cabinets “would not affect other properties or structures.” (DEIR/EIS p. 4.3-117.) However, the DEIR/EIS does not

CEMEX-9  
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address whether flows diverted by the electrical control cabinets and other surface infrastructure will have an impact within the CEMEX active mining area or otherwise interfere with CEMEX’s operations. The DEIR/EIS should be revised to address this issue.

↑ CEMEX-9  
cont.

The DEIR/EIS also states that the slant wells would be designed to withstand inundation, so that there would be no significant risk of damage from flooding due to sea level rise. (DEIR/EIS p. 4.3-119.) Elsewhere, the DEIR/EIS concludes that impacts to the slant wells due to sea level rise will be insignificant because the wells will be decommissioned before sea level rise impacts occur. (DEIR/EIS p. 4.2-71 to 4.2-72.) Due to this inconsistency, the DEIR/EIS must consider the potential impacts to CEMEX’s property of operating inundated slant wells in flood conditions.

↑ CEMEX-10

**B. The Groundwater Monitoring Program must be expanded to account for CEMEX’s water supply well and drawdown impacts in the 400-foot aquifer.**

The DEIR/EIS discussion for Impact 4.4-3 notes that aquifers underlying the slant wells, including the 400-foot aquifer, “are projected to exhibit a response to MPWSP slant well pumping.” (DEIR/EIS, p. 4.4-59.) As demonstrated in Figure 4.4-16, CEMEX’s production well will be subject to a one foot drawdown under both the 0% and 3% return water scenarios. To reach this estimate, the DEIR/EIS analysis for Impact 4.4-3 relies on modeling for the extent of pumping influence in the 180-FTE Aquifer. (DEIR/EIS p. 4.4-57, citing Appendix E2.)

As noted in CEMEX’s comment letter on the prior draft EIR, the reliability of the groundwater drawdown model was assessed using well pumping data from the test slant well. (Appendix E2.) Based on this model, the DEIR/EIS concludes that groundwater drawdown impacts, including impacts to CEMEX’s well, will be less than significant. (DEIR/EIS p. 4.4-68.) Despite this conclusion, the DEIR/EIS includes an applicant proposed mitigation measure to expand an existing regional groundwater monitoring program to include the Dune Sand Aquifer and the 180-FTE Aquifer.

↑ CEMEX-11

Specifically, Mitigation Measure 4.4-3 proposes an expansion of the current regional groundwater monitoring network to include monitoring of groundwater levels “in the Dune Sand Aquifer and the 180-FTE Aquifer.” (DEIR/EIS, p. 4.4-74.) While the measure references well monitors in the 400-foot aquifer, it is not clear that the measure applies to the 400-foot aquifer. Since the Project could result in drawdown under 0% and 3% water return scenarios, Mitigation Measure 4.4-3 must be revised to include monitoring of the 400-foot aquifer to ensure that the Project does not adversely impact CEMEX’s existing water production well. In addition, the Mitigation Measure only requires mitigation if CalAm determines drawdown is resulting in adverse impacts. This measure fails to identify a performance standard for measuring when an adverse effect might trigger mitigation. Since this determination is left to CalAm’s discretion, the mitigation measure is unenforceable and illusory.

Furthermore, as noted in CEMEX’s prior comment letter on the 2015 draft EIR, Mitigation Measure 4.4-3 must not only be developed prior to Project construction, the requisite agency must also *approve* the submitted plans prior to Project construction. Agency approval of an applicant-developed mitigation program is necessary to ensure mitigation is not impermissibly deferred.

CEMEX-12

**C. The DEIR/EIS should be revised to sufficiently analyze and address Project drawdown impacts on the Lapis site.**

**i. The DEIR/EIS geologic description of CEMEX’s dredge pond is not accurate.**

The DEIR/EIS analysis of Impact 4.4-3 also considers whether the Project will have an impact on CEMEX’s existing dredge pond or on the current sand mining operations. The DEIR/EIS states that the water level for CEMEX’s dredge pond is assumed to be 10 to 20 feet deep. (DEIR/EIS, pp. 4.4-70 to 4.4-71.)

CEMEX-13

The DEIR/EIS assumptions regarding the dredge pond and related settling ponds for analysis of Impact 4.4-3 is not accurate. As noted in CEMEX’s prior comment letter, the depth of the dredge pond is allowed to 30 feet, not 10 to 20 feet as assumed in the DEIR/EIS. In addition, CEMEX’s property consists of either “Qd” (seafloor deltaic deposits) or “Qd” (dunes) , as shown on Figure 4.4-3. Therefore, the DEIR/EIS should be revised to reflect appropriate assumptions for CEMEX’s site, including the allowable 30 foot depth of the dredge pond and appropriate hydrogeologic layers underlying the site.

**ii. The DEIR/EIS fails to analyze impacts that drawdown could have on vegetation.**

The DEIR/EIS analysis lacks an evaluation of the impacts that drawdown would have on existing vegetation at the Lapis site. The DEIR/EIS must be revised to ensure that CalAm is responsible for adverse impacts that drawdown may have on vegetation on CEMEX’s property. At minimum, Mitigation Measure 4.4-3 should be extended to monitor drawdown impacts on vegetation and provide remediation for adverse impacts to the extent that monitoring determines that any impacts are caused by drawdown.

CEMEX-14

**iii. The DEIR/EIS modeling of impacts to CEMEX’s dredge pond is insufficient.**

The DEIR/EIS concludes drawdown impacts to CEMEX’s dredge pond will be less than significant, despite the potential for pumping at the slant wells to cause a drawdown response. The DEIR/EIS reasons that tidal influences and recharge will offset any drawdown impacts.

CEMEX-15



(DEIR/EIS pp. 4.4-71 to 4.4-72.) CalAm supports this conclusion by extrapolating results from pumping the test slant well.

In September 2014, CalAm simulated test slant well pumping for eight months at 2,500 gpm and determined that a drawdown of 1 foot at the dredge pond was attributable to pumping at the test well. Based on the measured results and localized model, the DEIR/EIS concludes that “there is a possibility that additional drawdown would occur” during the Project’s operation of 10 slant wells. (DEIR/EIS, p. 4.4-71.) The DEIR/EIS reaches this conclusion based on the localized CEMEX model, which is intended to simulate “the response of the Dune Sand Aquifer in its second, third, and fourth vertical layers.” (*Ibid.*) Thus, the DEIR/EIS still appears to assume that the depth of CEMEX’s dredge pond corresponds to the second and third layers. (*Ibid.*) However, during Hydrogeology Working Group sessions, suggestions were made that the dredge pond is more appropriately assigned to the first layer (Ocean Floor), which suggestion is reflected in Table 3.1 of Appendix E-2. (DEIR/EIS, Appendix E-2, p. 15.) However, it does not appear that the updated 2016 model was incorporated in the analysis of drawdown impacts to CEMEX’s dredge pond, or that the first layer is modeled at all. (DEIR/EIS pp. 4.4-71 to 4.4-72.)

The modeling cited in the DEIR/EIS focuses on the aquifer response, rather than providing any localized models of the dredge pond response. As a result, the DEIR/EIS fails to identify or analyze estimated drawdown at the dredge pond during operation of all 10 slant wells. Rather, the DEIR/EIS concludes that tidal fluctuations in the dredge pond water levels of up to eight feet per year, along with recharge, would mask any drawdown impacts associated with operating the Project. (DEIR/EIS pp. 4.4-71 to 4.4-72.) This conclusion does not appear to be consistent with the DEIR/EIS or physical conditions on CEMEX’s site. For example, aquifer drawdown in the area of the slant wells could reach 10 to 20 feet or more, as shown in Figure 4.4-13, but no similar estimates are provided for drawdown at the dredge pond. In addition, tidal fluctuations in the dredge pond are not eight feet, which actually represents the maximum amplitude of the open ocean tide.

The DEIR/EIS asserts that data collection from a water-level transducer indicated that “the water level in the dredge pond was not being influenced by the pumping of the test slant well.” (DEIR/EIS p. 4.4-71.) This statement is inconsistent with the prior statement in the DEIR/EIS that test slant well pumping resulted in a one-foot drawdown in the dredge pond. (*Ibid.*) Discrepancies such as these call into question the DEIR/EIS’s current analysis and reliance on aquifer modeling of drawdown impacts to estimate potential impacts to CEMEX’s dredge pond.

The DEIR/EIS cumulative impacts analysis also concludes that the Project will not result in significant adverse cumulative impacts. However, the DEIR/EIS notes that groundwater pumping from this Project and a potential MCWD desalination plant could cause “some degree of well interference and increased drawdown.” (DEIR/EIS p. 4.4-90.) Localized impacts to CEMEX’s well and dredge pond are not modeled or analyzed. Thus, it’s unclear how the

CEMEX-15  
cont.

DEIR/EIS reaches the conclusion that cumulative drawdown impacts to CEMEX's dredge pond or ongoing mining operations will be less than significant without mitigation.

Ultimately, the DEIR/EIS does not sufficiently connect the dots between its analysis of drawdown impacts on CEMEX's dredge pond and the DEIR/EIS conclusion that any such impacts will be less than significant. CEMEX recommends that the groundwater monitoring program required by Mitigation Measure 4.4-3 also be extended to CEMEX's dredge pond to ensure that Project operations do not actually result in significant impacts to CEMEX's operations. Specifically, Mitigation Measure 4.4-3 should be revised to also include ongoing monitoring of the water level transducer in the dredge pond. In addition, at specified levels of dredge pond drawdown, the CalAm wells should have to be shut down until the water level recovers in the dredge pond.

CEMEX-15  
cont.

**IV. The DEIR Should Be Revised to Ensure That Mitigation for Biological Resource Impacts Will Not Interfere With CEMEX's Operations and Obligations**

**A. Mitigation measures for biological resource impacts should be revised in coordination with CEMEX.**

The DEIR/EIS discussion for Impact 4.6-1 concludes that impacts due to construction of the subsurface slant wells and the source water pipeline will result in significant impacts for certain species and habitats. (DEIR/EIS pp. 4.6-124 to 4.6-132; pp. 4.6-134 to 4.6-138; pp. 4.6-186 to 4.6-188; pp. 4.6-189 to 4.6-190.) The DEIR/EIS concludes that these impacts can be reduced to less than significant upon implementation of certain mitigation measures. (*Id.* at p. 4.6-131; p. 4.6-136; p. 4.6-204.) These same mitigation measures are applied to ensure other impacts, such as periodic maintenance of the slant wells, will not result in significant impacts to terrestrial biological resources. (See DEIR/EIS pp. 4.6-235; 4.6-244 to 4.6-255.)

CEMEX-16

As a general matter, DEIR/EIS discussion of these Mitigation Measures does not address whether implementation of the Mitigation Measures are consistent with or otherwise will not interfere with CEMEX's pre-existing operations on the Lapis Site. Therefore, CalAm should revise these Mitigation Measures in coordination with CEMEX. At a minimum, the terrestrial biological Mitigation Measures applicable to construction, operation, or maintenance of the subsurface slant wells and the source water pipeline should be revised to account for CEMEX's pre-existing operations on the Lapis Site as follows:

- Avoidance and minimization measures required under Mitigation Measure 4.6-1c (general avoidance and minimization measures) should not affect CEMEX's operations and reclamation activities;
- Seasonal construction limitations under Mitigation Measure 4.6-1d should not interfere with, and should be distinguished from, existing operations;

- The habitat mitigation and monitoring plan under Mitigation Measures 4.6-1d (Protective Measures for Snowy Plover), 4.6-1e (Avoidance and Minimization Measures for Special-Status Plants), 4.6-1f (Avoidance and Minimization Measures for Smith’s Blue Butterfly, 4.6-1h (Avoidance and Minimization Measures for Western Burrowing Owl) and 4.6-1n should be reviewed and developed for consistency with CEMEX’s already-existing reclamation plan;
- Habitat restoration efforts under Mitigation Measure 4.6-1f that are proposed to occur onsite at the Lapis Site, if any, must be coordinated with CEMEX and limited to areas disturbed by CalAm operations within the Lapis Site; and
- Any relocation efforts under Mitigation Measure 4.6-1g that are proposed to occur onsite at the Lapis Site, if any, must be coordinated with CEMEX as CalAm does not own the Lapis Site and has limited rights with respect to its activities on the Lapis Site and its ability to encumber, access, or otherwise use the surface property at the site.



CEMEX-16 cont.

In addition, all biological mitigation measures need to be consistent with CEMEX’s usage of existing operational areas and access roads. For example Mitigation Measures 4.6-1d, 4.6-1e, and 4.6-1f all call for restoration of habitat impacted during construction. These Mitigation Measures should be revised in coordination with CEMEX to ensure that any rehabilitation or restoration efforts do not improperly affect the portions of the Lapis Site that CEMEX uses for its active operations (*e.g.*, no rehabilitation of the mining access road). In addition, any rehabilitation must be consistent with existing reclamation requirements for the site under SMARA. Failure to coordinate with CEMEX’s existing sand production activities and obligations could render the mitigation measure ineffective or illusory (*e.g.*, a mitigation on surface property impacted by on-going mining operations would not actually result in any effective mitigation).

Similarly, the Project Description section of the DEIR states that for site clearing and preparation generally, “[u]pon completion of construction activities, the construction contractor would ... contour the construction work areas and staging areas to their original profile, and hydroseed or repave the areas, as appropriate.” (DEIR/EIS, p. 3-46.) CalAm has not consulted with CEMEX regarding the timing, location, or scope of any proposed reclamation or re-contouring of the Lapis Site. The DEIR/EIS should be revised to require that, after full construction buildout on the Lapis Site, CalAm must reclaim the Project area to an appropriate end use consistent with CEMEX’s existing use or otherwise coordinate with CEMEX regarding its role and share of responsibility/obligations under a reclamation plan amendment.

**B. CEMEX disagrees with the DEIR’s characterization of jurisdictional water features on the Lapis Site.**



CEMEX-17

The DEIR/EIS states that “surface waters within the study area [are regarded] as potentially jurisdictional.” (DEIR/EIS p. 4.6-2.) This includes the dredge pond and related facilities located on CEMEX’s property. (DEIR/EIS pp. 4.6-210 to 4.6-211; see also DEIR/EIS p. 4.6-248.)

CEMEX disagrees with any implication in the DEIR/EIS that these areas within CEMEX's property are wetlands and with the DEIR/EIS's overall characterization of waters on the Lapis Site as jurisdictional. The subject features are all industrial process ponds. In addition, the DEIR/EIS statements regarding the water features on the Lapis Site are unwarranted because none of the described water features are within the Project's construction/ground disturbance footprint. (See DEIR Figure 4.6-1a, p. 4.6-11.)

In any case, the DEIR/EIS concludes that impacts to all described features would either be less than significant or reduced to less than significant following implementation of mitigation measures. (See generally DEIR/EIS Impact 4.6-3, pp. 4.6-209 to 4.6-212.) As noted above, implementation of any such mitigation measures must be coordinated with CEMEX's active operations and the existing reclamation plan requirements for the site.

**V. CEMEX Disagrees With the DEIR's Characterization of Structures on the Lapis Site as Potentially Significant Cultural Resources**

The DEIR/EIS states that the CEMEX facility was determined to be a Historic District eligible for listing in the National Register and California Register under Criteria A/1 (association with an important event) and Criteria C/3 (architectural merit). (DEIR/EIS p. 4.15-21.) The DEIR/EIS further states that the direct and indirect area of potential effects ("APE") for the source water pipeline encompasses the Lapis Sand Mining Plant Historic District (the "Mining District"). (See DEIR/EIS, p. 4.15-23.) Though survey efforts did not identify any archaeological resources in the portion of the source water pipeline direct APE located within the CEMEX facility, the DEIR/EIS states that the area surrounding the pipeline alignment is generally considered to have a high potential for buried cultural resources associated with prehistoric populations and Native Americans. (DEIR, p. 4.15-29.)

CEMEX disagrees with the DEIR/EIS analysis and conclusion that the CEMEX facility is eligible for listing in the National and California Registers. CEMEX does not believe that the site is properly considered a historic district, especially because the facility is currently in operation and has been a working facility since its inception.

In the end, the DEIR/EIS concludes that "[n]o historical resources listed in or eligible for listing in the California Register or historic properties listed in or eligible for listing in the National Register are within the direct or indirect APE of all project components." (DEIR/EIS p. 4.15-45.) CEMEX agrees with this conclusion and requests that the earlier analysis suggesting that the facility is eligible for listing be updated for consistency with the DEIR/EIS conclusion for impact 4.15-1.

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CEMEX-17  
cont.

CEMEX-18

**VI. The DEIR/EIS Analysis of Potential Impacts to Mineral Resources in Section 4.17 is Inaccurate and Not Supported by Substantial Evidence**

DEIR/EIS section 4.17 acknowledges that Project construction could delay movement of vehicles at the site and otherwise cause minor disruptions to CEMEX's operations. (DEIR/EIS, pp. 4.17-8 to 4.17-9.) However, the DEIR/EIS concludes that these construction-related impacts and any temporary loss of mineral resources would be less than significant. (*Ibid.*) The DEIR/EIS reaches this conclusion without providing any substantial evidence. In fact, the Project would interfere with a valuable operation that produces sand for numerous needs in our society. The current DEIR/EIS's failure to understand that impact is inaccurate and legally incorrect.

CEMEX-19

We request that the DEIR/EIS be revised to address all of these issues. Thank you for your consideration of these comments on behalf of CEMEX.

Sincerely yours,

MITCHELL CHADWICK LLP



Patrick G. Mitchell

Enclosures: Attachment A [CEMEX 2015 Draft EIR Comment Letter]

cc: Michael Egan  
Jerae Carlson  
Steve Grace

## 8.6.7 Citizens for Just Water (CJW)

### Citizens for Just Water

March 20, 2017

Mary Jo Borak, CEQA Lead  
California Public Utilities Commission  
c/o Environmental Science Associates  
550 Kearney Street Suite 800  
San Francisco CA 94108

CPUC/MBNMS  
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Karen Grimmer, NEPA Lead  
Monterey Bay National Marine Sanctuary  
99 Pacific Avenue Building 455a  
Monterey CA 93940

Re: Draft Environmental Impact Report/Environmental Impact Statement  
Monterey Peninsula Water Supply Project

Dear Ms. Borak and Ms. Grimmer:

Citizens for Just Water is a citizens group on the Monterey Peninsula and an identified party by the CPUC in this matter. Just Water provides the following written comments regarding the Draft Environmental Impact Report/Environmental Impact Statement (hereinafter DEIR/EIS) issued in January 2017 for the above-referenced California American Water Company (CalAM) project. Just Water respectfully requests these comments be made part of the administrative record for all state and federal proceedings relating to this project.

#### **CALAM HAS NO WATER RIGHTS IN THE SALINAS VALLEY GROUNDWATER BASIN AND HAS NO VIABLE LEGAL CLAIM TO ACQUIRE RIGHTS**

CalAM erroneously represents that the MPSWP is “designed to take supply water from the ocean via underground slant wells that draw water from the earth underneath the ocean” (DEIR/EIS p. 2–30). The proponent’s statement that the source water is from “the submerged lands of the Monterey Bay National Marine Sanctuary” is a *flagrant misrepresentation* (DEIR/EIS p. 3–15), but necessary to the assertion that it is pumping seawater, and that no water right is needed for seawater extraction (See 2–37).

The brackish water of the SVGB is the intended water source for the project—not the ocean. This is even more obvious as “the slant well clusters were moved farther inland” to address the issue of coastal erosion (DEIR/EIS p. ES–16).

The DEIR/EIS makes clear the Project will extract and export groundwater from the Salinas Valley Groundwater Basin and specifically the 180' aquifer—not the ocean. In fact, all

CJW-1



subsurface slant well pumping by the MPWSP will be from the 180' aquifer of the SVGB. CalAM has no overlying rights, no prescriptive rights, and no appropriative rights to groundwater in the SVGB (see DEIR/EIS 2-30 to 2-31). The Project seeks certification of its DEIR/EIS on *an unsupported assertion* that there “is a sufficient degree of likelihood” that CalAM will have the necessary water rights (see DEIR/EIS 2-30). The absurdity of Project approvals under these circumstances is obvious.

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CJW-1  
cont.

The SVGB is already critically overdrafted. **There is no surplus water.** Thus, CalAM will not be able to perfect water rights in the basin.

The overdraft has contributed to the eastward (inland) intrusion of seawater in both the 180' and the 400' aquifers for at least 70 years. Since the planning for the Project commenced, there has been new intervening legislation on groundwater management. In September 2014, the State of California passed the Sustainable Groundwater Management Act (SGMA) and the Department of Water Resources designated the 180'/400' subbasin of the Salinas Valley Groundwater Basin as **among 21 basins that are “critically overdrafted” in California. SGMA directs restoration of these basins as a top priority.**

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CJW-2  
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According to this first-ever regulatory legislation enacted by the state as to groundwater, local governments are to manage groundwater supplies, including the adoption of a “groundwater management plan.” The management plan is to maintain and maximize long-term reliability of groundwater resources, prevent significant depletion of groundwater over the long term, and prevent degradation of groundwater quality. The 180'/400' “critically overdrafted” subbasin of SVGB is assigned by SGMA for immediate improvement. It is also the proposed site for this Project, *owing to the asserted degradation of its water quality.* **The DEIR/EIS fails to address this conflict of interests.**

In the DEIR/EIS, the proponent relies on its conclusion that water in the aquifer at the CEMEX site is useless to those with rights to it. The SGMA directive to restore the SVGB sits in direct contradiction to CalAM’s *proclaimed ability* to acquire water rights due to the brackish condition of the aquifer. In this instance, the quality of the water is not determinative of rights to the aquifer water.

The DEIR states (page 4–37),

The proposed project would not adversely affect groundwater management in the Basin, because it would be extracting groundwater that is not presently being used as a potable or an



irrigation supply. Rather, when considering seawater intrusion and water surface elevations in the 400-Foot Aquifer, the proposed project may have a positive contribution to the sustainable management of groundwater.

**This is untrue.** SVGB users continue to pump from the 180' and the 400' aquifers. The aquifer water has beneficial uses to those with water rights, including MCWD. With the development and implementation of the required groundwater sustainability plan, that pumping will continue and foreseeably increase.

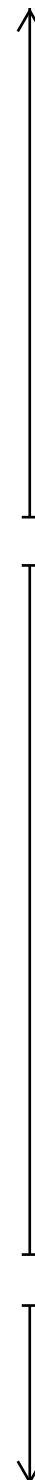
Secondly, the assertion that the Project may have a positive contribution to the sustainable management of groundwater is *unsubstantiated* in the DEIR/EIS and is included simply as a gratuitous statement. A self-serving, unsupported claim needs to be deleted from the document.

The DEIR/EIS is silent as to a basis in the law for the acquisition of water rights in the Basin. Rather, the allegation of an ability to acquire legal rights to water in the near future is premised upon proponent's self-serving assertions in a convoluted narrative in the DEIR/EIS. The DEIR/EIS does little more than dismiss the project opponents' concerns about CalAM's lack of rights to source water in the SVGB. Although the writers of the DEIR/EIS attempt to obfuscate this legal issue, **CalAM has failed consistently to make a credible legal argument for the acquisition of any rights to pump from the SVGB.** CalAM has had years to try, and had it the ability to do so under California law, it would have. The extraordinary expenditure of ratepayer funds on this Project without water rights is egregious. The CPUC should not allow CalAM to continue expending additional funds on a Project without water rights. There are alternatives available for CalAM to develop its Project with legally acquired source water.

The CPUC is not the arbiter of whether CalAM possesses water rights for the project, and nothing in the DEIR/EIS should be construed as the CPUC's opinion regarding such rights (see Chapter 2.6). The Project should not move forward. **All approvals, including certification of the DEIR/EIS should be stopped immediately.** The project is not feasible without water rights (see Chapter 2.6).

**THE EXPORT OF WATER TO THE CAL AM SERVICE AREA IS PROHIBITED BY CALIFORNIA LAW.**

**As clearly shown in Appendix E-2, all Project wells are, in fact, in the 180' layer of the aquifer.** The slant design does not achieve the objective of ocean intake.



CJW-2  
cont.

CJW-3

CJW-4

Monterey County Water Resources Agency Act provides:

The Legislature finds and determines that the agency is developing a project which will establish a substantial balance between extraction and recharge within the Salinas River Groundwater Basin. For the purpose of preserving that balance, **no groundwater from that basin may be exported for any use outside the basin, except that use of water from the basin on any part of Fort Ord shall not be deemed such an export.** If any export of water from the basin is attempted, the agency may obtain from the superior court, and the court shall grant, injunctive relief prohibiting that exportation of groundwater. [Emphasis added.]

Basin groundwater may not be exported for use outside the Basin for any purpose. This prohibition is certainly applicable both to the selling and the arrogation of Basin water.

In support of its arrogation of Basin water, CalAM asks the CPUC to accept a distinction between “brackish/ unusable” water (pumped from their slant wells) versus potable, fresh water. In the section 2.6.2 (Pg. 127), CalAM accurately states **brackish water is “a combination of ocean water and water that originated from the inland aquifers of the Basin”**. Whether drawing water from the aquifer inland from the mean high tide or seaward of mean high tide, the source water is from the same aquifer at the Project’s CEMEX location. However, CalAM continues to focus exclusively on the “unusable” aspect of brackish water and not on the association of brackish water with fresh water aquifers. This distinction between brackish water as completely different from fresh water is intentionally promoted to support the *false claim* that “fresh water is not withdrawn by the project”. **Contrary to CalAM’s position, water quality is not determinative of the right to export. The prohibition against exportation of water under the Agency Act is applicable to any and all water extracted from the Basin.**

CalAM has *neither* the right to pump water from the SVGB, nor the right to export Basin water to sell in its service area to customers. Conversely, MCWD has no right to take water from the Carmel River or the Seaside Basin, which CalAM does. MCWD may not take source water protected for other public and private water agencies defined by law regardless of need. Reciprocity of enforcement of these legislative protections is critical throughout the State of California. It is not within the authority of the CPUC to make exceptions, or ignore the law. Changes to state legislation is the only means to remove the prohibition for the export of SVGB water.

The Project proposes to return to the SVGB a small fraction of the water extracted and exported. [DEIR/DEIS 2-22 to 2-23] **The Project proponent erroneously assumes it is required to**



CJW-4  
cont.

**return *only* that percentage of water it characterizes as “fresh water” to the Basin.**

CalAM’s plan to return the “fresh water” to Castroville Seawater Intrusion Project Distribution Systems [DEIR/EIS 1-12] does not ameliorate the Agency Act prohibition to exporting water. The majority of the water will be exported to the CalAM customers on the Monterey Peninsula, matched by an approximate equal amount exported to the bay. The amount the project intends to return is a very small percentage of the amount taken. The Project’s scheme of amelioration is creative, but woefully inadequate to protect those harmed by an unlawful taking. The lack of concern for the harm to MCWD ratepayers is spotlighted by the Project’s failure to consider delivery (return) of the fresh water to the local purveyor from which it was taken – MCWD. This fact is yet another example of the overall failing of the DEIR/EIS to identify the harm this Project will wreak if sited at the CEMEX property.

**If there is scientific evidence that water extracted from Marina and returned to Castroville will “benefit” the water source of MCWD it is not set forth in the DEIR/EIS.**

CJW-4  
cont.

In Section 4.4.2.3 the proponent makes the following statement relative to the Agency Act:

The Agency Act further authorizes the MCWRA to commission groundwater studies to determine whether any portion underlying its territory is threatened with the loss of useable groundwater supply and to adopt an ordinance prohibiting further extraction of groundwater from an area and depth defined by the MCWRA.

The proposed CEMEX location is within the jurisdiction of the MCWRA and the Agency Act. Not only does the Agency Act apply, but the MCWRA is empowered to prohibit further extraction of groundwater at the CEMEX location. CalAM’s self-proclaimed exclusion of its geographical location from the Act is without merit. The CPUC is *without authority* to make a ruling as to whether the 180’/400’ subbasin of the SVGB at the CEMEX property is beyond the scope of the Agency Act and the authority of the MCWRA.

**SVGB Users Have Been Assessed Millions of Dollars, Over Decades, for the Protection and Recharge of SVGB Aquifers**

Monterey County Water Resources Agency levies assessments on water consumers within Zones 2 and 2A to fund its efforts to manage the quality and quantity of water within these zones. Millions of dollars have been assessed and invested in projects intended to ensure the SVGB provides a long-term, sustainable water supply for Basin users. CalAM has contributed nothing to the protection of this groundwater resource. The foreseeable impact of the Project is adverse to the investment made to date and counterproductive to continuing efforts supported by public tax

CJW-5

dollars. The Project’s end users (CalAM ratepayers) are not required to pay their fair share of these taxes. Ratepayers within Zones 2 and 2A will bear the tax obligation for them. **This is harm.**

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CJW-5  
cont.

**CalAM Fails to Establish No Harm to Legal Users of SVGB**

As clearly shown in Appendix E–2, all Project wells are, in fact, in the 180' layer of the aquifer, regardless of slant design. The CalAM MPWSP mischaracterization of brackish water as “unusable” water attempts to obfuscate that the slant wells are accessing the 180' aquifer, a current source of regional water and a prospective source for additional users with the buildout of former Fort Ord properties. MCWD has previously demonstrated its ability to restore brackish water to potable with its own small desalinization plant (located within a ½ mile of the Project’s current test well).

With rights to the water and as a Groundwater Sustainability Agency under the Sustainable Groundwater Act, MCWD is obligated to manage and improve water quality in the 180' aquifer. As the 180' and 400' aquifers will be the source of an additional 5200 AFY to meet production requirements, any increase in salinity and any reduction in available water in the Basin will be harmful. **The taking of water by CalAM’s project is harmful.**

Concerns regarding an inadequate water supply for everyone with rights in the SVGB are not new; nor were these concern precipitated by the siting of the Project at the CEMEX property. But the Project’s location at CEMEX and the planned pumping of source water from SVGB have elevated fears of an inadequate supply to a top priority.

CJW-6

It is well accepted by every agency, entity, and user that the SVGB is in overdraft—simply stated, the demands on the Basin exceed its yield of potable water. Experts from many scientific disciplines have reviewed the same materials and given opinions as to the ability of the Basin to provide water for the our increasing needs over time. The Army knew it had water problems on Fort Ord at least a decade before base closure. At page 86 of a study done by the Army Corps of Engineers in 1986, entitled “Long-range Water Supply Development for Fort Ord, California,” seawater intrusion is identified as the adverse outcome of increased pumping near the coast, and is credited with fouling wells on the fort. Seawater contamination resulted in the Army’s drilling of a new well field further inland. The ineffectiveness of this corrective measure as a long-term solution is noted in the report. “The installation realizes that this is an interim measure and the Army needs to eliminate the reliance on local groundwater for other than backup supplies.” **The recognition of a regional problem is made clear with the inclusion of this observation in the 1986 Army report, “Marina’s water problems are very similar.”**

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The Army abandoned the installation without a new water project. Now in 2017, MCWD stands in the shoes of the Army as the water purveyor for 28,000 acres of land. In place and instead of 13,500 soldiers and fewer than 4000 civilian workers on the base, the Fort Ord Reuse Plan assumes growth to a population of 37,000 and the creation of 18,000 jobs. Thirty years later, there is no new water project for those dependent upon the SVGB aquifers.

In 1993, the U.S. Army and Monterey County Water Resources Agency executed an agreement setting forth how MCWD will take over water services for the 28,000 acres of land. Therein the right to pump 6600 AFY is “transferred” and a pumping limit for the former fort property is established. 6600 AFY was the highest volume ever pumped by the Army (in 1984)—not a historical average. The agreement specifically states that the pumping of 6600 AFY is permissible until a new water supply project becomes available. The Basin’s ability to provide the source of 6600 AFY was unsupported and dubious in 1993.

Clearly, the demands of *another water purveyor* in the Basin is inadvisable at present. ***There is no more water.***

The reports issued over the last thirty years, including those whose data is represented in the “Historic Seawater Intrusion Map[s]” for the 180' and 400' aquifers produced by the Monterey County Water Resource Agency, affirm more pumping from the Basin is irresponsible, as the threatened harm is irreversible. The DEIR/EIS do not provide sufficient scientific proof that an alternative result will occur with a significant increase in pumping. Those dependent upon the Basin for survival and livelihood need the CPUC to demand that CalAM meet the legal requirement of proving “no harm.” The degree of review in the DEIR/EIS fails miserably to establish that proof.

Any increased salinity in the Basin constitutes harm, as the cost of purification increases and MCWD necessarily passes that added expense to its ratepayers. Any lowering of the water level in the aquifer is harm, as the cost of extraction will increase and MCWD will necessarily pass the added expense to its ratepayers. Any need for wells to be sited in more remote locations to avoid conflict with the Project will necessitate higher costs for pipes and pumping—again, harm.

The ability of MCWD to rely on the SVGB to continue to provide water to its *existing 30,000 ratepayers and deliver water to its reasonably foreseeable customer increase* (to whom delivery commitments have been made)—*at reasonable rates*—is questionable in 2017. The limitations of the SVGB are presently undefined; there is simply a lack of information. This lack of information precludes any finding that the Project will cause no harm.

CJW-6  
cont.

**Representations and Omissions in the DEIR/EIS Are Misleading.**

The footnote on page 1–11 of the DEIR/EIS states, “In November 2014 the City of Marina and the California Coastal Commission completed their CEQA review.” This statement infers that both the California Coastal Commission and the City of Marina approved some aspect of the test-well project. This representation ignores City of Marina’s rejection of the permit for the test slant well. The DEIR gives the impression that this is a non-controversial project. **This is not true.**

CJW-7

The April 2012 CalAM Application A.12-04-019 (CalAM, 2012) seeking CPUC approval to build, own, and operate a desalination facility for water supply (the MPWSP) incorporates many of the same elements previously analyzed in the Coastal Water Project EIR. What the DEIR/EIS fails to identify, however, are the significant differences between the Coast Water Project EIR and the MPWSP, all of which are critical to any proof of “no harm” to current users of the SVGB. Namely, this Project is an invasion of a neighboring water jurisdiction without invitation, without water rights, without compliance with state law and county ordinance, and without regional benefits within the invaded jurisdiction.

CJW-8

**CalAM Fails to Utilize and Rely on Accepted Standards of Good Scientific Inquiry**

CalAM has short-shrifted standard research protocol.

- **CalAM Failed to Establish Meaningful Baseline Information as Required Before Installing the Test Slant well**

The DEIR states that “the EIR/EIS takes as its baseline the existing condition on or about October 5, 2012” (Section 4.1.3). Protocol and common sense indicate that sampling one day’s data as a baseline for a complex system with fluctuations as to season, tide, rainfall, etc., will not yield a meaningful baseline for analysis. Without such a baseline, projections cannot be made with confidence. The Hydrogeologic Working Group does not present or explain its baseline. Without this information, there is no basis to evaluate impacts. The omission of this analysis is reason to reject certification.

CJW-9

- **Failure to Exploit Electrical-Resistivity Tomography Imaging**

CalAM unreasonably rejects use of electrical-resistivity tomography (ERT) for mapping seawater intrusion and the fragile hydrogeology of the SVGB. ERT is readily available, data rich, non-intrusive, and low cost. ERT data can be expected to significantly reduce the degree of uncertainty. Readily attainable imaging is especially critical in the high-risk context of water. CalAM’s failure to use ERT amounts to gross negligence in today’s technological environment.

CJW-10



**The proponents of the project knew of the availability of this technology and the value it would add to the preparation of the DEIR/EIS for the Project in 2014.** A degree of certainty as to the predicted outcomes is necessary for any CEQA review and for the determination that no harm will result if the Project is approved. The *degree of uncertainty in predicted outcomes* would be greatly reduced with use of ERT mapping of seawater intrusion and the fragile hydrogeology of the SVGB at the CEMEX property and surrounding area. The DEIR/EIS is silent as to any degree of uncertainty in its predicted outcomes.

The DEIR/EIS warns the siting of the intake wells is critical to preventing increased seawater intrusion and further harm to the aquifer. The following cautionary statement is found in Subsurface Intakes, Appendices I1-3.

In general, source water derived from subsurface intakes requires significantly less filtration when compared to raw seawater (SGD, 1992). **However, if not appropriately sited, subsurface intakes can adversely affect coastal aquifers and increase the risk of saltwater intrusion in freshwater aquifers (CCC, 2004).**  
[Emphasis added.]

Better knowledge of the hydrogeology of the SVGB for placement of Project intakes in the aquifer is a significant benefit ERT mapping would reveal.

A Stanford University research team under the leadership of Professor Rosemary Knight was denied access to the location of the Project when it collected imaging of the Monterey Bay coastline. Inclusion of the CEMEX property within the scope of the Stanford research was free, and was readily understood to produce beneficial understanding of the aquifer where the Project is intended. Use of the imaging at CEMEX in 2015 would also have added to the knowledge and understanding of the SVGB aquifers, the interrelations between its shallow and deeper layers, and the impacts of the test slant well.

CalAM's failure to take advantage of available and affordable scientific study likely to produce relevant data is inexcusable. It is a fair inference that denial of access at CEMEX in 2015 for collection of relevant data was antagonistic to the standards for rigorous study of impacts when preparing environmental impact reviews.

Should the proponent assert it was solely the decision of CEMEX to deny access to the site of the Project, **CalAM has had the ability to utilize ERT technology independent of the Stanford study and opted not to.** The DEIR/EIS does nothing more than acknowledge the availability of the technology and the work of Rosemary Knight. The Project proponent elected to summarily dismiss ERT, which has been proven to be a tool that would provide a greater degree of certainty



CJW-10  
cont.



as to the effects of the project on the Basin. CPUC should not endorse this selective review. If selective inquiry and review is allowed by the CPUC, environmental impact reports become a meaningless exercise. The DEIR/EIS is incomplete without requiring ERT mapping.

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CJW-10  
cont.

- **There Are No Successful, Operating Slant Wells for Subsurface Ocean Desalination Anywhere in the World**

The DEIR/EIS offers no historical data or refers to any successful operation of sub surface ocean intake slant well for use in desalination. The one test slant well at the CEMEX site is the only feasible source for data relevant to this Project, and this well has had multiple disruptions in its operation. The proponent provides no other data regarding the viability and long term performance of slant wells delivering desalinated water to customers—because none exist.

Use of slant well technology for subsurface ocean desalination has been resoundingly unsuccessful or infeasible. A review of slant well projects in an article *Yield and Sustainability of Large Scale Slant Well Feedwater Supplies for Ocean Water Desalination Plants* (2015) by Dennis Edgar Williams identified communities considering slant well projects in the State of California. As of 2016 the following communities mentioned in the article rejected use of slant well technology for production of water to meet municipal demands.

- Cambria opted for a brackish-water-reclamation plant in 2014.
- Oxnard is developing a treatment facility for brackish groundwater without use of slant-wells.
- Huntington Beach rejected the Poseidon slant well in 2014 after tests showed unacceptable amounts of groundwater uptake and increased salt water intrusion.
- Dana Point had test wells and began the EIR process in June 2016. No slant well providing water to the community to date.
- Camp Pendleton is still in feasibility studies.
- Long Beach has not adopted or completed any slant well project.
- Oceanside is developing a desalinator without slant well technology.
- The Santa Cruz Water District 2 Task Force dropped consideration of slant wells in 2013.

CJW-11

The DEIR/EIS's silence as to examples of existing use of slant well technology for subsurface ocean intake in similar circumstances cannot be ignored by the CPUC when weighing and considering the Project alternatives. Other communities concluded slant wells are costly, experimental and not equal to less costly, proven technologies to meet municipal water demands.

Without historical use in other communities and data from successful projects, the DEIR/EIS offers little proof that placement of slant wells into the 180' layer of the aquifer will not increase seawater intrusion. Nor is the proponent able to support the continued investment of vast amounts of money into unproven slant well intakes. Approval for this project cannot be based

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on the modeling of its one test well at CEMEX. This test well has provided insufficient data for (a) a predictable outcomes to be extrapolated; and (b) information necessary for siting of the multiple intakes proposed by the Project *so as to avoid the harm of increased seawater intrusion*. The lack of data creates an unacceptable degree of uncertainty and leaves the SVGB users with an unacceptably high risk of harm.

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CJW-11  
cont.

The CPUC should exclude an unproven technology in an environment where risk to existing water sources, dependent populations, and the operations of existing water purveyors is high.

**CalAM has Alternatives**

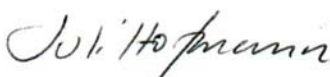
Just Water supports CalAM in its endeavor to secure a new water supply. This must not be achieved at the expense of other water purveyors and citizens who will be adversely affected. CalAM has alternative technologies available and alternative source-water locations, which are less likely to harm the SVGB or any other protected water source. Pursuit of an alternative less likely to impair MCWD's ability to supply affordable, sustainable, long-term water to Marina and Fort Ord populations is mandatory.


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CJW-12

With the lack of success of slant well technology, a different location and a different extraction are much more likely to succeed in the delivery of water to those needing it on the Monterey Peninsula.

For the reasons set forth above, Just Water respectfully requests you deny certification of the DEIR/EIS and reject any other pending approvals of the Project.

Very truly yours,

  
Just Water  
By Juli Hofmann  
C4JustWater@gmail.com

  
Just Water  
By Kathy Biala

## 8.6.8 Coalition of Peninsula Businesses (CPB)

### **Coalition of Peninsula Businesses**

A coalition to resolve the Peninsula water challenge to comply with the CDO at a reasonable cost

*Members Include: Monterey County Hospitality Association, Monterey Commercial Property Owners Association, Monterey Peninsula Chamber of Commerce, Carmel Chamber of Commerce, Pacific Grove Chamber of Commerce, Monterey County Association of Realtors, Community Hospital of the Monterey Peninsula, Associated General Contractors – Monterey District, Pebble Beach Company*

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March 28, 2017

CPUC/MBNMS

c/o Environmental Science Associates

550 Kearney Street, Suite 800

San Francisco, California 94108

Transmitted by fax to 415-896-0332 and e-mail to MPWSP-EIR@esassoc.com

### **Comments on draft EIR/EIS for Monterey Peninsula Water Supply Project**

Dear ESA:

The Coalition of Peninsula Businesses submits these comments on the draft Environmental Impact Report/draft Environmental Impact Statement (EIR/EIS) prepared for the Monterey Peninsula Water Project on behalf of the Monterey Peninsula organizations and entities listed above and their thousands of members, associates, and employees.

Generally speaking, the EIR/EIS seems well-prepared and comprehensive. We find some parts a little troubling and those are listed below.

### **Chapter 2 - Water Demand, Supplies, and Water Rights**

Operating the desal modules at full capacity was earlier estimated to require operation at 98% of capacity all day every day of the year. That strikes us as an unrealistic method of operation that far exceeds the optimum operation of 80% of capacity and further dictates that a more relaxed schedule be planned.

CPB-1

The water supply schedules reflect a slight excess of proposed supply over the ten-year average of experienced demand, but the ten-year period includes years of increasing demand for water conservation to the point where average water per capita consumption is among the lowest, possibly the lowest, in California. It is necessary to plan a water supply for a more relaxed water conservation ethic in the future after the Peninsula's water supply is no longer constrained by extreme conservation measures or legal decisions.

CPB-2

The demand schedules do not seem realistically to reflect the need to return fresh water to the Salinas Valley Groundwater Basin to avoid legally prohibited exportation of water from that basin and to avoid harm to basin water users.

CPB-3

The demand schedules also do not seem to reflect non-revenue water. Cal Am has rarely met its goal of reduced non-revenue (unaccounted for water or system losses of water).

CPB-4

**Chapter 6 – Other Considerations at Section 6.3 et seq and Appendix J2**

The Monterey Peninsula Water Supply Project does not anticipate developing enough water to supply various local jurisdictions within the Cal Am service area for their General Plan Build-out needs; this seems extremely shortsighted.

The marginal costs of planning and building enough capacity now are small in comparison to the eventual cost of adding that capacity later.

The increase in environmental damage would also be marginal if sufficient capacity were planned now.

The Cal Am service area would be far better served if the General Plan Build-out needs are addressed now so that the area avoids another expensive (multi-million dollars) and time consuming process (a decade or more) later.

An added benefit of adding the increased capacity now is that the desal modules could be operated for the immediate future on a much more relaxed schedule than the required and unrealistic 98% of capacity currently anticipated according to the testimony of Cal Am's Director of Engineering Richard Svindland.

Section 6.3 et seq. of Chapter 6 and Appendix J2 do a reasonable good job of analyzing the impacts of future development planned for in the General Plans of the various local

CPB-5

CPB-6

jurisdictions within the Cal Am service area. With a little minor tweaking this EIR/EIS combined with the local jurisdiction certified General Plans (and their equivalents) could be sufficient to provide a reasonable basis for a small expansion of the Monterey Peninsula Water Supply Project to eventually provide enough water for all the Monterey Peninsula area’s foreseeable future needs.

↑  
CPB-6  
cont.

**Appendix E-1 – Lawrence Berkeley National Laboratories Peer Review**

The vetting of the work of the Hydrologic Working Group (HWG) by Lawrence Berkeley National Laboratories (LBNL) was encouraging in the sense that the results of the work paralleled closely the original findings of the (HWG) but one finding in the peer review report was troubling. LBNL found what could be a serious shortcoming in the hydrostratigraphy modeling – the absence of the Salinas Valley-Fort Ord Aquitard (SV-FOA) – and states the absence “could potentially change the impact assessments.” It is incredibly important that the absence of the SV-FOA be explained in more detail and the resulting impact assessments changes, if any, be detailed.

↑  
CPB-7

**Chapter 5.6 – Environmentally Superior Alternative/Preferred Alternative**

We note that early on this section states that “... no alternative stands out from the others as eliminating all significant and unavoidable, long-term environmental effects.” The combination of a smaller desal with the purchase by Cal Am of GWR water is given the nod as superior/preferred but this judgment ignores some key facts.

The now-approved water purchase agreement whereby Cal Am is committed to buying GWR water contains several provisions that allow for less than expected GWR water production for limited periods of time (essentially two or three year periods of production of significantly less than the 3,500 acre feet per year of “normal” production relied on to determine the size of the smaller desal interspersed with the anticipated “normal” production).

How is the Monterey Peninsula to deal with less water production than needed for up to several years at a time – go into emergency rationing again and again? That seems a poor way to plan for the Monterey Peninsula’s water supply and contradictory to the goal of the California Public Utilities Commission to ensure adequate water service to Cal Am customers.

↑  
CPB-8

**Brine discharge issues**

We are not expert in analyzing brine disposal issues, so we leave those areas to the Monterey Peninsula Regional Water Authority and others to comment on.

**Coalition of Peninsula Businesses comments are intended to be helpful**

We offer these comments to be helpful and help strengthen the EIR/EIS. We are very much in favor of the project and want it to be constructed as quickly as possible.

Very truly yours,



John Narigi, Chair  
General Manger, Monterey Plaza  
Hotel and Spa



Bob McKenzie  
Consultant to the Coalition of Peninsula  
Businesses

8.6.9 Deep Water Desal, LLC (DWD)



January 17, 2017

CPUC/MBNMS
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

To whom it may concern:

DeepWater Desal LLC (DWD) is currently developing the Monterey Bay Regional Water Project (MBRWP) in Moss Landing, California. MBRWP would consist of a drinking water desalination plant co-located with a seawater-cooled data center. The objective of the MBRWP is to provide a reliable water supply to the entire region, which is affected by seawater intrusion and surface water shortages. The MBRWP is currently undergoing a very thorough environmental review of the project that includes information that was not yet available to Environmental Science Associates (ESA) at the time of their preparation of the DEIR/DEIS. The MBRWP sponsors believe it is premature to make determinations of significance on a project without having all the information on that project.

DWD-1

While DWD understands the logic in comparing the impacts of the Cal Am proposed project to a version of the MBRWP scaled down to supply only the Monterey Peninsula, DWD is not proposing a scaled down desalination facility. A scaled down desalination facility would not meet the objective of being a regional water source. The region has water challenges that extend beyond the peninsula, and DWD feels strongly that water customers who are outside of CalAm's more affluent Monterey Peninsula franchise, many of whom reside in disadvantaged communities, deserve to have their needs treated with equal importance.

DWD-2

Finally, it is DWD's belief that the scenario in the Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIR/DEIS) of "either/or" is not correct. It is highly likely, as the DEIR/DEIS points out in several places that both projects will be constructed. This means that the construction of the CalAm Desalination project would not result in the avoidance of the impacts related to the DWD project. While understanding the DEIR/DEIS process has a very specific set of requirements for how projects are compared, we feel it necessary to point out that there are no additional environmental impacts that would arise from CalAm entering into a water purchase agreement with the MBRWP. It would result in the avoidance of the impacts related to construction of the CalAm project, except the construction of a single pipeline, while still providing potable water to the remainder of the region not served by the CalAm desalination project

DWD-3

With those caveats, DWD submits the following comments on the DEIR/DEIS for the CalAm Monterey Peninsula Water Supply Project.



**General Project Description/Scaled Alternative Description**

Comments 1 – 6 are strictly technical in nature and related to the DEIR/DEIS description of the MBRWP. As stated above, while we are providing information about a scaled down version of our desalination project, there is no proposal to build such a plant since it would not be a regional facility.

DWD-4

**1. Table 5.3-1 (p. 5.3-11):**

Table 5.3-1 on p. 5.3-11 of the DEIR/DEIS referring to Intake 9 states:

*“From the screened intakes, raw seawater would flow by gravity through the intake pipeline to an onshore wet well and pump station.”*

The proposed MBRWP does not include a wet well at the pump station on Dolan Road. Water is pumped, rather than gravity flow, due to the significant depth that would be required at the pump station for a wet well.

**Strike** “flow by gravity through the intake pipeline to an onshore wet well and pump station” and replace with “would be pumped to an onshore pump station.”

DWD-5

**2. Section 5.3.3.9 p. 5.3-17 (para. 2):**

Paragraph 2 on p. 5.3-1 of the DEIR/DEIS referring to Intake 9 states:

*“Seawater would be conveyed from the intake structure to an onshore pump station via a 42-inch diameter subsurface intake pipeline.”*

The DEIR/DEIS states on page 5.3-16, paragraph 4, that for analysis of the MBRWP as an alternate project, the size would be scaled down to 9.6 MGD water production. A 9.6 MGD plant would require a 36” diameter intake pipeline.

**Change** pipeline size to 36” diameter.

**3. Table 5.3-2 (p. 5.3-20):**

Table 5.3-2 on p. 5.3-20 of the DEIR/DEIS referring to Outfall Option 7 states:

*“Brine would discharge from the desalination facility to the offshore discharge diffuser structure via one proposed subsurface 36-inch-diameter discharge pipeline.”*

DWD-6

*“Operation of the outfall would include a multi-jet linear diffuser that would be located on the seafloor, and that would consist of five separate standing pipe risers emerging from a single 36-inch pipe manifold.”*

The DEIR/DEIS states on page 5.3-16, paragraph 4, that for analysis of the MBRWP as an alternate project, the size would be scaled down to 9.6 MGD water production. A 9.6 MGD plant would require a 24” diameter discharge pipeline. A 9.6 MGD plant would require a single 24” pipeline manifold and three standing pipe risers.

**Change** pipeline size to 24” diameter. **Change** pipeline manifold size to 24”. **Change** number of standing pipe risers to three.

**4. Section 5.3.4.7  
p. 5.3-26 (para. 5):**

Paragraph 5 on p. 5.3-26 of the DEIR/DEIS referring to Outfall Option 7 states:

*“The multi-jet diffuser structure would be located on the seafloor and would consist of standing pipe risers emerging from a single 36-inch pipe manifold that would be connected to the end of the discharge pipeline.”*

The DEIR/DEIS stated that for analysis of the MBRWP as an alternate project, the size would be scaled down to 9.6 MGD water production. A 9.6 MGD plant would require a 24” diameter discharge pipeline.

**Change** pipeline size to 24” diameter.

**5. Section 5.4.5.1  
p. 5.4-21 (para. 2):**

Paragraph 2 on p. 5.4-21 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*“Also, the intake design would be similar to the intake facility design in Alternative 2, but the Alternative 3 structures would be larger (two intake pipes for Alternative 3 versus one intake pipe for Alternative 2) to accommodate a larger project.”*

The dual pipelines for the MBRWP are for 100% redundancy to allow for maintenance or in case of failure. Either one of the two pipelines will handle the entire flow needed for the larger project.

**Change** “to accommodate a larger project” to read “to provide redundant intake and discharge ability.”

**6. Section 5.4.5.1  
p. 5.4-31 (para. 5):**

DWD-6  
cont.

DWD-7

DWD-8

Paragraph 5 on p. 5.4-31 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*“Three data center buildings are planned and a fourth building would be a modular data center that could be constructed in the future.”*

The modular data center is a landing pad for portable, self-contained server modules. The landing pad consists of a concrete pad and utility connections for the server modules. The landing pad will be completed with initial construction.

**Change** sentence to read “Three data center buildings and a concrete landing pad for modular data center equipment are planned.”

DWD-8  
cont.

### Geology, Soils, and Seismicity

#### 7. Table 5.3-4 (p. 5.3-31):

Table 5.3-4 on p. 5.3-31 of the DEIR/DEIS referring to Intake Option 9, referring to impacts related to exposure of people or structures to seismically induced ground-shaking, liquefaction and lateral spreading, and exposure of structures to coastal erosion and bluff retreat caused by sea level rise, states:

*“Decreased. No coastal erosion or bluff retreat impact. All other impacts would be similar to those of the proposed project.”*

It is our understanding that the slant wells identified for the proposed project are located in an identified liquefaction zone. Because sands or other saturated granular layers are required for liquefaction, and they are also required for the passage of seawater through the ground into a slant well, the potential for damage to the proposed project intake from liquefaction is high. This could result in permanent damage to slant wells and could constitute a public health emergency if an alternate source of water is not available.

The Liquefaction Map cited in the document is Ninyo & Moore, 2005. The more recent 2015 Stanford University Liquefaction Susceptibility Zones map for Monterey County (Attachment 1) shows that the DWD pipelines pass through two small areas of liquefaction susceptibility. One area is at the HDD launch site, and the other is the Moss Landing sand spit.

Studies conducted after the 1989 Loma Prieta earthquake involving boreholes on the Moss Landing sand spit show that there is liquefaction potential in the upper 30’ of soils. At the sand spit, the pipeline is nearly 200 feet below grade. It is also approximately 160 feet directly below the power plant discharge pipelines which were not damaged during the Loma Prieta earthquake because they were well below the liquefaction zone. The intake pump station at Dolan Road is located on the Moss Landing Power Plant facility in an area

DWD-9

with a lower water table and medium-dense to dense sands. During the Loma Prieta earthquake, there was no evidence of liquefaction on the plant site (Mejia, 1998). The pump station structure extends to 30' below ground, well below any possible liquefaction zone.

Following the Loma Prieta earthquake, side scan sonograms also documented liquefaction that took place offshore. Evidence of liquefaction was seen at depths of 9-12 meters, much shallower than the proposed intake (Greene, 1991)

Based on data collected following the Loma Prieta earthquake, damage to the intake as a result of liquefaction is geologically unlikely. This is a lesser impact than the possible impact of liquefaction on the proposed slant well intakes. Failure of the intake would result in a threat to health and human safety.

**Change** "No coastal erosion or bluff retreat impact" to read "No coastal erosion or bluff retreat impact and reduced impact related to liquefaction."

Mejia, Lelio H. "Liquefaction at Moss Landing." *The Loma Prieta, California, Earthquake of October 17, 1989—Liquefaction* 1551-B (1998)

Greene, H. Gary, et al. "Offshore and onshore liquefaction at Moss Landing spit, central California—Result of the October 17, 1989, Loma Prieta earthquake." *Geology* 19.9 (1991)

DWD-9  
cont.

**8. Table 5.3-6  
(p. 5.3-44):**

Table 5.3-6 on p. 5.3-44 of the DEIR/DEIS referring to Desalination Plant Site Option 3 states:

***“Increased** --In addition to the impacts identified for the proposed project, this desalination site option could expose people or structures to a significant risk of loss, injury, or death from flooding due to sea level rise and coastal flooding. Other surface water hydrology and water quality impacts would be similar to the proposed project.”*

DWD-10

The MBRWP plant site is outside of both the tsunami inundation area and the 100-year flood zone. The Pacific Institute California Flood Risk: Sea Level Rise Moss Landing Quadrangle (Attachment 2) places the plant site outside of the 100-year floodplain even with the inclusion of a 55" sea level rise as well.

**Strike** "In addition to the impacts identified for the proposed project, this desalination site option could expose people or structures to a significant risk of loss, injury, or death from flooding due to sea level rise and coastal flooding", **add** "The plant site is not located in a 100-year flood zone, even considering sea level rise." and **change** impact to "Similar".

**Terrestrial Biological/Land Use**

**9. Table 5.3-4  
(p. 5.3-36):**

Table 5.3-4 on p. 5.3-36 of the DEIR/DEIS referring to Intake Option 9 states:

*“Increased. Intake location would conflict with agricultural zoning and the potential to otherwise result in the conversion of farmland to nonagricultural use. New mitigation measure(s) would be required.”*

DWD-11

Monterey County Land Use Plan North County (1982) designates all property to be disturbed for the intake as Industrial - Coast Dependent – Heavy (Attachment 3). The developed areas of the intake consist only of the pump station site. Even if this site were not zoned Industrial - Coast Dependent – Heavy, the location is an existing rail line on power plant property, and the location could not be used for agriculture due to past contamination (soil and water) and compaction issues. No construction activities are proposed for any lands zoned Agricultural. No mitigation would be required.

**Strike** sentence and **change** impact to “Similar.”

**Marine Biological Resources**

**10. Table 5.3-4  
(p. 5.3-32):**

Table 5.3-4 on p. 5.3-32 of the DEIR/DEIS referring to construction activities of Intake Option 9 states:

*“Increased. Impacts would be increased, except for the impact on the movement of fish or wildlife species during construction. New mitigation measures would be required to reduce the impacts resulting from entrainment and impingement to less than significant.”*

DWD-12

The DEIR/DEIS incorrectly identifies entrainment and impingement in impacts related to the construction of the MBRWP seawater intake. Entrainment and Impingement are operational impacts but are not construction related impacts.

**Strike** the words “resulting from entrainment and impingement.”

**11. Table 5.3-4  
(p. 5.3-32):**

Table 5.3-4 on p. 5.3-32 of the DEIR/DEIS referring to operational impacts of Intake Option 9 states:

DWD-13

*“Operational impacts associated with impingement and entrainment would be greater and could be substantial if feasible mitigation were not available.”*

See response to Item 13 below.

**Strike** “and could be substantial if feasible mitigation were not available,” **add** “and would require mitigation to reduce impacts to less than significant.”

**12. Section 5.5.5.6  
p. 5.5-122 (para. 5):**

Paragraph 5 on p. 5.5-122 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*“Additionally, Alternative 3 would draw up to 55 mgd of source water (compared to 24.1 mgd for the proposed project and Alternatives 1 and 2) through a screened open-water intake. A preliminary assessment determined that northern anchovy, Pacific sardines, white croaker, sanddab, rockfish, smelt, sculpin, Dungeness crab, cancer crabs, and unidentified larval fish would all be entrained (Tenera Environmental, 2014).”*

The Tenera report (Tenera, 2014, p ES-12) identifies the marine impact due to entrainment and impingement as less than significant due to “. . . a combination of low flows of the proposed intake relative to a large source water volume, the abundances and life history characteristics of fish species susceptible to entrainment, and the siting characteristics of the intake in deeper water and at the head of Monterey Submarine Canyon”. The report details the source water studies completed by DWD that led to this determination. Samples were collected at two different depths, day and night, between June 2012 and June 2013. Samples were taken to the laboratory, where all fish and target invertebrate larvae were removed, counted, and identified. Length was determined for a representative number of larval fish during each survey using an image capture and analysis system. The length data and estimates of larval growth rates were used to determine the age of the larval fish captured. Individuals longer than 30 mm (1.18 in) were considered non-entrainable because of their size. This is because they would be too large to physically pass through the proposed 1mm wedgewire screen on the intake or they have reached the stage in development that would allow them to swim away from the intake.

The best method, according to California State environmental agencies and scientists working in the field (see Steinbeck et al. ; Desal amendment, etc.), for assessing the intake impact due to entrainment is to calculate an estimate of proportional mortality. This estimate represents the number of deaths within a fish or invertebrate population due to effects of the intake relative to the estimated number in the source water population that is at risk of entrainment. The estimates of larval losses in the Tenera (2014) report ranged

↑  
DWD-13  
cont.

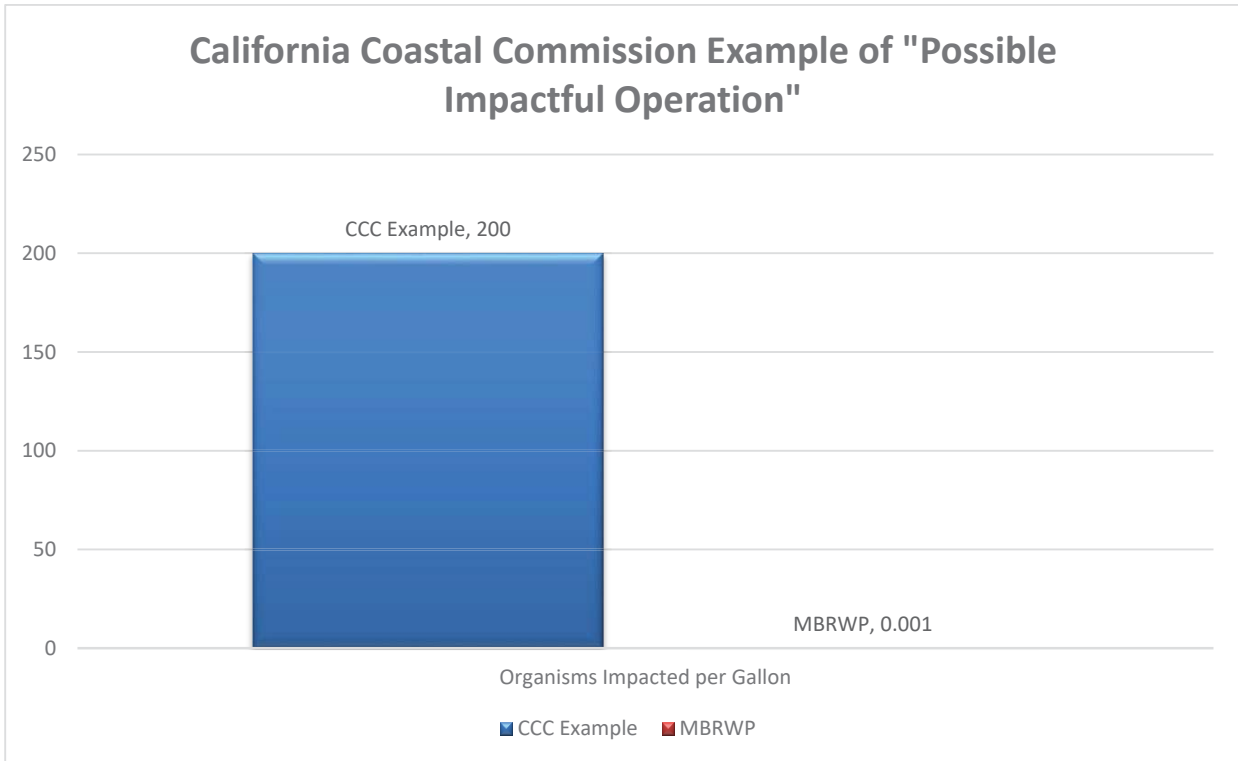
DWD-14  
↓

from 0.009 – 0.109% for the various fishes analyzed based on an intake volume of 63 MGD. An addendum to the report (Tenera, 2016) was prepared using the final intake volume of 49 MGD and included adjustments to account for the depth of the intake and the use of a 1.0 mm wedgewire screen at the intake. The proportional mortality estimates for the six main species identified in the addendum ranged from 0.007 – 0.077%. In other words, between seven-thousandths, and seventy-seven hundredths of one percent of the larval populations identified within the source water would be at risk due to the intake, dependent on species. The high estimate was for CIQ goby and the low estimate for KGB rockfish. The estimates in the addendum were lower because the average concentration of total fish larvae through the entire water column at the intake site was estimated at 0.002088 larvae per gallon, while the estimate of number of larvae in deep water at the intake location was 0.001026, approximately half the number of larvae per gallon in the entire water column. This concentration is also less than a third of the estimated average concentration inside Moss Landing Harbor (0.003615 larvae per gallon). Based on this information, the intake for the MBRWP is proposed to be located at a depth that minimizes impacts.

While there is no direct quantitative threshold for significance, Chapter 5 of the Seawater Desalination and the California Coastal Act report (CCC, 2004) states "a desalination facility producing 50 million gallons per day of drinking water would pull in at least 100 million gallons per day of seawater and discharge at least 50 million gallons per day of highly saline brine. Since each gallon of seawater can contain hundreds of organisms, this amount of water could have significant adverse effects on marine life and water quality at the local or regional level." It is unclear what the estimate of hundreds of organisms cited in the CCC report represents, but since zooplankton and diatoms have such large numbers and reproduce rapidly, they typically would not be included in the number of organisms that would be impacted. Therefore, the assumption can be made that this number only includes fish and target invertebrate larvae, which are the focus of all scientific impact assessments done to date in California. For comparison to hundreds of organisms per gallon which "may be significant," the MBRWP intake assessment shows that only a single fish larva will be entrained per approximately 1,000 gallons of intake water. Clearly not significant compared to the CCC example.

DWD-14  
cont.





DWD-14  
cont.

### Fisheries Management Plans

Intake assessments in California and throughout the United States have historically been focused on fishes because of the potential for impacts to fish populations if large losses occurred to a severely depleted or listed population. One of the reasons that the proportional mortality estimates discussed above provide the best basis for determining the significance of the effects of the intake is because the results provide the same type of information used in fishery management. Groundfish fisheries in Washington, Oregon, and California are managed under the Pacific Coast Groundfish Fishery Management Plan (FMP) (PSFC 2016). This approach to fisheries management was approved by the U.S. Secretary of Commerce and implemented in 1982. The plan was implemented to better manage fish populations that overlapped state boundaries. Before the FMP, there was a lack of uniform of regulations across states. The plan covers all the Federal waters between the borders with Canada and Mexico and separates the coast into five management areas. Monterey Bay is part of the Monterey management area which extends from just south of Point Sur north to approximately Cape Mendocino. The FMP covers 85 species including all species of rockfish, and species such as cabezon, kelp greenling, and lingcod that are usually associated with shallow habitats.

The FMP, which is updated on a regular basis, is used as the guidance document in setting fishing limits. The current plan was issued in March 2016 with the most recent amendment (Magnuson-Stevens Act Provisions; Fisheries off West Coast States; Pacific Coast Groundfish Fishery; 2017–2018 Biennial Specifications and Management Measures; Amendment 27) published in February 2017. This amendment established allowable fishing limits for 2017–2018. The catch limits established by the regular plan amendments are designed to prevent overfishing while achieving the optimum yield from each fish species.

The goal of the FMP is to provide planning information for the seafood industry, protect recreational fishing, and maintain the health of fish populations. It develops allocation and harvest targets for each species that support a maximum sustainable yield ( $F_{MSY}$ ) while allowing for self-sustaining fish populations. The plan is based on a conservative approach that assumes a high degree of uncertainty in the accuracy of the estimates used in the models.

### Blue Rockfish

For impact comparison purposes, we will look at blue rockfish. This is an important fishery species with a management plan, which is largely restricted to nearshore areas along the central coast which are most likely to be subject to entrainment. While there is also information on pacific sanddab and northern anchovy, these species have distributions out into deeper water and over large areas of the coast. Because of the much larger geographic distribution of these species compared with blue rockfish, any project impacts on these species would be less than the impacts on blue rockfish. The Addendum identified a proportional mortality for blue rockfish due to MBRWP intake of 0.014%, meaning that the increased mortality of blue rockfish larvae due to effects of the intake is 14-hundredths of one percent of the local source population.

The maximum sustainable yield of 50% for rockfish that was identified in the 2016 FMP, was also used in a stock assessment for blue rockfish (Key et al. 2008). It identified the threshold biomass impact for overfishing as follows:

*“This assessment uses the default target rate of  $F_{50\%}$  (equivalent to  $F_{MSY}$  of 50%) used for rockfishes on the West coast of the US. Under Pacific Fishery Management Council (PFMC) Groundfish management policy, if the current spawning biomass of the stock falls at or below 25% of the unexploited biomass, the stock is considered overfished. Under the state’s guidelines, the stock is considered overfished at or below 30% of the unexploited biomass. Unfished spawning biomass was estimated to be 2077 million larvae in the base model, with the target stock size at 831 million larvae. The base model estimated that the stock could support a maximum sustainable yield (MSY) of 275 metric tons.”*

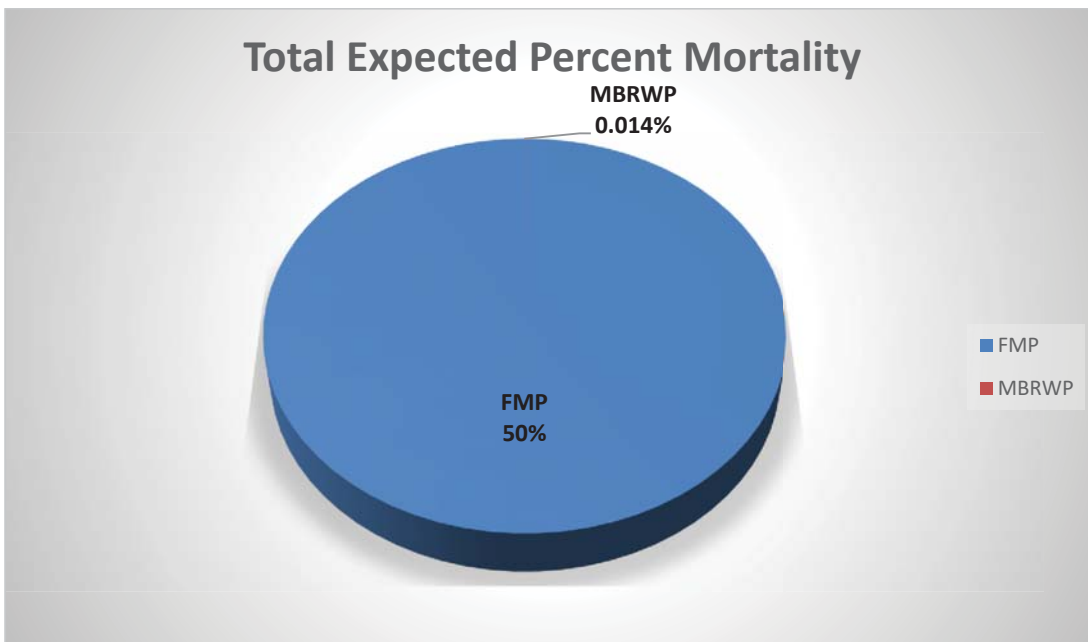
DWD-14  
cont.

The implementation of management controls on several fisheries in California based on information in stock assessments has helped the recovery of many populations. For example, the blue rockfish sport catch from Monterey Bay area ports has increased over the five years from 2011 to 2015 by 300% (RecFin data accessed February 7, 2017).

The FMP recognizes that recommended levels of fishing will result in a reduction in both the spawning biomass and the average lifetime egg production of the females in the population. Using this same logic, the proportional mortality estimate used in the intake assessment for the MBRWP can be compared to acceptable fishing mortality within a population. A proportional loss due to intake entrainment will also translate directly to an equivalent loss in the adult population.

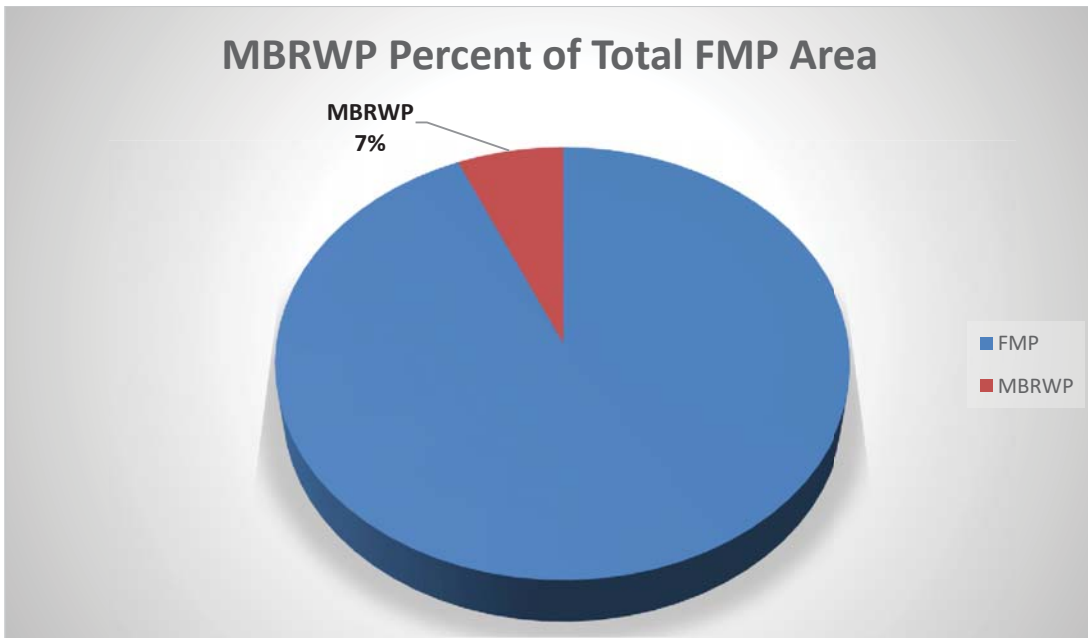
The fishing mortality of 50% used in the blue rockfish stock assessment model is over 3500 times higher than the estimated loss to blue rockfish due to entrainment of 0.014%. As noted in the blue rockfish stock assessment (Key et al. 2008), fisheries managers are concerned when the stock falls below levels representing 25–30% of the estimated unfished biomass. As you can see from the pie chart below, .014% is such a small portion of the allowable FMP impact that it is difficult to see. An additional source of local population mortality of 0.014% due to entrainment is not significant. It would have no material effect on the population when fishery managers are evaluating population effects with a fishing mortality rate of 50%.

DWD-14  
cont.



It is also important to recognize that the estimated proportional mortality from the MBRWP intake on a species such as blue rockfish would occur in a limited area of approximately 8 to

12 mi (13 to 19 km) of shoreline inside Monterey Bay. Although this represents 20 to 25% of the shoreline of Monterey Bay, the actual rocky reef or kelp bed adult habitat for blue rockfish along this area of Monterey Bay is much smaller. As shown in the back-projections from the intake and map of hard substrate in Monterey Bay (Attachment 4), the areas with natural hard rocky substrate in Monterey Bay are limited to the north and south edges of the Bay and not the area potentially subject to entrainment. We have concluded that most rockfish larvae collected during sampling were probably spawned along the breakwater and other rocky locations associated with the Moss Landing Harbor. Including this additional Moss Landing Harbor habitat, the total shoreline area of Monterey Bay that could potentially be subject to entrainment due to the MBRWP intake represents approximately 7% of the coastline from Point Conception to the Oregon border used in the blue rockfish assessment.



DWD-14  
cont.

The previously discussed entrainment loss impacts compared to the acceptable FMP impacts are reduced even further due to the small area impacted. **Entrainment losses represent an additional source of mortality to the population of less than a thousandth of a percent (0.14% entrainment over only 7% of total planning habitat). This number is much too small to show graphically in comparison to the levels of fishing mortality used in the blue rockfish FMP, and therefore not a material impact.**

In addition to comparing the expected mortality rate due to entrainment with rates of fishing mortality, the estimated mortality can also be compared with the range of variation in the population. Since fishing mortality affects adult and juvenile populations, a more valid

comparison of the effects of entrainment is the variation in the numbers of fish larvae that successfully develop into juvenile fish. This transition is also referred to as “recruitment.” The blue rockfish assessment (Key et al., 2008) includes estimates of recruitment from 1998–2007, the life stage potentially subject to increased larval mortality due to entrainment. The estimates ranged from low of 735,000 in 2006 to a high of 7,792,000 in 1998. With a 95% confidence interval, the estimates range from approximately 50% of the annual estimate of recruitment, to greater than 100%. Given this range of variation in the annual estimate of recruitment, a 0.014% increase in larval mortality due to entrainment would not have any effect on the larger population subject to the FMP. The same type of information presented here could also be compiled for the other fishes included in the assessment to support the conclusion that the entrainment losses due to the DWD intake would be less than significant.

The finding of a “substantial” or “significant” effect under CEQA should have some basis. Applying scientific principles to the determination of a “substantial” or “significant” effect would require that an effect is compared to some baseline number and assessed regarding an identified threshold for impact. When fisheries managers set a threshold for overfishing for blue rockfish, it is to maintain a sustainable population. That identified threshold is the allowable fishing catch limit. In the absence of any established threshold for entrainment losses, fishing limits provide a guide for determining the magnitude of actual effects on fish populations. An increase of 0.014% in mortality of blue rockfish larvae due to entrainment, along 8 to 12 mi (13 to 19 km) of shoreline inside Monterey Bay, is more than 3500 times lower than the allowable levels of fishing mortality over the hundreds of miles of coastline from Point Conception north to the Oregon border. This level of loss could never be detectable given the variation in the annuals levels of recruitment to the population. The independent comparisons with allowable fishing mortality and the variation in recruitment, as well as the other information presented in the intake assessment, support the conclusion that the effects of the intake would be less than significant.

**Add** “These impacts are less than significant due to the small proportion of the larval populations subject to entrainment mortality, either on the local population or the larger population subject to the Fisheries Management Plan.”

California Coastal Commission. "Seawater Desalination and the California Coastal Act." (2004).

Key, M., A. D. MacCall, J. Field, D. Aseltine-Neilson, and K. Lynn. 2007. The 2007 Assessment of Blue Rockfish (*Sebastes mystinus*) in California. Available at: [http://www.pcouncil.org/wp-content/uploads/KeySAFE\\_BlueRF\\_Jan08.pdf](http://www.pcouncil.org/wp-content/uploads/KeySAFE_BlueRF_Jan08.pdf)

DWD-14  
cont.

Pacific Fishery Management Council. 2016. Pacific Coast Groundfish Fishery Management Plan for the California, Oregon, and Washington Groundfish Fishery. Portland, OR. March 2016. Available at: [http://www.pcouncil.org/wp-content/uploads/2016/03/GF\\_FMP\\_FINAL\\_Mar2016\\_Mar282016.pdf](http://www.pcouncil.org/wp-content/uploads/2016/03/GF_FMP_FINAL_Mar2016_Mar282016.pdf)

DWD-14  
cont.

**13. Section 5.5.5.6  
p. 5.5-122 (para. 6):**

Paragraph 6 on p. 5.5-122 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*“The potential ETM/APF for this alternative was estimated at greater than 40 acres (Luster, 2016), and similar to Alternative 2, would require mitigation. **Mitigation Measure ALT 2-Marine-2** would be required to minimize and mitigate for impacts on marine biological resources, but similar to Alternative 2, residual impacts may remain due to the uncertainty of the efficacy of the mitigation.”*

NOAA implementation of NEPA requires the analysis of "the direct, indirect, and cumulative environmental impacts of the proposed action and the alternatives in clear terms and with sufficient information to ensure the professional and scientific integrity of the discussion and analysis" (NOAA, 2017). CEQA requires an agency to evaluate the factual and scientific data to determine whether an impact may be significant. Impacts, in either case, can be determined to be significant (requiring mitigation) or insignificant. The Ocean Plan Amendment, in contrast, treats all marine life impacts as requiring offsetting mitigation through the ETM/APF approach at a 95% confidence level **regardless of significance**. Therefore, there is neither a legal or practical justification for basing a significance determination on the extent of ETM/APF calculations resulting from Ocean Plan Amendment required mitigation. Where scientific information on the actual impacts of impingement and entrainment are available, as in this case, they are required to be used to determine significance under CEQA/NEPA.

DWD-15

Also, the ETM/APF estimate was based on preliminary information, before finalization of the Tenera Intake Assessment and Addendum which includes the reduction of impact related to the wedgewire screen and is calculated based on the final proposed plant flow. This document was made available to ESA for review. This document is the basis for the required ETM/APF calculation. The California Coastal Commission is currently peer reviewing this document to assure there is adequate information to calculate the ETM/APF. An opinion based on preliminary documentation in the absence of a completed ETM/APF calculation does not meet the legal standard of "the direct, indirect, and cumulative environmental impacts of the proposed action and the alternatives in clear terms and with sufficient information to ensure the professional and scientific integrity of the discussion and analysis" (Policy and Procedures for Compliance with the National Environmental Policy Act and Related Authorities, (NOAA, 2017).



National Oceanic and Atmospheric Administration. "Policy and Procedures for Compliance with the National Environmental Policy Act and Related Authorities." (2017)

↑  
DWD-15  
cont.

**Strike** entire paragraph and **change** finding to less than significant based on results and conclusions in Tenera Intake Assessment.

**14. Section 5.5.5.6  
p. 5.5-124 (para. 2):**

Paragraph 2 on p. 5.5-124 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*"In addition to physical impacts, Alternative 3 may be inconsistent with MBNMS Desalination Guidelines (NOAA, 2010), with regard to its open water intake and lack of a combined discharge. Guidelines state:*

- *All desalination plants should be designed and sited to avoid and minimize impingement and entrainment to the extent feasible. Project proponents should investigate the feasibility of using subsurface intakes as an alternative to traditional intake methods.*
- *Project proponents should investigate the feasibility of diluting brine effluent by blending it with other existing discharges."*

DWD-16

The DWD project was determined by the proponent, partially using CalAm scientific evidence of bore hole analysis, to not be feasible for meeting project objectives using a subsurface intake. Initial subsurface feasibility material was available to ESA for review. In addition, locations available to DWD for subsurface intake have either been identified in this DEIR/DEIS prepared by ESA as infeasible due either to hydrogeological conditions or failure of the option to provide enough water for even the smaller CalAm plant due to pulling in 12% groundwater from the critically over drafted, and soon to be regulated, Salinas Basin. The proponent is coordinating with the State Water Resources Control Board to finalize a subsurface feasibility study for review. DWD also spent a year doing marine testing to determine the least impactful site for the intake. These activities show compliance with the Ocean Plan. See comments addressing Discharge feasibility in Item 16.

**Strike** entire section, **add** "MBRWP is expected to be in compliance with regard to its open water intake and lack of combined discharge due to current, ongoing regulatory activities, and **reevaluate** without assuming inconsistency with MBNMS Desalination Guidelines (NOAA, 2010) in Whole Project Analysis.

**Brine Discharge**

**15. Section 5.5.3.6  
p. 5.5-49 (para. 4):**

DWD-17

Paragraph 4 on p. 5.5-49 of the DEIR/DEIS referring to Whole Project Alternative 3 states:



*“Model analysis (Jenkins, 2016) identified discharges from Alternative 3 would occasionally (1 day out of 3.4 years) exceed the significance threshold of 2 ppt above natural background salinity at the BMZ boundary by a small margin (i.e., by 0.15 ppt).”*

The model analysis provided to ESA identified that under a very particular set of circumstances, there is a 0.08% chance of exceeding 2ppt at the BMZ by 0.15. Circumstances required for this situation include the data center using no water for cooling, a Davidson current, and the desalination plant undergoing start-up activities. Jenkins goes on to say “This amount is within the sampling error of standard monitoring equipment. Possible over limit cases are not statistically significant, therefore under all practical, measurable, long-term ocean conditions, DWD meets the dilution standards of the Ocean Plan Amendment” (Jenkins, 2016, pp 129-131).

The discharge louvers have been modified slightly in a recently revised report. The current diffuser design has more jets at a lower velocity which minimize the size of the BMZ while simultaneously minimizing turbulent shear impacts and sediment resuspension. There are no longer any modeled exceedance outcomes. This report will be provided for your review under separate cover.

Jenkins, Scott. "Brine dilution analysis for DeepWater Desal, LLC." (2016).

**Delete** sentence: “Model analysis (Jenkins, 2016) identified that under very specific operational circumstances, there is a 0.08% (1 day out of 3.4 years) probability that discharges from Alternative 3 would exceed the significance threshold of 2 ppt above natural background salinity at the BMZ boundary by a small margin (i.e., by 0.15 ppt).

**Add** sentence: “Option 3 meets all measurable dilution standards of the Ocean Plan Amendment”.

**16. Section 5.5.3.6  
p. 5.5-52 (para. 3):**

Paragraph 3 on p. 5.5-52 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*“In addition to physical impacts, Alternative 3 may be inconsistent with MBNMS Desalination Guidelines (NOAA, 2010), with regard to its lack of a combined discharge compared to the proposed project, which would use an existing outfall. One of the guidelines states: “project proponents should investigate the feasibility of diluting brine effluent by blending it with other existing discharges.””*

The MBRWP EIR/EIS is evaluating a combined discharge using the power plant cooling water. This was identified in the Project Narrative provided to ESA. This option is only feasible if the Moss Landing Power Plant will agree to allow it, which they have not done to



DWD-17  
cont.

DWD-18

date. If MLPP agrees, MBRWP will use this discharge method. Therefore, MBRWP is following the requirement to investigate the feasibility of diluting brine effluent by blending. The Ocean Plan Amendment states that "Multiport diffusers are the next best method for disposing of brine when the brine cannot be diluted by wastewater and when there are no live organisms in the discharge (California Ocean Plan, 2015, p. 41)." If the Moss Landing Power Plant isn't agreeable to accepting brine for blending, a multiport diffuser will be used (the proposed project since the MLPP has not agreed to accept the brine). Therefore, the DWD project is not inconsistent with the Ocean Plan Amendment.

↑  
DWD-18  
cont.

**Strike** entire paragraph, **add** "MBRWP is expected to be in compliance with MBNMS Desalination Guidelines (NOAA, 2010) based on current, ongoing regulatory activity."

**17. Section 5.5.3.6  
p. 5.5-49 (para. 5):**

Paragraph 5 on p. 5.5-49 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*"As described in detail in Section 4.3.2.2 for the proposed project, the Ocean Plan includes monitoring and reporting requirements for the operation of new desalination facilities (Section III.M.4, "Monitoring and Reporting Program" ; SWRCB, 2016b). A monitoring and reporting plan has not been defined and proposed as part of Alternative 3; as such and similar to the proposed project, Alternative 3 would not be consistent with the Plans, Policies, and Regulations described in Section 4.3, Surface Water Hydrology and Water Quality. This would be a significant impact and would result in an increased level of impact compared to the proposed project, which could be reduced to less than significant with the implementation of MM 4.3-4. Therefore, Alternative 3 would result in the **same impact conclusion** for salinity compared to the propose project, less than significant with mitigation. "*

↑  
DWD-19

DWD agrees with this statement, but it conflicts with the statement quoted in Item 18. **Correct** contradictory statement on page 5.5-53, paragraph 4 (see Item 18).

**18. Section 5.5.3.6  
p. 5.5-53 (para. 4):**

Paragraph 4 on p. 5.5-53 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*"As discussed above, Alternative 3 discharges would exceed the 2 ppt salinity significance threshold by 0.15 ppt and could exceed Ocean Plan water quality objectives for PCBs. Because proponents of the DeepWater Desalination Project have not demonstrated methods of compliance with the Ocean Plan objectives that are protective of beneficial uses, and feasible mitigation strategies have not yet been identified, Alternative 3 in combination with other cumulative projects would result in significant and unavoidable cumulative impacts on ocean water quality and Alternative 3 would*

↓

*have a cumulatively considerable contribution to such effects (significant and unavoidable).”*

Paragraph 3 on page 4.3-124 of the DEIR/DEIS states that “it is conservatively determined that under the assessed discharge scenarios, operational discharges from implementation of the MPWSP could exceed Ocean Plan water quality objectives for certain constituents. This would result in a significant impact, and because the Ocean Plan water quality objectives are based on the effects of cumulative impacts on ocean water quality, an exceedance of water quality objectives also would represent a cumulatively considerable contribution to a potential significant cumulative impact. The proposed project contribution would be minimized to a less-than-significant level by implementation of **Mitigation Measure 4.3-4 (Operational Discharge Monitoring, Analysis, Reporting, and Compliance)** and **Mitigation Measure 4.3-5 (Implement Protocols to Avoid Exceeding Water Quality Objectives).**” This statement recognizes that even though the proposed CalAm project discharges could exceed water quality objectives, mitigation measures would reduce impacts to less than significant.

Paragraph 2 of pas 4.3-91 says “The analysis and reporting conducted as part of the Plan shall determine the need for corrective actions to be implemented in the form of the design features and operational measures prescribed in **Mitigation Measure 4.3-5** to reduce identified impacts to less-than-significant levels.” The plan referenced is the Water Quality Monitoring Plan identified in Mitigation Measure 4.3-4. The DEIR/DEIS recognizes that this plan is required to receive an NPDES permit, (para. 4, p. 4.3-124). Therefore, MBRWP, if permitted, will have a plan for water quality monitoring in place that has been reviewed and approved by the RWQCB and MBNMS.

The DEIR/DEIS recognizes the use of granular activated charcoal as a method of removal for PCB’s (para. 5, p. 4.3-105). It also recognized that actions required for Mitigation Measure 4.3-5, such as the use of granular activated charcoal to remove PCB’s, must be informed by the results of Mitigation Measure 4.3-4, the monitoring plan.

Paragraph 3 of page 5.5-3 of the DEIR/DEIS states “Where applicable, mitigation measures that are applied to the proposed project in Chapter 4 are applied to potentially significant impacts of the alternatives.” Mitigation Measure 4.3-4 is clearly applicable to MBRWP and Mitigation Measure 4.3-5 can’t be determined until 4.3-4 is in place, it would be inconsistent with the rest of the document to not provide credit for Mitigation Measures 4.3-4 and 4.3-5,

**Strike** “Because proponents of the DeepWater Desalination Project have not demonstrated methods of compliance with the Ocean Plan objectives that are protective of beneficial uses, and feasible mitigation strategies have not yet been identified, Alternative 3 in combination with other cumulative projects would result in significant and unavoidable cumulative impacts on ocean water quality and Alternative 3 would have a cumulatively considerable contribution to such effects (significant and unavoidable).” **Add** “The implementation of **Mitigation Measure 4.3-4 (Operational Discharge Monitoring, Analysis, Reporting, and Compliance)** and **Mitigation Measure 4.3-5 (Implement Protocols to Avoid Exceeding**

DWD-19  
cont.

**Water Quality Objectives)** would ensure that brine constituents from Alternative 3, such as PCBs, are discharged at concentrations below Ocean Plan requirements. Thus, Alternative 3 in combination with other cumulative projects would not have a cumulatively considerable contribution to a potential significant cumulative impact related to such effects.”

DWD-19  
cont.

### Whole Project Comparison

**19. Section 5.4.5.4  
p. 5.4-38 (para. 5):**

Paragraph 5 on p. 5.4-38 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*“An additional 6.5 miles of product water pipeline would be required to connect the alternative to the proposed project’s pipelines in Marina;”*

The proposed pipeline routing between Castroville and the connection to the CalAm project in Marina has been revised to match the proposed Castroville Pipeline (CalAm project). This pipeline will connect to the Salinas Pipeline which is included in the 25 miles of additional pipeline for the project. Since the Castroville pipeline is included in the CalAm DEIR/DEIS to deliver return water to Castroville, the impacts of the pipeline between Castroville and the point of connection in Marina have already been considered in the proposed project. No additional “new” pipeline is needed to connect the peninsula to the MBRWP transmission line in Castroville.

DWD-20

**Strike** this portion of the sentence.

**20. Section 5.5.2.6  
p. 5.5-17 (para. 3):**

Paragraph 3 on p. 5.5-17 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*“The alternative would also include 6.5 miles of desalinated water pipeline to connect with the CalAm system and up to an additional 25 miles of pipelines to convey the desalinated water to other areas (total of 31.5 miles of additional pipeline).”*

No additional pipeline is required between Castroville and the point of connection in Marina (see item 19).

**Strike** “6.5 miles of desalinated water pipeline to connect with the CalAm system and”.

**21. Section 5.5.2.6  
p. 5.5-17 (para. 3):**

Paragraph 3 on p. 5.5-17 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*“The alternative would also include 6.5 miles of desalinated water pipeline to connect with the CalAm system and up to an additional 25 miles of pipelines to convey the desalinated water to other areas (total of 31.5 miles of additional pipeline).”*

↑  
DWD-20  
cont.

No additional pipeline is required between Castroville and the point of connection in Marina (see item 19).

**22. Section 5.5.5.6  
p. 5.5-122 (para. 2):**

Paragraph 2 on p. 5.5-122 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*“Similar to Alternative 2, mitigation would be required to reduce the short and long-term impacts of construction on marine biological resources in MBNMS. Although implementation of **Mitigation Measure ALT 2-Marine-1** or similar measures would reduce this impact, it would not be reduced to a less-than-significant level for the same reasons described for Alternative 2. Therefore, compared to the proposed project, the construction of Alternative 3 could result in a substantially increased impact on marine biological resources including candidate, sensitive, or special-status species identified in local or regional plans, policies, regulations or conservation plans during construction and would result in an **increased impact conclusion** compared to the proposed project; significant and unavoidable even with implementation of **Mitigation Measure ALT 2-Marine 1.**”*

DWD-21

The reasons referenced for Alternative two in this paragraph state “residual impacts may remain significant due to the sensitivity of the resources. Therefore, the construction of Alternative 2 could result in an increased impact on marine biological resources including candidate, sensitive, or special-status species identified in local or regional plans, policies, regulations or conservation plans during construction”. Potential effects from Alternative 3 construction include temporarily suspended sediment, underwater noise, and burial or displacement of organisms in the construction areas. Tenera in the MBRWP Marine Resources Assessment (2016) states “The degree of effect depends on the relative area of disturbance compared to the overall habitat and community, either locally or regionally, and the types of species.” They found that “effects are also considered temporary and localized and would not result in substantial effects on marine resources.”

NOAA has provided the following Interim Sound Threshold Guidance:

For continuous and intermittent sound sources, the Level A (injury) and Level B (behavioral disruption) thresholds for marine mammals are 180-, and 120-dB re 1  $\mu$ Pa root mean square (RMS), respectively (NOAA Interim Sound Guidance). NOAA Fisheries and USFWS have used 150 dBRMS as the threshold for behavioral effects on ESA-listed fish species, such as salmon for most biological opinions evaluating pile driving (Technical Guidance for Assessment and

↓



Mitigation of the Hydroacoustic Effects of Pile Driving on Fish. California Department of Transportation November 2015). This was based on information that sound pressure levels above 150 dBRMS can cause temporary behavioral changes that could affect the ability of fish to avoid predators. NOAA Fisheries staff indicated at the June 2008 FHWG meeting that they do not expect exceedance of the 150 dBRMS behavior threshold to trigger any mitigation requirement (Fisheries Hydroacoustic Working Group 2008). Underwater noise levels from HDD installation will not be of concern until the ocean floor is breached. Noise levels related to this are typically less than those for vibratory installation of piles (120 dB re 1 micropascal) and for a much shorter duration. Therefore the sound associated with HDD drilling is expected to be below Level B thresholds.

DWD-21  
cont.

Suspended sediments would also be a temporary effect “because of the localized nature of the disturbance (area of the HDD drill head where it emerges) compared to the very large areas of undisturbed habitat in the project region, and because recolonization and recovery would likely occur within a year or less. Also, mobile individuals such as fishes, marine mammals, and sea turtles would be able to leave disturbed areas during construction and return to these areas after construction is completed.” (Tenera 2016).

Based on this information, construction impacts should have been found to be LSM.

**Change** “significant and unavoidable” to “less than significant with mitigation.”

**23. Section 5.5.18.6  
p. 5.5-330 (para. 3):**

Paragraph 3 on p. 5.5-330 of the DEIR/DEIS referring to Whole Project Alternative 3 states:

*“Operations and maintenance of the data center and cooling system would require 150 megawatts (MW) of electrical power) resulting in a substantial increase compared to the proposed project, which requires less than 6 MW. This energy demand would be 25 times the net energy demand of the proposed project, and represents approximately half of the County’s electricity usage in 2014 (PG&E, 2015). This additional energy load could substantially constrain local and/or regional energy supplies if not adequately addressed by PG&E.”*

DWD-22

The MBRWP is proposing to connect directly into PG&E’s Coburn tower transmission line and be transferred through a new dedicated distribution line to a dedicated substation. DWD has met with PG&E to discuss the best way to connect to their system and will follow up with a formal Interconnect Study that will identify any impacts. The loads for Monterey County are a small portion of the capacity in the Moss Landing transmission infrastructure, which was designed to handle the production of the Moss Landing Power Plant, and the MBRWP load will be half again as small. PG&E has indicated there are currently no power constraint issues in the Moss Landing transmission system. As the offtaker DWD will be required to pay for any upgrades to the PG&E system as a result of system transmission

constraints due to the project. MBRWP will also purchase power from the wholesale market, rather than directly from PG&E. So there will be no effect to PG&E supplied power available to the region.

DWD-22  
cont.

**Change** “This additional energy load could substantially constrain local and/or regional energy supplies if not adequately addressed by PG&E.” to “Any constraint on local and/or regional power transmission will be identified by PG&E and mitigated by MBRWP” before interconnection.

DeepWater Desal, LLC appreciates the opportunity to comment on the DEIR. To reiterate, the objective of the MBRWP is to provide a regional water supply, not just a supply for the Monterey Peninsula. For this reason, while MBRWP may be a suitable alternative to the CalAm project, the CalAm project would not meet the project objective of MBRWP. We do not believe it is accurate to present the projects as an either/or scenario. It is highly likely, as the DEIR/DEIS points out in several places that both projects will be constructed. This means that the construction of the CalAm Desalination project would not result in the avoidance of the impacts related to the DWD project.

DWD-23

We understand that the DEIR/DEIS process has a very specific set of requirements for how projects are compared, but feel it necessary to point out that CalAm entering into a water purchase agreement with the MBRWP would not result in any environmental impacts over and above the CalAm proposed project. Also, while DWD understands the logic in comparing the impacts of the Cal Am proposed project to a scaled down version of the MBRWP, a scaled down desalination facility would not meet the objective of being a regional water source. In reality, the projects are complimentary and address the many water challenges of the greater region.

DWD-24

If you have any questions regarding these comments, please contact me at (831) 632-0616 or by email at kim@dwdesal.com.

Sincerely,



Kim Adamson  
General Manager  
DeepWater Desal LLC

DWD-25

Attachments:

- 1.) Stanford University Liquefaction Susceptibility Zones map
- 2.) Pacific Institute California Flood Risk: Sea Level Rise Moss Landing Quadrangle map
- 3.) Monterey County Local Coastal Plan Land Use Designations map
- 4.) Back Projections and Rocky Habitat for Blue Rockfish map



# **ATTACHMENT 1**



# Stanford University Liquefaction Suceptability Zones

2015 <https://earthworks.stanford.edu/catalog/stanford-wp033vb5331>

**Legend**

- Intake HDD Alignment
- Pump Station
- Seawater Intake
- Trenched Pipeline



Google earth

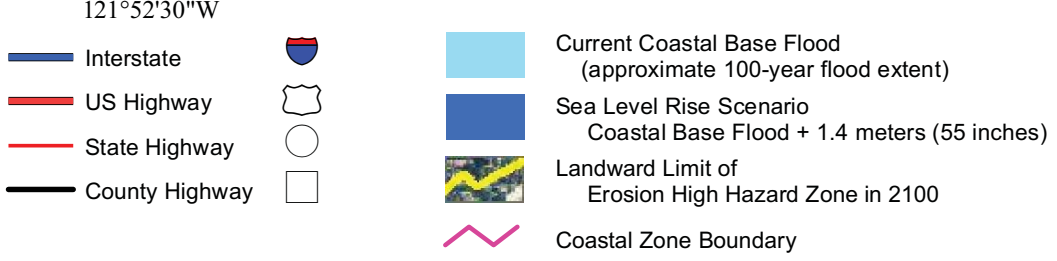
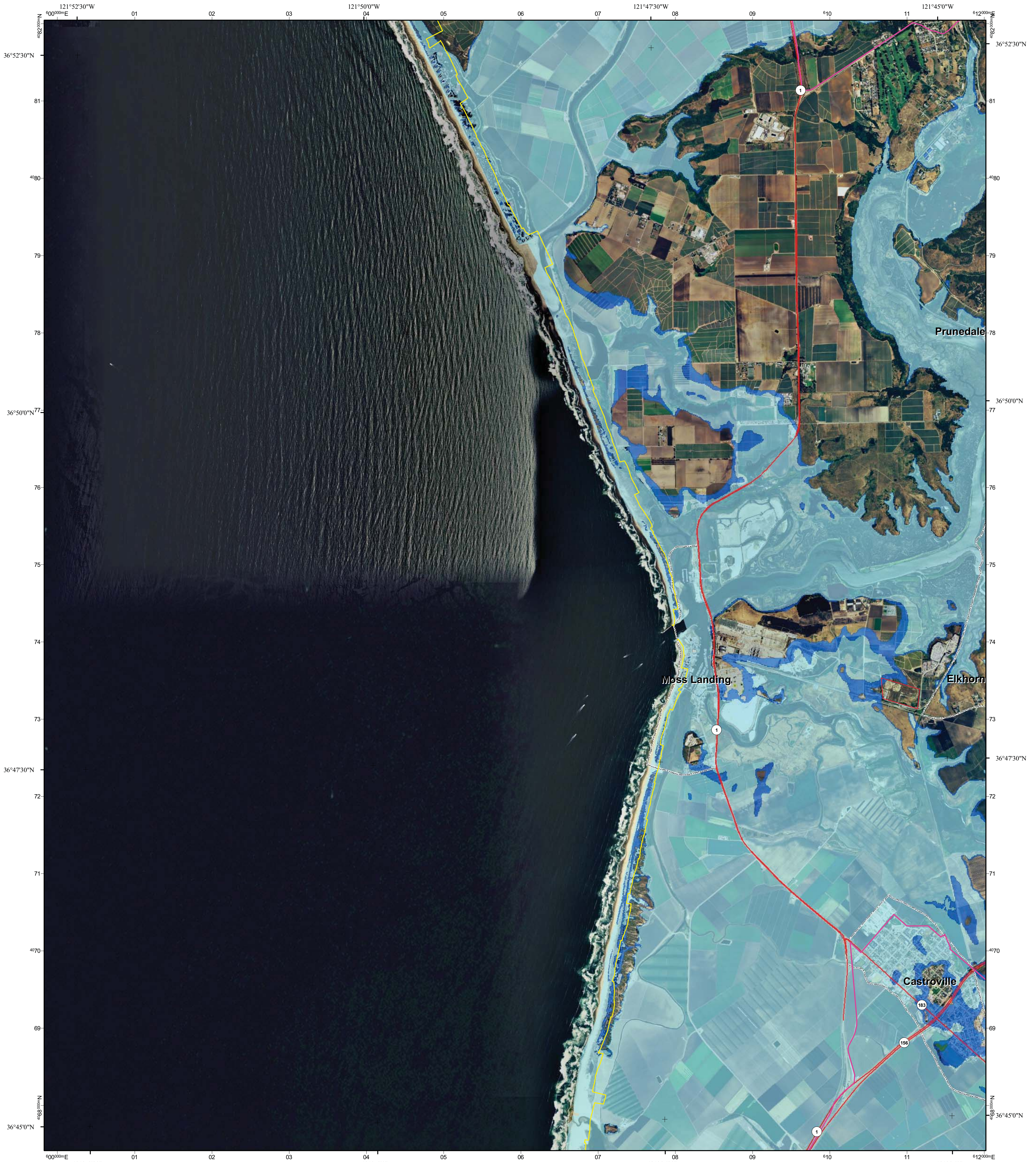
© 2016 Google  
Image © 2016 TerraMetrics  
Data CSUMB SFML, CA OPC



## **ATTACHMENT 2**



# California Flood Risk: Sea Level Rise Moss Landing Quadrangle



Adjoining Quadrangles:

|   |   |   |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |
| 7 | 8 |   |

- 1: Soquel
- 2: Watsonville West
- 3: Watsonville East
- 4: *not printed*
- 5: Prunedale
- 6: Monterey OE N
- 7: Marina
- 8: Salinas



This information is being made available for informational purposes only. Users of this information agree by their use to hold blameless the State of California, and its respective officers, employees, agents, contractors, and subcontractors for any liability associated with its use in any form. This work shall not be used to assess actual coastal hazards, insurance requirements, or property values and specifically shall not be used in lieu of Flood Insurance Studies and Flood Insurance Rate Maps issued by the Federal Emergency Management Agency (FEMA).

Data Sources: US Geological Survey, Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Coastal Services Center (CSC), Scripps Institution of Oceanography, Philip Williams and Associates, Inc. (PWA), US Department of Agriculture (USDA), California Coastal Commission, and National Aeronautics and Space Administration (NASA). Imagery from ESRI and i-cubed.

Created by the Pacific Institute, Oakland, California, 2009.  
Project funded by the California Energy Commission's Public Interest Energy Research Program, CalTrans, and the California Ocean Protection Council

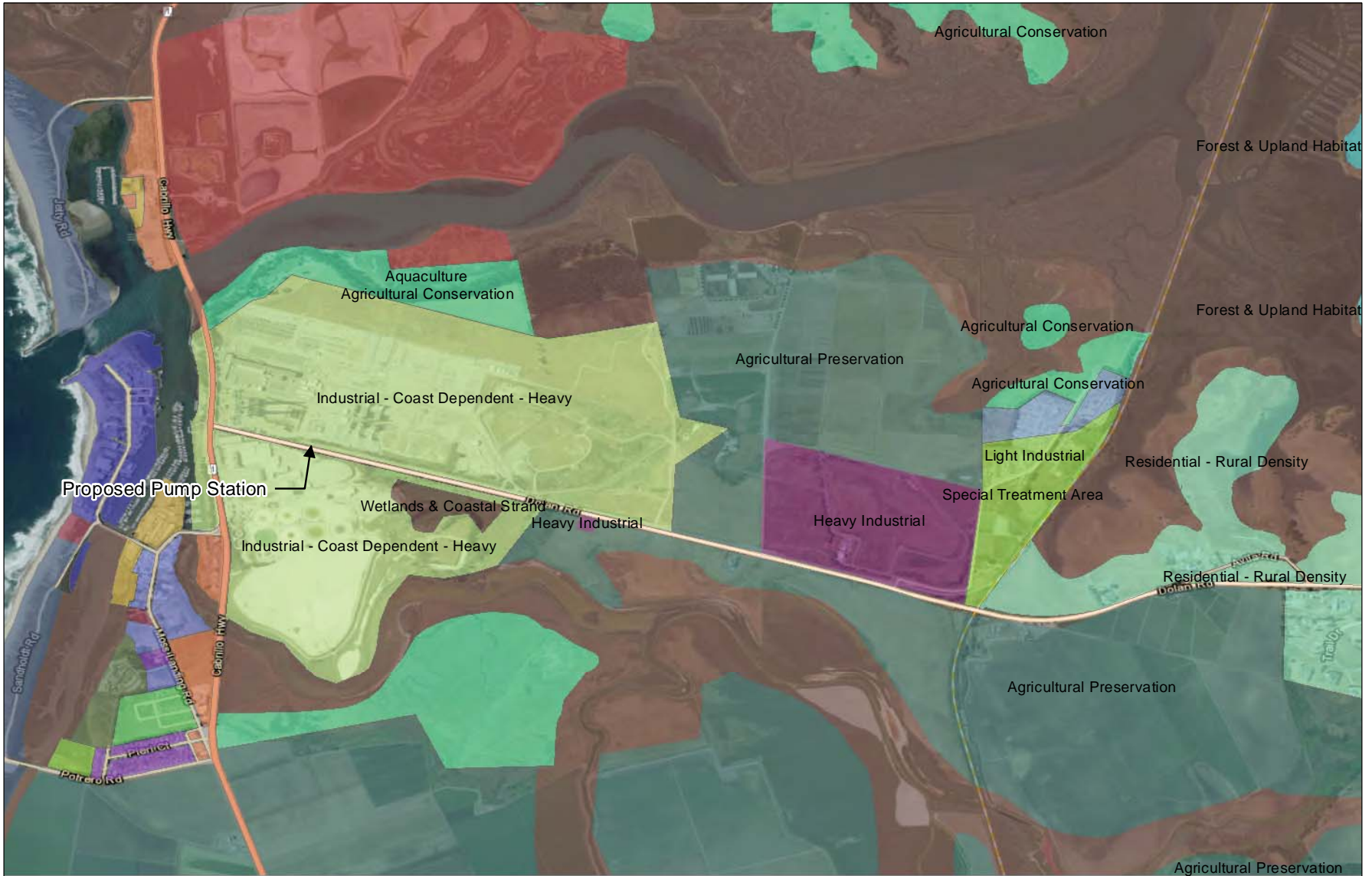
Grid coordinates:  
UTM Zone 10N meters  
NAD83 GCS degrees



Map extents match USGS 7.5 minute topographic maps



## **ATTACHMENT 3**



|                           |                                      |                                      |                                      |
|---------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Agricultural Conservation | Forest & Upland Habitat              | Industrial - Coast Dependent - Light | Residential - Medium Density         |
| Agricultural Preservation | General Commercial                   | Light Industrial                     | Residential - Rural Density          |
| Aquaculture               | Harbor Facilities                    | Outdoor Recreation                   | Scenic & Natural Resource Recreation |
| Cemetery                  | Heavy Industrial                     | Recreation & Visitor-Serving         | Special Treatment Area               |
| Educational - Scientific  | Industrial - Coast Dependent - Heavy | Residential - Low Density            | Wetlands & Coastal Strand            |

Source: Monterey County 2016



# Monterey County Local Coastal Plan Land Use Designations

Monterey Bay Regional Water Project

## 8.6.10 Ecological Rights Foundation (ERF), the Center for Biological Diversity (CDB), and Our Children's Earth Foundation (OCEF)

### ECOLOGY LAW CENTER

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March 29, 2017

Mary Jo Borak, CEQA Lead  
California Public Utilities Commission  
c/o Environmental Science Associates  
550 Kearny Street, Suite 800  
San Francisco, CA 94108

Karen Grimmer, NEPA Lead  
Monterey Bay National Marine Sanctuary  
99 Pacific Avenue, Bldg 445a  
Monterey, CA 93940

Dear Ms. Borak and Ms. Grimmer:

I submit these comments on behalf of Ecological Rights Foundation, the Center for Biological Diversity, and Our Children's Earth Foundation, regarding the Draft Environmental Impact Report/ Environmental Impact Statement ("EIR/EIS") for the Monterey Peninsula Water Supply Project (Project), and proposed desalination plant ("Facility"). As described in detail below, the EIR/EIS is fundamentally inadequate, and meaningful public review and comment are precluded given its flawed analyses. Once the EIR/EIS is fixed, under CEQA and NEPA it must be recirculated for public review and comment.

ERF-1

#### **The EIR/EIS Insufficiently Describes Baseline Environmental Conditions**

CEQA requires an accurate description of the existing "baseline" environmental conditions in order to understand a project's potential impacts. CEQA Guidelines § 15125(a). The EIR must describe the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published. CEQA Guidelines § 15125(a). Similarly, under NEPA, agencies must identify baseline environmental values in adequate detail. 40 C.F.R. §1501.2(b). To determine whether a project may cause significant impacts, an Environmental Assessment must consider the context and the intensity of impacts. *Id.* at 1508.27. As "significance" varies with a project's setting, "context" includes the affected region, the affected interests, and the locality. *Id.* "Intensity" refers to impact severity and requires consideration of an area's unique characteristics." *Id.*, 1508.27(b)(3).

ERF-2

The EIR/EIS does not satisfy these basic requirements in its descriptions of marine and terrestrial environments. For example, the EIR/EIS reports that the largest source of contaminants is agricultural runoff into the Pajaro and Salinas Rivers. Seasonal data collected by the Central Coast Long-term Environmental Assessment Network (CCLEAN) between 2001 and 2013 indicate numerous instances where water quality objectives and human health alert levels in Monterey Bay were exceeded due to the presence of contaminants (CCLEAN, 2011 and 2014). Nearshore waters of Monterey Bay have failed to meet the Ocean Plan water quality objective for the protection of human health (i.e., concentrations are higher than numeric water quality objectives) for PCBs, Dieldrin, chlordanes, and DDTs. PCBs in the northern portion of Monterey Bay have increased significantly since 2006 and annual average concentrations across all samples have increased exponentially (CCLEAN, 2014). Yet, despite the Project's proximity to the Salinas River, and despite the acknowledgment that Monterey Bay water quality and contaminant concentrations are relevant, since the seawater extracted from the



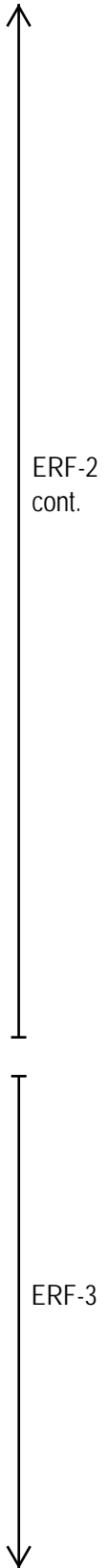
bay through the subsurface intakes would be used as source water for the MPWSP Desalination Plant, the EIR/EIS does not discuss the concentrations of these contaminants of concern in the water or sediments near the proposed slant wells or outfall.

The EIR/EIS states that the Ocean Plan and NPDES permit monitoring requirements will require the facility operator to establish baseline biological conditions at the discharge location as well as at a reference location outside the influence of the discharge prior to commencement of construction. “To achieve this requirement, the owner or operator is required to conduct biological surveys (e.g., Before-After Control-Impact studies) that evaluate the differences between biological communities at a reference site and at the discharge location before and after the discharge commences. The pertinent regional water board uses the data and results from the surveys and any other applicable data for evaluating and renewing the requirements set forth in a facility’s NPDES permit (in the case of the proposed project, the MRWPCA’s outfall).” EIR/EIS 4.3-33. The same baseline environmental information is necessary to the evaluation of potential environmental impacts under CEQA and NEPA.

Local, site-specific baseline data on chemical concentrations in water and sand/sediment is particularly needed in this instance, due to the Project’s co-location with the MRWPCA Regional Wastewater Treatment Plant. In winter months, secondary treated wastewater from the Treatment Plant is discharged to Monterey Bay through a diffuser positioned 11,260 feet offshore at a depth of approximately 100 feet. The Wastewater Treatment Plant is a source of numerous pollutants, and thus the water quality and sediment quality in the local environment may be significantly different, with likely higher concentrations of chemical and biological contaminants, than the water and sediment quality of Monterey Bay generally. The EIR/EIS acknowledges that the amendment process for the Wastewater Treatment Plant’s NPDES Permit “would require an extensive water quality assessment, which would involve MRWPCA (as the discharger defined in the current NPDES Permit) and/or CalAm (as a contributor of a new discharge) to perform testing and monitoring of the water quality of the discharges, including the testing of the source water drawn from the subsurface water intake wells and piped to the MPWSP Desalination Plant and assessing the resulting water quality of the discharges from the MPWSP Desalination Plant.” A similar water and sediment quality assessment is necessary at this stage, to establish the environmental baseline, and to adequately evaluate the Project’s potential impacts.

The EIR/EIS unjustifiably relies on what it describes as a “long-term monitoring study of the ocean outfall,” for the assertion that there have been “no effects from the outfall discharge on benthic communities, or biological accumulation of contaminants in tissue” and that “[n]o effects were observed on the physical and chemical properties of the sediments and water column except adjacent to the outfall.” In fact, the cited report, “Analysis of MRWPCA Marine Outfall Benthic Monitoring Program” was prepared for Monterey Regional Water Pollution Control Authority by ABA Consultants in 1999, identifies scores of reasons why the existing monitoring data is flawed and insufficient to establish a baseline of environmental data for assessing marine impacts. The ABA report makes the following conclusions:

- The sampling methodology and design has changed over the time frame of sampling, between 1977 and 1994. This limits the comparisons that can be done within the data set and severely restricts the utility of the data. It cannot be emphasized strongly enough that a consistent sampling design is necessary for long term studies to be useful.



- Chemical analysis of sediments followed a standardized list of metals that was derived from studies at other sites and was inapplicable for the local area. It is not clear whether these trace metals have elevated concentrations in the effluent reaching Monterey Bay. Properly conducted chemical analysis require clean techniques, well-trained researchers, and are expensive, so it is important that we be sure that the analyses conducted are pertinent. The chemicals currently analyzed are simply a generic "laundry list" compiled from requirements in other areas that may not be of concern in this location. Carefully selecting appropriate indicators that may include chemicals not on the EPA list and may not include some standard tests as relevant for the area is an important way to customize a sampling strategy.
- Bioaccumulation studies were discontinued after 1991 and only conducted for metals.
- Arsenic concentrations increased over time at all sediment sampling stations.
- The species used for the bioaccumulation work, *Citharichthys stigmaeus* and *Crangon nigromarlata*, were usually the most abundant species captured in trawls near the outfall. Unfortunately, these are highly mobile species whose chemical body burden may not reflect the local conditions accurately. Since these species are known to undergo substantial seasonal migrations, the concept of adjacent "impacted" and "control" stations was inappropriate.
- There has been an increase in the abundance of crustaceans and a decrease in the numbers of echinoderms. The general pattern suggested is an increase in mobile epifauna (*Hemilamprops californica*, *Zeugophilomedes oblonga*) and opportunistic species (magelonids) and a decrease in sessile species (*Dendraster excentrius*, *Tellina modesta*), predators (*Nephtys cornuta*) and sensitive species (*Rlzepoxyinius abronius*) (Figure 14). Together, the results suggest increasing disturbance in the benthic community within 2 m of the outfall;
- Because of the change in station locations in 1994, comparisons with previous years' data must be made with caution. The value of the data set for detecting changes and long-term patterns is greatly reduced by the location change; only when no station differences are found can data sets be compared between years, and there is no way to look for potential effects of the outfall. Less than half of the groupings (11 of 25) can be compared over the entire time frame of data collection; 10 more partial comparisons can be made. The station location change has greatly compromised the utility of the data, both for outfall monitoring, and for comprehensive long-term ecological research.
- The stations would be particularly useful if the scope of the chemical analyses was enlarged to include pesticide screening; pesticides are of far more concern in Monterey Bay than the metals analysed for around the outfall.



ERF-3  
cont.

The Federal Register Notice for this Project was issued on August 26, 2015. The EIR/EIS uses a 2012 baseline and does not provide adequate support for the assertion that "environmental conditions in the study area have been relatively static such that 2012 conditions remain representative of meaningful baseline conditions." By relying on a 2012 baseline, rather than a 2015 baseline, the EIR/EIS may not



ERF-4

neglect recent changes in relevant environmental factors, such as habitat use or loss, and recent increases in Monterey Bay shoreline erosion.

↑ ERF-4  
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**The EIR/EIS Is Vague and Inconsistent as to the Purpose and Need for the Project.**

Under CEQA an EIR must include a statement of objectives sought by the proposed project. The statement of objectives should include the underlying purpose of the project. CEQA Guideline 15124 (b). Under NEPA the agency must provide consistent information about important aspects of the Project that are crucial for an informed consideration of project impacts.

The EIR/EIS is vague and inconsistent as to the purpose of the Project. After review of the EIR/EIS, the reader does not know if the purpose is (1) to replace existing water supplies or (2) replace existing supplies and expand water supplies, or (3) authorize otherwise prohibited activities.

The EIR/EIS at pdf 3 states “The purpose of the MPWSP is to replace existing water supplies for CalAm's Monterey District service area.”

The EIR/EIS at section “ES.3.1 Cal Am Project Objectives” doesn’t state the purpose of the Project, but does state 9 primary and 3 secondary objectives.

The EIR/EIS at section “ES.3.2 MBNMS Purpose and Need” states the “purpose of these proposed [federal] actions are to authorize otherwise prohibited activities to occur within MBNMS, to ensure that the State and Federal permits and the proposed project comply with MBNMS regulations, and to ensure that MBNMS resources are protected by requiring terms and conditions that may be necessary. The need for MBNMS action is to respond to CalAm’s request in accordance with NMSA regulations and to protect sanctuary resources.”

ERF-5

EIR/EIS section 1.3 states that “The MPWSP is needed to replace existing water supplies” that have been constrained by legal decisions affecting the Carmel River and Seaside Groundwater Basin water resources.

Yet, EIR/EIS section 2.3 states that “Based on State Water Board Orders 95-10 and 2009-0060 and the Seaside Groundwater Basin adjudication, CalAm must develop a replacement water supply to meet existing demand in its Monterey District service area. **In addition, CalAm proposes** to provide sufficient supply to meet demand associated with the development of existing legal lots of record, Pebble Beach water entitlements in the Del Monte Forest area, and tourism demand under improved economic conditions within its service area.”

These are not hypothetical concerns. As a factual matter if the Project purpose is to replace existing water supplies approximately 12,351 acre feet per year (afy) will be required, however if the purpose includes expanding water supply an additional 2,005 afy is required.

As a legal matter, CEQA Guideline 15124 (b) explain that a clearly written statement of objectives, that includes the project purpose, aids in development of a reasonable range of alternatives, as well as any statement of overriding considerations.

## The EIR/EIS Fails to Adequately Analyze the Project's Potential Adverse Impacts on Monterey Bay Marine Life

### Impingement of Organisms

Desalination intake technologies can pose major mortality threats to marine organisms if they impinge species on the seafloor or entrain species. Impingement occurs when organisms are trapped against the seafloor or the screens of intake pipes due to the constant force of water being drawn in. Entrainment occurs when very small organisms are sucked through the screens, into the pipes, and are killed within the facility during the desalination process. It is acknowledged that CalAm's proposed slant well intake design is meant to have a lessened effect on marine life by not intruding into the ocean and reducing impingement and entrainment. The EIR/EIS claims that the project will completely "eliminate" the risk of impingement or entrainment of marine life, (though sources indicate a slant well system has never been used in a full-scale desalination plant).<sup>1</sup> In a seeming contradiction, the 2015 DEIR concluded that "impacts from the operation of the slant wells could involve impingement of organisms against the seafloor."<sup>2</sup> Eliminating impingement may be true of larger marine life that typically fall prey to open water intake systems, but this technology may introduce its own negative impacts on epifaunal and infaunal organisms that live on and within the seafloor sediment, respectively. Plankton, eggs, and fish larvae are common inhabitants of this zone and may be threatened by a slant well intake pipe.<sup>3</sup> Subsurface slant well intake systems utilize the sandy seafloor as a preliminary filter, but also draw in organisms that inhabit this zone.<sup>4</sup> Squid are a valuable commodity in Monterey Bay.<sup>5</sup> The species *Dorytheuthis opalescens*, a native to the North American coast, for example, is protected from commercial fishing outside of fisheries because squid "demand...now exceeds supply."<sup>6</sup> Because squid lay their eggs in the sediment of the seafloor, they may be more greatly impacted by a subsurface intake system if they are harmed by impingement and are trapped on the seafloor. As noted in the DEIR, "a relatively small magnitude effect...could be considered significant if the species is rare and highly susceptible to disturbance."<sup>7</sup>

ERF-6

### Brine Discharge and Hypoxia

The Project will produce up to 14 million gallons per day of high-salinity brine during the desalination process. EIR/EIS 4.3-64. The Project plans to discharge that brine through the Monterey Regional Water Pollution Control Agency's existing outfall and into Monterey Bay. Id. 4.3-64. The discharge will occur within the federally protected Monterey Bay National Marine Sanctuary, which contains "habitats that support extensive marine life," including "numerous special-status" marine species. Id. 4.5-2, 4.5-8.

ERF-7

1 Cooley, H., Ajami, N., and Heberger, M., Key Issues in Seawater Desalination in California, December 2013:9.

2 Draft Environmental Impact Report for the Monterey Peninsula Water Supply Project, State of California Public Utilities Commission, 2015:4.5-25.

3 Dickie, P., Making Water: Desalination: Option or Distraction for a Thirsty World, 2007:13.

4 Paper, W., *Overview of Desalination Plant Intake Alternatives*, June 2011:2.

5 Latham, B. and Reeb, C., *Inked in Black: The value of market squid in Monterey Bay*.

6 Ibid.

7 Draft Environmental Impact Report for the Monterey Peninsula Water Supply Project, State of California Public Utilities Commission, 2015:4.5-25.

Brine byproduct may not be easily dispersed in the ocean. According to Carol Reeb (a marine scientist at Stanford Hopkins Marine Lab), the density of concentrated brine causes it to sink and form an oxygen-starved layer, “like Saran Wrap,”<sup>8</sup> that suffocates marine life; brine discharge is “the most immediate threat to marine/estuarine life.”<sup>9</sup> This dense byproduct accumulates on the seafloor, restricting oxygen exchange and creating hypoxic (oxygen deficient) environments. “Hypoxia is lethal to squid eggs, halibut, Dungeness crab and anything else that lives on the sandy seafloor.”<sup>10</sup> The discharge can also contain “caustic chemicals”<sup>11</sup> at dangerously concentrated levels which can harm benthic organisms in ways that are not yet entirely understood. Squid, for example, lay their fragile eggs in the sandy seafloor of this benthic zone for protection, and detecting the impacts that brine has on them and other organisms “may take many years to observe.”<sup>12</sup> These smaller benthic organisms, which may provide food sources to countless other marine species,<sup>13</sup> are potentially the most at-risk species and have not received adequate attention in the Cal Am DEIR. The EIR/EIS addresses the possibility of brine sinking to the seafloor. After hearing public concerns about an effect known as “Coanda attachment” which could result in substantially reduced dilution, or a dense saline plume that forms a connection to and travels along the sea floor. In response to this concern, modeled the anticipated discharge to see if this effect was likely to occur. Roberts (2016). It is unclear, however, whether the model considered the impact of the slant wells vertical infiltration rate in the area of sea floor through which seawater would be taken into the wells – approximately 1,000,000 square feet.

ERF-7  
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The EIR/EIS analysis of potential brine discharge impacts were based on predicted salinity at the edge of the Zone of Initial Dilution (ZID), 100 meters from the point of discharge. EIR/EIS at 4.5.4. The EIR/EIS cites the Ocean Plan limits on salinity of receiving water from desalination plant discharges - a daily maximum of 2 parts per thousand (ppt) above natural background salinity as measured no further than 100 meters (328 ft) horizontally from each discharge point (known as the brine mixing zone [BMZ]). For the MPWSP, the BMZ represents an area of approximately 27 acres based on the existing outfall diffuser structure. EIR/EIS Figure 4.3-7. This approach is insufficient as it ignores potential impacts that may occur within the BMZ, including impacts on special-status species including the California gray whale, the Southern sea otter, and bottom dwelling and foraging fish, which may live in or pass through the BMZ, as well as impacts benthic organisms and the reef-like marine community that has developed on the discharge outfall itself.

ERF-8

The EIR/EIS acknowledges, elevated salinity and its impact on marine ecology, both within and outside of the ZID, is one of the “major concerns associated with coastal desalination projects.” A report commissioned by the State Water Resources Control Board to evaluate the impacts and management of brine discharges, (cited in the EIR/EIS) found “benthic infaunal communities and sea grasses are the most sensitive to the acute effects of concentrate discharge.” Management of Brine Discharges to Coastal Waters: Recommendations of a Science Advisory Panel, Southern California Coastal Water Research Project (“SCCWRP Report”) at 9. Yet “very few studies” have examined the sublethal impacts of long-term brine exposure on marine life and data on impacts to California biota

ERF-9

8 Reeb, Carol, Letter to State Water Board Members, April 5, 2012:3.

9 Ibid:1.

10 Abraham, Kara, Company says it can flip one of desal’s biggest problems, brine discharge, into an asset, July 16, 2015.

11 Ibid.

12 Abraham, Kara, Company says it can flip one of desal’s biggest problems, brine discharge, into an asset, July 16, 2015.

13 Ibid.



“are extremely limited.” SCCWRP Report at 9, 11. Given this uncertainty, the SCCWRP Report recommends that salinity levels at the ZID boundary be limited to an increase of either 2 parts-per-thousand (“ppt”) or 5% above pre-project ambient salinity levels, whichever is less. The EIR/EIS acknowledges that a 5% increase would be the equivalent of a 1.7 ppt salinity increase above ambient conditions, but instead basis its impact analysis on the 2 ppt threshold of significance, which represents more than a 17% increase over the 1.7 ppt threshold recommended by the SCCWRP Report. While the 2 ppt threshold aligns with the regulatory standard adopted in the recent Ocean Plan Amendment, the EIR lacks substantial evidence to justify why the 2 ppt threshold is more appropriate for the Project than a 5% increase above ambient salinity (1.7 ppt) threshold recommended by the SCCWRP Report. CEQA and NEPA analyses require such an explanation.

ERF-9  
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The public has also raised concerns that the Project’s brine analysis is susceptible to modeling error because the existing outfall and its diffusers were not designed for brine discharge. There is limited scientific literature studying mixing scenarios for a horizontal discharge of undiluted brine like the discharge that the Project proposes, as most existing studies have been conducted for inclined jets which increase the initial mixing of the plume. Fewer studies are available to characterize the mixing of negatively buoyant plumes from horizontally-oriented discharge ports. Additionally, most of the studies looking at desalination impacts on marine environments lack quantitative data, adding uncertain and demanding caution when making environmental decisions about introducing this technology at such a large scale.<sup>14</sup> Due to the importance and sensitivity of the Monterey Bay marine environment, the cost of developing the Facility, and the fact that it will produce and discharge such significant amounts of brine each day, the Project must be held to rigorous standards for its potential impacts.

ERF-10

Another common critique of brine byproduct disposal is that the salt can be harnessed and used for other purposes. For example, salt extraction technology may triple the revenue of desal facilities, while eliminating brine byproduct altogether.<sup>15</sup> Alternatives to brine disposal are not sufficiently evaluated in the EIR/EIS.

ERF-11

### Toxic Substances

As reported in the Monterey Peninsula Water Supply Project Hydrogeologic Investigation Technical Memorandum, results of water quality sampling in isolated aquifer zones at the Cemex facility, collected via exploratory boreholes between February and March 2014, found elevated levels of hydrocarbons throughout the aquifer zones, including 1,2-Dichlorobenzene-d4; 1,3-Dimethyl-2-nitrobenzene; 1-Br-2-Nitrobenzene; Tetrachloro-meta-xylene (TCMX). The sampling also discovered elevated levels of pesticides, including aminomethylphosphonic acid (AMPA) and 2,4-dichlorophenoxyacetic acid (DCPAA). AMPA, the primary degradation product of glyphosate in plants, soil and water. AMPA’s chemical structure is very similar to that of glyphosate, recently determined by the International Agency for Research on Cancer to be a probable human carcinogen. The State of California has determined it will include glyphosate on its list of known carcinogens. Elevated levels of AMPA were found throughout the aquifer layers at every screen interval sampled.

ERF-12

<sup>14</sup> Roberts, D.A., Knott, N.A., and Johnston, E.L. Impacts of Desalination Plant Discharges on the Marine Environment: A Critical Review of Published Studies, October 2010.

<sup>15</sup> Abraham, Kara, Company says it can flip one of desal’s biggest problems, brine discharge, into an asset, July 16, 2015.

The EIR/EIS states that “former industrial, commercial, and military activities in the region have resulted in soil and groundwater contamination from spills, leaking underground tanks, unlined chemical disposal sites, and inadvertent disposal of chemicals”. The EIR/EIS also concludes that “within the CEMEX area, the NMGWM projects that groundwater elevations could decrease and that decrease could incrementally affect groundwater flow directions. If there are nearby inland sites that are remediating contaminated groundwater in the same aquifers and that are located within the radius of influence of the slant wells, then the pumping of the slant wells could potentially interfere with those remediation activities, pulling contaminated groundwater into currently uncontaminated areas and degrading the existing water quality. This would violate the state policy of maintaining the existing water quality. A significant impact would occur if the proposed project created a condition that would violate water quality standards or otherwise degrade water quality.” However, the EIR/EIS makes no mention of the contaminants found in the local aquifer. At a minimum, the environmental impacts analysis should 1) identify possible sources of the contaminants, including any known plumes that may migrate toward the slant wells, 2) discuss relevant water quality screening values, 3) analyze the impacts of the contaminants on the source water, and 4) discuss the potential for the contaminants to concentrate in brine, and, if so, any potential adverse impacts to marine life from the brine disposal. Additionally, the Cemex Lapis Sand Plant, which has been in operation since 1906, is a potential source of groundwater contamination that is not addressed in the EIR/EIS.

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ERF-12  
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ERF-13

The EIR/EIS Table 4.7-1 incorrectly appears to incorrectly identify the Fort Ord Operable Unit 1 as “Closed – Groundwater cleanup completed”. According to the State Water Resources Control Board GeoTracker database, Operable Unit 1 (OU1) is the Fritzsche Army Airfield Fire Drill Area site. It originally consisted of a groundwater plume (primarily TCE) and some source area soil contamination (primarily TCE). The soil contamination has been successfully remediated, leaving only the groundwater plume. Since identification of an off-site (outside the former Ft. Ord boundaries) portion of the groundwater plume in 2005, this plume is typically defined as consisting of two parts: the on-site and off-site portions. See, [https://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=DOD100220600](https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=DOD100220600)

ERF-14

The EIR/EIS states that “[r]outine backwashing of the pretreatment filters would occur each day. Backwashing the pretreatment filters would require that a chlorine solution (sodium hypochlorite, similar to bleach) be added to the backwash water supply to control bacterial growth on the filters. . . [a]pproximately 0.4 million gallons per day (mgd) of decanted backwash water may be pumped to the Brine Discharge Pipeline, blended with brine produced by the RO system, and discharged to the existing MRWPCA ocean outfall. The volume of sodium hypochlorite to be used, its likely concentrations in discharge water and potential adverse impacts to the marine environment are not adequately addressed.

ERF-15

Additional Flaws in the Analysis of Biological Impacts

The EIR/EIS does not disclose that California fully protected species are present in the study area, nor consider the impacts of the Project on these species. The EIR/EIS entirely fails to consider the impacts of the Project on the fully protected California Brown Pelican. Calif. Fish & Game Code §3511. The California Brown Pelican roosts in the Monterey Bay National Marine Sanctuary. Nor does the EIR/EIS disclose that the Pacific right whale, the northern elephant seal (*Mirounga angustirostris*), and Southern sea otters (*Enhydra lutris nereis*) are California fully protected mammals. Calif. Fish & Game

ERF-16  
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Code §4700. The EIR/EIS does not consider whether the Project violates their California fully protected species status. The EIR/EIS also fails to discuss potential impacts to dungeness crab, a species with high ecological and regional economic importance.

There could be unanticipated effects on benthic and pelagic communities in the vicinity of the discharge, or on individual members of protected species that feed, pass through or otherwise spend time in high brine concentration areas near the Facility's outfall. Yet, there is insufficient discussion and support for findings regarding impacts of elevated brine concentrations on these animals and their food sources.

ERF-16  
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### **The EIR/EIS Fails to Adequately Analyze the Potential Adverse Impacts on Snowy Plovers**

A portion of the Project will occur on land currently used by the western snowy plover, a threatened species under the federal Endangered Species Act (ESA). Due to significant concerns with the Project detailed in the below comments, we urge the Commission to modify Project approval for the following reasons:

- The Commission has failed to meet its obligations under state and federal law by not analyzing all Project impacts on the plover, including slant well maintenance and operational activities, permanent loss of western snowy plover habitat, beach erosion, sea level rise and cumulative impacts from neighboring property.

- The Project, as currently proposed, will result in the likely take of the threatened western snowy plover, which is an important coastal natural resource. Because mitigation measures are likely insufficient to avoid take of listed species caused by construction and operation of the Project, CalAm needs to prepare a Habitat Conservation Plan (HCP) in support of an application for an Incidental Take Permit to avoid liability under the Endangered Species Act (ESA).

ERF-17

### Endangered Species Act

The Endangered Species Act (ESA) affords broad protections to threatened and endangered species. The ESA is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.”<sup>16</sup> Its fundamental purposes are “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such endangered species and threatened species . . . .”<sup>17</sup>

To achieve these objectives, the ESA directs the USFWS to determine which species of plants and animals are “threatened” and “endangered” and place them on the list of species afforded protection under the ESA.<sup>18</sup> An “endangered” species is one “in danger of extinction throughout all or a significant portion of its range,” and a “threatened” species is “likely to become endangered in the near future throughout all or a significant portion of its range.”<sup>19</sup> Once a species is listed, the ESA provides

16 *Tennessee Valley Auth. v. Hill* (“Hill”), 437 U.S. 153, 180 (1978).

17 16 U.S.C. § 1531(b).

18 16 U.S.C. § 1533.

19 *Id.* at §§ 1532(6), (20).

a variety of procedural and substantive protections to ensure not only the species' continued survival, but also its ultimate recovery. The Supreme Court has noted that "Congress has spoken in the plainest words, making it clear that endangered species are to be accorded the highest priorities."<sup>20</sup>

Section 9 of the ESA prohibits any "person" from "taking" or causing take of any member of an endangered species.<sup>21</sup> This take prohibition also applies to threatened species such as the western snowy plover.<sup>22</sup> The term "take" is defined broadly, need not be lethal, and includes to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" or cause another to do so.<sup>23</sup> The USFWS has further defined "harass" to include "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding, or sheltering."<sup>24</sup> In addition, "harm" is defined to "include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."<sup>25</sup>

The ESA's legislative history supports "the broadest possible" reading of the prohibition against take.<sup>26</sup> "Take" includes direct as well as indirect harm and need not be purposeful.<sup>27</sup> Present or future harms qualify as take: "an imminent threat of harm . . . falls easily within the broad scope of Congress' definition of 'take.'"<sup>28</sup>

The ESA authorizes private enforcement of the take prohibition through a broad citizen suit provision. "[A]ny person may commence a civil suit on his own behalf to enjoin any person, including . . . any . . . governmental instrumentality or agency . . . who is alleged to be in violation of any provision of [the ESA] . . . ."<sup>29</sup> Citizens may seek to enjoin both present activities that constitute an ongoing take and future activities that are reasonably likely to result in a take.<sup>30</sup> Courts have held that "the language and legislative history of the ESA, as well as applicable case law, support our holding today that a showing of a future injury to an endangered or threatened species is actionable under the ESA [citizen suit provisions]."<sup>31</sup> 50 F.3d at 783. Upon a showing of "imminent threat of injury to wildlife," the injury requirement of the Secretary's definition of "take" and "harm" would be satisfied.<sup>32</sup> The ESA's citizen suit provision also provides for the award of costs of litigation, including reasonable attorney and expert witness' fees.<sup>33</sup>

ERF-17  
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20 *Hill*, 437 U.S. at 194.

21 16 U.S.C. § 1538(a).

22 *Id.* at § 1533(d); 50 C.F.R. § 17.31.

23 16 U.S.C. § 1532(19).

24 50 C.F.R. § 17.3.

25 *Id.*

26 *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 704-05 (1995).

27 *Id.* at 704; see also *Nat'l Wildlife Fed'n v. Burlington N. R.R.*, 23 F.3d 1508, 1512 (9th Cir. 1994).

28 *Forest Conservation Council v. Rosboro Lumber Co.*, 50 F.3d 784, 785 (9th Cir. 1995).

29 16 U.S.C. § 1540(g).

30 *Nat'l Wildlife*, 23 F.3d at 1511.

31 *Forest Conservation Council v. Rosboro Lumber Company*, 50 F.3d 781, 783 (9th Cir. 1995)

32 *Id.*; see also *Animal Welfare Institute v. Beech Ridge Energy*, 675 F.Supp 2d 540 (D. Md. 2009) (enjoining construction of wind turbines until an ITP is obtained by developer to protect Indiana Bat).

33 16 U.S.C. § 1540(g)(4).

Under section 10 of the ESA, a non-federal entity such as a developer can avoid potential liability for taking a threatened species by obtaining an incidental take permit.<sup>34</sup> In exchange for permission to “take” a listed species pursuant to an ITP, the permit applicant must commit to implement a plan that “conserv[es]” – *i.e.*, facilitates the recovery of – the species.<sup>35</sup> This plan is called a Habitat Conservation Plan and it must delineate “the impact which will likely result from such taking” and the “steps the applicant will take to minimize and mitigate such impacts . . . .”<sup>36</sup>

### Snowy Plover Background

The western snowy plover (*Charadrius nivosus nivosus*) is one of the least numerous shorebirds in North America and the Pacific coast population of the western snowy plover was federally listed as threatened in 1993.<sup>37</sup> Historically, thousands of western snowy plovers nested along the California coast.<sup>38</sup> However, by 1980, the western snowy plover had disappeared from significant parts of its coastal California breeding range, and biologists estimate the breeding population along the coast has now dwindled to less than 1,500 birds.<sup>39</sup>

The population has continued to decline despite publication of the recovery plan and protection under the ESA. Habitat degradation – often from beach-front recreation and development – has caused the western snowy plover’s population to decline over the past century.<sup>40</sup> Because western snowy plover habitat consists of unstable sandy shorelines, it is “highly susceptible to degradation by construction of seawalls, breakwaters, jetties, piers, homes, hotels, parking lots, access roads, trails, bike paths, day-use parks, marinas, ferry terminals, recreational facilities, and support services.”<sup>41</sup> Unstable coastal habitat also makes western snowy plovers vulnerable to climate change, since sea level rise and erosion decrease their habitat area.<sup>42</sup>

### Insufficient Analysis of Impacts to Snowy Plover

The EIR/EIS insufficiently examines the impacts of the Project on the snowy plover. First, the Project will significantly reduce important western snowy plover habitat along the shoreline of Monterey Bay, including historic nesting and foraging habitat on and immediately adjacent to the Project site.

34 16 U.S.C. § 1539(a)(1)(B).

35 *Id.* at §§ 1539(a)(1)(B), (a)(2)(A); *see also Sierra Club v. U.S. Fish & Wildlife Serv.*, 245 F.3d 434, 441-42 (5th Cir. 2001) (“[c]onservation’ is a much broader concept than mere survival” because the “ESA’s definition of ‘conservation’ speaks to the recovery of a threatened or endangered species” (emphasis added)).

36 16 U.S.C. § 1539(a)(2)(A).

37 Morrison RIG, BJ McCaffery, RE Gill, SK Skagen, SL Jones, GW Page, CL Gratto-Trevor, BA Andres. 2006. Population estimates of North American shorebirds, 2006. Wader Study Group Bulletin 111:66-84; 58 Fed. Reg. 12864 (Mar. 5, 1993)

38 WesternSnowyPlover.org. n.d. Western Snowy Plover Natural History and Population Trends. *Adapted from U.S. Fish and Wildlife Western Snowy Plover Pacific Coast Population Draft Recovery Plan*, May 2001. Available at: <[http://www.westernsnowyplover.org/pdfs/plover\\_natural\\_history.pdf](http://www.westernsnowyplover.org/pdfs/plover_natural_history.pdf)> (Accessed 14 Nov 2014). *See also* Thomas SM, JE Lyons, BA Andres, EE T-Smith, E Palacios, JF Cavitt, JA Royle, SD Fellows, K Maty, WH Howe, E Mellink, S Melvin, T Zimmerman. 2012. Population Size of Snowy Plovers Breeding in North America. *Waterbirds* 35(1):1-14.

39 *Ibid.*

40 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). Sacramento, California. xiv + 751..

41 *Id.*, 34.

42 Thomas 2012, Population Size of Snowy Plovers Breeding in North America (2012).

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As the EIR/EIS recognizes, impacts from construction of the nine subsurface slant wells and conversion of the test well to a permanent well “would be significant.” EIR/EIS 4.6-129. The nine acre construction footprint for the wells is located within potential nesting habitat and the construction would result in the temporary loss of eight acres and the permanent loss of one acre of potential wintering habitat. In addition, “construction noise and vibration, earthmoving activities, vegetation clearance, and night lighting associated with installation of the [wells] . . . could also impact plovers by causing temporary flight of breeding birds, nest abandonment, or nest failure.” *Id.* “Human presence and construction noise and activities” would be a significant impact. *Id.* at 4.6-130. In addition to the direct impacts of the Project that reduce western snowy plover habitat, sea level rise and erosion linked to climate change will also contribute to reduction of plover habitat.

The EIR/EIS states that mitigation measures, such as construction during non-breeding season and other avoidance techniques, will reduce impacts to the western snowy plover to below the level of significance. *See* Mitigation Measure 4.6-1d: Protective Measures for Snowy Plover. However, even if this is true for construction activities, the EIR/EIS inadequately evaluates the impacts to plovers during maintenance and operational activities. Because anthropogenic disturbance is the primary threat to the western snowy plover, numerous biologists have concluded that protecting occupied sites from human disturbance and associated domestic animals may be essential to the conservation and recovery of the species.<sup>43</sup> Operational and maintenance activities have the potential to cause significant impacts and must be more closely examined.

As the EIR/EIS states, continual disturbance of this six-acre slant well site for maintenance purposes “may preclude plovers from nesting in this location in the future.” EIR/EIS 4.6-235. “Therefore, this would be a permanent loss of up to 6 acres of western snowy plover habitat.” *Id.* However, unlike the discussion of mitigation measures to be adopted for construction activities, the EIR/EIS limits mitigation resulting from maintenance activities to restoration actions beyond the Project site. “Permanent loss of western snowy plover habitat will be compensated, at a minimum ratio of 2:1, or as otherwise negotiated with USFWS, through actions to enhance existing degraded habitat.” EIR/EIS 4.6-170. The EIR/EIS does not attempt to analyze mitigation measures that could be taken on-site to reduce take of endangered plovers. Nor is there a discussion on whether enhancement of degraded habitats would fully compensate for the loss of the six acres lost due to Project activities.

In addition, the EIR/EIS fails to examine the operational impacts of the Projects, and the slant wells in particular, to snowy plovers. While the simultaneous operation of the 10 wells pumps “would generate a noise level of approximately 66 dBA at 50 feet,” and 57 dBA at 150 feet, the EIR/EIS concludes that the pumps would not impact plovers at the site. However, plovers may be significantly closer than 50 feet away from the well pumps, and the examples the EIR/EIS uses to justify the cumulative impacts are not persuasive. For example, while crashing waves of the Pacific Ocean may register at 57 dBA at 300 feet, and machinery and mining vehicles associated with CEMEX operations register at 85 dBA at 50 feet, and there is noise associated with traffic on Highway 1, the impacts from noise sources may be as much related to proximity as they are decibel level, and there is no analysis in the EIR/EIS which suggests that snowy plovers could tolerate yet another source of anthropogenic noise. Just because the

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43 United States Fish and Wildlife Service. 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). Sacramento, California. xiv + 751. *See also* Brindock KM, MA Colwell. 2011. Habitat Selection by Western Snowy Plovers During the Nonbreeding Season. *Journal of Wildlife Management* 75(4):786-793.

“noise level from pump operations would be less than the combination of these existing sources” does not mean that pump noises would have no impact – if anything, the cumulative effects of these noise sources in combination with the new pumps may drive plovers away from the site. EIR/EIS 4.6-237. These cumulative effects from the pumps and neighboring properties must be considered in the analysis of noise impacts. Additionally, the EIR/EIS fails to analyze the potential impacts on snowy plovers from the vibrations caused by the well pumps.

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ERF-20

*CalAm Must Prepare a Habitat Conservation Plan*

As a result of the activities associated with the slant wells and pumps, the incidental take of snowy plovers is highly likely. To comply with the mandates of the ESA, CalAm must prepare a HCP in support of an application for an Incidental Take Permit (ITP) to avoid liability under the ESA.

Incidental take of a snowy plover is likely to occur as a result of habitat displacement, construction and maintenance activities, and operation noise and vibrations from the well pumps. Not only will the Project permanently and temporarily remove habitat from plover use, but the impacts of the Project in combination with other neighboring uses, in addition to the ongoing threats of sea level rise and beach erosion, will harm the plover and contribute to its population decline. Because “take” is broadly defined to “include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering,” and the mitigation measures proposed are unlikely to bring impacts to a less-than-significant level, resulting in take in the form of harm and harassment, CalAm must fulfill its obligations under the ESA Section 10 and apply for an ITP. 16 U.S.C. § 1539(a)(1)(B).

ERF-21

**The Analysis of Cumulative Marine Biological Impacts is Flawed.**

CEQA Guideline 15130(b)(3) requires an EIR to define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.

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There is no explanation of why the geographic area (north of Moss landing Harbor south to the northern limits of Sand City) is chosen, nor why the “area within 5 miles of shore” is chosen. EIR/EIS 4.5-67.

The EIR/EIS posits a 2 step filter for whether projects are considered as part of the cumulative marine impact analysis: projects (1) within the [unexplained] geographic scope and (2) whose impacts could overlap with those of the Project. This second step - impacts which overlap - is not an approach explained in the EIR/EIS, nor sanctioned by CEQA or NEPA, and therefore appears improper. Further, the EIR/EIS seems to exclude projects characterized as having “very localized construction impacts,” without any rationale or explanation why.

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The EIR/EIS improperly excludes from the cumulative marine impact analysis the City of Sand City Coastal Desalination Project (No. 6) which will utilize four seawater extraction wells.

ERF-24

The EIR/EIS also improperly excludes the 90-inch Bay Avenue Outfall Phase I (No. 43) which will discharge and breach the sand bar periodically.

ERF-25



In identifying potential cumulative growth-inducing effects, the EIR/EIS states that “[s]everal of the planned future cumulative projects identified in Table 4.1-2 would provide new sources of potable water supply in Monterey County. The Monterey Bay Regional Water Project (DeepWater Desal) (No. 34) would provide water to the City of Salinas as well as parts of Santa Cruz County. If both the MPWSP and DeepWater Desal were approved, water from DeepWater Desal could be used to support growth in other nearby areas such as northern Monterey County.” Yet the EIR/EIS improperly excludes from the cumulative marine impact analysis the Peoples’ Moss Landing Desal Project. The EIR/EIS states the Peoples’ Moss Landing Water Desal Project and the proposed Project “would not both be implemented to serve the same customers.” EIR/EIS 4.1-21. The Draft Process Design Report for The People’s Moss Landing Water Desal Project does not so limit the People’s Desal Project or mention the Monterey Peninsula Water Supply Project.

ERF-26

Similarly, the EIR/EIS states that “it is expected that either the DeepWater Desal Project (No. 34) or The Peoples’ Moss Landing Desal Project (No. 57), but not both, would be constructed and operated in the reasonably foreseeable future.” EIR/EIS 4.5-70. The Draft Process Design Report for The People’s Moss Landing Water Desal Project does not support this asserted limitation. It is not certain if multiple desalination sites will or will not be constructed, but because they have also begun their CEQA environmental review processes, they are legitimate and “reasonably foreseeable and probable future” projects that need to be considered. Combined, the impacts from the Cal Am project and these other proposed sites may be “considerable...or...increase other environmental impacts. CEQA Guidelines, § 15355.

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In fact, it appears that the EIR/EIS has focused on the DeepWater Desal Project to the exclusion of The Peoples’ Moss Landing Desal Project because “the DeepWater Desal is the largest of the other two desal projects and further along in environmental review.” EIR/EIS 4.5-67-68. This “larger and farther along” approach for excluding projects from cumulative analysis is not condoned by CEQA or NEPA.

By excluding The People’s Moss Landing Water Desal Project, the EIR/EIS has not considered the People’s open bay seawater collection and brine discharge in its cumulative marine impact analysis.

The EIR/EIS appears to individually consider the other projects (No. 31, 35, 47, and 34) “in the evaluation of the proposed project,” but fails to consider the Project **in combination with** all of these projects. For example, the EIR/EIS states that the “test slant well (No. 47) was considered in the evaluation of the proposed project.” Separately, the RUWAP Recycled Water Element (No. 35) was considered “in combination with the proposed project,” but not in combination with all of the identified projects.

ERF-28

In considering the RUWAP Recycled Water Element (No. 35), the EIR/EIS appears to improperly terminate any consideration of whether cumulative impacts would be significant after stating that the “RUWAP Recycled Water Element in combination with the proposed project would be **within the range** analyzed under Impact 4.5-4; that impact was determined to be less than significant.” This “within the range” approach contradicts CEQA - which defines cumulative impacts as the change in

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the environment resulting “from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.” CEQA Guideline 15355, subd. (b). Simply because the project specific impacts were insignificant does not mean that the cumulative impacts will be insignificant, nor that the Project impacts will not make a considerable contribution to cumulative impacts.

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Further, the EIR/EIS fails to disclose which Impact 4.5-4 “range” it is referring to. The reader does not know if the EIR/EIS is referring to impingement of marine organisms, entrainment, to impingement of fine organic matter, salinity, dissolved oxygen, or some other criteria. This is important information. Salinity effects, for example, are species-specific. Within the Zone of Initial Dilution, the EIR/EIS admits that areas could be unsuitable for spawning of squid as a result of the Project alone. EIR/EIS 4.5-60.

The EIR/EIS repeatedly avoids consideration of cumulative impacts by improperly relying on findings of Project-specific insignificance determinations. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. CEQA Guideline 15355, subd. (b). Simply because the Project-specific impacts were insignificant does not mean that the cumulative impacts will be insignificant nor that the Project impacts will not make a considerable contribution to cumulative impacts.

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The cumulative **construction** impacts discussion is flawed as it only considers the impacts of construction of the Monterey Peninsula Water Supply Project. The cumulative construction impacts discussion is further flawed because while the EIR/EIS acknowledges potential impacts from release of drilling fluids, it does not consider the cumulative impacts from such releases.

ERF-31

In considering the cumulative salinity impacts of the DeepWater Desal project, the EIR/EIS improperly considers only “the two projects,” (EIR/EIS p. 4.5-69), not the cumulative impacts of these two projects with all other reasonably foreseeable projects.

ERF-32

The EIR/EIS is flawed as it minimizes the cumulative salinity impacts based on “the distance between the DeepWater Desal proposed outfall and the existing outfall proposed for use by the MPWSP (i.e., 31,511 feet; 9,605 meters) leads to the determination that there is no expectation of the two BMZs [brine mixing zones] reaching each other or intermixing discharge waters.” The 2012 Science Advisory Panel technical report prepared for the California Water Resources Control Board, entitled “Management of Brine Discharges to Coastal Waters” explains that “brine mixing zone” may be too myopic a focus and suggests that brine “far field” impacts should also be consider. The paper explains at section 6.1 that

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It is important to understand the distinctions between near field, mixing zones, and other related terms that are often associated with wastewater discharges. These are discussed further in Appendix D. The near field is a hydrodynamic, or physical, concept. It is the region where mixing of the effluent is influenced and affected by



discharge parameters. The physical processes are primarily entrainment caused by shear between the buoyant jet (either positively or negatively buoyant), an internal hydraulic jump where the plume impacts a boundary (e.g., sea floor) or water surface and transitions to horizontal flow, and entrainment in the horizontally spreading layer. The near field ends where the self-induced turbulence collapses under the influence of the induced density stratification. **The layer then spreads as a density current of some finite thickness.** Ultimately, ambient diffusion due to oceanic turbulence is responsible for most mixing and dilution; this region is known as the far field. **The rate of mixing and dilution in the far field is much slower than in the near field.** A mixing zone is a regulatory concept that will generally encompass most, or all, of the near field.



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Appendix D of that same paper explains that “the mixing zone may not correspond to actual physical mixing processes.”

**The EIR/EIS Does Not Sufficiently Address the Project’s Energy Use or Cumulative Impacts from Greenhouse Gas Emissions**

The high energy requirements of desalination contribute to climate change and ocean acidification, using desalination is a tradeoff of a short-term water problem for a long-term climate disruption. Action to address climate change has become ever more urgent with each passing day. The federal government confirmed that 2014 was the hottest year ever recorded. (NASA 2015.) In the National Climate Assessment released by the U.S. Global Change Research Program, experts make clear that “reduc[ing] the risks of some of the worst impacts of climate change” will require “aggressive and sustained greenhouse gas emission reductions” over the course of this century (Melillo, 2014.) California has a mandate under AB 32 to reach 1990 levels of greenhouse gas emissions by the year 2020, equivalent to approximately a 15 percent reduction from a business-as-usual projection. (Health & Saf. Code § 38550.) The state Legislature has found that failure to achieve greenhouse gas reduction would be “detrimental” to the state’s economy. (Health & Saf. Code § 38501(b).) Most recently, Governor Brown issued Executive Order B-30-15 establishing that California must reduce greenhouse gas emissions 40 percent below 1990 levels by 2030 to avoid major climate disruptions, resulting in such impacts as increased temperatures and wildfires, and a reduction in snowpack and precipitation levels and water availability.



ERF-34

Although some sources of greenhouse gas emissions may seem minor, climate change is a problem with cumulative impacts and effects. (*Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, (9th Cir. 2008) 538 F.3d 1172, 1217 (“the impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis” that agencies must conduct).) One source or one small project may not appear to have a significant effect on climate change, but the combined impacts of many sources can drastically damage California’s climate as a whole. Therefore, CEQA and NEPA require that an EIR/EIS fully disclose and analyze a project’s greenhouse gas emissions and contribution to climate change and ocean acidification, including both direct and indirect impacts. (CEQA Guidelines, § 15064.)

Desalination facilities are notorious energy hogs. The EIR/EIS notes the facility would result in “long-term high energy consumption of substantial amounts of electricity, including electricity produced from non-renewable resources.” The reverse osmosis process to remove the salt from seawater

involves passing the water through a series of filters at very high pressures which, at such a large scale of production, requires an enormous amount of energy. The proposed slant well subsurface intake technology will require even more energy to haul source water into the facility. In both economic and environmental terms, the desalination process is costly.

Although the desalination process would not itself emit greenhouse gases, the high energy use means a high consumption of fossil fuels and extensive environmental impacts associated with their use. The greenhouse gas emissions associated with increased consumption of fossil fuels may actually contribute to water shortages,<sup>44</sup> and thus solidify desalination as only a temporary fix and actually counter-productive in the long-run. The project will produce significant and unavoidable impacts even with mitigation on climate change and emissions.<sup>45</sup>

Energy intensive desalination may make sense to combat water shortages in certain areas of the world, where population already vastly exceeds available water resources because the cost of “the energy and CO2 for desalination [is] comparable to current values obtained from importing water hundreds of miles overland”<sup>46</sup> but this is not the case in Northern California, and is certainly not the case here, where the desalination facility is specifically sized to service future development and population growth.

CEQA requires that an EIR to discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. CEQA Guideline 15130, subd. (a). The EIR/EIS determines that the Project’s greenhouse gas effect is cumulatively considerable, but fails to properly discuss the cumulative impacts. This EIR improperly focuses solely on construction and operational impacts of the Project alone - without consideration of the greenhouse gas effect of the Project **in combination with** past, present and reasonably foreseeable project. By definition, the “cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.” CEQA Guideline 15355, subd. (b).

Further, CEQA requires that the discussion of cumulative impacts reflect the severity of the impacts and their likelihood of occurrence. CEQA Guideline 15130(b). The Draft EIR contains no discussion of the severity of the cumulative greenhouse gas impacts.

### **The DEIR/DEIS Fails in its Assessment Growth Inducing Impacts**

To comply with CEQA, an EIR must discuss the ways in which the proposed project could affect economic or population growth in the vicinity of the project and how the characteristics of the project could result in other activities with adverse impacts to the environment [CEQA Guidelines Section 15126.2(d)].

Specifically, CEQA Guidelines Section 15126.2(d) states that an EIR must:

44 Dickie, Phil, Making Water: Desalination: Option or Distraction for a Thirsty World?, June 2007.

45 Draft Environmental Impact Report for the Monterey Peninsula Water Supply Project, State of California Public Utilities Commission, 2015:4.11-15.

46 Reeb, Carol, Letter to State Water Board Members, April 5, 2012.

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ERF-35

"Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects, which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment"

Economic growth refers to the extent to which a proposed project could cause increased activity in the local or regional economy. Economic and population growth can be induced in a number of ways, including through the elimination of obstacles to growth, or through the stimulation of economic activity. Elimination of obstacles to growth refers to the extent to which a proposed project removes infrastructure limitations or removes regulatory constraints that could result in growth. For example, an increase in the capacity of utility or road infrastructure that is installed as part of the proposed project could allow either new or additional development in the surrounding areas. Increases in the population may tax existing community service facilities, requiring new facilities, the construction of which could cause potentially significant environmental impacts.

This is clearly the case in the Monterey Bay Area, which currently suffers from traffic congestion, overcrowded schools, depleted water basins, urban and industrial stormwater pollution, and overtaxed wastewater treatment and conveyance facilities. In short, the region's infrastructure is inadequate to accommodate current demands. Yet, as proposed, the Facility is designed to produce significantly more water than the current service area demand. The Facility's capacity was specifically designed to include estimated water needs for developing all currently vacant lots of record, and "bounce back" of the area's tourism industry, in addition to a replacement supply. In fact, providing sufficient water supplies to serve existing vacant legal lots of record, and accommodating tourism demand under recovered economic conditions, are stated "fundamental" objectives of the Project. (Goals that are perhaps at odds with another "fundamental" objective of minimizing project costs and associated water rate increases.) As the CEQA Guidelines recognize, development and population growth have numerous primary and secondary environmental impacts that must be analyzed in an EIR, including traffic impacts, air pollution, greenhouse gas emissions, and water pollution. Instead of evaluating these reasonably foreseeable impacts of the project, the EIR/EIS improperly writes off that analysis as an obligation of municipal planning processes.

In addressing potential cumulative growth-inducing effects, the EIR/EIS identified a number of planned projects that would provide new sources of potable water supply in Monterey County. "The Monterey Bay Regional Water Project (DeepWater Desal) (No. 34) would provide water to the City of Salinas as well as parts of Santa Cruz County. If both the MPWSP and DeepWater Desal were approved, water from DeepWater Desal could be used to support growth in other nearby areas such as northern Monterey County. The RUWAP Desalination Element (No. 31) would serve the Marina Coast Water District's Ord Community with approximately 1,000 afy of potable supply." It concludes that "[g]rowth induced by one or more of these cumulative water supply projects in combination with the proposed project would result in secondary effects of growth in Monterey County that are similar to,

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but would likely be more severe and widespread than, those summarized above in Table 6.3-9; these impacts including increased traffic, noise, and air pollution and loss of open space and biological resources.” However, none of these, or other likely impacts, are adequately described or analyzed in the EIR/EIS.

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**The EIR/EIS Provides Insufficient Analysis of Preferred Alternatives to Desalination**

There is general consensus that brine discharge, and entrainment/ impingement from intake systems are serious threats to marine life. These concerns are reflected in California’s recently adopted desalination policy. Monterey Bay is a particularly valuable environment, for both ecological and commercial reasons. In 2010, MBNMS, in collaboration with the California Coastal Commission, California Central Coast Regional Water Quality Control Board, and NOAA Fisheries, published Guidelines for Desalination Plants in Monterey Bay National Marine Sanctuary which implement the desalination action plan included in the MBNMS Final Management Plan. Stressing the importance and sensitivity of the Monterey Bay environment, the Guidelines state:

- Desalination should only be considered when other preferable alternatives for meeting water needs, such as increased conservation and wastewater recycling are maximized or otherwise determined not feasible, and it is clear that desalination is a necessary component of the region’s water supply portfolio;
- Project proponent should provide a complete evaluation of the need for a desalination plant. This should include a background of the water supply situation and discussion and evaluation of alternatives that have been considered to obtain the necessary volume of water; including the potential to use other economically and environmentally preferable alternatives including increased conservation, brackish water desalination, and wastewater recycling to meet some or all of the water needs of a proposed project;

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The EIR/EIS does not adequately consider the New Monterey Peninsula Water Conservation and Rationing Plan, which outlines a target water production goal of 12,002 afy,<sup>47</sup> nearly satisfying the service area demand of 12,270 afy, and fails to adequately evaluate the feasibility of desalination alternatives, such as wastewater and storm water reclamation, watershed restoration, and climate appropriate landscaping.

Thank you for your consideration of these issues.

Sincerely,

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Fredric Evenson, for  
Ecological Rights Foundation  
Center for Biological Diversity  
Our Children’s Earth Foundation

47 2016 Monterey Peninsula Water Conservation and Rationing Plan. February 17, 2016.

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## 8.6.11 Ford Ord Rec Users (FORU)

forU

Fort Ord Rec Users

March 24, 2017

Mary Jo Borak, CEQA Lead  
California Public Utilities Commission  
c/o Environmental Science Associates  
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CPUC/MBNMS  
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By U.S. Mail and email to mpwsp-eir@eassoc.com

Karen Grimmer, NEPA Lead  
Monterey Bay National Marine Sanctuary  
99 Pacific Avenue Building 455a  
Monterey CA 93940

Re: Draft Environmental Impact Report/Environmental Impact Statement  
Monterey Peninsula Water Supply Project

Dear Ms. Borak and Ms. Grimmer:

Fort Ord Rec Users (forU) is a community organization comprised of individuals and groups with a shared vision to preserve and enhance recreational use and the natural habitat of the former Fort Ord. ForU provides the following comments regarding the Draft Environmental Impact Report/Environmental Impact Statement (hereafter DEIR/EIS) issued in January 2017 for the California American Water Company (CalAM) project. ForU respectfully requests these comments be made part of the administrative record for all state and federal proceedings related to this project.

The planned source water for the CalAM Project will be the 180' aquifer of the Salinas Valley Groundwater Basin (SVGB). This source is not seawater, as erroneously represented in the DEIR/EIS. CalAM seeks approval to pump up to 27,000 AFY of brackish water from the 180' aquifer of the SVGB.

FORU-1

**A. BACKGROUND**

It is undisputed that CalAM has no water rights in the SVGB. Among those with water rights in the SVGB is the public water purveyor for the City of Marina and the former Fort Ord, Marina Coast Water District (MCWD).

Governing agencies cannot effectively evaluate feasibility, nor reliably make any finding that harm will not occur, without a full understanding of the existing obligations of those with legal rights to water in the SVGB.

Former Fort Ord land consists of 28,000 acres—equivalent to the square footage of the City and County of San Francisco. The controlling agency for the reuse of Fort Ord, the Fort Ord Reuse Authority (FORA) was created by legislation in 1994 in the Fort Ord Reuse Authority Act (CA Government Code Section 67650 et seq.) The County of Monterey and cities of Marina, Seaside, Del Rey Oaks, Sand City, Salinas, Pacific Grove, Carmel, and Monterey developed and adopted the Fort Ord Reuse Plan in 1997, in cooperation with the United States Army, Marina Coast Water District, University of California, California State University, Monterey Peninsula College, Monterey Unified School District, and Transportation Agency of Monterey County, among other entities.

The plan sets forth the addition of 6,160 new homes on the former base, as well as commercial square footage and the growth of California State University, Monterey Bay, whose student population is expected to quadruple to 25,000 in ten years. The total population planned for former Fort Ord is 37,000 persons, on properties primarily within lands belonging to the County of Monterey, Marina, and Seaside.

To understand the scope of this planned growth, note that Marina has a population of about 22,000 and Seaside, 28,000. For the 6,160 dwellings anticipated, only 685 residential permits were issued from 1997–2016. More than 2,000 homes are presently approved and entitled—but unbuilt—within City of Marina’s as-yet-undeveloped portion of the former fort. **The demands of this planned growth will be a heavy burden—and the strain on our severely limited water resources is yet to be felt.**

FORU-2

One-hundred percent (100%) of the water source for this Fort Ord growth is the SVGB, and most of the production is required to come from the 180' and 400' aquifers. In 1993, the U.S. Army transferred to the Monterey County Water Resources Agency 6,600 AFY of water from the SVGB, as part of its transfer of Fort Ord land to the civilian sector. (See Agreement No. A-06404 "Agreement Between the United States of America and the Monterey County Water Resources Agency Concerning Annexation of Fort Ord into Zones 2 and 2A of the Monterey County Water Resources Agency.")

The recorded "Annexation Agreement and Groundwater Mitigation Framework for Marina Area Lands" was entered into by land-owning jurisdictions, MCWD, the City of Marina, and Monterey County Water Resources Agency in 1996 and remains an enforceable agreement today. The express purpose of the agreement is to reduce seawater intrusion and protect the groundwater resource and preserve the environment of the Salinas River Groundwater Basin. The agreement sets forth terms and conditions for annexation in the future, however, the pumping limitations on the three aquifers of the SVGB were effective immediately. In particular, this annexation agreement specifies that MCWD is to limit its pumping of the 900' aquifer to a maximum of 1400 AFY for Fort Ord and **the balance of 5,200 AFY is to be sourced from the 180' and 400' aquifers.**

Of importance to any ruling on this MPWSP are MCWD's rights and needs in the upper aquifers of the SVGB. To meet its water production for the build-out of Fort Ord, MCWD is restricted to the upper aquifers as its source for 5200 of the 6600 AFY. CalAM seeks project approval to pump up to 27,000 AFY from *the same aquifer*.

Through an agreement executed June 7, 2000, and recorded June 23, 2000, the U.S. Army transferred all water rights and water infrastructure to MCWD, which became the water purveyor for the entire 28,000 acres of former Fort Ord. (See Article 5., Water and Sewer Rights, of the "Memorandum of Agreement Between the United States of America, Acting by and Through the Secretary of the Army, United States Department of the Army and the Fort Ord Reuse Authority for the Sale of Portions of the Former Fort Ord Located in Monterey County, California." In 1998, FORA entered into a "Water/Wastewater Facilities Agreement" dated

FORU-2  
cont.

March 31, 1998, with MCWD. This agreement adopts and affirms the pumping limitations of the above-referenced 1993 and 1996 agreements, to wit:

- (a) a maximum of 1400 AFY from the 900' foot aquifer for former Fort Ord land; and
- (b) up to 5200 AFY from the 180' and 400' aquifers

to serve all present and future development. These figures are intended to serve current users and those “reasonably expected to use” water in the future with the build-out of Fort Ord.

These facts are recited because your understanding of the burgeoning population growth and development of the 28,000 acres served by MCWD is critical in considering any approvals for any project that competes for pumping rights in the severely overdrafted SVGB.

**B. CALAM IS PUMPING FROM THE SALINAS VALLEY GROUNDWATER BASIN**

CalAM is pumping water from the SVGB, not “seawater” as represented.

1. CalAM erroneously represents the MPSWP as “designed to take supply water from the ocean via underground slant-wells that draw water from the earth underneath the ocean.” (DEIR/EIS/EIS p. 2–30)
2. All subsurface slant-well pumping by the MPWSP will be from the 180' aquifer of the SVGB—not from “the submerged lands of the Monterey Bay National Marine Sanctuary.” (DEIR/EIS p. 3–15)
3. The brackish coastal water of the SVGB is the intended water source of the project. This reality became glaringly obvious when “the slant well clusters were moved farther inland” to address coastal erosion. (DEIR/EIS p. ES–16)

**C. CALAM HAS NO WATER RIGHTS IN THE SALINAS VALLEY GROUNDWATER BASIN—THE PROJECT IS NOT FEASIBLE.**

CalAM has neither water rights in the SVGB nor a credible legal claim to the supply water for this project. The project must therefore be deemed out of the question.

1. CalAM admits it has no legal right to extract groundwater from the Salinas Valley Groundwater Basin.

FORU-2  
cont.

FORU-3

FORU-4



2. To establish a feasible claim to water rights, CalAM must prove no other legal user of water is injured. Existing users of the SVGB, including MCWD will be injured if this project is approved.

FORU-4  
cont.

3. Alternatives exist by which CalAM and the Peninsula may secure water.

FORU-5

**D. GROUNDWATER FROM SVGB MUST STAY IN THE SVGB UNDER STATE LAW**

Parties with legal rights to SVGB water have grave concern as to the adequacy of SVGB aquifers for current and future water demand. This problem is not considered in the environmental review.

FORU-6

1. MCWD pumping is to increase from current levels of 3,000–4,000 AFY to 10,000 AFY with the build-out of Fort Ord. Of this total, 5200 AFY must be taken from the 180' and 400' aquifers. MCWD and others with water rights are presently pumping from these aquifers.

2. Water produced by the CalAM project will be exported from the SVGB in defiance of state law. None of the water produced by the MPSWP will serve City of Marina or Fort Ord.

FORU-7

**E. CALAM FAILS TO PROVE NO HARM**

Overpumping of the 180' and 400' SVGB aquifers has increased seawater intrusion over the past 70 years (Monterey County Water Resources Agency Historic Seawater Intrusion Map 12-16-2014).

FORU-8

CalAM admits a critical issue is whether implementation of the MPWSP and operation of the slant well will exacerbate seawater intrusion in the SVGB. CalAM has failed to provide credible evidence that its pumping of an additional 27,000 acre feet per year will have any other result than acceleration of seawater intrusion.

**F. CALAM FAILS TO DISCLOSE THE DEGREE OF UNCERTAINTY IN ITS MODELING**

There is little knowledge of the interconnections between the 180', 400', and 900' aquifers of the SVGB; the risks the project poses to the SVGB are therefore unknown and unpredictable. Yet these aquifers are the sole sources of water for Marina and Fort Ord.

FORU-9

Increased pumping will further degrade the quantity and quality of water, making water more expensive to those dependent upon the SVGB, including MCWD customers. CalAM's project modeling lacks baseline data and therefore lacks analytical context. CalAM's failure to follow scientific process is unacceptable.

FORU-10

**G. CAL AM REJECTS USE OF CREDIBLE TECHNOLOGY THAT CAN REDUCE UNCERTAINTY**

CalAM unreasonably rejects use of electrical-resistivity tomography (ERT) for mapping seawater intrusion and the fragile hydrogeology of the SVGB. ERT is readily available, data rich, non-intrusive, and low cost. ERT data can be expected to significantly reduce the degree of uncertainty. Readily attainable imaging is especially critical in the high-risk context of water. CalAM's failure to use ERT amounts to gross negligence in today's technological environment.

FORU-11

**H. THERE HAVE BEEN NO SUCCESSFUL, COMPLETED SLANT WELLS FOR SUBSURFACE OCEAN DESALINATION ANYWHERE IN WORLD**

CPUC has shown poor diligence in its evaluation of technical, legal, and financial challenges. To date, there is no convincing evidence that the project is a viable option for water procurement for the Monterey Peninsula.

FORU-12

1. Santa Barbara, Dana Point, and Santa Cruz are among those entities that explored, rejected, or abandoned slant-well technology.
2. Breakdowns and interruptions in the operation of the CalAM test well raise doubts as to the reliability and appropriateness of the technology.
3. There is no consideration or review of test results in the DEIR/EIS. (DEIR/EIS p. 3–15)
4. The uncertainty of a successful slant-well project weighs heavily against the investment of **public** funds, resources, and trust.

FORU-12  
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**I. CALAM’S PROJECT IS *UNJUST*.**

CalAM’s source-water facility is within the jurisdiction of a public water agency, MCWD. CalAM’s operations will interfere with and harm MCWD’s ability to provide water to its 30,000 ratepayers and the anticipated development of Fort Ord at a *reasonable cost*; yet the DEIR/EIS dismisses MCWD’s rights and responsibilities in a single line, citing MCWD’s potential political interference. Assessment of adverse impacts of a project under CEQA is NOT synonymous with “harm or injury” to water-rights holders. The un-rightful taking of water from the SVGB is injurious to those with water rights and therefore legally sufficient and appropriate for denial of this project.

FORU-13

CalAM’s stated purpose is to appropriate water to which it has no right and export it to users on the Monterey Peninsula. A just regional perspective forbids that one water purveyor take unlawfully from another, especially to benefit the wealthy and influential at the expense of the politically weak.

1. CalAM’s arrogation of SVGB water will greatly impair and diminish MCWD’s ability to provide an affordable, long-term, sustainable water supply for the City of Marina and Fort Ord.
2. The value of homes and businesses in Marina will be further suppressed by the addition of a *third* regional plant within the city’s sphere of influence. Marina already shoulders the adverse environmental burdens and stigma of proximity to regional wastewater and waste facilities.
3. The project degrades Marina’s coastline and undermines the benefits intended by

FORU-14

FORU-15

the designation of Marina State Beach and Fort Ord Dunes State Park.

4. The project sacrifices the people of Marina's publicly controlled water purveyor, Local Coastal Plan, local vision, and future prospects to the interests of a profit-seeking corporation with a long history on the Monterey Peninsula of aggressive self-dealing.

For the foregoing reasons Fort Ord Rec Users request the CPUC deny certification of the Draft Environmental Impact Report/Environmental Impact Statement issued in January 2017 for the California American Water Company (CalAM) project and deny project approval.

Respectfully submitted,



Margaret Davis

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| cont.

FORU-16

FORU-17

















## 8.6.13 Land Watch Monterey County (LWMC)



March 27, 2017

California Public Utilities Commission  
c/o Environmental Science Associates  
550 Kearny Street, Suite 800  
San Francisco, CA 94108  
mpwsp-eir@esassoc.com

SUBJECT: DRAFT EIR/EIS FOR THE MONTEREY PENINSULA WATER SUPPLY PROJECT

Dear Staff:

LandWatch Monterey County has reviewed the draft EIR/EIS for the Monterey Peninsula Water Supply Project (MPWSP) and seven (7) alternatives. The MPWSP includes a 9.6 millions gallons/day (mgd) desalination plant combined with Aquifer Storage and Recovery (ASR), PureWater Monterey County and transmission infrastructure. An alternative, which includes a 6.4 mgd desalination plant combined with ASR and the PureWater Monterey County Project (Alternative 5a), was determined to be the environmentally superior project. We have the following specific comments:

1. The DEIR states, "In that the quantity of such fresh water component of the supply water is not currently known, the modeling and the EIR/EIS analysis assess a range of return water between 0 and 12 percent of the source water." (DEIR p. 2-35) Please explain the source of these percentages and why they were selected for analysis. Please also explain how the upper limit of 12% was determined. LWMC-1
2. Table 5.2 (Appendix E2) includes data regarding the amount of return water required for various scenarios. Under a 12% scenario for the CEMEX site for the years 2012 and 2073, total return water is 2,085 acre-feet/year (af/yr). Table 2-4 (DEIR p. 2-18) identifies produced water in excess of demand of between 1,936 af/yr and 2,636 af/yr. Under a 12% scenario for the Potrero Road site for the years 2012 and 2073, total return water is identified as 3,242 af/yr. Thus, under various scenarios, there would be insufficient water to meet demand. Please explain how the MPWSP meets project demand under these conditions. LWMC-2
3. The DEIR states, "The Management Plan indicates that the population of CalAm's entire Monterey District was 99,396 in 2010 and that the combined population of the main system and the Bishop, Hidden Hills, and Ryan Ranch satellite distribution systems, which would also be served by the proposed project, was 95,972." (DEIR p. 2-15) Please explain why the combined population of 95,972 is less than the population of CalAm's entire district. LWMC-3
4. The DEIR states, "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 LWMC-4

rights, except to the extent that the CPUC must determine whether there is a sufficient degree of likelihood that CalAm will possess rights to the water that would supply the desalination plant such that the proposed project can be deemed to be feasible.” (DEIR p. 2-30) Please identify the criteria the CPUC will use to determine if the project is feasible. Since the question of whether or not CalAm has water rights will only be resolved until after project approval, please address how water rights will be considered under the criteria.

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LWMC-4  
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5. The DEIR identifies project greenhouse gas emissions (GHG) emissions total 8,370 metric tons per year as a significant and unavoidable impact (DEIR Table 4.11-5). Preparation of a GHG Emission Reduction Plan is the proposed mitigation measure.

The deferral of the formulation of that plan, which is not known to be feasible, is not permissible. *Communities for a Better Environment v. City of Richmond* (“CBE v. Richmond”) (2010) 184 Cal.App.4th 70, 94; *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309.

Deferral is also precluded because no performance specification is provided. The requirement that the Plan be “state-of-the-art” is not a meaningful performance specification because it fails to provide objective criteria for success. *CBE v. Richmond, supra*, 184 Cal.App.4th at 95.

Regarding the purchase of cap and trade offsets, the DEIR concludes,

The fossil fuel power plants that would generate the electricity that would be used by the project are already subject to and participate in CARB’s cap-and-trade program. For these reasons, it does not make practical sense to recommend mitigation to offset emissions associated with PG&E’s power portfolio because those emissions have already been regulated pursuant to cap-and-trade legislation and are therefore considered to be consistent with CARB’s current strategy for reducing GHG emissions consistent with the State’s GHG reduction goals. As a result, this EIR/EIS focuses on mitigation strategies that are aimed at reducing the project’s consumption of electricity from PG&E’s electrical power grid. (DEIR P. 4.11-19)

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LWMC-5

The DEIR’s stated threshold of significance is 2,000 tons of CO<sub>2</sub>e. As long as emissions have not been mitigated below that significance threshold, the impact remains significant. Accordingly, the project must implement all feasible mitigation because CEQA bars project approval “if there are feasible alternatives . . . or mitigation measures available” that would substantially lessen the project’s significant environmental effects. P.R.C., § 21002; Guidelines, § 15021(a).

There is no basis for the DEIR’s claim that mitigation via offsets is not “practical.” A business may buy GHG emission allowances under the cap-and-trade system from other entities that have reduced emissions below the amount of allowances held.

The EIR should be revised to propose additional mitigation, including purchase of GHG emission offsets under the cap and trade program or under some other arrangement for purchase of offsets.

6. Since the proposed project and environmentally superior project would generate surplus water (DEIR Table 2-4), a smaller, less energy-demanding desalination plant should be feasible. The EIR should be revised to propose and evaluate a smaller scale alternative that reduces significant and unavoidable climate change impacts.

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LWMC-6

7. Chapter 6’s analysis of growth inducement resulting from the proposed project finds that the allocation of the hospitality industry bounce-back is 200 af/yr over-estimated (DEIR p. 6-16). It

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LWMC-7



further finds that there are no sufficient data to support the estimate of 1,180 af/yr for lots of record (DEIR 6-17). The EIR should be revised to propose and evaluate a smaller scale alternative that reduces output by at least the amount of the over-estimated bounce-back as well as the amount of surplus water discussed in comment 6 above because a smaller scale alternative would reduce significant and unavoidable impacts such as climate change impacts.

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LWMC-7  
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8. The DEIR also concludes that once the water is allocated to local jurisdictions by the MPWMD, it could be used for any land uses including the 325 af/yr for the Pebble Beach Entitlement and the 500 af/yr for the hospitality industry. (DEIR 6-17) The finding that the 2005 af/yr could be used for any purpose, just not those identified above, is inconsistent with the following project objectives of the MPWSP:

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LWMC-8

Provide sufficient water supplies to serve existing vacant legal lots of record; and accommodate tourism demand under recovered economic conditions.

This finding identifies a major flaw in the project and undermines its credibility given the overwhelming support for water for legal lots of record. Without a limitation on the use of 1,810 af/yr for legal lots of record, the same issue in future applications will emerge if water for legal lots is allocated to other land uses and the need for legal lots remains unmet.

Instead of estimating the growth potential associated with 2005 af/yr beyond existing demand, the analysis is based on the assumption that the water for growth is addressed in adopted general plans and their environmental documents. The DEIR provides an extensive list of significant impacts identified in various general plans and concludes that the growth would be significant and unavoidable. The most recently adopted general plans by local jurisdictions within the boundary of the MPWMD is 2010. All others were adopted between 1994 and 2005. Any conclusions regarding the significance of impacts is underestimated because base-line conditions have changed dramatically during the past 20 plus years, e.g., traffic, green house gas emissions, visual degradation, scenic and biological resources, etc.

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LWMC-9

Based on an assumption of 0.25 af/yr per dwelling unit, a total of 8,020 dwelling units could be constructed within the MPWMD. The impacts of over 8,000 dwelling units would be staggering, e.g., at 9.5 trips per unit, a total of 76,190 trips would be added to an already over-burdened transportation system. While this represents a worst-case scenario, it identifies a potential outcome that was unintended by those who have supported the proposed project.

The DEIR should be revised to include a mitigation measure limiting the use of water in excess of current demand to the actual future demand for lots of records, hospitality bounce-back and the Pebble Beach entitlement to those uses.

If the CPUC determines that such mitigation is not legally feasible, the EIR should be revised to identify a potentially significant impact if surplus water is used for purposes other than lots of records, hospitality bounce-back and the Pebble Beach entitlement. This determination should be coupled with a finding under CEQA Guidelines § 15091(a)(2) that the required mitigation in the form of water allocation priorities is “within the responsibility and jurisdiction of another public agency” and that “such changes have been adopted by such other agency or can and should be adopted by such other agency.” In this case, those other agencies may include local land use control jurisdictions and the MPWMP.

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LWMC-10

9. The DEIR states:

2.6.4 Effect of Annexation Agreement

In 1996, the MCWRA, the MCWD, the City of Marina, the owners of Armstrong Ranch and then owners of the CEMEX property (RMC Lonestar) entered into an *Annexation Agreement and Groundwater Mitigation Framework for Marina Area Lands* (“Annexation Agreement”).<sup>37</sup> The agreement established a framework for management of groundwater from the Basin and included terms and conditions for the annexation of lands (including the Armstrong Ranch and CEMEX properties) to MCWRA’s benefit assessment zones as a financing mechanism to fund groundwater resource protection and reduction of seawater intrusion (MCWD, et al. 1996).

Under the Annexation Agreement, MCWD’s authority to withdraw potable groundwater from the Basin would be limited to 3,020 afy year until such time as a plan for development of a long-term potable water supply capable of mitigating seawater intrusion was developed and implemented. If and when the Armstrong Ranch property were annexed to MCWD’s benefit assessment zones, non-agricultural use of Basin groundwater withdrawn from that property would be capped at 920 afy. If and when the CEMEX property was annexed to MCWD’s benefit assessment zones, withdrawal of groundwater from that property would be capped at 500 afy.” (DEIR, p. 2-41, emphasis added.)

LWMC-11

The 1996 Annexation Agreement states:

7.2 Quantity Limitations. Commencing on the effective date of this Agreement and Framework, Lonestar shall limit withdrawal and use of groundwater from the Basin to Lonestar’s historical use of 500 afy of groundwater. (Annexation Agreement attached, emphasis added).

The DEIR’s statement that the 500 afy limitation is contingent on annexation is inconsistent with the statement in the Annexation Agreement that the limitation occurs on the effective date of the agreement.

10. In developing thresholds of significance for groundwater impacts, the DEIR purports to take cognizance of the forms of potential injury identified by the SWRCB 2913 opinion on water rights and groundwater harms. (DEIR, 4.4-52.) However, the DEIR’s identified thresholds of significance do not include “a reduction in groundwater elevations that requires users to expend additional pumping energy to extract water from the Basin” as specified by the SWRCB opinion (DEIR, p. 4.4-52 (listing SWRCB’s “foreseeable injuries”).) Instead, in defining and applying significance thresholds, the DEIR only considers reductions in groundwater elevations to be a significant impact if that reduction leads to physical damage from exposed screens of wells or reduced well yields. (DEIR, p. 4.4-41 (thresholds of significance), p. 4.4-68 (project-specific impact conclusion), p. 4.4-90 (cumulative impact conclusion).) The EIR should be revised to assess whether the acknowledged permanent reduction in groundwater elevations would require users to expend any additional pumping energy. If so, the EIR must specify and apply a threshold of significance for increased pumping energy use as well as a threshold for what constitutes a considerable contribution for increased pumping energy use in the cumulative context, as discussed below.

LWMC-12

Furthermore, the DEIR does not define what constitutes a significant reduction in well yields due to lower groundwater levels, even though the DEIR implies that some level of reduced yield would be a significant impact. The EIR should be revised to specify and apply a threshold of significance for reduction in well yields as well as a threshold for what constitutes a considerable contribution to reduced well yields in the cumulative context, as discussed below

LWMC-13

11. Cumulative analysis must consider all sources of “related impacts,” including those past, present, and potential future projects. Guidelines, § 15130(a)(1), (b); *Laurel Heights Improvement Assn. v. Regents of the University of California* (1988) 47 Cal.3d 376, 394 (omission of foreseeable future sources is error); *Environmental Protection Information Center v. California Dept. of Forestry and Fire Protection (“EPIC”)* (2008) 44 Cal.4th 459, 525 (omission of relevant past sources is error). Thus, CEQA requires an agency to identify cumulative sources either by listing the projects or by providing “a summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect.” Guidelines, § 15130(b)(1)(A), (B).

The DEIR provides a list of future projects that it uses for cumulative analysis of various resource area impacts. (DEIR, pp. 4.1-15 to 4.1-24.) This list includes numerous future water-using projects that would contribute to impacts groundwater resources, such as development of residential and commercial land uses in the Salinas Valley Groundwater Basin (“SVGB”). Many of the future water-using projects are located within the western half of the Pressure Area, which is the geographic scope identified as the area of cumulative effect for the cumulative water supply analysis. (DEIR, p. 4.4-87 to 4.4-88.) Many other projects are outside of the Western half of the Pressure Area, but would still contribute to that cumulative effect. For example, pumping in the Eastside Area is known to contribute to the depletion of the Pressure Area and to seawater intrusion.

LWMC-14

The DEIR’s analysis of cumulative groundwater resource impacts purports to use the “list of projects” approach to identifying future projects that affect the groundwater resources rather than the “summary of projections” method. (DEIR, p. 4.4-88.) However, the DEIR includes in that list of projects only three projects, all of which are water supply or groundwater management projects: RUWAP, SVWP Phase II, and the Interlake Tunnel. Omission of future water-using projects within the geographic scope of the cumulative analysis is an error. The thresholds of significance and analysis are based on effects such as aquifer depletion and seawater intrusion, and these effects are clearly determined by total groundwater demand from all sources.

The groundwater analysis in DEIR Appendix E-2 contains a future impact scenario for the year 2073, but the only variable that was apparently changed in that scenario is the sea level assumption. There is no indication in the EIR that the 2073 scenario incorporates a revised groundwater demand projection for the 2073 scenario. If the analysis did incorporate any revision to demand assumptions, it should be made clear how it was derived and what projects were included from the list of projects in the DEIR’s Table 4.1-2.

The EIR should be revised and recirculated to either 1) explain and provide any revision to future demand assumptions used in the cumulative analysis, or 2) provide a cumulative impact analysis that includes the effect of future water demand within the SVGB that contributes to the cumulative effects of aquifer depletion and seawater intrusion.

Furthermore, it is inappropriate to treat water management and water supply projects that are intended to mitigate existing impacts to the aquifer as projects that cause related impacts because the kind of impacts that matter in cumulative analysis are adverse impacts. Indeed, the DEIR's discussion of the significance of cumulative impacts appears to rely on the expected additional benefits of these projects. Since these proposed future projects are neither certain nor identified as enforceable conditions of this project's approval, their beneficial effects should not be assumed in evaluating cumulative significance. Mitigation must be enforceable. Guidelines, § 15126.4(a)(2).

LWMC-15

12. An agency may not arbitrarily limit the geographic scope of cumulative analysis or omit relevant projects. *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 721-724 (error to confine cumulative air quality analysis to County where evidence showed impacts were caused by basin-wide sources); *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1213-1214 (ignoring other impact sources was "overarching legal flaw"). Thus, an agency must "define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used." Guidelines, § 15130(b)(3), emphasis added; *Citizens to Preserve the Ojai v. County of Ventura* (1985) 126 Cal.App.3d 421, 126 Cal.App.3d at 430 (failure to explain limited scope of cumulative analysis is error).

LWMC-16

The DEIR limits the geographic scope of analysis to the western half of the Pressure Area. (DEIR, p. 4.4-87.) The EUIR must be revised to explain the basis of that geographic limitation.

Again, note that CEQA distinguishes the geographic scope of the "area affected by the cumulative effect" and the identification of the "conditions contributing to the cumulative effect." Guidelines, § Guidelines, § 15130(b)(1)(A), (B). Thus, even if the geographic scope of the area affected by the project were limited to the western half of the Pressure Area, groundwater pumping in other areas that also contributes to the cumulative effect should be identified in the "list of projects" or "summary of projections."

13. The DEIR states that in evaluating cumulative impacts, where its analysis finds that the cumulative impacts of past, present, and future projects would be significant and adverse, the DEIR then determines whether the project's contribution would be considerable. (DEIR, p. 4.1-13.) This approach would be consistent with CEQA's requirement for a two-step process that requires an agency to make the following determinations: (1) whether the impacts of the project in combination with those from other projects are cumulatively significant, and (2) if so, whether the project's own effect is a considerable contribution. Guidelines, § 15130(a); see Kostka and Zischke, *Practice Under the California Environmental Quality Act* (2nd Ed., 2011 Update), §§ 13.39, 15.52. However, as explained below, both the step-one and step-two determinations should be made explicitly, because an agency must first determine the severity of the cumulative impact in order to determine whether the project contribution is "considerable."

LWMC-17

Cumulative analysis must recognize that "considerable contribution" threshold may be an "individually minor" impact where the resource is severely degraded. In particular, an EIR may not conclude a cumulative impact is insignificant merely because the project's individual contribution to an unacceptable existing condition is, by itself, relatively small. *Los Angeles Unified School Dist. v. City of Los Angeles* ("LAUSD") (1997) 58 Cal.App.4th 1019, 1025-1026 (rejecting EIR's reasoning that individually minor noise increments would necessarily be cumulatively insignificant); *Communities for a Better Environment v. California Resources Agency* ("CBE v. CRA") (2002) 103 Cal.App.4th 98, 117-118, 121 (invalidating CEQA

Guidelines provision that de minimis impacts are necessarily less than considerable). Thus, the proper threshold for the step two determination whether a project's contribution to an existing significant impact is considerable must reflect the severity of the cumulative problem: "the greater the existing environmental problems are, the lower the threshold should be for treating a project's contribution to cumulative impacts as significant." *CBE v. CRA, supra*, 103 Cal.App.4th at 120. *see also* Guidelines, §§ 15355(b), 15065(a)(3); LAUSD, *supra*, 58 Cal.App.4th at 1024-25.

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LWMC-17  
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The DEIR identifies three potential cumulative impacts: substantial depletion or interference with groundwater supplies, violation of groundwater standards, and degradation of water quality standards. (DEIR, p. 4.4-88). However, the DEIR fails to clarify whether each of these three potential cumulative impacts to groundwater resources are significant. That is, for each of these potential cumulative impacts, there is no "step-one" determination as to whether there is a significant cumulative impact from all projects taken together, and, if so, how severe that impact is. Without that determination, there is no basis to conclude that this project's contribution is less than considerable. As explained, determining the threshold for "considerable contribution" requires assessment of the severity of the cumulative impact. *CBE v. CRA, supra*, 103 Cal.App.4th at 120.

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LWMC-18

The EIR should be revised to provide an assessment as to whether all existing and future projects result in a significant cumulative impact by causing substantial depletion or interference with groundwater supplies, violation of groundwater standards, or degradation of water quality standards. If so, the EIR should identify the severity of that impact and the threshold for determining whether an additional project would make a "considerable contribution." The EIR's discussions of "direct and indirect effects," e.g. the project-specific analyses in Impact 4.4-3 and 4.4-4, use a threshold of significance that represents the level of effect that would be considered significant if caused by the project by itself. However, even if these project-specific impacts are not by themselves significant, they may nonetheless constitute a considerable contribution to significant cumulative impacts.

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LWMC-19

The failure to consider cumulative depletion or interference with groundwater supplies is particularly problematic. As discussed below, without the return water provisions, the project would make a considerable contribution to an existing significant cumulative impact, i.e., the aquifer depletion and declining groundwater levels in the Pressure Subarea. The EIR should acknowledge that the return water provisions are essential mitigation for this contribution.

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LWMC-20

In particular, the EIR concludes that the change in available water supply in the SVGB caused by the project itself is less than significant in part because the area of influence, measured by the zone suffering a one-foot drawdown, extend only about 4 miles without the mitigating effects of the return water provision. (DEIR, p. 4.4-47 to 4.4-59.) This conclusion is in the discussion of "direct and indirect effects," i.e., the project-specific impacts. However, the EIR fails to consider whether a drawdown of less than one foot may nonetheless be a considerable contribution to a significant cumulative impact, particularly in the context of declining groundwater levels due to all cumulative projects.

Clearly, there is a significant cumulative impact in the form of declining groundwater levels and aquifer depletion in the Pressure Subarea.<sup>1</sup> The Pressure Subarea is one of the eight subbasins

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LWMC-20

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<sup>1</sup> Brown And Caldwell, State of the Salinas River Groundwater Basin, January, 2015, available at [http://www.mcwra.co.monterey.ca.us/hydrogeologic\\_reports/documents/State\\_of\\_the\\_SRGBasin\\_Jan16\\_2015.pdf](http://www.mcwra.co.monterey.ca.us/hydrogeologic_reports/documents/State_of_the_SRGBasin_Jan16_2015.pdf).

making up the Salinas Valley Groundwater Basin (SVGB).<sup>2</sup> Overdraft in the Pressure Subarea has averaged about 2,000 acre-feet per year (“afy”) from 1944 to 2014, and the Basin as a whole is “currently out of hydrologic balance by approximately 17,000 to 24,000 afy.”<sup>3</sup> Pumping from the Basin has exceeded recharge since the 1930s, causing seawater intrusion as inland groundwater elevations dropped below sea level, permitting the hydraulically connected seawater to flow inland.<sup>4</sup>

The California Department of Water Resources (DWR) is required by the Sustainable Groundwater Management Act to designate as “critically overdrafted” basins those groundwater basins for which “continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts.”<sup>5</sup> DWR identified the 180/400-Foot Aquifer of the Salinas Valley Groundwater Basin as critically overdrafted in January 2016.<sup>6</sup>

The DEIR acknowledges that a “net deficit in aquifer volume” would be a significant impact. (DEIR 4.4-41.) Accordingly, the current groundwater pumping from all cumulative projects is clearly causing a significant cumulative impact in the form of aquifer depletion leading to a net deficit, i.e., the serious and continuing overdraft conditions identified by DWR and the MCWRA reports. The DEIR also acknowledges that declining groundwater levels are a significant impact, at least if they lead to well yield reductions or exposed screens and pumps. (DEIR, p. 4.4-41).

Again, the current groundwater pumping from all cumulative projects is clearly causing a significant cumulative impact in the form of declining groundwater levels in the Pressure Area.<sup>7</sup> The project will make some contribution to the net deficit in aquifer volume and declining groundwater levels because it will change the balance of flows and remove water from the aquifer so as to cause a permanent depression in groundwater elevations. The DEIR acknowledges that the project, without provision of return water, would cause a drawdown of 1 foot in areas that are 4 miles inland. It would also cause drawdowns of some lesser magnitude in areas farther than 4 miles. These impacts would be mitigated by provision of return water. The EIR should be revised

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LWMC-20  
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LWMC-21  
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<sup>2</sup> MCWRA, Protective Elevations to Control Seawater Intrusion in the Salinas Valley (“Protective Elevations”), 2013, p. 2, available at [http://www.mcwra.co.monterey.ca.us/salinas\\_valley\\_water\\_project\\_II/documents/ProtectiveElevationsTechnicalMemorandum.pdf](http://www.mcwra.co.monterey.ca.us/salinas_valley_water_project_II/documents/ProtectiveElevationsTechnicalMemorandum.pdf); Brown and Caldwell, State of the Salinas River Groundwater Basin, 2015, Section 3.

<sup>3</sup> Brown And Caldwell, State of the Salinas River Groundwater Basin, January, 2015, pp. 6-3, available at [http://www.mcwra.co.monterey.ca.us/hydrogeologic\\_reports/documents/State\\_of\\_the\\_SRGBasin\\_Jan16\\_2015.pdf](http://www.mcwra.co.monterey.ca.us/hydrogeologic_reports/documents/State_of_the_SRGBasin_Jan16_2015.pdf).

<sup>4</sup> MCWRA, Protective Elevations, pp. 4—5; Brown and Caldwell, State of the Basin, pp. 2-4, 5-2; MCWRA, Salinas Valley Water Project Draft EIR (“SVWP DEIR”), 2001, pp. 1-2 to 1-8, available at [http://www.mcwra.co.monterey.ca.us/salinas\\_valley\\_water\\_project\\_I/documents/DEIR\\_EIS\\_2001/2001%20SVWP\\_DEIR\\_2001.pdf](http://www.mcwra.co.monterey.ca.us/salinas_valley_water_project_I/documents/DEIR_EIS_2001/2001%20SVWP_DEIR_2001.pdf).

<sup>5</sup> DWR, Critically Overdrafted Basins, available at <http://www.water.ca.gov/groundwater/sgm/cod.cfm>.

<sup>6</sup> DWR, Critically Overdrafted Basins (1/2016), available at [http://www.water.ca.gov/groundwater/sgm/pdfs/COD\\_BasinsTable.pdf](http://www.water.ca.gov/groundwater/sgm/pdfs/COD_BasinsTable.pdf).

<sup>7</sup> As discussed above, the DEIR only considers falling groundwater levels to be a significant impact if it results in physical damage due to exposed screens or pumps or reduced well yields. It fails to consider increased energy costs from higher lifts as a significant impact even though identified in the SWRCB 2013 opinion. Nor does it actually define what constitutes a significant reduction in well yields due to lower groundwater levels, even though the DEIR implies that some level of reduced yield would be a significant impact.



to identify this as a considerable contribution to a significant cumulative impact and to identify the return water provisions as essential mitigation.

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| cont.

Furthermore, the DEIR dismisses the impact of aquifer depletion based on the argument that that the zone of the 1-foot drawdown does not extend beyond the 500 mg/L seawater intrusion boundary. Although the magnitude of drawdown attenuates with distance, the EIR fails to evaluate drawdown effects of less than one foot. Thus, the DEIR provides no evidence that a drawdown effect of at least some magnitude would not occur in inland areas south of the seawater intrusion boundary that do enjoy potable water quality. Even if the drawdown in areas of potable water were less than the DEIR's arbitrarily selected one-foot drawdown threshold for significant project-specific impacts, the drawdown may nonetheless be a considerable contribution to the significant cumulative impact of aquifer depletion and declining groundwater levels. The DEIR simply fails to consider this.

LWMC-22

14. The DEIR's rationale to dismiss the impact of aquifer depletion, that the zone of the 1-foot drawdown does not extend beyond the 500 mg/L seawater intrusion boundary and so does not affect potable water use, is not supportable for another reason. The DEIR admits that there are at least two sources of competing demand for the non-potable or brackish water in the project: existing wells are used for non-potable purposes ("minor irrigation and dust control") and foreseeable future source wells for the MCWD desalination facility would also draw brackish water. (DEIR, p. 4.4-90). Because there are existing and foreseeable uses for non-potable water drawn by the project, the depletion of this supply cannot be dismissed out of hand as less than significant.

LWMC-23

Sincerely,



Michael DeLapa  
Executive Director

## 8.6.14 Pebble Beach Company (PBC)

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**VIA E-MAIL (MPWSPEIR@ESASSOC.COM)**

CPUC/Monterey Bay National Marine Sanctuary  
c/o Environmental Science Associates  
550 Kearny Street, Suite 800  
San Francisco, CA 94108

Re: Comments of Pebble Beach Company on Cal/Am Monterey Peninsula Water Supply  
Project Draft EIR/EIS  
Our File: 2037.29635

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Ladies and Gentlemen:

Our firm represents Pebble Beach Company ("PBC"). The Draft EIR/EIS ("DEIR") for the Cal/Am Monterey Peninsula Water Supply Project ("MPWSP") addresses the water entitlements granted to PBC by the Monterey Peninsula Water Management District ("MPWMD") in several sections of the DEIR. We wish to make clear in these comments the panoply of rights which attach to the Pebble Beach water entitlements.

In Section 2.3.3.1, describing the Pebble Beach Water Entitlements, the DEIR correctly recites that the water entitlements were granted by MPWMD in exchange for PBC's guarantee of financing for the CAWD-PBCSD Wastewater Reclamation Project. PBC has guaranteed a total of \$33.9 million in debt instruments and funded an additional \$33 million directly, for a total financial commitment to the Wastewater Reclamation Project of nearly \$67 million. This project is presently supplying approximately 1,000 acre feet per year ("afy") of water to meet all of the needs of the eight Del Monte Forest golf courses and certain athletic fields.

### I. HISTORY

We have enclosed a more complete history of the Wastewater Reclamation Project and the Pebble Beach water entitlements for the record. A summary of that history is as follows.

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PBC-1

{THJ-6413139;3}

Due to insufficient legal rights for Cal-Am’s withdrawals from the Carmel River, the State Water Resources Control Board (“SWRCB”) issued Orders limiting the amount of water Cal-Am can withdraw from the Carmel River. This limitation has had the effect, on a general basis, of precluding water for new development within the Cal-Am service, with some exceptions. One of these exceptions is the Pebble Beach water entitlement, which has its genesis in the Carmel Area Wastewater Services District (“CAWD”) – Pebble Beach Community Services District (“PBCSD”) Wastewater Reclamation Project (“Recycled Water Project”).

In 1989, MPWMD and PBC entered into an agreement in which PBC guaranteed financing for a wastewater reclamation project designed to reclaim approximately 800 afy of wastewater for irrigation use on golf courses and other open space in the Del Monte Forest. The recycled water would conserve approximately 800 afy of Cal-Am potable water then being used to irrigate these areas. The project was to be constructed and operated by CAWD and PBCSD. In return for its fiscal guarantee, MPWMD granted PBC a water entitlement of 365 afy of potable water for specific “benefited” properties in the Del Monte Forest. MPWMD granted two other property owners who also participated in the agreement an additional 15 afy entitlement for Areas S and W in the Del Monte Forest, for a total of 380 afy.

In 1994, CAWD and PBCSD completed construction of the Recycled Water Project and began supplying treated water. Between 1994 and 2008, the Recycled Water Project supplied on average about 750 afy of recycled water for irrigation of the eight golf courses and other recreational areas in the Del Monte Forest. During this period, the recycled water supply was supplemented with potable water usage of approximately 250 afy.

To eliminate the use of potable water, in 2005 PBC agreed to fund upgrades to CAWD’s recycled water facilities to address salinity issues, and to fund the retrofit of the Forest Lake Reservoir owned by PBCSD to provide additional recycled water storage capacity. By 2011, due to these upgrades, the Recycled Water Project was capable of providing about 1,000 afy of recycled water – an amount sufficient to meet the irrigation demands of the golf courses and other open space areas served by the Recycled Water Project, without any use of potable water.

By virtue of its funding of the Recycled Water Project, PBC has enabled the conservation of far more potable water (through replacement with recycled water) than the 365 afy potable water entitlement granted to it. Thus, it has been consistently determined that the use of the Pebble Beach water entitlement does not result in a net increase in withdrawals from the Carmel River. In fact, it has resulted in a net benefit.

The MPWMD-PBC agreement, including as modified in 2004, identifies the water entitlement as a vested property right and allows PBC the right to reallocate the water entitlement among its properties, as well as the ability to sell up to 175 afy of its remaining entitlement to other Del Monte Forest property owners for residential use, provided that the annual water usage among all of PBC’s properties and buyers’ properties does not exceed the

PBC-1  
cont.

aggregate 365 afy water entitlement granted to PBC. As of the end of 2017 PBC has sold approximately 140 afy in this fashion to other Del Monte Forest property owners.

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cont.

II. Proper Classification of the Pebble Beach Water Entitlements.

The DEIR in Section 2.3.3 treats the Pebble Beach water entitlements as one of the “Other Service Area Demand Assumptions”, as if the MPWSP is necessary to serve it as “future demand.” However, the facts indicate that the Pebble Beach water entitlements total of 365 afy must be classified as “Existing Demand” of the Cal-Am system. As explained in the attached Memorandum, the Pebble Beach water entitlement is described as “an irrevocable, divisible binding entitlement to potable water, *as a vested property right and interest*, in and for the Benefitted Properties, for use on and by the Benefitted Properties.” The Fiscal Sponsorship Agreement with MPWMD recites that the “Water Entitlement evidenced by each Water Use Permit ... shall not be terminated or diminished by reason of any water emergency, *water moratorium or other curtailment on the setting of meters for the Cal-Am water system*, and ... shall not be subject to diminishment or revocation except as provided [in circumstances not applicable here].” Further, Cal-Am in its Ancillary Project Costs Agreement with PBC to provide service to the properties owned by holders of the Pebble Beach water entitlements has covenanted that *Cal-Am shall at all times reserve, and have the capability of providing, an amount of Water sufficient to meet its service obligations to all of such properties, and shall not serve or commit service of Water to other persons or entities which would, at any time, have the effect of impairing such capability.*

PBC-2

The point is that the Pebble Beach water entitlements must be treated and classified as “Existing Demand” because Cal-Am has an obligation to serve the full 365 afy of the water entitlements no matter what, i.e., even if the MPWSP (or any other water supply project) is not realized. We recognize that the full 365 afy is not being delivered currently by Cal-Am, and in that sense may affect project sizing to make sure it is accounted for. But it must be accounted for as “Existing Demand” because Cal-Am is obligated to serve the entire 365 afy from whatever sources are currently available to it.

III. The Pebble Beach Water Entitlements Are Not Growth-Inducing.

With these considerations in mind, the effect of the Pebble Beach water entitlements cannot be classified as “growth inducing” (see DEIR p. 6-14). The use of water represented by the Pebble Beach water entitlements must be satisfied no matter what, from Cal-Am’s existing sources if necessary, whereas the other demand uses (e.g., lots of record, hospitality industry rebound) are dependent on realization of the MPWSP (or some other new source of supply). Stated differently, water is not a constraint to any growth utilizing the Pebble Beach water entitlements.

PBC-3

IV. MPWMD and the County Do Not Have the Power to Allocate the Pebble Beach Water Entitlement.

Further, the DEIR on page 6-17 mistakenly assumes that MPWMD has the power to allocate (specifically to the County) the unused portion of the Pebble Beach water entitlement as part of its allocation program. This is emphatically not the case. Only PBC has the power to utilize and/or assign portions of the PBC water entitlement, and only (at least presently) for properties in Del Monte Forest. Water entitlements that are assigned to owners other than PBC must be used for residential use (as defined by MPWMD). The use and/or assignment of portions of the water entitlement is not considered an "allocation" by MPWMD under its allocation program or in any other sense. It is simply the exercise of the rights granted to PBC and other holders of the Pebble Beach water entitlements. Thus, the assumption that the County, based on an "allocation" from MPWMD, could elect to then "allocate" portions of the Pebble Beach water entitlement to "other development" (i.e., development other than that for which use of the Pebble Beach water entitlement is authorized) is not realistic – and could not occur without the concurrence of PBC.

PBC-4

Thank you for the opportunity to comment on the DEIR.

Very truly yours,

FENTON & KELLER  
A Professional Corporation

  
Thomas H. Jamison

THJ:tob

Attachment

cc: David Stivers, Executive Vice-President, Real Estate, and General Counsel, Pebble Beach Company (via email)  
Mark Stilwell, Senior Real Estate Advisor, Pebble Beach Company (via email)  
David Stoldt, General Manager, MPWMD (via email)  
David Laredo, Esq. (via email)  
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John O'Hagan, Assistant Deputy Director, Permitting and Enforcement Branch, Division of Water Rights, SWRCB (via email)

## 8.6.15 Point Blue Conservation Science (Point Blue)



**Point Blue  
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Conservation science for a healthy planet

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March 23, 2017

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c/o Environmental Science Associates  
550 Kearny Street, Suite 800, San Francisco, CA 94108

Dear Sirs/Madams,

We appreciate the opportunity to comment on the revised Draft Environmental Impact Report/Statement (the document, hereafter) for the Monterey Peninsula Water Supply Project (MPWSP). Point Blue Conservation Science (founded as Point Reyes Bird Observatory in 1965) is a non-profit 501c3 organization dedicated to conserving birds, other wildlife, and their ecosystems through science, partnerships and outreach. Point Blue has been studying the population of western snowy plovers (*Charadrius nivosus nivosus*) at the slant well portions of the MPWSP project site and in the greater Monterey Bay area for more than 30 years. I personally have monitored plover activity at the project site for more than 15 years (1996-2013).

We are pleased to see that the revised document addresses the points that Point Blue raised in our June 2015 letter. However, we still have some minor concerns about the impacts analysis to the plover and offer the following information for consideration to better address impacts.

### 1. Changed Habitat Conditions

- As noted in the document, the beaches west of the slant well portions of the project site are important for wintering plovers and the slant well project site itself historically has been used by wintering plovers. In the past two years, this outer beach habitat has been reduced as a result of intense winter storms that have caused beaches to narrow significantly and become lower in elevation. This pattern of habitat loss is likely to continue with increasing frequency and intensity of coastal storms projected due to climate change (see below).



- The outer beach to the south of the slant well site receives frequent visitation from pedestrians with unleashed dogs under current management policies. Thus we suggest reclassifying the disturbance regime of the area from “relatively undisturbed” to “disturbed” (4.6 – p. 130 and 136).
- Though the impact of a temporary reduction of wintering habitat at the inland slant well site during the construction phase seems like a minor impact, when combined with recent habitat losses and high levels of disturbance from unleashed dogs at the outer beach wintering sites, the temporary habitat loss is likely to have a greater impact than stated in the document.

Point Blue-1

Point Blue-2

## 2. Climate Change

- The habitat at the proposed slant well site has the potential to become more important for both nesting and wintering plovers over time due to long-term habitat reductions on the outer beach caused by sea level rise (SLR) associated with global climate change. The predicted effects of SLR include reduced beach width, more frequent storm inundation of beaches, and gradual inland retreat of the beach margin towards the slant well project site.
- As overall habitat area for plovers is incrementally reduced by construction of the project and from current storm patterns and long-term climate effects, the impacts of human-caused disturbance on the remaining habitat and on snowy plovers also will intensify.
- At Point Blue, we strongly believe that considering the effects of climate change is a critical component of effective conservation planning. In the document, considerable attention has been paid to the effects of SLR (via the long-term erosion rate, p. ES-16) in the planning and siting of the slant wells; however the cumulative impacts analysis of the project on snowy plovers and the subsequent mitigation plan for plovers may be inadequate without consideration of the impacts of climate change.

Point Blue-3

## 3. Mitigation Plan

- The current mitigation concept for plovers is combined with the mitigation concept for plants and mentions the option of stabilization of dune sands (Mitigation Measure 4.6 1d - p. 170). Whereas this strategy may be beneficial to some species of dune plants, stabilization is not consistent with the habitat needs of plovers. Plovers occupy open primary successional habitat with low-lying plants, and sites with relatively unobstructed view-sheds are preferred for nesting (Point Blue unpubl. data). This ecological requirement should be incorporated into revegetation plans that cover current or historic plover habitat, including at the more inland slant well site.
- Also, under Mitigation Measure 4.6 1d, 8b (p. 4.6 – 170), we recommend that

Point Blue-4

Point Blue-5

mitigation funds be directed toward existing restoration programs in areas where recreational impacts to plovers are adequately managed. Sites that do not meet these criteria should not be considered suitable mitigations for impacts to plover wintering or breeding habitat unless management is improved.

- The concept of a mitigation ratio is good; however the proposed minimum 2:1 ratio may not be an adequate minimum ratio given the previous points related to "Changed Conditions" and "Climate Change" (above) and the significant amount of plover nesting that has occurred at the proposed slant well site over the past two decades. We suggest increasing the minimum ratio.

Point Blue-5  
cont.

Point Blue-6

Thank you very much for consideration of this information.

Sincerely,

*Kriss Neuman*

Kriss Neuman, Waterbird Ecologist

cc: Ellie Cohen, President and CEO, Point Blue Conservation Science

Catherine Hickey, Conservation Director, Point Blue Conservation Science

Gary Page, Principal Scientist, Point Blue Conservation Science

cc: Jacob Martin, US Fish and Wildlife Service

## 8.6.16 Public Trust Alliance (PTA)

CPUC/MBNMS

c/o Environmental Science Associates

550 Kearny Street, Suite 800, San Francisco, CA 94108

March 27, 2017

Dear Commission and Sanctuary,

On behalf of our members who are ratepayers in Monterey and our members who are the beneficiaries of the public trust resources in Monterey as Californians, Public Trust Alliance submits the following comments on the Draft Environmental Impact Report/ Environmental Impact Statement on the CalAm Monterey Peninsula Water Supply Project. The analysis in this EIR/EIS does not meet the standards of CEQA or NEPA and must be corrected. Specifically:

- 1) The assessment of water demand fails to account for the improvements in water use efficiency implemented by the people and businesses of Monterey and as a result uses an unrealistically high estimate of system demand. This in turn means the analysis of growth inducing impacts is inaccurate.
- 2) The range of alternatives is unrealistically limited to only desalination as a potential supply source in Monterey. Several potential sources are presented and then ignored, while findings of infeasibility for others are not supported by substantial evidence.
- 3) The project is inconsistent with the Guidelines for a use permit from the Monterey Bay National Marine Sanctuary (“MBNMS”) and findings of consistency are not supported by substantial evidence.
- 4) The analysis of sea level rise and flooding uses out of date estimates that the DEIR/EIS points to as flawed. This requires reanalysis of the exposure to erosion and flooding.
- 5) The potential growth inducing impacts are incorrectly analyzed and underestimated.
- 6) The errors in estimates of growth inducing impacts renders the analysis of the indirect impacts incorrect throughout, especially with respect to traffic, recreational resources and greenhouse gas emissions.
- 7) The analysis of greenhouse gas emissions fails to incorporate the emissions attributable to the project through growth inducement.

- 8) The proposed mitigations for greenhouse gas emissions are neither effective nor valid as a matter of law under CEQA.
- 9) The proposed project fails to comply with the requirements to reasonably allocate the state's water resources under the California Constitution.

Given the significant and fundamental problems with the analysis in the DEIR/EIS, we urge the Commission and MBNMS to correct these issues and recirculate the DEIR/EIS such that the public may review the impacts and that the Commission may engage in informed decision-making based on a more accurate and reasonable assessment of the far-reaching impacts of this project.

**1. The Assessment of Water Demand is greatly exaggerated, resulting in greater water for new development.**

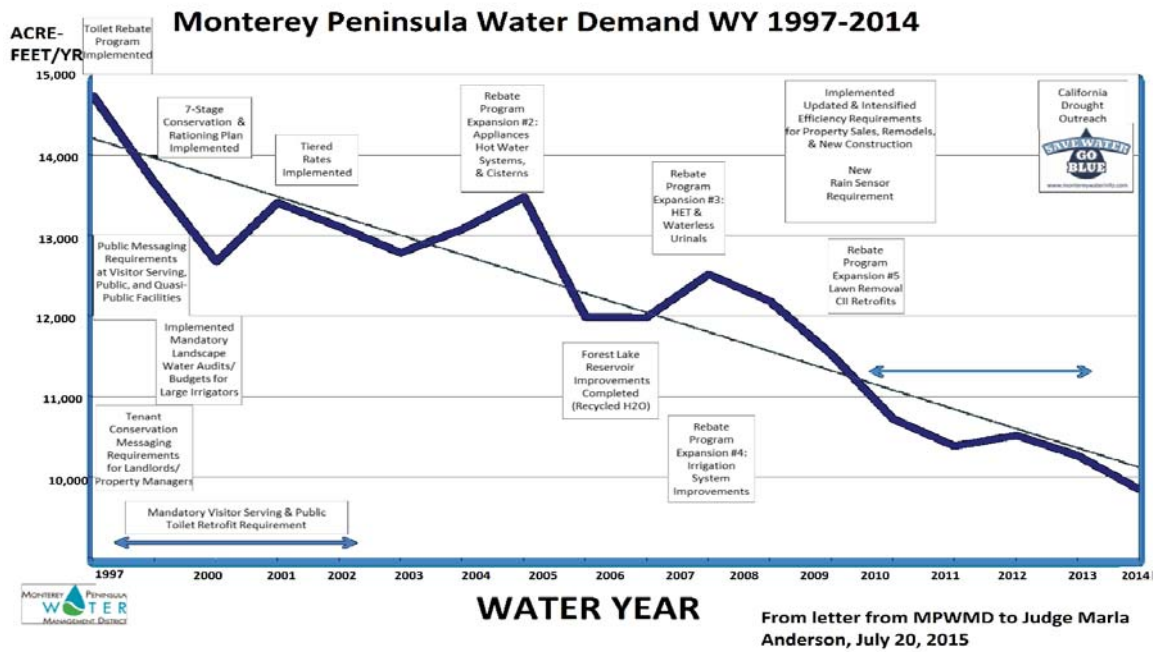
**a. The estimate of existing system demand ignores mandatory and voluntary conservation programs.**

The analysis of existing system demand inappropriately ignores the history of water conservation measures that have limited the possibility of increases in total system demand in the service area to 2010 levels. The failure to consider the enduring reductions in water use resulting from these conservation measures means that the estimated service demand is too high. This in turn means that should the people of Monterey continue to conserve as they have and the conservation measures installed continue to reduce demand, the project will result in substantially more water being available to induce new development.

The analysis of water demand in the DEIR/EIS assumes, unrealistically, that the interannual variation in water supply is due solely to random variation across years and not due to any systematic trend in water use. However, Monterey Peninsula has been subject to a series of mandatory and voluntary measures to improve water efficiency (e.g., see label measures listed in Figure 1.1.) Because many of these measures are permanent (e.g., installation of new fixtures and tighter standards for new development), these gains in water efficiency cannot be expected to reverse due to the normal variation in peak demand or the return of wetter water years. Thus, it is unrealistic to anticipate such high demand from existing users who have moved sharply to conserve water. These measures are not going to be reversed, as the hardware is already installed, and new construction and renovations would be subject to tighter standards than prevailed twenty or even seven years ago. As noted the peak demand is to be determined based on the prior ten years, but that record shows the last ten years continue a trend of greater efficiency and reduced demand that has continued across many business cycles over the last 20 years (see Figure 1 for the

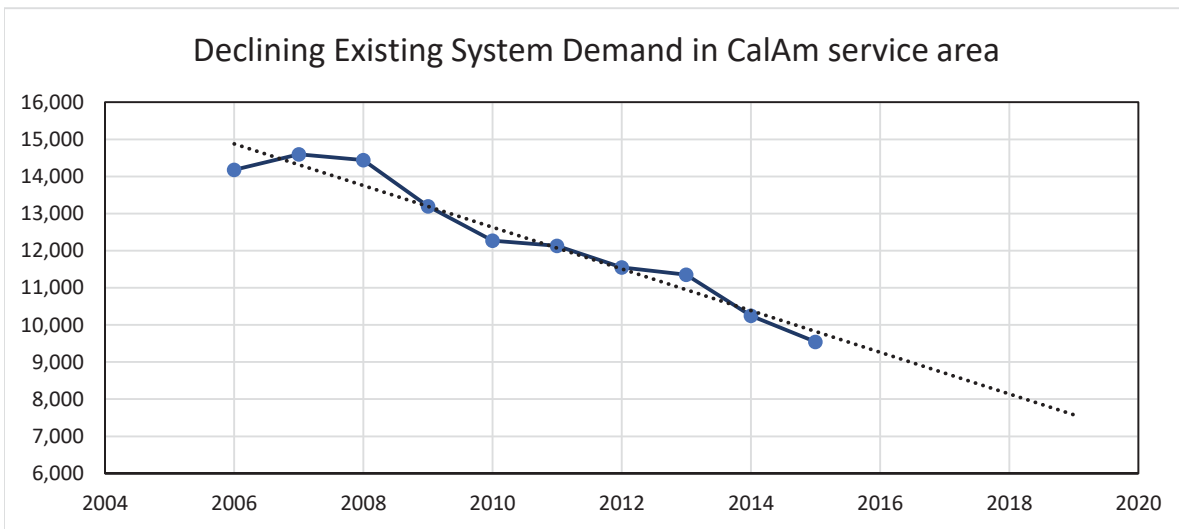
PTA-1

Figure 1.1 Declining Demand over 20 years on the Monterey Peninsula



PTA-1 cont.

Figure 1.2 Declining Existing System Demand in CalAm service area (AFY by year)



declining demand on the Monterey Peninsula and the list of water conservation measures implemented driving that decline.). As noted repeatedly throughout the DEIR/EIS, state and local authorities have taken heroic steps to require and incentivize increased conservation and have been dramatically successful

in doing so. Failing to take these trends into account serves to dramatically understate the environmental impacts of this project.

In fact, the data presented demonstrate that a much lower estimate of 2019 maximum system demand is supported by substantial evidence. Table 2-2 demonstrates a sharp decline in existing demand of roughly 600 AFY/ year. Furthermore, peak demand has not exceeded the trendline by more than 1,400 AFY in any year since 1997. Under those trends, the average system demand would be expected to be approximately 7,800AFY. Using the historical record of deviations from the trend, that would suggest a more reasonable estimate of maximum system demand in 2019 of 10,200 AFY, not 12,250 AFY as estimated in the current DEIR/EIS. Thus, accounting for the impacts of mandatory and voluntary permanent conservation efficiency gains that have resulted from conscious effort and mandatory programs, the system demand that would be expected to exist in 2019 would be considerably lower than the 12,250 AFY estimate used here.

Of course, the environmental impacts of such an error would be to free up additional water for new construction above and beyond the some 2,000 AFY described in the DEIR/EIS. Indeed, should current trends in conservation hold, the underestimate would likely double the water available to new development to over 4,050AFY. Naturally, this would exacerbate growth inducing impacts above what is estimated and potentially in excess of what has been analyzed in this DEIR/DEIS. As a result of the provision of water for ghost demand that no longer exists, the excess supply for new development would be on the order of 3,700 AFY, not the 1,755 used in this DEIR/DEIS. The implications of this error are further analyzed in Section 6 below.

**b. The estimate of a 500 AFY allotment to increased hotel occupancy is not supported by substantial evidence.**

Similar issues arise in the overestimate of increased water use for “rebound” of the hospitality industry. In fact, the 500 AFY number cited as the water demand by a recovered hotel occupancy rate has no basis in the evidence presented in the DEIR and is substantially higher than any increment over existing supply supported by evidence. Here, the key question is the elasticity of demand in response to increased occupancy rates. The DEIR/EIS relies entirely upon CalAm’s estimates based on “discussion with industry representatives” (also known as guestimates), rather than any analysis of the actual trends and data available. We remind the Commission that CEQA’s definition of “substantial evidence” does not include “[a]rgument, speculation, or unsubstantiated opinion or narrative....” (CEQA Guidelines 15384.)

PTA-1  
cont.

PTA-2



By contrast, the DEIR/EIS markedly ignores the analysis of MPWMD, which derived a substantially lower estimate of the increase due to increased occupancy based on the relationship between occupancy and water Use. Based on that evidence based methodology, a 7 percent increase in occupancy would increase by 194 AFY. In addition, as noted above, even this estimate is likely too high, because it relies upon past relationships between occupancy and water use, and therefore does not incorporate changes in that relationship due to the numerous improvements in water efficiency have been made between 2011 and 2017. Therefore, at most the best estimate of the reasonable increment due to greater occupancy based in substantial evidence is 194AFY. The difference between the 500AFY assumed here and the 194 AFY based on substantial evidence would also become available to support additional growth, increasing that total by some 300AFY to approximately 4,050 AFY.

PTA-2  
cont.

**c. Table 13 water is inappropriately excluded from analysis**

We also note that the DEIR/DEIS analysis of Table 13 water is inconsistent. The DEIR does not include Table 13 water as available supply, because such water is available only in wet years. Thus, while the DEIR does not incorporate increases in supply during wet years, the DEIR does incorporate increased demand during wet years. Naturally if the higher system demand estimates of 12,252 AFY used in the DEIR/EIS is chosen because of expected increases in demand during wetter years, then the supply rebound from Table 13 water must also be incorporated into the supply total to accommodate that peak annual demand as well. Furthermore, it is not necessarily true that this water is only available in wet year, since the DEIR/DEIS notes that this water is available to storage through the ASR project, and so could be used in dry years as well. Thus, estimates of total supplies should include some annualized accounting of Table 13 water that could either be used for wet year peak demand or stored for dry year demand.

PTA-3

**2. The range of alternatives is unreasonably narrow and precludes any water supply solution other than desalination.**

As noted in the DEIR/EIS, the analysis must consider feasible alternatives which would reduce significant impacts. (CEQA Guidelines 15126.6, *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376). While the choice of alternatives is subject to the rule of reason, the choice of alternatives must not presuppose the ultimate decision by the agency.

PTA-4

Here, the entirety of the alternatives selected all involve desalination and all other alternatives are dismissed, even though several options have been considered and held for further analysis. Eliminating all non-desalination options as “infeasible” is particularly astonishing in a state that gets its water supply almost entirely from sources other than desalination. Such a narrow range of alternatives clearly presupposes that the solution to Monterey’s water supply issues must be a desalination plant, which means that the impacts inherent to desalination cannot be avoided by any means whatsoever. Similarly, NEPA also requires the consideration of common sense alternatives. Here, that means looking at other potential water supply sources other than desalination, even if those alternatives are not within the jurisdiction of the lead agency. 40 CFR §1502.14 (c)).

The elimination of several alternatives is however not supported by substantial evidence. “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.” (Pub Res. Code s 21061.1). Demonstrating that options are not feasible would require substantial evidence that is not present in the DEIR/EIS. In fact, several options have been discarded with little or no analysis as “not as promising.” At minimum, each of the “hold” options under Plan B not shown to be infeasible should be brought forward. Although they may have drawbacks of various kinds, few involve the substantial environmental and energy impacts of desalination. Until these have been reviewed in greater detail, the Commission is in no position to make an informed decision regarding the relative merits of these less environmentally destructive approaches.

In particular, the Interlake Tunnel was rejected based on perceived difficulties on obtaining rights to any of the more than 50,000 AFY that project would develop. However, we note that the inability to obtain rights is predicated on the rights passing to the property owners and other stakeholders. However, since the project itself is contingent on funding from a Proposition 218 election that has not yet occurred, today the final disposition of those rights remains as yet undetermined. Given the failure of past attempts to fund the project in Sacramento (e.g., AB 1585) and other opposition to the structure of the project, it is far from certain that the rights could not be obtained. For example, it remains entirely potentially feasible for CalAm to offer funding for some component of the project, reducing the burden on local tax payers, in exchange for some portion of the rights to the developed water.

As noted in the EIR, the SWRCB points out that “[d]eveloped water is water that was not previously available to other legal users and that is added to the supply by the developer through artificial

PTA-4  
cont.

means as a new water source.” Since much of the water that would be diverted in the Interlake Tunnel would otherwise flow to the sea, this should constitute “developed water.” Furthermore, when it comes to the rights to such water, “[t]he key principle of developed water is if no lawful water user is injured, the effort of an individual to capture water that would otherwise be unused should be legally recognized.” Thus, to the extent that a project to develop water if no lawful user is harmed, Cal-Am could potentially obtain the rights to water developed through the Interlake Tunnel by contributing to the project in exchange for rights to a water supply that might otherwise not be developed. Thus, in absence of substantial evidence that such an arrangement is not possible, especially in light of the difficulties in obtaining financing for the project, elimination of this project from consideration as an alternative is inappropriate.

We also note that the Interlake Tunnel would be superior to the proposed project in that the proposed project fails to meet two of CalAm’s and the Commission’s objectives: namely to “[m]inimize energy requirements and greenhouse gas emissions per unit of water delivered” and to “[m]inimize project costs and associated water rate increases.” As discussed below, desalination uses extraordinary quantities of energy with associated greenhouse gas emissions. Thus, the proposal could not be fairly characterized to minimize energy requirements. Furthermore, CalAm requires not more than 30% of the potential developed water from the Interlake Tunnel Project, suggesting that CalAm could potentially obtain water rights from funding a third of the project costs of \$25 million. Spending some \$322 million on a desalination cannot be said to “minimize project costs” in light of a possible project costing under 5% as much.

In addition, several other possible alternatives do not appear to have been considered including a combination of increased conservation funding, maximizing wastewater recycling, and other sources of water that may not be as favorable, but absent substantial evidence that they are concretely infeasible, they must be carried forward as reasonable lower cost and environmentally favorable alternatives.

### **3. The Proposed project is inconsistent with several elements of the MBNMS Guidelines.**

The DEIR/EIS appears to erroneously conclude that the special use permit by MBNMS would be consistent with the guidelines for desalination within the sanctuary. For example, the guidelines state that “[d]esalination should only be considered when other preferable alternatives for meeting water needs, such as increased conservation and wastewater recycling are maximized or otherwise determined not feasible, and it is clear that desalination is a necessary component of the region’s water supply portfolio.”

PTA-4  
cont.

PTA-5

However, as noted above there is no substantial evidence that waste water recycling has been maximized. For instance, the GWR program appears to be successful in recycling waste water on a limited basis and similar projects could be developed. Also, wastewater from the Salinas Valley may be potentially recyclable to acceptable standards, but is not analyzed here nor demonstrated to be infeasible. Thus, there is no substantial evidence that the project meets this guideline.

Furthermore, this DEIR singularly fails to “identify measures available to reduce electricity use and related emissions” and to mitigate for all remaining emissions.” As discussed below, the DEIR/EIS fails to consider several potential mitigation measures that could fully mitigate greenhouse gas emissions, but instead relies on a standardless and unenforceable “good faith efforts” to offset some 20% of emissions as mitigation. This approach is facially not consistent with this Guideline. (DEIR at 6-50)

Finally, as described below, the DEIR/EIS relies on an entirely inadequate estimate of sea level rise and potential erosion. Consequently, the project also fails to meet the Guidelines that “[d]esalination plants in MBNMS should not contribute to coastal retreat and should not be designed to anticipate the possibility of installing coastal armoring at any time in the future to protect the plant or its infrastructure from effects of coastal erosion, wave action of sea level rise.” As described below, greater sea level rise than estimated here is likely to contribute to greater erosion and an unspecified risk of coastal armoring being required in the future.

**4. The DEIR/EIS underestimates the level of sea level rise and fails to consider changes in the best science regarding sea level rise.**

The DEIR/EIS uses estimates of sea level rise that are out of date and too low. As the DEIR/EIS acknowledges, sea level rise estimates have steadily increased in the last few years as prior estimates have been shown to have failed to incorporate substantial effects, such as ice melt from Antarctica or Greenland which alone may double prior estimates.<sup>1</sup> Indeed, the three citations cited in the DEIR/DEIS show increasing sea level-rise estimates by 2100. Inexplicably, the DEIR uses the oldest estimate of the three of 55 inches in Figure 4.3-1, rather than the most recent estimate from the gold standard of climate change assessments, the Assessment Report of the IPCC from 2016. As cited in the Assessment Report, the mean sea level rise is now expected to be in excess of 20 feet, not under 5 feet as is used in this DEIR/EIS. In fact, recent scientific information has come to light since the 2014 *Analysis of Historic and Future*

<sup>1</sup> R.M. DeConto & D. Pollard (2016) Contributions of Antarctica to past and future sea-level rise. *Nature* 531:591-597. doi:10.1038/nature17145

PTA-5  
cont.

PTA-6

*Coastal Erosion with Sea Level Rise* study by ESA. Thus, the estimates of both flooding and coastal erosion are certainly lower than the substantial evidence presented both here and in the DEIR/EIS itself.

Given that level of sea level rise, clearly, both erosion and flooding is likely to have substantially greater impacts on the project and greatly increase the potential need for coastal armoring to eventually protect the project. In light of new information in the Assessment Report and additional recent studies, the DEIR underestimates the degree to which the project will expose significant structures to erosion and flooding. To the extent that such impacts will necessitate sea walls, the project would also be inconsistent with the Coastal Act and MBNMS guidelines. Thus, the conclusions regarding the impacts of sea level rise and flooding cannot be seen as supported by substantial evidence, when the evidence in the DEIR/EIS itself contradicts the foundational assumptions of the analysis.

PTA-6  
cont.

**5. Growth inducing impacts are not properly analyzed nor attributed to the project**

- a. The DEIR/EIS inappropriately fails to analyze induced growth based on an inappropriate application of environmental review of local general plans.**

The DEIR/EIS improperly excludes the impacts of the project as indirect growth based on a theory that they do not occur or are not attributable to the project because the growth may have been included in the analysis of various general plans. Certainly, it is not controversial that “[w]ater supply capacity to serve new development would remove water supply limitations as an obstacle to such development and would be considered growth-inducing under CEQA and NEPA.” (DEIR at 6-20.)

However, the analysis of that growth cannot be avoided or ignored simply because it may have been considered in environmental review of entirely different projects. While the impacts of growth may have been previously analyzed under general plans, CEQA requires a comparison to *existing physical conditions*, not the conditions that may have been permitted but have not yet. This point was recently reemphasized by the California Supreme Court: “A long line of Court of Appeal decisions holds, in similar terms, that the impacts of a proposed project are ordinarily to be compared to the actual environmental conditions existing at the time of CEQA analysis, rather than to allowable conditions defined by a plan or regulatory framework. This line of authority includes cases where a plan or regulation allowed for greater development or more intense activity than had so far actually occurred....”

(*Communities for a Better Environment v South Coast Air Quality Management Dist.* (2010) 48 Cal. 4th 310, 320. See also, *Woodward Park Homeowners Assn., Inc. v. City of Fresno* (2007) 150 Cal.App.4th 683, *Christward Ministry v. Superior Court* (1986) 184 Cal.App.3d 180.)

PTA-7

As acknowledged in the DEIR/EIS, most if not all of the general plans characterized the future development planned for as being contingent upon the development of new water supplies to support that development. Indeed, the DEIR/EIS concedes that “[a]ll of the jurisdictions cite limited water supply as a key factor limiting planned development within their boundaries.” In several instances, development permits have been limited by the available water supply at levels even below those considered in the general Plans. Thus, the provision of additional water will allow for additional development that otherwise would not have occurred. Consequently, there will be changes in the existing physical environment that would not otherwise occur with the provision of the additional water in this proposal. Under CEQA case law, the authorized levels of environmental impact are immaterial to the assessment of the physical changes in the environment that would occur and those changes must be considered throughout.

Furthermore, the DEIR/EIS should disclose throughout that the prior analyses of buildout found significant and unavoidable impacts, and not simply conclude that there are no significant impacts from development by ignoring those analyses. For example, the DEIR/EIS relies on the analysis of induced growth in the Monterey General Plan, but fails to disclose in its discussion of greenhouse gas emissions attributable to the project that the environmental documents for the 2007 Monterey County General Plan Update concluded that “buildout within the County beyond 2030 is determined to make a considerable and unavoidable contribution to cumulative GHG emissions and global climate change.” (Draft EIR for the 2007 Monterey County General Plan Update, at 4.16-38.) Thus, the DEIR/EIS should not ignore that the induced growth has already been found to result in considerable and unavoidable contributions to cumulative GHG emissions and global climate change.

Furthermore, the DEIR/EIS is correct in determining that growth in excess of that previously analyzed requires additional analysis and disclosure and would be a potentially significant impact for failure to be consistent with general plans. “A project that would induce growth that was inconsistent with those plans and policies could result in adverse environmental impacts not previously addressed in the CEQA review of those plans” (DEIR at 6-26.)

**b. The amount of water made available to new development is vastly too low and therefore fails to capture induced growth in excess of planned growth.**

As noted above, the estimate of system demand of 12,270 AFY is likely over 2,000AFY too high, once conservation measures are taken into account. This has the effect of freeing that additional water to new development. However, we also note that even the allotment to “meet anticipated future demand”

PTA-7  
cont.

PTA-8



includes water supplies for currently undeveloped lots of record. As the DEIR/EIS acknowledges, development of these lots that would not occur without water supplies by definition is new development and must also be included in the estimate of water available for new development. Furthermore, as the DEIR/EIS also acknowledges, some portion of the 500 AFY for rebounded hotel use also could be diverted to new development to the extent that 500AFY is an overestimate. Furthermore, the allocations for SVGB return would also be available for future development in 25 years' time and should be properly included in the estimates of increased water available for development.

The total amount that would be available for development, either in 2019 or in 2044 is included below.

Table 6.1 - FUTURE WATER DEMAND AND AVAILABLE SUPPLIES UNDER CONSERVATION ASSUMPTIONS.

| Category                                                        | Water for new Development                                                             |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>TOTAL SUPPLIES</b>                                           | <b>16,294 AFY</b>                                                                     |
| Service Area Demand after Conservation Measures                 | 10,200AFY                                                                             |
| Hospitality bounce-back                                         | 194 AFY                                                                               |
| <b>Supply available for other uses</b>                          | <b>5,900 AFY</b>                                                                      |
| 6%/12% SVGB return                                              | 1,620 AFY/3,240 AFY                                                                   |
| Surplus for future development (2019)                           | 4,280/2,660 AFY                                                                       |
| <b>Total for Future Development</b>                             | <b>5,900 AFY</b>                                                                      |
| <b>Future Supply Needs Revised/Reduced</b>                      | <b>3,526 - 2820 AFY</b>                                                               |
| <b>MPWSP supply for Future Development as % of future needs</b> | <b>75% ( 12% SGVB return, no conservation) to 152% (6% return, with conservation)</b> |
| <b>MPWSP supply in 2044</b>                                     | <b>209% of need.</b>                                                                  |

PTA-8  
cont.

Thus, a full accounting of the conservation effects, the overestimate of hospitality demand and inclusion of all new development suggests that the MPWSP may supply up to twice as much water for new development as was analyzed under prior general plans. Given the track record of conservation over the last twenty years, known factors reducing future per capita consumption in new and existing development, and CalAm's track record of consistently overestimating demand, a fully informed analysis of growth

inducing impacts must include an analysis of the growth inducing impacts should the state and local conservation estimates be successful, as they have been in the past.

The DEIR/EIS must analyze potential growth in excess of planned growth that may result from a failure to adequately predict the degree of conservation. As demonstrated above, should the extensive conservation measures implemented by state and local authorities result in permanent and continuing decline, the present project may allow for induced growth that exceeds planned growth by over 50%. Given the substantial evidence underlying this possibility, the DEIR/EIS should disclose and assess that potential more fully so that the Commission may determine whether approval of the project and the attendant potential explosion of growth is in the public interest.

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PTA-8  
cont.

**6. Land Use and recreational and traffic impacts are underestimated for failure to account for induced growth.**

In fact, as acknowledged in Section 6.3, the project would have growth inducing impacts and these are likely substantially underestimated. As discussed below, since this growth represents a change in the existing physical environment that would not occur but for this project, these impacts are fairly attributable to the project. To the extent that the underestimate in existing demand causes growth to exceed that previously analyzed in any general plan CEQA documents, this induced growth has not heretofore been analyzed. Since the EIR/EIS document is to assess both direct and *indirect* impacts, as well as cumulative impacts, such that these indirect impacts must be evaluated throughout.

PTA-9

In particular, the conclusions in Section 4.8.5. that the project would not have the effect of increasing housing or residents in the area is directly contradicted by the acknowledgement of the growth-inducing impacts of increased water supply in Section 6.3. Furthermore, the conclusion that the project would not cause increased use of existing neighborhood and regional parks and other facilities is similarly not tenable. Indeed, the project specifically calls for water to supply an expanded tourist industry that very clearly would be directed at use of regional parks and other facilities. The analysis of traffic impacts utterly fails to incorporate any indirect or cumulative impacts of induced growth. Whether or not these impacts were previously analyzed for some different project, these changes from the existing physical environment that would not occur but for this project must be incorporated into the analysis.

**7. The DEIR/EIS fails to incorporate increased greenhouse gas emissions attributable to induced growth.**

As discussed above, the impacts of induced growth are fairly attributable to the project. While many impacts are difficult to discern and under the control of local governments, the greenhouse gas emissions from induced growth can be assessed regardless of where and how new development proceeds. Since those contributions from induced growth have been deemed cumulatively considerable to the contributions of greenhouse gasses to the atmosphere in prior general plan analyses, these analyses must be carried forward and disclosed in the DEIR/EIS to facilitate informed decision making.

PTA-10

**8. The mitigation measures for indirect greenhouse gas emissions are both legally and technically inadequate.**

Greenhouse gas emissions are clearly a major concern and serious environmental impact of desalination plants generally. As noted in the DEIR/EIS, water production and distribution is already a major component of the state's water use and GHG emissions. Consequently, CARB requires water projects to reduce the magnitude and intensity of energy use by 20 percent through implementation of energy-efficient production, treatment, and conveyance infrastructure. Furthermore, Executive Order B-30-15 directs state agencies such as the Commission to factor climate change into planning decisions. Both considerations cut heavily against engaging in energy intensive water production such as desalination unless there is truly no other option.

PTA-11

The DEIR/EIS appropriately uses the local agency standard for non-emitting land uses of 2,000 metric tons CO<sub>2</sub>eq as a significance threshold and correctly determines that the project is greatly in excess of that threshold.

However, the DEIR/EIS singularly fails to identify obvious mitigation measures as required by CEQA. CEQA Guidelines in fact require consideration of energy conservation measures, such as measures to increase reliance on renewable energy. CEQA Guidelines 15126.4(a)(1)(C). Indeed, alternative fuels or renewable energy supplies are not specifically called out for consideration and discussion at all, despite the clear call for consideration of such measures under CEQA Guidelines, Appendix F, II.D.4. Indeed, these measures are required to be considered, and may include off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions. CEQA Guidelines 15126.4(c)(3).

The notion that the CPUC of all agencies deems the reduction of carbon emission “unavoidable” simply beggars belief. In fact, establishing mitigations to reduce emissions below the significance threshold is not complicated and squarely within the Commission’s expertise. Reducing the emissions of the project from the aggregate carbon emissions of 8,370 metric tons would involve the production of procurement of enough renewable energy to account for 6370 metric tons, or 12,043,302 pounds of CO<sub>2</sub>e. At the quoted rate of PG&E’s mix of 290 pounds per MWh, this works out to obtaining an additional 48,425MWh per year of renewable power, either through construction of onsite solar, contracting independently or through PG&E for supplemental renewable power, or some combination thereof. For example, a very modest size solar farm could produce this power. In fact, this quantity of power could be obtained with a solar array of slightly over 140 acres, according to NREL calculations requiring 2.9 acres per GWh of annual energy production.<sup>2</sup> We note that the 46-acre site itself would provide for potentially enough space for fixed tilt photovoltaics to produce some 16 GWh onsite, or over a quarter of the total. Furthermore, given that Power Purchase Agreements for solar and other renewables are close to grid parity, the economic costs associated with purchasing renewable power would be far from prohibitive. In fact, regardless of what those costs are, they are properly included as a cost of energy intensive water production. If such mitigation measures render the project too costly, then price signals will have appropriately forced a conclusion that the project is not feasible when mitigation for environmental impacts are properly accounted for. In such a case, presumably one of the other alternatives would become the properly preferred alternative.

PTA-11  
cont.

We note also that the approach to measuring energy usage is inappropriate. The estimate of energy use by the project makes little sense, since subtracting existing water system electricity use from the project’s demand assumes that none of the existing supplies and operations would be ongoing. This is not consistent with the discussion of existing supplies. The marginal increase should be for the full emissions associated with the plant, without subtraction of energy use for infrastructure that would be continuing.

PTA-12

In addition, the DEIR/EIS approach to mitigation is wholly inadequate under CEQA. First, disregarding a significance threshold simply because one cannot imagine mitigations is not a legitimate approach under CEQA. Under CEQA the DEIR/EIS is to evaluate the impacts to the physical environment, whatever they may be, and the failure to see an effective mitigation is not a valid reason to ignore the potential significance of an impact. As demonstrated above, mitigation measures for carbon

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<sup>2</sup> S. Ong, C. Campbell, P. Denholm, R. Margolis, and G. Heath (2013) National Renewable Energy Lab Land-Use Requirements for Solar Power Plants in the United States, NREL Technical Report NREL/TP-6A20-56290

impacts from electricity use are both well understood and feasible. Here, the plant will use extensive electricity and those emissions have a significant contribution to statewide GHG emissions, regardless of whether the Commission can envision a method for reduction or not.

Second, the structure of the mitigation measure 4.11-1 is not valid under CEQA, because the energy reduction plan represents both deferred mitigation and non-binding mitigation. To be valid, mitigations measure must be fully enforceable through some legally binding instrument. CEQA Guidelines 15126.4(b)(2). “Good faith” efforts are standardless and do not constitute legal mitigation measures. Furthermore, imposing a mitigation measure to require a plan to develop mitigations constitutes inappropriate deferred mitigation. Since the results, if any, of such a plan cannot be in any way assessed, such measures cannot constitute a valid mitigation measure. Courts have been entirely clear that future efforts to identify mitigation measures are not adequate as mitigation measures under CEQA. (See, e.g., *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70))

PTA-12  
cont.

Finally, we also note that the project also fails to comply with CARB’s mandates to employ less energy intensive water infrastructure. Whether compared to alternatives, such as the Interlake Tunnel, recycling or water purchases or existing supplies, such as diversion from the Carmel River, the project would consume vastly greater quantities of energy. Therefore, the Commission can determine not only that the project would not reduce energy consumption, but that that the desalination plant would greatly increase the energy use per acre-foot of water by employing particularly energy intensive production methods. Thus, it is clear that this project is not consistent with CARB’s mandates.

PTA-13

As a consequence of the above analysis, we recommend that the Commission protect the public trust atmospheric resources by imposing a requirement that CalAm obtain or produce onsite sufficient renewable power to reduce emissions below the 2,000 metric tons CO<sub>2</sub>eq per year (by our estimate, 48,425MWh per year of renewable power)

**9. The project as proposed fails to safeguard and reasonably allocate the state’s public trust resources.**

Finally, CEQA requires consideration of whether the project would conflict with any applicable policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect. (CEQA Guidelines, Appendix G, Section X(b).) In fact, Article X, section 2, requires that “the waste or unreasonable use or unreasonable method of use of water be prevented.” (California Constitution, Article X.) The present project fails to prevent the unreasonable use of water and represents just such an

PTA-14

unreasonable method of use. In addition, the California Water Code has long favored domestic use over agricultural use. Here, the Commissions fails to uphold its public trust responsibilities and violates this provision of the Constitution by failing to even consider alternative water supplies that divert water from lower priority uses such as water intensive agriculture or recreation to use by urban domestic users. Insofar as this project uses an environmentally damaging, resource intensive, and expensive method to avoid such diversion, this proposal represents an unreasonable method of use, and facilitates, rather than prevents, the unreasonable use of water.

PTA-14  
cont.

Under the California Constitution, the Commission has a continuing duty of supervision over the allocation of water resources. Although reallocations of the state's public trust water resources lie within the jurisdiction of the State Water Resources Control Board, the Commission can make a finding under CEQA Guidelines 15091(a)(2) to recommend that the State Water Resources Control Board can and should be adopt mitigation measures for the unreasonable use of the state's public trust waters by reallocation of water resources to higher priority domestic water users from lower priority agricultural or recreational uses.

### CONCLUSION

For the foregoing reasons, Public Trust Alliance requests that the Commission reanalyze the issues above a recirculate the DEIR/EIS with adequate mitigation measures of the likely impacts of the project.

Respectfully submitted,



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8.6.17 Public Water Now (PWN)  
Letter 1 (PWN1)



## PUBLIC WATER NOW

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March 10, 2017

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California Public Utilities Commission  
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Monterey Bay National Marine Sanctuary  
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Comment on MPWSP - Cal Am A1204019

Public Water Now (PWN) objects to two significant omissions in the January 13, 2017 DEIR/EIS.

1. The shutdown of MLPP once-through cooling ocean intakes in 2017.
2. Recent legislative mandates in the Sustainable Groundwater Management Act.

**1. Shutdown of MLPP once-through cooling ocean intakes in 2017 is a massive new positive impact on the marine ecology and environment.**

The CA Energy Commission is not mentioned in the list of agencies having a role in this project. Only one state agency is listed, the CSU Monterey Bay.

This omission of the CEC relates to the massive change taking place at the Moss Landing Power Plant (MLPP), and the associated environmental benefits.

There is no discussion of the planned shutdown of major water-cooled turbines at the Moss Landing Power Plant (MLPP). There is no mention of this in the list of projects that may contribute to cumulative impacts. The shut-down of Units 6 and 7 will occur in 2017. This will terminate a high volume of open ocean intake for once-through cooling. The capacity for Units 6 and 7 intake is 320mgd.

PWN1-1

How could the DEIR/EIR team miss the largest change on the local marine environment in decades? And directly adjacent to proposed projects? And not see the beneficial impacts? And not see a relationship to the alternatives analysis?

The only discussion of the shutdown issue was in Appendix I, Intake Option #7 – Disengaging Basin at Moss Landing Power Plant (Water from Spent Cooling System) (page I2-5 to 7). Throughout the entire discussion, no mention was made of the reduction of ocean intake, and no reference to the benefits on the marine environment. The shutdown was presented only as a complicating factor, leading to unpredictable planning for use in a proposed desal.

Had the beneficial impact of the shutdown received adequate attention, there would have been mitigating positive circumstances in order to continue to consider all the projects at Moss Landing. By not mentioning the shutdown, the DEIR could only muster negative references to ‘complications’.

All alternative water supply projects located in the Moss Landing area use ocean water intakes. One is subsurface intake (Cal Am), and three are screened ocean intake (Cal Am, Peoples, and Deep Water). A full evaluation of those alternatives should include some information on the reduction of ocean intake by MLPP, which is a plus to Elkhorn Slough and the ocean marine ecology. This is important because this volume reduction is far greater, by several magnitudes, than any new ocean intake for nearby desal facilities.

While the DIER/EIS comments negatively about ocean intake, this omission leaves the picture only half told. The DEIR is one-sided and narrow. It excludes a new and enormous positive environmental impact on the ocean, which could be a balancing comment about desal ocean intakes.

Please include this fact and a related analysis. Or please explain why it is not relevant as an offset to negative impacts. Surely when the DEIR looks out 40, 60, 100 years, this shutdown in 2017 is a major omission. This fact and a related analysis should be included.

Such omissions shows how a DEIR can be slanted to favor one project over others. This shortcoming reveals just how a key and fundamental omission can distort the analysis of alternatives, weaken the quality of analysis, and weaken the overall DEIR/EIS.

Please add this analysis and make the presentation of fact and opinion relevant and valid. Otherwise, this hole, this omission, makes the DEIR extremely vulnerable.

**2. Sustainable Groundwater Management Act is ground-breaking legislation that has a nexus with MPWSP.**

There is no mention in the DEIR/EIS nor the Appendices of the Sustainable Groundwater Management Act (SGMA).

PWN1-1  
cont.

PWN1-2

This far-reaching state legislative mandate applies to all local water jurisdictions in California. There are implications of this law for the MPWSP. The production of a water supply specifically from the over-drafted Salinas River Basin obviously intersects with SGMA. Responsibilities of Marina Coast Water District intersects with Cal Am's plans and MCWD's plans. The DEIR/EIS should at least mention the potential for a nexus.

PWN1-2  
cont.

Mitigations may have a nexus with SGMA.

Will the CPUC continue to claim it has authority superior to local governments so long as Cal Am operates its wells? The nexus may lead to disputes over jurisdiction and response.

The DEIR is not a treatise on legal matters, yet it addresses the water rights issues in great detail and over many pages. It appears that the CEQA/NEPA team felt comfortable including documents like the SWRCB memo that supported the MPWSP and its need for water rights. Did the team find it convenient to omit other material that could have supported other options? And if not other options, at least the SGMA could have presented a connection to future scenarios.

PWN1-3

Please add comments on the potential inter-connection. At least address the timing, and explain away the nexus if there are no implications. Or explain where there may be inter-connections, but at a later date. To leave it unmentioned puts a blind eye on the most significant new state legislation affecting future water management and supply issues. To ignore it completely, when the DEIR contains many comments on related matters, is to leave a major topic and issue unaddressed. This omission is another major deficiency. Please add it, or at least comment on it's relevancy or not.

/s/George T. Riley  
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**Public Water Now (PWN)  
Letter 2 (PWN2)**



**To: MPWSP-EIS@esassoc.com**  
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San Francisco, CA 94108

From: Public Water Now  
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**DEIR/EIS on MPWSP Released January 13, 2017**  
Public Water Now Comments ([georgetriley@gmail.com](mailto:georgetriley@gmail.com))

| Page       | DEIR Reference, Quotes                                                                                                                                                                                                                     | Comment                                                                                                                                                                                                                                                                                                                                                          |        |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
|            | <b>ES.2 Project Background</b>                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                  |        |
| Q1<br>ES-2 | The water supply challenges facing CalAm and the Monterey Peninsula are substantial and have been well-documented in a number of venues including the SWRCB, the Monterey County Superior Court, the CPUC, and the California Legislature. | Also in the local media. Very well documented are the many failures by Cal Am management. Cal Am over-drafted the Carmel River. Cal Am contributed to over-drafting Seaside Groundwater Basin. Cal Am initiated 3 supply projects after the initial CDO in 1995, and all failed or were discontinued. Will ESA include more context on the Peninsula challenges? | PWN2-1 |
| Q2<br>ES-2 | In September 2015, after considering the Draft EIR comments and based on conversations with MBNMS and internal CPUC deliberations, the CPUC Energy Division announced that the Draft EIR would be modified and recirculated.               | The conflict of interest with Cal Am’s hydrogeologist was the trigger for review. That weakness continues within the heralded Hydrogeologic Working Group (HWG). Will this context be included in future documents?                                                                                                                                              | PWN2-2 |
| Q3<br>ES-5 | ...subsurface slant wells (eight active and two on standby) extending offshore into the submerged lands of MBNMS... ..extract 24.1 million gallons per day (mgd) of source water through the seafloor in MBNMS.                            | These statements declare Cal Am intention to mine seawater from under the ocean floor. Yet the project has 90% of all intake screens inland of the sea floor. The statements are misleading. Surely the DEIR/EIS team knows these facts. Will these statements be clarified in the Final DEIR?                                                                   | PWN2-3 |
| Q4         | Footnote 2. In October 2014,                                                                                                                                                                                                               | This is misleading. There were Mitigated Negative                                                                                                                                                                                                                                                                                                                | PWN2-4 |





|                      |                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                      |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| ES-6                 | MBNMS finished its NEPA review of the construction of the test slant well and the operation of the pilot program. In November 2014, the City of Marina and the California Coastal Commission completed their CEQA review. | Declarations. Not much of a review. Furthermore, City of Marina voted against the project. Will this be explained, in order to be factual? Otherwise the narrative is biased, or suggests a bias. That does not help this document.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ↑<br>PWN2-4<br>cont. |
| Q5<br>ES-13<br>to 17 | ES.8 Areas of Controversy and Issues to be Resolved                                                                                                                                                                       | There is absolutely no mention of Cal Am's invasion of a neighboring public water jurisdiction (Marina Coast Water District) to take its water for diminished supply in Cal Am's area (Monterey Peninsula). This is significant because the environmental impacts from the MPWSP are direct impacts on the MCWD jurisdiction. To ignore this aspect of Cal Am's project location is to abandon relevancy to the real world. Regional perspectives are expected in the DEIR. Yet this aspect is totally missing. Nothing seems more proof of an incomplete DEIR than to ignore this fact. Will the Final EIR address this huge omission?                                                                                                            |                      |
| Q6                   | Comment/Question                                                                                                                                                                                                          | While it is an embarrassment to the entire Peninsula that Cal Am mismanaged our local water supply sources (Carmel River and Seaside Groundwater Basin), it is not the responsibility of MCWD or the City of Marina to jeopardize or compromise its own water supply source and cause harm to its own customers and citizens in order to rescue Cal Am from the hardship it has inflicted on its own customers. The law protects MCWD from such injury. The CPUC must do the same.                                                                                                                                                                                                                                                                 | PWN2-6               |
| Q7<br>ES-13          | "The proposed subsurface slant wells at CEMEX would extend offshore..."<br>"...the subsurface slant wells would draw seawater... from beneath the ocean floor..."                                                         | Here and elsewhere, the specific description is 'under the ocean or sea floor'. Yet the fact is that the test well has been known to only be about 5-10% under the 'ocean or sea floor'. 90-95% of the intake screens are located inland of the mean high water (MHW) line. This fact is not even a footnote in the numerous references to 'under the ocean or sea floor'. This is consistently misleading. Will the intended and engineered locations of the slant well intakes, and the planned intake system, be accurately described? To ignore this fact is to compromise the accuracy of the DEIR, which then undermines the purpose of the DEIR. Will you please add corrections and clarifications as appropriate? Will this be addressed? | PWN2-7               |
| Q8                   | Several state and federal regulatory                                                                                                                                                                                      | Nowhere in the DEIR is language from SWRCB or                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ↓ PWN2-8             |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                  |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| ES-16         | and permitting agencies (SWRCB, California Coastal Commission (CCC)) will not consider permitting an open-water intake unless a subsurface intake has been deemed infeasible or would result in greater environmental impacts.                                                                                                                                                                                                                                                                                                                                                                                                                | CCC documents that describe the ‘feasibility’ criteria. Also the CEQA law provision re ‘feasibility’ is omitted. This omission leaves it to the ESA writers to wing it on language. Since ‘feasibility’ is a common theme throughout intake discussions in this DEIR, will the Final EIR include specific language so the record is accurate and complete?                                                                                                                                                                                                                                                                                                                                                                              |  PWN2-8 cont. |
| Q9<br>ES 2-35 | Footnote34. The EIR/EIS preparers have also had the benefit of working closely with, and receiving input from, the Hydrogeologic Working Group (HWG) that was formed as a result of the proposed settlement in the CPUC proceeding on the MPWSP. The HWG is composed of experts representing myriad parties in the CPUC proceeding with diverse interests related to the Basin, including but not limited to the Monterey County Farm Bureau, the Salinas Valley Growers Association and CalAm. The EIR/EIS preparers obtained feedback from the HWG as to the groundwater aquifer characterization and the groundwater modeling assumptions. | The DEIR fails to include a key fact that may have a bearing on the credibility of the HWG. One member representing Cal Am (Dennis Williams of Geoscience) holds the patent on the exact technology used in this project. The potential bias from the patent holder is apparent to any observer. In fact this conflict of interest was pointed out, and the CPUC admitted this conflict, and changed its evaluation team because of it. This seemingly obvious bias continues with Williams/Geoscience in the HWG, which in turn compromises the credibility of the HWG. Please explain how this bias is not a reason to question the credibility of the HWG. Or please explain why this fact is helpful to the credibility of the HWG. |                                                                                                  |
|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                  |
|               | <b>Chapter 1, Intro and Background</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                  |
| Q10<br>1-6    | 1.3.2 MBNMS Purpose and Need for Proposed Actions<br>Four federal proposed actions are addressed in this document and consist of the following: 1) authorization of a Coastal Development Permit to be issued by the City of Marina for CalAm to drill into the submerged lands of the Sanctuary to install a subsurface seawater intake system;...                                                                                                                                                                                                                                                                                           | This is misleading. The CA Coastal Commission over-ruled the denial of the Coastal Development Permit by City of Marina. The language ignores the contentious nature of that process, ignores a jurisdictional denial, and the over-ruling by a state agency. The narrative sugarcoats the history, and seems to be a political message that the DEIR is telling all the facts, and in the context that approval is a normal conclusion. The DEIR is not presenting an objective view. Where does ‘trust’ fit, and where does it fail? This DEIR is showing a bias.                                                                                                                                                                     |  PWN2-10    |
| Q11           | Footnote 4 The Applicant proposes to use subsurface intakes (slant wells) to supply the desalination plant with                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Here, as elsewhere throughout the proposed project discussion, the proposed project design consistently refers to source water being extracted from under the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                  |



|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|            | source water. The well casings, or pipes, would extend seaward of MHW...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | sea floor. Yet the recommended project allows intakes from under the overlying land (not the overlying ocean), inland of the Mean High Water line, which is a sharp and significant difference in water rights. The lack of noticing this difference within the document is a major shortcoming of this DEIR. Will this be corrected with appropriate notes and language?                                                                                                                                                                                                                                                                                                                                                                    | PWN2-11<br>cont. |
| Q12<br>1-8 | 1.4.1 The Coastal Water Project Footnote 5. The North Marina Project alternative included most of the same facilities as the previously proposed Coastal Water Project and, like the previously proposed Coastal Water Project, would only provide replacement supplies to meet existing demand. The key differences between this alternative and the previously proposed Coastal Water Project were that the slant wells and desalination plant would be constructed at different locations (Marina State Beach and North Marina, respectively), and the desalination plant would have a slightly greater production capacity (11 mgd versus 10 mgd). | This comment that MPWSP parallels the Coastal Water Project is vastly inaccurate, and the intent is insincere. The Coastal Water Project included these huge differences: 1) Had public ownership 2) consistent with County Ordinance, 3) vertical wells, 4) with water rights, 5) was regional, 6) did not require NEPA review, and 7) was not an invasion of another water jurisdiction.<br><br>To state unequivocally that these projects are very similar is to ignore the facts. When such bias is noted, and not corrected, the entire DEIR shows itself to be inadequate, to be fanciful not factual, and to seem to serve a political purpose rather than a factual and science-based purpose. Will corrective language be included? | PWN2-12          |
| Q13<br>1-9 | It (old Regional Desal Project) included vertical seawater intake wells...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | The loose language about seawater, brackish water, contaminated water, intruded seawater, and fresh water does not add clarity for the reader. The Regional Desal Project intended to take brackish water, not seawater. Will this be corrected?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | PWN2-13          |
| Q14<br>1-9 | The Coastal Water Project Draft EIR and Final EIR are available for review during normal business hours at the CPUC, 505 Van Ness Avenue, San Francisco, California.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | This is a slap in the face to the Monterey Peninsula. Same with the notice of this DEIR release. Many documents backing up this DEIR are available in SF, at CPUC offices. Why not on the Peninsula, where the project is located? The DEIR is complicated enough, without making it even more difficult to access the information.                                                                                                                                                                                                                                                                                                                                                                                                          | PWN2-14          |
| Q15<br>1-9 | 1.4.2 The Monterey Peninsula Water Supply Project<br>In April 2012, CalAm submitted Application A.12-04-019 (CalAm, 2012), asking the CPUC's permission to build, own, and operate a desalination facility for water supply.                                                                                                                                                                                                                                                                                                                                                                                                                           | But this DEIR omits reference to the differences, all of which are critical to many locals: Invasion of neighboring water jurisdiction without invitation, without water rights, without compliance with County ordinance, without regional benefits within the invaded jurisdiction.                                                                                                                                                                                                                                                                                                                                                                                                                                                        | PWN2-15          |

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|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|             | This project is the MPWSP. The MPWSP incorporates many of the same elements previously analyzed in the Coastal Water Project EIR...                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ↑<br>PWN2-15<br>cont. |
| Q16<br>1-11 | Footnote: ...In November 2014, the City of Marina and the California Coastal Commission completed their CEQA review....                                                                                                                                                                                   | This implies City of Marina gave its approval. In fact, it specifically denied the permit. CCC over-ruled the City. The suggestion of shared approvals here is a bias. Will this bias be removed?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ↑<br>PWN2-16          |
|             |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |
|             | <b>CHAPTER 2 Water Demand, Supplies, and Water Rights</b>                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |
| Q17<br>2-13 | 2.3.3.2 Hospitality Industry Rebound                                                                                                                                                                                                                                                                      | Although the DEIR includes much data on population and housing projections, nowhere does the DEIR relate the data to actual per capita water consumption. For instance, Cal Am documents and this DEIR continues to suggest that one acre foot of water supports four average families for one year. But actual conservation data suggests that one AFY will support at least 5 average families, thus suggesting a growth inducing impact that is 25% higher than DEIR calculations. Please explain why current per capita water use is not applied to growth inducing impacts. Please explain the relationship between population projections and conservation data on per capita use, and growth inducing impacts. Or please explain why the DEIR does not contain such analysis. | ↑<br>PWN2-17          |
| Q18<br>2-15 | The Management Plan indicates that the population of CalAm's entire Monterey District was 99,396 in 2010 and that the combined population of the main system and the Bishop, Hidden Hills, and Ryan Ranch satellite distribution systems, which would also be served by the proposed project, was 95,972. | Please explain the discrepancy between these population numbers. A population of 99,396 in the entire Monterey District but when additional areas are added in, the population is lower at 95,972.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ↑<br>PWN2-18          |
| Q19<br>2-16 | 2.3.4.2 Urban Water Management Plan Demand Estimates<br>The Management Plan presents CalAm's calculation of baseline, interim (2015) target, and 2020 target per-capita water use rates for the Monterey District as required by                                                                          | These data undermine the DEIR statements about growth inducement potential. When the DEIR "assumed the 115 gpcd rate", it ignored the fact that current usage is about one-half that amount. As a minimum, the DEIR should include calculations of growth inducing impact that include known facts on current consumption. What is the rationale to omit                                                                                                                                                                                                                                                                                                                                                                                                                             | ↑<br>PWN2-19<br>↓     |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                       |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                      | <p>Senate Bill 7: the baseline, 2015, and 2020 per-capita use rates were be 144, 131, and 118 gallons per capita per day (gpcd), respectively. But the Monterey District’s actual 2010 per-capita water use was 115 gpcd, which was less than its 2020 reduction target, and the Management Plan projections of future water demand between now and 2030 assumed the 115 gpcd rate.</p> <p>Appendix K-4 SWRCB staff calculated that annual average residential per capita usage in CalAm’s Monterey District service area from June 2014 through May 2016 was 55 to 57 gallons per capita per day, based on reporting required under emergency conservation regulations. This level is in the lowest 12 percent of urban users in the state (SWRCB, 2016).</p> | <p>current facts? Please explain these differences in baseline information and how they relate to growth inducing impacts.</p>                                                                                                                                                                                                                                                                                                        |   |
| Q20<br>2-22          | <p>2.5.1 Salinas Valley Groundwater Basin Return Water<br/>The amount of SVGB groundwater included in the source water is expected to decrease over time (CalAm et al., 2016b).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>How does the theory that MPWSP wells will draw more groundwater toward the pumping locations support the statement that groundwater in the source water will decrease over time? Two problems. 1. These are contradictions. 2. The limited duration of continuous test slant pumping produces insufficient data to make that conclusion. What is the duration period that is sufficient for these conclusions? Please explain.</p> |  |
| Q21<br>2-22<br>to 23 | <p>Discussion of Return Water</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>Completely omitted is the option to return water to a customer in the Marina Coast Water District. Such an obvious option shows short-sightedness, if not a bias. This is serious since the DEIR is supposed to evaluate all apparently implementable alternatives. How can such an obvious option be overlooked? Please analyze this option, or please explain this omission.</p>                                                 |  |
| Q22<br>2-32<br>to 40 | <p>2.6.1 State Water Resources Control Board Report<br/>and<br/>2.6 Water Rights</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>In the entire discussion on SWRCB report and water rights, not one mention is made that the project is located within the jurisdiction of MCWD. MCWD has rights and responsibilities. To ignore MCWD, to assume there is no effect on MCWD, to not even mention this elephant in the room, shows an</p>                                                                                                                            |  |

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|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>intentional effort to avoid the subject. This omission by SWRCB is astounding. Omission in this DEIR/EIS is even more astonishing. It must be corrected. Please explain this DEIR/EIS omission, and/or why it is not worthy of discussion.</p> <p>Furthermore, to incur millions of dollars of expenditures (and ratepayer liability) without having obtained the fundamental water right, is surely putting the cart before the horse. This would not be happening if the corporation were using its own money! Please explain why it is acceptable to proceed without an appropriate water right.</p> | <p>↑</p> <p>PWN2-22<br/>cont.</p> |
| Q23<br>2-34 | <p>Specifically on the topic of the return options for any fresh water drawn from the Basin by the MPWSP, the (SWRCB) Report provides: Cal-Am could use one of several possible options to replace any fresh water it extracts from the Basin. Cal-Am could return the water to the aquifer through injection wells, percolation basins, or through the CSIP. Cal-Am would need to determine which of these methods would be the most feasible, and would in fact, ensure no harm to existing legal users. The feasibility analysis would depend on site-specific geologic conditions at reinjection well locations and at the percolation areas. <u>These studies need to be described and supported in detail before Cal-Am can claim an appropriative right to export surplus developed water from the Basin.</u> Report at 39. (Underlining added.)</p> | <p>This suggestion by the SWRCB that “These studies need to be described and supported in detail...” seems to have been overlooked; mainly because MCWD was not included in the options. Until an assessment is made about a MCWD option, this DEIR/EIS is deficient. Please correct this substantive omission.</p>                                                                                                                                                                                                                                                                                        | <p>PWN2-23</p>                    |
| Q24<br>2-35 | <p>Footnote 34: The EIR/EIS preparers have also had the benefit of working closely with, and receiving input from, the Hydrogeologic Working Group (HWG) that was formed as a result of the proposed settlement in the CPUC proceeding on the MPWSP. The HWG is composed of experts representing myriad parties in</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>This footnote affirms that the preparers did not consult with Marina Coast Water District, the site of Cal Am’s MPWSP. Such omission shows a bias not to collect perspective on the full range of issues, nor to understand the potential impact in that locality and the region. This neglect is significant, and undermines the thoroughness of the DEIR. Please explain the rationale for excluding MCWD services from impact analyses.</p>                                                                                                                                                          | <p>PWN2-24</p> <p>↓</p>           |

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|             | the CPUC proceeding with diverse interests related to the Basin, including but not limited to the Monterey County Farm Bureau, the Salinas Valley Growers Association and CalAm. The EIR/EIS preparers obtained feedback from the HWG as to the groundwater aquifer characterization and the groundwater modeling assumptions.   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | PWN2-24<br>cont. |
| Q25<br>2-35 | Once the test well results are complete, the modeling will be verified and will be re-run as warranted.                                                                                                                                                                                                                          | When will the test results be complete? When a final report be issued? Where are the thresholds defined so that 'meeting them' will be understandable? How and under what circumstances will 'success' be attained? There is no deadline, no threshold date, no identified objectives, except to keep on collecting. What does this DEIR statement mean? When will the HWG be terminated? When will termination even be discussed? Will it be a factor? Since the test slant well is a 'test', there needs to be a plan for a final report. What is it? Please explain how this will occur.                                               | PWN2-25          |
| Q26<br>2-35 | Thus, the full panoply of evidence concerning the project's relationship to groundwater (and thus water rights) may continue to evolve and be refined throughout the CPUC proceeding.                                                                                                                                            | This statement admits that the CPUC decision may be made without a full availability on data, and without a concluding analysis and understanding of evolving issues. This is especially true on two strategic and significant matters: 1) The test well analysis has no precise ending date because it does not have threshold targets for test well performance. 2) Water rights are not on any time line, and its lack is a threat to MPWSP feasibility. As costs accrue, these omissions and unresolved issues create a formidable liability for ratepayers. Any clarity in this DEIR would be helpful. Please address these matters. | PWN2-26          |
| Q27<br>2-35 | 2.6.2 Project Water Rights<br>As explained in Chapter 4.4, Groundwater Resources, the modeling is specifically targeted to isolating the change in groundwater levels that would be generated by the MPWSP. This modeling, however, cannot project the amount of Basin water that is expected to be drawn into the supply wells. | "...cannot project the amount of Basin water that is expected to be drawn into the supply wells." ???<br>Really? Cannot project the amount! What is the test well all about? Are its data not included, or are they too sketchy, or unreliable, or erratic, or incomplete? This statement undermines the value of the "test" nature of the test slant well. It also undermines credibility regarding project feasibility. What is the reason for the statement? Please explain what is meant.<br>Furthermore, how can the DEIR conclude a 'no harm' if this is the observation? No evidence suggests no                                   | PWN2-27          |

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|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | reason to conclude ‘no harm’.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ↑ PWN2-27<br>cont. |
| Q28<br>2-35 | Footnote 34: The EIR/EIS preparers have also had the benefit of working closely with, and receiving input from, the Hydrogeologic Working Group (HWG) that was formed as a result of the proposed settlement in the CPUC proceeding on the MPWSP. The HWG is composed of experts representing myriad parties in the CPUC proceeding with diverse interests related to the Basin, including but not limited to the Monterey County Farm Bureau, the Salinas Valley Growers Association and CalAm. The EIR/EIS preparers obtained feedback from the HWG as to the groundwater aquifer characterization and the groundwater modeling assumptions. | The HWG does not represent ‘diverse interests’. It does not the Monterey Peninsula, nor does it represent ratepayer or consumer or public interests. All three HWG members (Cal Am, FB, SVWC) represent private owner and profit-seeking interests. Cal Am is entirely self-serving, and needs no explanation. Farm Bureau and Salinas Valley Water Coalition represent agriculture owners, and are specifically desiring that absolutely no fresh groundwater leaves the Basin, which is the law under the Agency Act (described in 2.6.3 of this section). All three have proprietary interests in the fresh water component. To present the HWG as representing a broad interest is ludicrous. And to say (see Q27) that the modeling cannot predict the amount of Basin water drawn into the wells makes the cost of the HWG a waste. Based on this DEIR narrative, the cost of the HWG should not be passed onto ratepayers. Please explain the representation on the HWG. Please be more honest with the facts, and be less misleading in the process. | PWN2-28            |
| Q29<br>2-38 | Citing the SWRCB report:<br>The feasibility analysis would depend on site-specific geologic conditions at reinjection well locations and at the percolation areas. These studies need to be described and supported in detail before Cal-Am can claim an appropriative right to export surplus developed water from the Basin.                                                                                                                                                                                                                                                                                                                 | Such a study(ies) was not cited in the list of references. Were these studies undertaken? Were there any efforts to conduct such a study? Who sponsored the studies? Were they evaluated by the DEIR/EIS consultants?<br>Please explain what research material was reviewed in relation to this SWRCB instruction. Please explain this reference and what was done about it.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PWN2-29            |
| Q30<br>2-38 | CalAm proposes to deliver fully desalinated water to end users for use in lieu of existing groundwater production from the SVGB. The two points of delivery would be (i) to the Castroville Community Services District (CCSD) to supply water for municipal purposes (e.g., typical drinking, bathing, sewer, watering and other non-agricultural water uses) and (ii) to the Castroville Seawater Intrusion Project (CSIP) pond or directly into the reclaimed water CSIP pipe for use by the agricultural users that obtain water through CSIP.                                                                                             | This scenario is fully developed and analyzed. But CEQA requires an assessment of other possible scenarios. One obvious alternative, containing the identical approach, is to return water to Marina. It is closer with less construction, has the identical seawater intrusion dilemma, uses groundwater from the SVGB, will cause less environmental disturbance, be less expensive. How could this alternative have been overlooked?<br>Please analyze this option, and change your conclusion. Or explain why it would be more damaging than the return water plan with delivery to Castroville and CSIP. In either case, a new narrative is needed. This omission is another crevice in the foundation intended by this DEIR/EIS.                                                                                                                                                                                                                                                                                                                       | PWN2-30<br>↓       |





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|             | Under these return water locales, the clean desalinated water would be provided for municipal or agricultural use (respectively) in lieu of pumping Basin water in an amount equal to the quantity of return water. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | PWN2-30<br>cont. |
| Q31<br>2-40 | Citing the SWRCB report:<br>As currently proposed, the project would use slanted wells and have screened intervals located seaward of the beach.                                                                    | The SWRCB report refers many times to the project plans for intake to be ‘seaward of the beach’. The DEIR/EIS ignores the fact that intake screens are dominantly located landward of the beach, NOT seaward of the beach. This DEIR contains multiple figures showing the slant well layout on the land, terminating very near the Mean High Water line, yet it fails to make clear that the intake screens are located under land, not under the sea. This distinction is huge, but is omitted. Why? There needs to be an entirely new section explaining this, and showing just why the question of water rights is so critical. Seaward water rights are not at issue. But landward water rights have volumes of court documents and case law that govern it. To omit the fact of landward screened intakes is a fatal omission, rendering this part of the DEIR/EIS misleading, if not fallacious. The fact of intake screen locations being omitted suggests a bias. Please explain these omissions. Also the DEIR should be recirculated if these facts are clarified. Please explain why recirculation is not warranted if that is the conclusion. | PWN2-31          |
| Q32<br>3-8  | <b>CHAPTER 3 Description of the Proposed Project</b><br><b>3.2.1 Seawater Intake System</b><br><b>3.2.1.1 Subsurface Slant Wells</b><br>TABLE 3-1 FACILITIES SUMMARY FOR THE PROPOSED PROJECT                       | There is no description of the plan for location of intake screens. This omission calls attention to its absence. ESA and others know the intake screens are to be located dominantly ‘landward of the sea’. This is critical to the question of water rights. The DEIR is expected to be full disclosure. It is not. Why not? Please explain why the intake screen locations, even in general terms, is omitted from the DEIR. Any new language of explanation would justify recirculation, since it is such a critical piece to the determination of water rights and ultimate feasibility considerations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | PWN2-32          |
| Q33<br>3-13 | Figure 3-3a MPWSP Seawater Intake System                                                                                                                                                                            | Figure 3-3a clearly shows the plan for well locations. By simple observation, intake screens are landward. This surely did not escape the attention of the consultants. The DEIR has not explained intake screen locations. This is a major omission.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | PWN2-33          |

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|                    |                                                                                                                                                                                                                                                                                    | Another significant omission is the obvious questions from looking at Figure 3-31. The terminus of all slant wells appear to be are within Marina city boundaries. Or is the terminus in the Sanctuary? Those two lines showing the city boundary and the Mean High Water line are different. Or are they in fact different? This needs an explanation. And if this figure is wrong, what other diagrams and representations have omissions or errors. Credibility is at stake here. Please explain.                                                                                                                                                                                                                                                                                                                                                                                                                                                         | PWN2-34 |
| Q34<br>3-15        | The environmental effects associated with construction and operation of the test slant well were evaluated in accordance with CEQA and NEPA requirements by the City of Marina/California Coastal Commission (CCC) and MBNMS in November 2014, respectively.                       | This overly simplistic language ignores the opposition and rejection of the permit for the test slant well by the City of Marina. The objection was over the Mitigated Negative Declaration. Full transparency is compromised here. The appearance here is of a non-controversial project. This is not true, and transparency is the victim.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PWN2-35 |
| Q35<br>3-16,<br>17 | TABLE 3-2 LENGTH OF PERMANENT SLANT WELLS SEAWARD OF 2020 MEAN HIGH WATER (MHW) LINE (feet)<br>“+ env“ stands for envelope of change that accounts for the alongshore variability in shore profile. “storm” considers the potential erosion from a large (100-year) coastal storm. | Table 3-2 is an obvious attempt to emphasize the part of the well being under the ocean. Yet the Figure diagram shows the wells ending under the shore. The Table and the Figure clearly do not line up and do not represent the facts.<br>The extra effort to calculate variables related to a 100 year coastal storm does show sensitivity to the issue of where intake screens are located. But this appears to be more of an intent to magnify the illusion that intake screens will be substantially under the ocean, given several 100 year storm events. This is a sham on facts and an exaggerated logic. It is a devious attempt to argue beyond facts in order to support the conclusions. Shame on the writers and final editors. Please explain why the Table and the Figure do align. Please correct them. Or please explain how these data and graphics apply to the facts for the life cycle of the project (which is clearly not 100 years). | PWN2-36 |
| Q36<br>3-19        | “The nine new permanent slant wells would be approximately 700 to 800 feet long at a minimum angle of approximately 14 degrees below horizontal...”<br><br>and<br><br>“...angles of 19 degrees for the test                                                                        | Where is there evidence that another departure from the test well angle of 19 degrees is a good idea. What engineering report supports this plan? Remember, this is the first time this slant well test for ocean intake has ever gotten this far. There needs to be some effort to prove, or show evidence, that new plans, never applied to date, have a likelihood of success. But where is that evidence? It is not in this DEIR.<br>If design problems emerge during construction, would                                                                                                                                                                                                                                                                                                                                                                                                                                                                | PWN2-37 |

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|                   | slant well and 14 degrees for all other slant wells off the horizontal toward the Monterey Bay.” (Pg 4.2-59)                                                                                                                                                                                                                                                                                               | this untested design and experiment be continued as an experiment of the backs of ratepayers? Or would responsibility fall on Cal Am stockholders? A minimum of curiosity is expected by the consultants, or by CPUC, especially for something that has never been operational before. How many experiments is Cal Am allowed to have? When will CPUC require proof, or at least supporting evidence? Please provide evidence that 9 wells at 14 degrees from horizontal have some likelihood of success. Without some evidence, this is hope triumphing over proof. Please address this.                                                                                                                                                                                                                                                                                            | ↑<br>PWN2-37<br>cont. |
| Q37<br>4.1-8      | <b>4.1.3 Baseline Conditions</b><br>The baseline for this EIR/EIS is the existing condition on or about October 5, 2012, which is when the CPUC issued a Notice of Preparation (NOP) for the proposed project... and<br>Since the CPUC issued its NOP in 2012, the Lead Agencies have developed or received new data on some of the resource areas, so they have updated the baseline data as appropriate. | Was there a specific report on ‘the baseline’? Was there a report that got updated with ‘baseline data as appropriate’? Where is that report? Please cite this report. Please provide a link to or cite the source(s) of that report.<br>If there was not such a report, what data base or data files were referred to that were updated as appropriate?<br>One major failing in the work of the Hydrogeologic Working Group is the lack of a baseline that is presented and explained for comparison purposes. Without such a baseline, projections cannot be made with confidence. The evidence of a baseline is missing. Please explain how the project (or maybe the HWG) baselines were developed, who has them, how they have been resented to the professionals and the public. Please explain if they have been released to the public, and where and how they are accessed. | ↑<br>PWN2-38          |
| Q38<br>4.2-69     | The subsurface slant wells would originate at an above-ground well head vault behind the beach and radiate out a distance of between 900 and 1,000 feet at an angle of 19 degrees off the horizontal for the existing test slant well and about 14 degrees for all other slant wells off the horizontal toward the Monterey Bay.                                                                           | The 14 degree angle has never been drilled for seawater intakes. Are there potential complications or impacts from such a sharp angle, like maintenance and cleaning? The ability to maintain such shallow angled screened intake pipes that have never been tried before. This requires some investigation. This DEIR fails to pursue this question. Please provide support that this question is irrelevant, or provide analysis.                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ↑<br>PWN2-39          |
| Q39<br>4.4-6 to 8 | The upper portions of the proposed slant wells at the CEMEX site would have well screens installed across them, and would draw water from                                                                                                                                                                                                                                                                  | By describing the use of the Dunes Aquifer by Cal Am, and by omitting the plan of Marina Coast WD to use the same source, this DEIR/EIS ignores a major impact of the MPWSP. This omission is substantial.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ↓<br>PWN2-40          |

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|                   | these deposits. (Dunes Aquifer and 180' aquifer) Page 4.4-8                                                                                                                                                                                                                                                                                                                                                                                                                                                          | By this omission, the DEIR avoids any evaluation of cumulative impacts on this aquifer, thus creating a fatal flaw. Please explain this omission, and the reason for not including analysis of this impact.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ↑<br>PWN2-40<br>cont. |
| Q40<br>4.4-<br>42 | Special Condition 11 of the Coastal Development Permit, "Protection of Nearby Wells," requires the MPWSP HWG to establish baseline water and TDS levels prior to commencing the long term pumping tests (Geoscience 2015b). The long-term pumping test began in mid-April 2015, and results are available at <a href="http://www.watersupplyproject.org/#!test-well/c1f1l">http://www.watersupplyproject.org/#!test-well/c1f1l</a> .                                                                                 | The "long term pumping test" has never been defined. It was intended to test impacts from 'continuous pumping'. Cal Am suggested it was to be 18 to 24 months. However there were major interruptions in the pumping period that started in April 2015. Pumping stopped completely from 6/5/15 to 10/27/15 (more than 4 months) for CCC permit violations. Pumping stopped again from 3/4/16 to 5/2/16 (2 months) for an outfall repair. (Documented in HWG reports)<br>There has been continuous pumping for about 7 months (May 2016 thru December 2016) before the DEIR went to print and released in January 2017. This is less than one-half the 18 months proposed. The DEIR does not include any relevant continuous pumping data (12 months or longer). This is not acknowledged in the DEIR. To ignore the plan for continuous pumping tests, and to suggest there has been continuous pumping from April 2015 is wrong. It is dishonest to the analysis, and to decision makers and the public. Please explain why these facts were omitted. Or please explain why continuous pumping is not a factor in a feasibility analysis, or in environmental considerations. Or add it, and adjust the Final EIR to include it. |                       |
| Q41<br>4.13-<br>7 | 4.13 Public Services and Utilities<br>4.13.2.2 State Regulations California Coastal Act<br>The MPWSP has been designed to accommodate existing and projected future demand consistent with the General Plans (and Local Coastal Programs) of the jurisdictions in CalAm's service area. As future development in the service area would need to be consistent with General Plan and Local Coastal Program requirements, the project would not conflict with Coastal Act policies related to public works facilities. | The MPWSP is not consistent with Marina's Local Coastal Plan. The EIR/EIS needs to verify if its statement is true. Litigation has been initiated over this very point. Please be transparent here. Please verify this point, and explain it and its relevancy as appropriate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | PWN2-42               |

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| Q42<br>4.13-11      | TABLE 4.13-2 APPLICABLE REGIONAL AND LOCAL PLANS AND POLICIES RELEVANT TO PUBLIC SERVICES AND UTILITIES                                                                                                                                                                                                                                  | Marina’s Local Coastal Plan is omitted from this table. Did the consultants review Marina’s LCP and its requirements? This plan is so important to local planning goals, and the impact of the MPWSP on that region. Ignoring it does not make it go away. Please add it and an analysis to the DEIR. Or please explain why it is not necessary to include it in Cumulative Impacts discussions.                                                                                                                                                                                                                                       | PWN2-43 |
| Q43<br>5.3-1        | <b>5.3 Alternatives Development, Screening and Evaluation Process</b><br>Footnote 6: NEPA requires alternatives to be reasonable, or feasible, which could include consideration of whether the alternative is capable of complying with regulations governing desalination plants in order to receive the required regulatory approval. | The DEIR/EIS needs criteria and clear definitions on what constitutes ‘reasonable or feasible’. With so much emphasis on the unproven test well, and the lack of history with subsurface ocean intake, the DEIR/EIS should include a few remarks on these definitions. If undefined, who defines it? Is it in the mind of the reader? The purpose of the CEQA and NEPA requirement is to be transparent on the benchmarks of protection and feasibility. The DEIR/EIS needs criteria and definitions on what is reasonable and feasible. Please explain these terms. Will you add such clarifications? If not, please explain why not. | PWN2-44 |
| Q44<br>5.3-3,4      | 5.3.1.2 MBNMS Guidelines for Desalination Plants<br>Key relevant guidelines include: Desalination plant proponents should pursue collaborations with other water suppliers and agencies currently considering water supply options in the area to evaluate the potential for an integrated regional water supply project.                | The DEIR does not explain why such collaboration was not initiated with MCWD. Even though the short history of the Regional Desal Project was included, there was no update on a potential two-party option (Cal Am and MCWD). Especially so when Cal Am’s project is in the jurisdiction of MCWD, Regardless, the DEIR/EIS and the MBNMS must meet its obligations. This potential collaboration between MPWSP and MCWD should be discussed If denied as workable, then explain it. But to ignore it is to ignore the nose on your face. Please explain why this MBNMS guideline for collaboration was not addressed in the DEIR/EIS. | PWN2-45 |
| Q45<br>6-6 and 6-13 | <b>6.3.2 Relationship between Land Use Planning and Water Supply</b><br><br>and<br><b>6.3.5 Growth-Inducement</b>                                                                                                                                                                                                                        | (Also see Q17) Although the DEIR includes much data on population and housing projections, nowhere does the DEIR relate the data to actual per capita water consumption. For instance, Cal Am documents and this DEIR continues to suggest that one acre foot of water supports four average families for one year. But actual conservation data suggests that one AFY will support about 5 families, thus suggesting a growth                                                                                                                                                                                                         | PWN2-46 |




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|     | <b>Potential</b>                                                                                                                                                                                                                                                                                                                                                                                                        | inducing impact that is 25% higher than DEIR calculations. Please explain why current per capita water use is not applied to growth inducing impacts. Please explain the relationship between population projections and conservation data on per capita use, and growth inducing impacts. Or please explain why the DEIR does not contain such analysis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <br>PWN2-46<br>cont. |
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|     | <b>APPENDICES</b>                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                         |
| Q46 | <b>Appendix E2</b><br>Results of Test Slant Well Predictive Scenarios Using the Focused CEMEX Area Model DRAFT by Geoscience 8-Jul-14<br>5.0 FINDINGS ▼ Based on preliminary ground water modeling, the salinity in the test slant well increases with time approaching 96% ocean water after 16 months of pumping. Data collected during the long-term pumping test will be used to establish salinity trends. (pg 15) | “Long-term” is not defined. How long is this? Cal Am schedule calls for an 18 to 24 month period. CA Coastal Commission agreed when it issued the test well permit. The prediction was to reach 96% ocean water salinity after 16 months of continuous pumping. It has not happened. No specific document in the DEIR/EIS supports this prediction to reach 96% salinity. In fact, there is no supporting document that a continuous pumping test protocol has been identified or pursued. ‘Continuous’ has never been defined. This DEIR claims to include pumping data, but it leaves out the fact that there have been serious interruptions in pumping durations. Interruptions are a fact, and have been reported in HWG documents, but this DEIR completely omits all discussion of it. The most recent period of continuous pumping is about 6-7 months. This is far short of the “16 months”, and embarrassingly so, for the DEIR. This is a failure of the ‘test protocol’. And it is a serious flaw in this DEIR. Please explain the failure to include a discussion of the actual continuous pumping periods, the interruptions, and those effects on continuous pumping data and analysis. This shortcoming in the DEIR is so large that a truck can drive through it. No operational sub-ocean intake slant well exists anywhere in the world. How can the DEIR be legitimate when there is no specific continuous pumping data that can justify moving ahead? This flaw has to be corrected. Please explain why the data is inadequate, or irrelevant. But please address it. | <br>PWN2-47         |
| Q47 | <b>APPENDIX C3</b> Exploratory Borehole Results. Monterey Peninsula Water Supply Project                                                                                                                                                                                                                                                                                                                                | Comment/Question<br>This was the first report by the Hydrogeologic Working Group put in place to steer and oversee the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                         |



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|                                       | <p>Hydrogeologic Investigation Technical Memorandum (TM1) Summary of Results - Exploratory Boreholes dated July 8, 2014</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>scientific component of Cal Am’s MPWSP. In 70 pages of narrative, there is not one mention of establishing a baseline. The bore holes were to provide data for comparisons. But the baseline data points were never established. The baseline became a moving target. And it became essentially useless for making projections. Or it became useful for not being precise. What is true? What do professional statistical experts say about a baseline? All say baselines are critical. And especially so for an experimental project like this one.</p> <p>Yes, projections can be made by tracking and plotting data points, but the point of a baseline is to help form judgments about ‘progress’ (or impacts or cautions). The failure to establish a baseline meant there was no way to judge progress.</p> <p>Four significantly qualified scientifically-trained professionals failed to address this fundamental requirement for an experiment – start with a baseline. This ‘test’ well was described as new and needing to pass a generally-described (by SWRCB) objective to be ‘feasible’. The California Coastal Commission coastal development permit (A-3-MRA-14-0050) (and amended permit A-3-MRA-14-0050-A1) required measurements. This omission of a baseline shows the lack of focus on ‘evaluation’ of the test. Please explain why a baseline was not established. Or please explain what is considered the baseline that is not in the HWG report.</p> |
| <p>Q48<br/>Pg 1<br/>of<br/>Report</p> | <p>EXECUTIVE SUMMARY 1.1 Introduction The investigation and findings described in this Technical Memorandum are the result of collaborative planning and discussions among the hydrogeologic experts that represent key stakeholders for groundwater use and management in the Salinas Valley and Monterey Peninsula area of central California. The Hydrogeologic Working Group (HWG) consisted of the following experts: Mr. Tim Durbin and Mr. Martin Feeney (both representing the Salinas Valley Water Coalition and the Monterey County Farm Bureau), Mr. Peter Leffler</p> | <p>This Appendix C3 proudly promotes the composition of the HWG, and the representatives. After this report in 2014, a conflict of interest was discovered involving Dennis Williams, Cal Am and CPUC. Leaving this scandal unexplained, while the report here is prominently displayed, leaves the impression that the membership and representation are the same and that there is no reason to be skeptical. There is so much more to this picture. If the DEIR/EIS is to be credible, it must air the dirty laundry that emerged. Ignoring it only suggests that any negative information is to be avoided, all in the service to approve Cal Am’s MPWSP.</p> <p>This is a serious shortcoming, and specifically leaves the impression that things are OK. Many know the conflict of interest history. Omission leaves doubt, and undermines credibility. Please explain the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|                                       | <p>(representing CalAm), and Dr. Dennis Williams (representing the CPUC CEQA Team). The HWG was formed as a result of a 2013 Settlement Agreement among parties to an ongoing CPUC-proceeding resulting from CalAm's proposed Monterey Peninsula Water Supply Project, to review and approve the scope of field investigation and development of a hydrogeologic conceptual model from which to construct the groundwater modeling tools. The names of the HWG members are presented here to indicate the general agreement among the members on the core findings of the investigative work described herein.</p> | <p>circumstances and the differences after this HWG report was issued. If credibility is the soul of a DEIR, then you lose some with glaring omissions.</p>                                                                                                                                                                                                                                                                                                               | <br>PWN2-49<br>cont. |
| <p>Q49<br/>Pg 1<br/>of<br/>report</p> | <p>Hydrogeologic Working Group (HWG)<br/> “The HWG was formed as a result of a Settlement Agreement among parties to an ongoing CPUC-proceeding resulting from CalAm's proposed Monterey Peninsula Water Supply Project, to review and approve the scope of field investigation and development of a hydrogeologic conceptual model from which to construct the groundwater modeling tools.”</p>                                                                                                                                                                                                                   | <p>1.a) Dennis Williams and his company Geoscience owns international patents for slant well design and installation. Williams subcontracted to Cal Am AND the CPUC for evaluating the substance of test well modeling, data collection, and evaluation. Cal Am did not disclose to CPUC, nor the other members of the Hydrogeologic Working Group, that Williams had these patents. This conflict of interest, and not reporting it, continues to haunt the project.</p> | <br>PWN2-50          |
| <p>Q50</p>                            | <p>Re Technical Memo 1, July 8, 2014, page 1, in DEIR (Appendix C3)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>The HWG is currently composed of four members retained by these entities. Cal Am, Farm Bureau, Salinas Valley Water Coalition. FB and SVWC narratives are from their websites:</p> <p>1. Cal Am, the sponsor of the slant well and desal project, has 2 representatives: a) Dr. Dennis Williams (Geoscience) and b) Peter Leffler.</p> <p>Re 1a. The CPUC determined there was a conflict of interest and terminated its involvement with Williams/Geoscience.</p>     | <br>PWN2-51        |

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|  | <p>This conflict is extremely serious because first, Williams/Geoscience can profit the most by a successful slant well test, and second, is helping to determine if the test is successful. A more astonishing conflict of interest is hard to find. Both Cal Am representatives are serving in support of a positive outcome for Cal Am. The possibility of bias in favor of the project is obviously high. And this undermines its credibility.</p> <p>2. Monterey County Farm Bureau: (from its website): “Our organization serves as a collective voice for farmers and ranchers and provides information, benefits and services to our members. We...offer individual farmers and ranchers the opportunity to unite with others who share their concerns and interests, so they can speak with one powerful voice at the local, state and national levels.”</p> <p>The Farm Bureau representative serves the interests of agriculture. There is no presumption that the Farm Bureau rep serves interests of Peninsula ratepayers nor regional urban interests.</p> <p>3. Salinas Valley Water Coalition (from its website): “SVWC supports an appropriate and just solution to the water problems of the Salinas Valley... The Coalition Board of Directors and its' members are committed to maintaining an active role in the Salinas Valley in an effort to ensure these goals.”</p> <p>The SVWC rep also serves agricultural interests. It does not represent Peninsula ratepayers or regional urban interests.</p> <p>Both FB and SVWC are dominantly interested in protecting the Agency Act forbidding the export of Salinas Basin groundwater. Their roles are self-serving, and are not relative to the context of ‘feasibility’ or viability of slant wells.</p> <p>Missing from representation are public agency interests by Monterey Peninsula Water Management District (MPWMD), Marina Coast Water District (MCWD), and Monterey County Water Resources Agency. Specifically MPWMD and MCWD could have represented ratepayer and regional urbanized</p> |
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|                                        |                                                                                                                                                                                                                                | <p>interests.</p> <p>This omission of ratepayer and urban interests is a marked shortcoming for input and analysis. These omissions are notable. The existing HWG is a highly self-interested group in a key role. If this can be explained, it should be. Otherwise the self-serving nature will continue.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p>Q51<br/>Pg 50<br/>of<br/>report</p> | <p>5.4 Determining Average Central California Coast Seawater Quality</p> <p>Average salinity estimates for the central California coastal region were established based on historical salinity measurements taken at .....</p> | <p>The baseline for salinity must be reported and used in the narrative.</p> <p>Cal Am Engineer Rich Svindland recently reported the salinity to be about 92%. The question is what is the denominator for calculations. Is the seawater composition from the central coast seawater TDS an average of 33,694 PPM, or is it the Monterey Bay TDS average that is closer to 35,000 PPM. When the denominator is a lower number the calculation will generate a larger percentage. If the denominator was 35,000 the result would be about 89% TDS. Numbers don't lie. Therefore it is important that accurate baseline data be clear and be presented. Where are the citations for the TDS values used in this analysis? What studies confirm the relevancy of using the lower TDS base? Please explain why one is more accurate than the other, and cite the sources. Can you please bring together the vernacular and the science.</p> |

PWN2-51  
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PWN2-52

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| <p><b>Q52</b><br/><b>**</b><br/><b>Not included in the DEIR/EIS</b></p> | <p><i>NOT INCLUDED IN THE DEIR/EIS</i><br/><i>Coastal Development Permit amendment A-3-MRA-14-0050-A1 -Page 3</i></p> <p><b><u>SPECIAL CONDITIONS</u></b><br/>This <b>Special Condition</b> modifies <b>Special Condition 11</b> as initially imposed by the Commission in Coastal Development Permit A-3-MRA-14-0050. Standard Conditions 1-5 and Special Conditions 1-10 and 12-17 of that permit shall remain in full force and effect. <b>Special Condition 11</b> now requires: <b>“Protection of Nearby Wells, PRIOR TO STARTING PROJECT-RELATED PUMPING TESTS, the Permittee shall install monitoring devices at a minimum of four wells on the CEMX site, within 2000 feet of the test well, and one or more offsite wells to record groundwater and salinity levels with the wells and <u>shall provide to the Executive Director the baseline groundwater and Total Dissolved Solids (“TDS”) levels in those wells prior to commencement of pumping from the test well. (Underlining added.)</u></b></p> | <p>The DEIR narrative does not mention this requirement from the Coastal Commission. It is not in the Appendices.</p> <p>It is clearly a required protocol for evaluating the test slant well impacts. It is fundamental to the adequacy of the test. It is fundamental to the determination of ‘feasibility’. It is fundamental to computer modeling.</p> <p>Where is this required report? What are the inputs from the HWG? Where is it published for public access? What are the baseline data? Where in the DEIR/EIS is this baseline information referred to? Please add it to the DEIR/EIS. Or please explain why it is not appropriate to be included or even referenced.</p> |
| <p><b>Q53</b></p>                                                       | <p><b>APPENDIX E2</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>Comment/Question:<br/>Nowhere in this Appendix, and the extensive discussion of return water modeling, is there a single mention of returning water to the Marina Coast Water District, the very site where the extraction occurs. This was clearly an option, but it was ignored. This is a major oversight, and diminishes the integrity of the DEIR. Please explain this omission. Or please give adequate attention to this option.</p>                                                                                                                                                                                                                                        |

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| Q54<br>Pg<br>1172 | HydroFocus GW Model<br>North Marina Groundwater Model<br>Review, Revision, and<br>Implementation for Slant Well<br>Pumping Scenarios November 23,<br>2016<br>6.0 Uncertainty<br>“...we quantify the uncertainty in<br>model-calculated drawdown to<br>hydraulic conductivity and the<br>assumed allocation of extracted<br>groundwater...” (pg 41 of report)                                                                                                     | See comment below re pg 1174 (Q55).                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |
| Q55<br>Pg<br>1174 | 7.0 Summary<br>The most likely sources of error in<br>the superposition NMGWM2016<br>arise from uncertainty associated with<br>modeled boundary conditions<br>including sea level rise, specified<br>hydraulic conductivity values, and<br>assumed project operations including<br>pumping rates and relative<br>contributions of groundwater in<br>aquifers represented by Model Layer<br>2 and Model Layer 4 to total slant<br>well pumping. (pg 43 of report) | Applying data from a new ERT survey would be<br>helpful here, to help quantify the baseline data, and to<br>add specificity to the model, and thereby produce<br>more accurate projections. It would surely reduce<br>uncertainty. If new ERT data were available for a<br>wide swath of relevant territory, it would be<br>enormously useful to the modelers. But would the<br>data be useful to DEIR consultants? Probably. If<br>available, please include it in an updated analysis? | PWN2-55 |
| Q56<br>Pg<br>1182 | NMGWM(2016) section lines. Figure<br>3.2a from HydroFocus GW Model<br>North Marina Groundwater Model<br>Review, Revision, and<br>Implementation for Slant Well<br>Pumping Scenarios November 23,<br>2016                                                                                                                                                                                                                                                         | The computer model is cited here. Its section lines<br>show a distance of 5 miles between A-A1 and C-C1; 3<br>miles between C-C1 and B-B1; and 2 miles between<br>D-D1 and E-E1. Huge assumptions need to be made<br>for these distances. New ERT data would eliminate<br>these gaps, and would replace assumptions with facts.<br>Would the DEIR consultants (ESA) include new ERT<br>data in an updated analysis?                                                                      | PWN2-56 |
| Q57<br>Pg<br>1230 | Example Problem, Figure A1.1                                                                                                                                                                                                                                                                                                                                                                                                                                     | The superposition of interpolated data creates a decent<br>picture. But analysis from an ERT data base would<br>create a far more accurate picture. An ERT project<br>will be conducted for much of the MPWSP area. If<br>ERT data is produced, will the consultants be<br>interested in reviewing it? If so, would the two Lead<br>Agency teams produce a supplemental DEIR/EIS?                                                                                                        | PWN2-57 |
| Q58<br>I2-11      | <b>Appendix I2</b><br><br>A potential constraint to the<br>implementation of slant wells at this                                                                                                                                                                                                                                                                                                                                                                 | Nowhere in the discussions on Cal Am’s location of its<br>slant wells is there mention that it is located squarely<br>in another water jurisdiction – Marina Coast Water<br>District. Even here, it references location in general,<br>but not the fact that Cal Am is located in the MCWD                                                                                                                                                                                               | PWN2-58 |



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|                            | <p>location is Marina Coast Water District’s existing 300 acre-foot/year desalination (currently non-operational) and associated intake well, as well as MCWD’s plans for developing a future 1.5-mgd (or larger) desalination facility that would include development of a subsurface seawater intake system on nearby/adjacent property. Implementation of subsurface slant wells for the MPWSP at this same location could result in well interference.</p> | <p>jurisdiction, only nearby. There are references to potential “interference”, but no analysis of this potential. MCWD has its responsibilities and rights to resources within its jurisdiction, including water rights and engineering options. Nowhere are these issues mentioned.</p> <p>The DEIR seems biased in favor of the MPWSP project because of these omissions. Such a bias can be removed if a more thorough analysis of impacts on MCWD plans were included, and various aspects of ‘potential interference’ were described. Moreover the issue of mitigation is ignored in regard to “interference’ with MCWD.</p> <p>Will a new mitigation analysis be conducted? Will this omission be corrected? Can the DEIR be considered a fair assessment of ‘potential harm” if these matters are omitted? Please explain these omissions.</p> | <p>↑</p> <p>PWN2-58<br/>cont.</p> |
| <p>Q59<br/>Pg<br/>1579</p> | <p><b>Appendix J1.</b> Cited from the CalAm Coastal Water Project Final Environmental Impact Report as certified on December 17, 2009</p> <p>The submittal expressly excludes development on lands located within the former Fort Ord army base, which has another water supply source (MCWD). (Page 8-18)</p>                                                                                                                                                 | <p>There are 29 pages of description of Peninsula plans. Yet MCWD plans are reduced to the quoted one line, made in 2009. This shortcoming misleads the decision makers that MCWD does not count. Yet it has been acknowledged that the MPWSP may interfere with MCWD plans. Please explain how this DEIR can refer to an interference, but not address it. Please explain how MCWD plans are irrelevant to the DEIR analysis of cumulative impacts.</p>                                                                                                                                                                                                                                                                                                                                                                                               | <p>PWN2-59</p>                    |
| <p>Q60<br/>Pg<br/>1385</p> | <p><b>APPENDIX G2</b> Trussel Technologies Inc. Technical Memorandum, Response to CalAm MPWSP DEIR</p> <p>In contrast, the test slant well water is considered the “worst-case” water because the seawater it is drawing is not fresh. Figure 3 shows that it could take up to four years for the slant well to be drawing 96% seawater, and the well has only been operating intermittently since April 2015. (pg 4 of report)</p>                            | <p>There is little discussion of Cal Am’s target to reach 96% salinity for its project ocean intake supply. This target has larger implications, since it relates to return water required by the Agency Act, the mitigation for extraction, question of ‘no harm’, and the cost to Peninsula ratepayers. Furthermore it is tied to project feasibility. There needs to be some assurance that targets have detailed support. Especially significant targets like this. There is no engineering or other report mentioned in the DEIR on how this target is expected to be met.</p> <p>The only mention in Trussel’s report “it could take up to four years” is only an educated guess. This educated guess is based on data from 2014, and completely precedes all test slant well data.</p> <p>The HWG data over the past 6 months shows the</p>     | <p>PWN2-60</p> <p>↓</p>           |

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|                   |                                                                       | percent of seawater pretty much stuck on 92%. It would be beneficial for the FEIR to disclose how Cal Am made a determination that the seawater component would go to 96%. This crucial omission leaves one to assume the details are there. But without citing them, the DEIR is deficient. Please explain how the proposed project, and the test well, gives proof that the 96% target will be met. Or please explain the reason this issue does not need to be analyzed. |
| Q61<br>Pg<br>1386 | Figure 3 Time for Slant Well to Pull 96% Seawater (GeoScience 2014b). | Figure 3 is based on 2014 data. This is far too dated to be useful. Recent HWG data tracks salinity up to 92%. But the curve has flattened out, no longer projecting a consistent increasing pattern toward 98%. There is current information. It must be reviewed. Otherwise this part of the DEIR is based on false hope. Please review this data. Please add it and the associated analysis. Furthermore, a new ERT survey would shed important light on this.           |

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PWN2-61

**Public Water Now (PWN)  
Letter 3 (PWN3)**

To: MPWSP DEIR/DEIS Team  
From: Public Water Now, George T. Riley  
Subject: Feasibility of Slant Wells  
Date: March 27, 2017

Why are we hung up on slant wells? The State Water Resources Control Board has demanded that entities seeking to pump ocean water for desal must consider subsurface intakes first, if feasible. Four site specific criteria are proposed, again if feasible: site, design, technology and mitigation.

But since the world has never used slant wells for ocean intake, the question of ‘feasibility’ must include factors and conditions beyond the site. The science of evaluation must go beyond engineering. It must include cost, and objective science, and issues of harm, and advisability in the face of all factors.

So far, Cal Am engineering has been perhaps OK. Outside of inefficient permit processing with Marina, exceeding the Coastal Commission permit limits, and a funky outfall design that failed in a winter storm, it could be called ‘passable’. But many other factors have been ignored, or are being sidelined. Look at events so far.

Cal Am and other supporters agreed to form the Hydrogeologic Working Group (HWG) to design and evaluate test slant well data collection and analysis. It started poorly. The HWG did not establish a baseline for later comparisons. Then it got caught with a conflict of interest whereby Cal Am’s consultant (Dennis Williams of Geoscience) was retained by the CPUC without knowing about two matters of importance: Williams held patents on the technology being used, and Williams also worked for Cal Am. Cal Am admitted to knowing about both, and not informing the CPUC until the conflict of interest was revealed by Public Water Now.

The HWG continues in a less than informative way. Cal Am claims the HWG has 20 months of data. This is misleading. Two major interruptions occurred: 4 months for exceeding permit thresholds, and another 2 months for its funky outfall design that failed in a recent storm. It has not been 20 months of continuous pumping.

The HWG was expected to produce a report to be useful for required environmental reviews, which had a deadline of March 27, 2017. The report was expected to help determine if harm has occurred to the Salinas Basin. There is still no HWG report. Besides, the science for determining ‘harm’ has been very shallow. This weakness will haunt the project.

Cal Am project description states it “shall focus its production from a shallow portion of the aquifer system, sometimes referred to the Sand Dunes Aquifer...” This is the fresh water aquifer that Marina Coast Water District (MCWD) hopes to develop for its customer base. Harm to overlying water rights holders includes seawater intrusion, and lose of source water. This is a head-on collision largely because Cal Am has invaded another water jurisdiction, and has not acquired any water rights to any water in the Salinas Basin.

Furthermore Cal Am sold the public, and many public agencies, on its plan to draw water from under the Bay. All that has changed. Now most water will be pumped from aquifers inland of the coastline, not from under the Bay, and from the fresh water Dunes Aquifer within the jurisdiction of MCWD.

If that is not enough, the HWG has a biased composition, on top of its conflict of interest. It has 4 members - 2 for Cal Am, and 2 for agricultural interests. There are no representatives for local water agency or city interests, nor ratepayer interests. Therefore expect a biased report, if there is one.

PWN3-1

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Feasibility questions, so far, have served Cal Am interests. Its focus has been only on site specific criteria: site, design, technology and mitigation.

Other factors must be considered, particularly because the initial review process has been compromised and is too narrow. These include:

1. History. No ocean intake slant wells exist. Therefore this is an experiment. Our community should not be expected to embrace a new unproven technology for the bulk of our water supply without a robust evaluation.

2. Cost of the experiment. All costs are based on one test well in Orange County. No operational experience exists. Costs estimates for long term maintenance and replacement are speculative guesses. For such an experiment, grant funds must be allocated. After all, state agencies are pushing this experiment. Ratepayer pocketbooks must not be exposed to such unknowns.

3. Cost of long range operations. This needs more input than Cal Am engineers and consultants. There must be a more robust evaluation of long range projections of demand and the cost of meeting that demand. It should include comparisons to other supply options. And it could include potential changes required by the new Sustainable Groundwater Management Act.

4. Timeliness. The State's Cease and Desist Order (CDO) had deadlines. The community has expectations. Cal Am is forcing its experiment and the CDO deadlines onto the community without adequate time for evaluation.

5. Quality and history of the sponsor. Cal Am has no water supply success on the Peninsula. It has failed in three previous attempts on traditional engineering approaches – a dam, power plant water intake and discharge, and vertical wells for desal. And we are expected to rely on this company for an experimental solution? Stranded costs falling on ratepayers is the norm. And it looks like another failure is quite possibly in the works.

6. Other options. Cal Am has other options. It could seek another engineering solution, such as Ranney wells. There are competitors to Cal Am for a desal supply. Two private entrepreneurial ventures may have traction locally, and could be encouraged to join the race for cost, schedule, design and management comparison. vOther source waters could be evaluated, consistent with the current low level of actual water use.

7. Leadership. Cal Am has not been a dependable partner for water projects. It has avoided partnering with the major Peninsula water agency, MPWMD. It has reneged on three partners for the regional desal project, Monterey County, MCWRA and MCWD. Cal Am has pressured the MCWD to stretch its interpretation of permitting regulations to advance slant well tests. The atmosphere for cooperation on slant wells has been soured by Cal Am's careless approach to permitting.

The most frightening fact is this language in the Large Settlement Agreement being supported by all the major players in Cal Am's project: "...whether a source water project or program is feasible shall be determined by California American Water." (Sect 5.3) This is the fox guarding the hen house.

This appeal is to the DEIR/EIS review team, the Peninsula Mayors Water Authority, local water agencies, and others claiming a role in leadership. It goes without saying that ratepayers are interested.

PWN contends that the current track for determining 'feasibility' is inadequate and inappropriate. Unless other relevant feasibility factors are clearly identified and rigorously evaluated, the money pit of slant wells should be abandoned.

PWN3-8

## 8.6.18 Salinas Valley Water Coalition (SVWC) and Monterey County Farm Bureau (MCFB)

March 29, 2017

### VIA ELECTRONIC MAIL

[MPWSP-EIR@esassoc.com](mailto:MPWSP-EIR@esassoc.com)

Mary Joe Borak, CEQA Lead  
California Public Utilities Commission  
c/o Environmental Science Associates  
550 Kearney Street, Suite 800  
San Francisco, CA 94108

Karen Grimmer, NEPA Lead  
Monterey Bay National Marine Sanctuary  
99 Pacific Avenue  
Building 455a  
Monterey, CA 93940

*Re: Joint Comments of Salinas Valley Water Coalition and Monterey County Farm Bureau on January 2017 CalAm Monterey Peninsula Water Supply Project Environmental Impact Report/Environmental Impact Statement*

Dear Ms. Borak and Ms. Grimmer:

The Salinas Valley Water Coalition (SVWC) is a not-for-profit organization comprised of agricultural landowners, farmers and businesses within the Salinas Valley. The SVWC's primary purpose is to participate in various governmental proceedings in order to preserve the water rights of its members, to protect their water resources and to affect water policy decisions in a manner that provides this protection while sustaining agricultural production and quality of life.

The Monterey County Farm Bureau (MCFB) is a California not-for-profit organization founded in 1917 that represents family farmers and ranchers in the interest of protecting and promoting agriculture throughout Monterey County. MCFB strives to improve the ability of those engaged in production agriculture to provide a reliable supply of food and fiber through responsible stewardship of our local resources.

Community participation is essential to any project and is critical to obtaining support for that project. Toward that end, we appreciate the efforts made by Applicant California American Water Company (Cal-Am) and various agencies to reach out to the Salinas Valley agricultural community to discuss how the use of wells to produce source water for the Monterey Peninsula Water Supply Project (MPWSP) will affect the Salinas River Groundwater Basin (SRGB or Basin<sup>1</sup>) — the source of water supply on which the Salinas Valley's agricultural economy depends.

SVWC/MCFB-1

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<sup>1</sup> Note: The terms Salinas River Groundwater Basin and Salinas Valley Groundwater Basin are both used in the DEIR. The Salinas River Groundwater Basin, or SRGB, is the term referenced in the Monterey County Water Resources Agency Act. The SRGB is the area of the Salinas River and the Valley that is recharged by the alluvium of the Salinas River.

After analyzing the MPWSP’s first Draft EIR, the SVWC and MCFB submitted comments describing serious flaws in the Draft EIR’s conclusion that use of wells to produce source water for the MPWSP would not substantially deplete the overdrafted Salinas River Groundwater Basin (Basin) and cause significant direct, indirect and cumulative impacts. Those comments showed that the MPWSP’s use of wells to produce source water from the overdrafted SRGB would cause significant adverse impacts and explained why the MPWSP would be infeasible as a result of Cal-Am’s lacking the groundwater rights needed to operate production wells in the overdrafted groundwater Basin.

After the comment process closed on the MPWSP’s first Draft EIR, the SVWC, MCFB, Cal-Am and other parties negotiated and executed an agreement that would avoid significant impacts to the Basin and make the MPWSP feasible with respect to groundwater rights. The Settlement Agreement on MPWSP Desalination Plant Return Water, commonly referred to as the “Return Water Settlement Agreement” (RWSA), would return to the Basin the portion of source water that the MPWSP’s wells produce from Basin groundwater (as opposed to seawater). Under the RWSA, the “Return Water” would be delivered for use in lieu of existing groundwater pumping in the area threatened by seawater intrusion — so that there would be no net increase in Basin groundwater use as a result of ongoing MPWSP well production. In other words, approval and performance of the RWSA would mean that the MPWSP’s ongoing well production would have a net-zero impact on Basin groundwater on which the Salinas Valley’s farms, families and workplaces depend. In turn, that net-zero impact on Basin groundwater would make the MPWSP legally feasible by avoiding conflict with prior groundwater rights of the Basin’s overlying landowners and prior appropriators, like the Castroville Community Services District (CCSD). And finally, the net-zero impact on Basin groundwater would avoid significant adverse physical impacts to the Basin and to the remarkable agricultural economy it sustains.

SVWC/MCFB-1  
cont.

The Salinas Valley suffers from seawater intrusion that has degraded groundwater quality. Members of the SVWC, MCFB and other landowners have paid decades of costly assessments to fund development and operation of groundwater recharge projects—including two reservoirs (Nacimiento and San Antonio), the Castroville Seawater Intrusion Project (CSIP), and the Salinas Valley Water Project (SVWP). The purposes of those projects are to recharge the SRGB to assure water availability during the irrigation season, to stop seawater intrusion, to bring the SRGB into hydrologic balance, and to manage the SRGB for long term sustainability. The two reservoirs capture high winter streamflows from Salinas River tributaries for gradual release into the porous Salinas River bed during the dry season to recharge Salinas River underflow and the SRGB (direct recharge). The CSIP delivers highly treated municipal wastewater for agricultural irrigation use in lieu of groundwater pumping (in lieu recharge). And the SVWP modified and reoperates Nacimiento Reservoir to increase its yield for increased recharge releases into the Salinas River (more direct recharge) and to supply a new surface water diversion for increased CSIP water deliveries in lieu of groundwater pumping (more in lieu recharge).

SVWC/MCFB-2

The hundreds of millions of dollars in groundwater recharge investment by the SVWC and MCFB members and other Salinas Valley landowners sustains an \$8 billion agricultural economy that generates more than 76,000 jobs. The Salinas Valley’s agricultural economy depends on irrigation with Basin groundwater.

**The MPWSP’s Proposed Use of Wells to Produce Source Water From the Overdrafted Salinas River Groundwater Basin Risks Making the Monterey Peninsula’s Water Supply Solution Legally Infeasible**

SVWC/MCFB-3

To help solve the Monterey Peninsula’s water supply problems, the MPWSP proposes to construct eight slant wells in the Salinas River Groundwater Basin to pump 26,995 acre-feet per year (AFY) of source



water to deliver approximately 10,753 AFY (9.6 million gallons per day [MGD]) of desalinated water for Cal-Am’s urban service area within the Monterey Peninsula — outside the Basin. The 6.4 MGD alternative would produce 7,168 AFY of source water to deliver approximately 3,010 AFY of desalinated water for the Peninsula.

The Draft EIR/S explains that the Basin experiences approximately 51,000 AFY of overdraft (Draft EIR/S at p. 4.4-19.) Accordingly, the Draft EIR/S correctly concludes that use of Basin wells to produce source water for the MPWSP’s desalination process will make the project legally infeasible, because there is no surplus groundwater available for new appropriative uses — unless the well production would be undertaken without causing injury to overlying and prior appropriative groundwater rights. (DEIR/S at 2-30 to 2-32 [“what rights factors in as a key project feasibility issue”].)

The Draft EIR/S asserts that “[t]he area influenced by the MPWSP groundwater pumping is within a zone that is degraded by seawater intrusion and therefore unusable for potable water supply due to its high salinity.” (DEIR/S at p. 4.4-60.) From there, the Draft EIR/S erroneously asserts that the MPWSP’s production of brackish groundwater exceeding state water quality objectives for chlorides and total dissolved solids (TDS), by definition, cannot injure prior groundwater rights (i.e., overlying rights of farmers and prior appropriative rights of the CCSD) — unless the MPWSP well production directly causes acute impacts, like dewatering nearby wells currently being used for agricultural irrigation or potable water supply. (DEIR/S at pp. 2-35 to 2-37.)

SVWC/MCFB-3  
cont.

The preceding assertion of the DEIR/S is wrong and risks misleading the Commission into concluding that the MPWSP’s use of Basin wells to produce source water might be legally feasible, even if the MPWSP does not return to the Basin the portion of produced source water originating as Basin groundwater (instead of seawater).

First, the Draft EIR/S admits that as a result of the MPWSP’s well production, “changes in water quality could be realized within the first 5 years of project operation,” that “throughout the life of the project, local groundwater quality around the slant wells and within the cone of depression could change from the brackish quality it is now to higher salinity groundwater . . . because the slant wells would draw in the brackish water that is currently in the aquifer formation and seawater would flow in to replace it.” (DEIR/S at p. 4.4-76.) New water quality degradation caused by MPWSP pumping would injure the Basin and Basin groundwater rights, unless it is offset. Without an offsetting water quality improvement effect, the MPWSP’s pumping would injure prior groundwater rights in the Basin, making the use of Basin wells to feed the MPWSP infeasible from a water rights perspective.

Second, as the tension between water demand and water supplies continues to intensify, competition is building for degraded water supplies – like municipal wastewater or groundwater that cannot be beneficially used without treatment (e.g., tertiary treatment of wastewater or desalting of brackish groundwater). The notion that degraded water supplies that fail to meet state water quality objectives are per se “surplus” is an anachronism that defies modern water management reality.

SVWC/MCFB-4

For example, there is competition for recycled wastewater produced by the Monterey Peninsula Water Pollution Control Authority and many other municipal wastewater treatment agencies across the state. Municipal wastewater that used to be considered a costly disposal problem is now a coveted water resource. With respect to the SRGB’s brackish groundwater, the Draft EIR/S describes competing demands for non-potable, brackish groundwater in the project area, including “minor irrigation and dust

control” and potential future source wells for at least one other, unrelated desalination project. (DEIR/S at 4.4-90.)

Further, in Southern California’s adjudicated West Coast Basin, the Superior Court in 2007 ruled that a desalting plant’s use of wells to produce brackish groundwater exceeding state water quality objectives must stop operating unless its owner leases adjudicated pumping rights to cover well production. That was so, absent consideration of whether the desalter’s pumping harmed nearby wells. (See Joint Stipulation and Order re Operation of Goldsworthy Desalter, *California Water Service Company v. City of Compton*, Los Angeles County Superior Court Case No. C506-806 [filed July 24, 2007], attached hereto as **Exhibit A.**) Further, the West Coast Basin adjudication Judgment regulates production of highly contaminated groundwater for industrial cleanup sites under a “nonconsumptive water use right” requiring that “essentially all such produced water is returned without quality impairment, to the aquifer of the Basin from which the same was produced.” (Exh. B Judgment at 59:1-6, attached hereto as **Exhibit B.**) The fundamental groundwater rights principles underlying the desalter order and nonconsumptive use right point to the need for the Return Water Settlement Agreement in the SRGB.

If the Commission were tempted to embrace the anachronistic position that brackish groundwater exceeding water quality objectives is per se surplus unless its production dewateres third party wells, it would be committing the MPWSP to a significant legal feasibility – and defensibility — problem when there is no need to do so.

SVWC/MCFB-4  
cont.

**Approval of the Return Water Settlement Agreement Would Ensure that MPWSP Well Production Is Legally Feasible**

The solution to the MPWSP’s water rights feasibility problem is for the Commission to approve the Return Water Settlement Agreement that already has been approved by the Applicant, the Monterey County Water Resources Agency (MCWRA), the Monterey Peninsula Water Management District, the Monterey Peninsula Regional Water Authority, LandWatch Monterey County, the Salinas Valley Water Coalition, the Monterey County Farm Bureau and other parties.

The Return Water Settlement is legally necessary if the Commission is going to approve a project allowing the Monterey Peninsula to take water pumped from the Salinas River Groundwater Basin wells. Absent Return Water, the MPWSP will be legally infeasible from a water rights perspective and also will violate the MCWRA enabling act prohibition against exporting groundwater from the overdrafted Basin. Absent Return Water, litigation is certain.

**The MPWSP's Well Pumping Will Cause Significant Adverse Environmental Effects, Unless the Return Water Settlement Agreement is Approved and Implemented**

The Draft EIR/S states that the MPWSP would have a significant adverse effect on groundwater resources of the overdrafted Basin if, among other things, “[e]xtraction from the subsurface slant wells substantially depleted groundwater in the SVGB such that there would be a net deficit in aquifer volume.” (DEIR/S at 4.4-41.)

SVWC/MCFB-5

The Draft EIR/S states that the MPWSP would have significant cumulative impacts on groundwater resources if they would substantially deplete or interfere with groundwater supplies, violate water quality standards, or degrade water quality. (DEIR/S at 4.4-88.)

The Draft EIR/S admits that, based on groundwater effects modeling: “If the proposed project did not return any water, localized depressed groundwater levels would persist in the three affected aquifers throughout the life of the project.” (DEIR/S at p. 4.4-60.) That impact would be a significant direct impact to groundwater resources. It also would be a significant cumulative impact to groundwater resources, because the MPWSP’s reduction in groundwater levels would be a considerable contribution to an existing condition of overdraft (i.e., existing substantial depletion).

The attached Technical Memorandum from consulting groundwater engineer Timothy Durbin explains that “the DEIR’s groundwater impacts analysis supports the need to approve and implement the proposed Return Water Settlement Agreement (“RWSA”).” The Technical Memo is attached as **Exhibit C** hereto. Mr. Durbin has reviewed the RWSA and is a member of the Hydrological Working Group that has reviewed the groundwater effects modeling used in the current Draft EIR/S. Mr. Durbin explains that the RWSA “will help to ensure that operation of slant wells to produce source water for the MPWSP desalination process will not substantially deplete groundwater resources within the Salinas River Groundwater Basin and would help prevent the source water production from making a contribution to ongoing depletion of the groundwater resources . . . .”

SVWC/MCFB-5  
cont.

Based on the preceding significance criterion, and the Draft EIR/S’s groundwater effects modeling, the Commission’s approval and the Applicant’s implementation of the Return Water Settlement Agreement as an enforceable component of the MPWSP is necessary to avoid significant adverse impacts with respect to groundwater resources. And based on the criterion for cumulative impacts, implementation of the Return Water Settlement Agreement is necessary to avoid a significant cumulative impact to groundwater resources.

The approval of the Return Water Settlement Agreement by the Applicant and other necessary parties (e.g., MCWRA, CCSD) shows this component of the MPWSP is feasible. Failure to approve the Return Water Settlement Agreement would result in a significant impact despite the availability of feasible mitigation, which would violate the California Environmental Quality Act (CEQA).

“From the time the slant wells begin pumping, and throughout the life of the project, local groundwater quality around the slant wells and within the cone of depression could change from the brackish quality it is now to higher salinity groundwater.” (DEIR/S at 4.4-78.) However, the DEIR/S incorrectly concludes that impact is less than significant, because “the localized change in groundwater quality that could occur as a result of slant well pumping is not expected to violate water quality standards or interrupt or eliminate the potable or irrigation groundwater supply available to other basin users.” (DEIR/S at 4.4-76.)

The Draft EIR/S states that the MPWSP would have a significant adverse effect on groundwater resources of the seawater-intruded Basin if, among other things, the project’s well production would “[v]iolate any ground water quality standards or otherwise degrade groundwater quality,” including “exacerbating seawater intrusion . . . .” (DEIR/S at 4.4-41.)

SVWC/MCFB-6

As noted above, the Draft EIR/S admits that as a result of the MPWSP’s well production, “changes in water quality could be realized within the first 5 years of project operation,” that “throughout the life of the project, local groundwater quality around the slant wells and within the cone of depression could change from the brackish quality it is now to higher salinity groundwater . . . because the slant wells would draw in the brackish water that is currently in the aquifer formation and seawater would flow in

*Joint Comments of Salinas Valley Water Coalition and Monterey County Farm Bureau on January 2017 CalAm Monterey Peninsula Water Supply Project Environmental Impact Report/Environmental Impact Statement*

to replace it.” (DEIR/S at p. 4.4-76.) That is an admission that the MPWSP’s well production will cause water quality degradation — unless the degradation is offset.

Here, the Return Water Settlement Agreement would offset water quality degradation by delivering Return Water for use by CCSD and CSIP in lieu of existing groundwater pumping along the coast, which in turn will help to stop seawater intrusion from degrading Basin water quality. If the Commission approves, and the Applicant implements, the Return Water Settlement Agreement, the significant adverse water quality impact of the MPWSP’s well production will be mitigated to a less-than-significant level.

SVWC/MCFB-6  
cont.

The SVWC and the MCFB believe that there is substantial agreement amongst the settling parties of the RWSA that provides a pathway in providing a solution that offers multiple benefits to the groundwater users of SRGB, CCSD and CSIP.

SVWC/MCFB-7

On behalf of the SVWC and the MCFB, we thank you for the opportunity to provide comments on the DEIR/S.

Sincerely,

Sincerely



Nancy Isakson, President  
Salinas Valley Water Coalition



Norm Groot, Executive Director  
Monterey County Farm Bureau

Attachments:

**Exhibit A:** July 24, 2007, Stipulation & Order re Desalter need for pumping right in *California Water Service Company v. City of Compton*, Los Angeles County Superior Court Case No. C506-806

**Exhibit B:** December 5, 2014, Amended Judgment, *California Water Service Company v. City of Compton*, Los Angeles County Superior Court Case No. C506-806 (pleadings cover page and table of contents and Exhibit B)

**Exhibit C:** February 23, 2017, Technical Memorandum, Timothy J. Durbin Inc. Consulting Hydrologists re Monterey Peninsula Water Supply Project DEIR, and curriculum vitae

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## 8.6.19 Surfrider Foundation (Surfrider)

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March 29, 2017

### Via E-Mail and U.S. Mail

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Re: Surfrider Foundation's Comments on Draft Environmental Impact Report/Statement – Monterey Peninsula Water Supply Project

Dear Ms. Borak and Ms. Grimmer:

This firm represents Surfrider Foundation regarding the California Public Utilities Commission's consideration of an application for a certificate of public convenience and necessity for California-American Water's proposed Monterey Peninsula Water Supply Project (the "Project"). Surfrider is a non-profit organization dedicated to the protection and enjoyment of the world's ocean, waves and beaches. In particular, Surfrider's work focuses on five key areas: beach access, clean water, coastal preservation, ocean protection, and preventing marine plastic pollution. While Surfrider is generally supportive of the Project, it continues to have reservations regarding the Project's size, specific design features, and potential impacts to the Monterey Bay National Marine Sanctuary (the "Marine Sanctuary").<sup>1</sup>

Surfrider-1

The Project will provide replacement water that the applicant, California American Water ("Cal-Am"), must acquire to reduce its present over-pumping of the

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<sup>1</sup> Surfrider commented on the Commission's original draft EIR for the Project, which was circulated for public review in 2015. Surfrider also submitted scoping comments on the National Oceanic and Atmospheric Administration's Notice of Intent to prepare the DEIS in 2015. To the extent that they remain relevant to the current DEIR, Surfrider incorporates its prior comments by this reference, and restates them below.

Carmel River and comply with a State Water Resources Control Board Cease and Desist Order. *See* SWRCB Order WR 2009-0060. The importance of the Project for protecting the Carmel River means that its environmental review must be of the highest quality and must fully support the PUC’s decision. The current Draft Environmental Impact Report/Statement (“DEIR”) does not, and without revision will not, meet these standards.

As identified below, the DEIR falls short of requirements of the California Environmental Quality Act (“CEQA”), Public Resources Code section 21000 *et seq.*, the CEQA Guidelines, California Code of Regulations, title 14, section 15000 *et seq.* (“CEQA Guidelines”) and the National Environmental Policy Act (“NEPA”), 42 U.S.C. section 4321 *et seq.* The DEIR should likewise confirm that the Project has complied with all elements of the Marine Sanctuary’s regulations that apply to the proposed Project activities.<sup>2</sup>

The Commission and the Marine Sanctuary (collectively, the “Agencies”) must resolve the DEIR’s multiple deficiencies before they may legally grant the requested Project approvals. Surfrider therefore urges the Agencies to remedy the identified defects in the DEIR’s analysis and mitigation, and to adopt all feasible mitigation to reduce the Project’s environmental impacts.

**I. The DEIR Fails to Adequately Mitigate the Project’s Contribution to Climate Change.**

Analysis and mitigation of the Project’s climate change impacts are particularly important because the global economy has already exceeded the atmosphere’s capacity to absorb additional greenhouse gas emissions without risking catastrophic and irreversible consequences. Therefore, even seemingly small additions of greenhouse gas emissions into the atmosphere will create cumulatively significant impacts. *See Communities for a*

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<sup>2</sup> For instance, we note that the DEIR includes only an incomplete discussion of the requirements necessary for the Marine Sanctuary to “authorize” otherwise prohibited Project activities like the proposed brine discharge. *See* DEIR 1-7 (citing 15 CFR § 922.49(a)). The final environmental document must contain evidence that the applicant has complied with all sections of the applicable regulations, including 15 CFR section 922.49(a)(1), which mandates that the applicant notify NOAA within 15 days of submitting its application to the Commission for authorization of an otherwise prohibited activity.

Surfrider-1  
cont.

Surfrider-2



*Better Environment v. Cal. Resources Agency* (2002) 103 Cal.App.4th 98, 120 (“[T]he greater the existing environmental problems are, the lower the threshold for treating a project’s contribution to cumulative impacts as significant.”); *Center for Biological Diversity v. National Highway Traffic Safety Administration* (9th Cir. 2007) 508 F.3d 508, 550 (“[W]e cannot afford to ignore even modest contributions to global warming.”). Here, the DEIR correctly recognizes that the Project will lead to significant greenhouse gas emissions, yet fails its statutory duty to identify legally adequate and feasible mitigation measures to minimize the Project’s contribution to climate change.

The DEIR measures the Project’s contribution to the cumulative impact of global climate change. It anticipates that multiple sources will contribute to the Project’s total greenhouse gas emissions. Because desalination plants require large quantities of electricity to operate, much of the Project-related greenhouse gas emissions occur indirectly through the carbon emissions from energy production. In addition to indirect greenhouse gas emissions from electricity consumption, other sources include emissions from construction, operation of diesel emergency generators, vehicle trips necessary for Project operation, loss of carbon sequestration, and degassing from brine storage. DEIR at 4.11-17.

The DEIR evaluates the Project’s climate-change contribution against different thresholds of significance. 4.11-10. For each one, it determines that the Project will have a significant impact from greenhouse emissions. DEIR at 4.11-15. When an agency’s analysis indicates that a proposed project will have a significant project-specific or cumulative impact, the agency must identify and adopt feasible mitigation measures to address that impact. CEQA Guidelines § 15126.4(c).

Here, the DEIR proposes two mitigation measures to reduce greenhouse gas emissions from Project operations and construction. The first measure requires Cal-Am to submit a plan for PUC approval before Project construction that (1) describes potential greenhouse gas emissions in detail, and (2) requires Cal-Am to identify and incorporate “feasible” energy recovery and conservation technologies. That measure likewise obligates Cal-Am to make “good faith efforts” to use up to 20 percent power energy for the Project.<sup>3</sup> DEIR at 4.11-19.

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<sup>3</sup> The identified sources of renewable power are installation of onsite solar photovoltaic panels and methane gas from the Monterey Regional Waste Management District’s adjacent landfill-gas-to-energy facility.



Surfrider-2  
cont.

The second measure requires a Cal-Am consultant to prepare a “Construction Equipment Efficiency Plan” that “identifies specific measures that Cal-Am (and its construction contractors) will implement” to reduce construction-related energy use. Cal-Am must also submit that plan for approval before beginning Project construction. DEIR at 4.11-20, 4.18-16. Thus, in both instances, the DEIR defers formulation of the specific mitigation requirements to an uncertain future date.

An EIR generally may not defer evaluation of mitigation until a later date. CEQA Guidelines §§ 15126.4(a)(1)(B). CEQA allows a lead agency to defer mitigation only when three narrow, specific prerequisites are met: (1) an EIR contains criteria or performance standards to govern future actions implementing the mitigation; (2) practical considerations preclude development of the measures at the time of initial project approval; and (3) the agency has assurances that the future mitigation will be both “feasible and efficacious.” *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 94-95; *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 669-71; CEQA Guidelines § 15126.4(a)(1)(B).

The DEIR fails these standards. First, it does not show why the Agencies cannot develop definite and enforceable mitigation measures now. The DEIR lacks any evidence demonstrating that more precise greenhouse gas mitigation requirements cannot be formulated. Cal-Am and the Agencies appear to have all of the information required to formulate a conservation plan and to determine whether and how much renewable electricity will be available. At the very least, DEIR can produce a clear menu of options and calculate potential emissions reductions from each. Similarly, the Agencies can evaluate all currently-known construction efficiency standards now, instead of shielding those measures from public review by deferring this mitigation.

Courts have recognized that the DEIR’s approach of deferred mitigation violates CEQA precisely because it undermines informed decisionmaking and public participation:

“[t]he success or failure of mitigation efforts . . . may largely depend upon management plans that have not yet been formulated, and have not been subject to analysis and review within the EIR . . . . A study conducted after approval of a project will inevitably have a diminished influence on decisionmaking. Even if the study is subject to administrative approval, it is analogous to the sort of post hoc rationalization



Surfrider-2  
cont.

of agency actions that has been repeatedly condemned in decisions construing CEQA.”

*Communities for a Better Environment*, 184 Cal.App.4th at 92.

Nor is this mitigation feasible or efficacious. *See id.* at 94-95. The DEIR itself reveals the deficiency of its vague, deferred mitigation measures. It states that it “cannot substantiate that the mitigated greenhouse gas emissions would be reduced to a less-than-significant level.” DEIR at 4.11-23. The DEIR cannot do so because the proposed mitigation is so uncertain that it is impossible to know whether it will come close to reducing greenhouse gas impacts below identified significance thresholds.

The DEIR thus necessarily concludes that the Project’s greenhouse gas emissions will cause a significant impact even after adopting the proposed mitigation measure. The DEIR cannot, however, simply determine that an impact is significant and unavoidable and ignore its mitigation obligations. *Lotus v. Department of Transportation* (2014) 223 Cal.App.4th 645, 653. The Agencies must adopt any and all feasible mitigation to reduce those impacts. CEQA § 21002 (“[A]gencies should not approve projects as proposed if there are . . . feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects.”)

In light of the admitted failure of its improperly deferred mitigation, the DEIR must consider whether formulating and adopting additional mitigation measures could further reduce the Project’s greenhouse gas emissions and the extent of such reductions.

The Agencies should consider whether the following measures would reduce the Project’s greenhouse gas emissions below the DEIR’s thresholds, and adopt those that would:

- Incorporate the U.S. Green Building Council’s LEED or comparable standards for energy- and resource efficient building during pre-design, design, construction, operations and management;
- Design buildings for passive heating and cooling, and natural light, including building orientation, proper orientation and placement of windows, overhangs, skylights, etc.;
- Design buildings for maximum energy efficiency including the maximum possible insulation;



Surfrider-2  
cont.

- Reduce the use of pavement and impermeable surfaces;
- Require water reuse systems;
- Maximize water conservation measures in buildings and landscaping, using drought tolerant plants in lieu of turf, planting shade trees;
- Install the maximum amount of solar photovoltaic panels available onsite, including solar canopies over parking areas
- Install solar water heating systems to generate all of the Project’s hot water requirements;
- Install electric vehicle and plug-in hybrid vehicle charging stations to reduce emissions from vehicle trips;
- Install energy storage systems to ensure that the energy generated can be used on-site;
- Require recycled, low-carbon, and otherwise climate-friendly building materials such as salvaged and recycled-content materials for building, hard surfaces, and non-plant landscaping materials;
- Minimize, reuse, and recycle construction-related waste;
- Landscape to preserve natural vegetation and maintain watershed integrity;
- Use low or zero-emission construction vehicles.

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Surfrider-2  
cont.

The Agencies should also follow the lead of other agencies that have approved energy-intensive projects and require Cal-Am to purchase carbon offsets for the Project’s greenhouse gas emissions. The DEIR argues against offsets by claiming that indirect emissions from electricity use would be governed by the state’s cap and trade program and therefore do not need be offset. DEIR at 4.11-20. This position is faulty for multiple reasons. First, the cap and trade program is currently scheduled to end in 2020. In contrast, the Project has a 40-year planned life. DEIR at 4.11.11. Consequently, there is no guarantee that California’s cap and trade program will regulate power-generating emitters for the bulk of the Project’s life.

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Surfrider-3

Second, even if cap and trade remains in place past 2020, it does not control emissions from out-of-state electrical-generation sources. In 2015, over a third of California's electricity was imported from out of state, a large percentage of which came from coal and natural gas combustion.<sup>4</sup> The DEIR cannot assume, as it does, that the indirect greenhouse gas emissions associated with the Project's electricity use will be entirely regulated by *California's* cap and trade program.

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Surfrider-3  
cont.

Finally, roughly 20 percent of the Project's greenhouse gas emissions directly result from Project construction or operations that would not be subject to cap and trade regulation. DEIR at 4.11-16 through 4.11-17. If these greenhouse gas emissions cannot be mitigated through other means, then the Agencies must require that they are mitigated through emission offsets.

## II. The DEIR Must Adequately Evaluate and Mitigate Coastal Erosion Impacts.

### A. CEQA Requires Evaluation of Coastal Hazard Impacts.

The DEIR claims that information on potential Project impacts stemming from sea level rise and coastal erosion are only for "information purposes" and are not required as part of the CEQA analysis. DEIR at 4.2-45 (citing *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 ("CBIA")). Regardless of CEQA's requirements, under NEPA, federal agencies also consider environmental hazards' potential impacts on a project. *See, e.g., Fuel Safe Wash. v. FERC* (10th Cir. 2004) 389 F.3d 1313, 1331-32 (evaluating an EIS's consideration of seismic hazards).

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Surfrider-4

Additionally, the DEIR misstates the applicable CEQA standard. In *CBIA*, the court held that "CEQA *generally* does not require an analysis of how existing environmental conditions will impact a project's future users or residents." *Id.* at 386 (emphasis added). But this general rule is subject to a significant exception. When the project exacerbates existing environmental hazards, an agency must consider "how such worsened conditions could affect a project's future users or residents." *Id.* at 389.

Here, the DEIR admits that the Project will contribute to global climate change, which will exacerbate various climate-related impacts including sea level rise. DEIR at 4.11-18. CEQA therefore mandates that the Agencies adequately evaluate and mitigate

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<sup>4</sup> *See* [http://www.energy.ca.gov/almanac/electricity\\_data/total\\_system\\_power.html](http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html).

potential impacts related to sea-level rise and attendant coastal erosion. This analysis is not simply for “information purposes” and is subject to CEQA’s legal standards and requirements.

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Surfrider-4  
cont.

**B. The DEIR Should Ensure that Mitigation Measures Related to Coastal Erosion Impacts Are Adequate.**

The DEIR notes that Cal-Am has revised its Project proposal to locate wellheads for the two southernmost slant well clusters 400 feet inland, behind the existing sand dunes at the proposed intake site. DEIR at 4.2-60. Surfrider had previously raised concerns regarding the original slant well locations proposed in Cal-Am’s application because future coastal erosion and storms could compromise the wellheads.<sup>5</sup> Surfrider believes that relocating the slant wells inland helps avoid these foreseeable impacts and is consistent with Surfrider’s previous recommendations in this proceeding. Consequently, while Surfrider does not advocate for any particular slant well site, Surfrider supports the decision to revise the Project to move the wellheads inland to more protected locations.

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Surfrider-5

Even with this revised wellhead location, however, the DEIR’s analysis reveals that the northernmost wellhead cluster (located at the CEMEX sand mining property) will become exposed by erosion and potentially compromised under extreme storm conditions by 2060.<sup>6</sup> See Figure 4.2-7. The DEIR thus proposes Mitigation Measure 4.2-9, which requires annual monitoring of coastal retreat at the CEMEX site and relocation of the northernmost well cluster if and when data indicates that slant wells are expected to become exposed within five years.

CEQA requires that an EIR contain sufficient evidence to indicate that a mitigation measure is adequate to reduce a potentially significant impact to a less-than-significant level. See *National Parks & Conservation Assn. v. County of Riverside* (1999) 71 Cal.App.4th 1341, 1366. Yet the DEIR does not demonstrate that Mitigation Measure 4.2-9 can adequately reduce the identified erosion impact. First, Measure 4.2-9 does not

<sup>5</sup> See A.12-04-019, Testimony of Bradley Damitz on Behalf of Surfrider Foundation (February 22, 2013) at 6-7.

<sup>6</sup> The DEIR’s “erosion profiles” are predicted beach cross-sections perpendicular to the waterline. These profiles attempt to depict how the beach and dune profile will retreat landward in response to sea-level rise, erosion, and storm events over different time horizons.



specify how Cal-Am should calculate when threatened exposure is five years away, thus triggering planning and permitting for slant well relocation.

Using simple average erosion rates is not sufficient. As the DEIR shows elsewhere, a single 100-year storm event could erode the dune profile near the site by roughly 130 feet inland. DEIR at Figure 4.2-7 (compare 2060 erosion profile with the profile showing the combined impact of 2060 erosion and a 100-year storm event). This single-event erosion is roughly equivalent to the average erosion that would be expected to occur over twenty years. *See id.* (compare 2040 erosion profile with 2060 erosion profile).

Every year brings a possibility of such an extreme storm event. And as has been noted at Commission workshops on climate adaptation, “the frequency and magnitude of [storm] extremes” is expected to “increase markedly” with climate change.<sup>7</sup> The 2015-2016 El Nino was one of three strongest on record and brought unprecedented levels of erosion to the California coast, especially in sediment-deprived areas like the CEMEX site.<sup>8</sup>

In fact, the CEMEX site might be even more threatened than the DEIR reveals. The beach and dune profile used for the test well erosion analysis is actually located to the south of the CEMEX sand mining operation. The DEIR does not evaluate how sand mining activities will further exacerbate coastal erosion, claiming that “No data is available to quantify the uncertainty in adjacent beach and dune erosion related to sand mining activities.” DEIR Figure 4.2-7, n. 3. Thus, the potential magnitude of erosion at this location is very likely greater than the DEIR reveals.

The mitigation measure’s proposed monitoring and DEIR’s erosion projections overlook the possibility that extreme climate and storm events, like those associated with last year’s El Nino, could erode the beach to within the range of a single storm’s erosion at the especially vulnerable CEMEX site. While that risk exists, the measure could fail to

Surfrider-5  
cont.

<sup>7</sup> See Dan Cayan, “Planning for climate change on top of already high climate variability” at pdf p. 16, available at [www.cpuc.ca.gov/NR/rdonlyres/52D8EFC3-B79C-4854-8714-DB8151C8664F/0/Dan\\_Cayan\\_CEC\\_PUC\\_27JULY2015\\_Web.pdf](http://www.cpuc.ca.gov/NR/rdonlyres/52D8EFC3-B79C-4854-8714-DB8151C8664F/0/Dan_Cayan_CEC_PUC_27JULY2015_Web.pdf).

<sup>8</sup> See Nature Communications, Extreme oceanographic forcing and coastal response due to the 2015-2016 El Nino, available at <http://www.nature.com/articles/ncomms14365#s1>.

trigger relocation in time. This possibility undermines the DEIR's conclusion that this mitigation measure is sufficient to avoid significant erosion impacts.

At a minimum, to address this flaw in the DEIR's erosion analysis and to fully protect against large storm events, Mitigation Measure 4.2-9(1) should be revised to read:

CalAm shall conduct annual monitoring of the rate of coastal retreat relative to the slant wells at the CEMEX site. The data shall be used to estimate the year at which the wells and associated pipelines have 5 years before exposure, assuming that at least one 100-year storm event will occur within that exposure timeframe.

Finally, even if the DEIR is properly revised to protect from 100-year storm events at CEMEX, the DEIR lacks any information indicating whether the 5-year period will allow sufficient time to plan and permit the necessary decommissioning and relocation of the threatened slant wells. The DEIR must substantiate the time threshold for removal and replacement of the northernmost slant well cluster, especially in light of the extended permitting process that has been required for the test well for this very Project.

### III. The DEIR Should Consider Alternatives that Reduce the Size of the Desalination Plant.

A proper analysis of alternatives is essential to comply with CEQA's mandate that significant environmental damage be avoided or substantially lessened where feasible. Pub. Res. Code § 21002; CEQA Guidelines §§ 15002(a)(3), 15021(a)(2), 15126(d); *Citizens for Quality Growth v. City of Mount Shasta* (1988) 198 Cal.App.3d 433, 443-45. The primary purpose of CEQA's alternatives requirement is to explore alternatives to proposed actions that will reduce or avoid their adverse impacts on the environment. *Watsonville Pilots Ass'n v. City of Watsonville* (2010) 183 Cal.App.4th 1059, 1089. Therefore, the discussion of alternatives must focus on project alternatives that are capable of avoiding or substantially lessening any significant effects of the project, even if such alternatives would impede to some degree the attainment of the project objectives or would be more costly. CEQA Guidelines § 15126.6(b); *see also Watsonville Pilots*, 183 Cal. App. 4th at 1089 (“[T]he key to the selection of the range of alternatives is to identify alternatives that meet most of the project's objectives but have a reduced level of environmental impacts”); 40 C.F.R. § 1502.14 (CEQ regulations describing the alternatives analysis as “the heart of the environmental impact statement”).



Surfrider-5  
cont.

Surfrider-6

Here, the DEIR improperly circumscribes its analysis of potential Project alternatives. Specifically, it fails to consider an alternative that reduces the desalination plant's size within either the large desalination plant project scenario or the smaller desalination plant plus groundwater replenishment variant ("GWR Alternative"). By reducing the desalination plant's size, such an alternative could reduce the Project's net greenhouse gas, brine discharge, and groundwater impacts. *See, e.g.*, DEIR at 5.6-7.

↑  
Surfrider-6  
cont.

In fact, a reduced-Project alternative is very likely feasible. As Surfrider has raised previously in this proceeding, Cal-Am justifies the size of the proposed Project on the basis of artificially inflated demand projections. The DEIR carries forward these inflated demand assumptions in multiple ways, including (1) unsupported assumptions about future water use for tourism and undeveloped "lots of record," and (2) the arbitrary assumption that future water use will be similar to water use in 2010 when, in fact, water use in Cal-Am's service area has fallen dramatically every year for the past decade.<sup>9</sup> If the DEIR revises the Project's demand assumptions to accurately portray future water use, it will show that a reduced Project alternative not only is environmentally superior, but is also feasible.

↑  
Surfrider-7

Significantly, the DEIR's alternatives analysis already recognizes the environmental benefits of reducing the size of the Project's desalination component. The DEIR labels one version of the GWR Alternative as an environmentally superior alternative to the larger desalination scenario. DEIR at 5.6-7. The DEIR recognizes that because the GWR Alternative includes a smaller desalination plant, it would reduce the Project's long-term and "more severe" operational impacts related to groundwater and greenhouse gas emissions. *Id.* Other potentially significant operational impacts, like potential water quality impacts from brine discharge, would also diminish as the proposed desalination plant becomes smaller. Thus, the DEIR correctly shows that reducing the desalination plant's size will reduce the Project's most significant environmental impacts.

↑  
Surfrider-8

Despite the environmental gains realized by further reducing the size of the desalination plant, the DEIR does not consider an alternative that can shrink the plant's size independent of the GWR Alternative. As part of the No Project alternative, the DEIR analyzed foreseeable water conservation and water recycling measures within Cal-Am's service district that could partially offset a water supply shortfall if the Project is not

↓

<sup>9</sup> <http://www.watersupplyproject.org/system-delivery>.

built. DEIR at 7-184 through 7-196. The DEIR rejects a No Project alternative because it does not provide sufficient water to fully satisfy the impending water deficit in Cal-Am's service district and achieve other Project objectives. *Id.* at 7-197. But the DEIR inexplicably fails to consider whether these conservation measures, demand offsetting measures (including conservation pricing), or new local water projects (such as the Pacific Grove Local Water Project or Pebble Beach Recycled Water Project Phase II) could be combined with the Project to reduce the size of the desalination plant and its long-term environmental impacts. CEQA requires the DEIR to consider such a Project alternative, especially considering that it could reduce the Project's "most severe" environmental impacts under either large-desalination or GWR Alternative scenarios. *See Watsonville Pilots Ass'n*, 183 Cal.App.4th at 1087.

Surfrider-8  
cont.

#### IV. Cal-Am Should Monitor for and Mitigate Any Brine-Related Impacts.

Surfrider notes that the DEIR has substantially revised its brine dispersal modeling to provide greater information regarding the location and salinity of brine plumes associated with the Project's discharge. While the DEIR's modeling indicates that the plumes will not increase background salinity above 1.56 ppt at the zone of initial dilution boundary, it is important that Cal-Am monitor actual discharge conditions to confirm that the Project will not degrade marine water quality or significantly impact marine organisms more than the models suggest.

Surfrider-9

Surfrider generally supports the DEIR's proposed monitoring program, which substantially complies with the core elements of the monitoring program from the Brine Settlement Agreement (which Surfrider, Cal-Am, and other parties filed with the Commission on June 14, 2016). *See* Mitigation Measure 4.3-4. Surfrider also supports additional monitoring for potential impacts to marine life that might occur even if the Project's discharge otherwise falls below established salinity and effluent standards.

Surfrider is concerned, however, that the proposed biological monitoring lacks meaningful thresholds to determine when impacts to the benthic community or other organisms would trigger corrective measures. The DEIR states that a monitoring plan shall require that no "statistically significant" change to the benthic community occur from the Project's operations. DEIR 4.3-89. But the DEIR does not disclose the level of statistical significance that will actually trigger relocation. Without such a standard, it would be impossible for the Agencies or Cal-Am to determine when impacts to the benthic community or other marine life become statistically significant. The DEIR should therefore formulate and explain these standards for the monitoring plan.

Surfrider-10

**V. The DEIR Must Consider Cumulative Impacts from Other Proposed Desalination Projects in the Project's Vicinity.**

The DEIR asserts two other proposed desalination projects—the People's Project and Deep Water Desal Project—would develop supplemental water supplies to serve the same Cal-Am customers as the proposed Project. *See* DEIR 4.3-123. However, the DEIR asserts that the People's Project and this Project could not both be implemented since their purposes and customers would largely be the same. Therefore, the DEIR does not consider the People's Project to be a reasonably foreseeable project in the cumulative scenario, and does not consider its cumulative impacts.

As to Deep Water Desal, the DEIR notes that water could be provided to other customers in Santa Cruz County or the City of Salinas, and that project could be approved in addition to this Project. Therefore, the DEIR does consider cumulative impacts of the Deep Water Project. In seeming contradiction, however, the DEIR later notes that either Deep Water Desal or the People's Project could be built, but not both. Yet the DEIR still only considers Deep Water Desal for cumulative impact purposes. *See* DEIR 4.5-67.

Surfrider agrees that the existing water need cannot possibly justify the development of these other projects, if this Project moves forward. However, there is no binding prohibition on building either or both of the People's or Deep Water desalination projects if this Project is built. Without assurance that these other proposals cannot move forward if Cal-Am's Project is approved, the DEIR cannot assume that some combination of these three projects will not create cumulative impacts in the region. Unless such a binding restriction exists, the DEIR must consider all cumulative impacts from both the Deep Water and People's projects.

**VI. Conclusion.**

For all of the reasons described above, the Agencies should revise the DEIR to provide the public all of the information required to understand the Project's potentially significant environmental effects and prescribe mitigation measures to address those impacts.

Surfrider-11

Surfrider-12

Mary Jo Borak  
Karen Grimmer  
March 29, 2017  
Page 14

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP



Edward T. Schexnayder

cc: Sarah Damron, Surfrider Foundation  
Staley Prom, Surfrider Foundation  
Antony Tersol, Surfrider Foundation Monterey Chapter

873814.4

SHUTE, MIHALY  
& WEINBERGER LLP



**8.6.20 Water Ratepayers Association of the Monterey Peninsula (WRAMP)  
Letter 1 (WRAMP1)**

Water Ratepayers Association of the Monterey Peninsula  
Post Office Box 146  
Carmel, California 93921

20 February 2017

|                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Dear Ms. Borak and Ms. Grimmer:

The following pages of this attachment contain comments by me in behalf of Water Ratepayers Association of the Monterey Peninsula (aka Water Plus) on the Monterey Peninsula Water Supply Project 2017 draft EIR/EIS.

Please let me know if you have any questions about these comments.

Thank you.

Most respectfully,

Ron Weitzman  
President, Water Ratepayers Association of the Monterey Peninsula (aka Water Plus)

20 February 2017

### **The MPWSP “Return Water” Proposal is Counterfactual and Illegal**

Because Cal Am has no water rights in the Salinas Valley, it has proposed in the MPWSP to draw its source water primarily from the sea via slant wells near the shore. Its test well shows that not all the water to be drawn will come from the sea, however. Much of it will come from aquifers in the Salinas River groundwater basin. Even if Cal Am had water rights in the valley, its project would still face a legal hurdle. The state Agency Act prohibits the exportation of *any* valley groundwater outside the valley: “[N]o groundwater from that basin may be exported for any use outside the basin.” Quoting that from the Agency Act on p. 2-39, the 2017 MPWSP draft EIR/EIS observed earlier, on p. 2-31, that “if Cal Am does not have the right to the supply water for the proposed project, the proposed project could not proceed and would thus prove infeasible.” So, the feasibility of the MPWSP depends on its making the groundwater that its wells extract somehow disappear.

WRAMP1-1  
WRAMP1-2  
WRAMP1-3

That is where the “return water” doctrine comes in. The draft 2017 EIR/EIS explained that doctrine thoroughly and succinctly on p. 4.4-49 (italics added): “The MPWSP proposes to return a certain fraction of water (referred to here as return water) extracted by the slant wells to water users in SVGB [Salinas Valley Groundwater Basin] as desalinated product water. As a brief review, the Agency Act does not allow groundwater pumped from the SVGB to be expelled for any use outside the SVGB . . . Since the groundwater in this area has been intruded by seawater for decades, the proposed slant wells at CEMEX would extract brackish water, which is a mixture of ocean water and water originating from the inland aquifers of the basin. *The freshwater portion of the brackish source water that originated from the inland aquifers would constitute the proposed return water. To achieve consistency with the Agency Act, the MPWSP proposes to return the*

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*freshwater component of the brackish water that is extracted through the slant wells.* The exact quantity of water to be returned annually would vary and would be determined each year using a mathematical formula. However, for groundwater modeling and impact analysis purposes in this EIR/EIS, it is estimated that somewhere between 0 and 12 percent of the source water withdrawn for the project would comprise water originating from the inland aquifers, and thus would be returned to the basin . . . through deliveries of up to 800 afy of desalinated product water to the Castroville Community Services District (CCSD). This water would be piped to the CCSD and the CSIP [Castroville Seawater Intrusion Project] and provided to water customers instead of their pumping an equal amount from the ground. This method of returning water is referred to as in-lieu recharge because the delivered water would reduce the need to pump ground water in corresponding quantities. The NMGWM [North Monterey Ground Water Model] accounts for the 0 to 12 percent range by simulating the aquifer response in the various scenarios with a 0, 3.6, and 12 percent returned product water.’’

Translating the return-water doctrine into action, Cal Am in a 2 August 2016 settlement agreement with a number of other parties to the CPUC proceeding on the MPWSP, an agreement not yet approved by the CPUC, proposed to circumvent its lack of rights to Salinas Valley groundwater and to satisfy the state Agency Act’s prohibition of the exportation of groundwater from the Salinas River groundwater basin by returning to the valley a small fraction of the water extracted and exported from the valley, about half exported as purified water to the Monterey Peninsula and the remainder to the bay. On the face of it, this proposal appears to make no sense, and in fact it does not make sense, but Cal Am and its settlement partners justify it by claiming that almost all of the water to be drawn by its slant wells from aquifers beneath the

WRAMP1-4

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shoreline consists of seawater percolated directly from the bay. This claim seems reasonable enough to win many supporters. What could possibly be wrong with it?

↑ WRAMP1-4  
cont.

The answer is “plenty.” First of all, Cal Am has not investigated or, if it has, not reported, the chemical composition of the dissolved solids in the water extracted from its test well to determine if those dissolved solids consist of sodium chloride in an amount characteristic of seawater.<sup>1</sup> In a 26 May memorandum to the Marina Coast Water District, hydrogeologist Curtis Hopkins reported that the chemical composition of the total dissolved solids in well water along the shoreline does not in fact include sodium chloride in an amount characteristic of seawater but consists instead of a blend of other dissolved solids, mostly calcium chloride and calcium carbonate. Hopkins explained this finding as follows: “[T]he groundwater perched above the Salinas Valley Aquitard equivalent flows toward the coast and results in a downward recharge where the aquitard layer thins (or ends) and provides freshwater recharge into the coastal unconfined Dune Sand Aquifer and the underlying 180-Foot Aquifer,” providing “in the Marina Subarea . . . an effective layer preventing seawater intrusion . . . all along the coast . . . that effectively forms a linear recharge barrier within a mile of the shoreline.” **This memorandum by Hopkins is conspicuously absent in the 2017 MPWSP draft EIR/EIS.** Evidently, the return-water doctrine is based not on chemistry, but on sophistry, to circumvent the illegality of extracting and exporting subsurface water from the Salinas Valley.

WRAMP1-5

WRAMP1-6

Return water is the fraction of fresh water in well water estimated to come from inland groundwater, the remainder assumed to come directly from seawater. The fraction computed is not a fraction of *water*, however. It is a fraction of *total dissolved*

WRAMP1-7  
↓

<sup>1</sup> Table 4.4-4 on p. 4-4-22 of the 2017 MPWSP draft EIR/EIS compares the chemical composition of the total dissolved solids in seawater with the chemical composition of the total dissolved solids in water drawn from the test well on 19 May 2016, but the comparison involves chemical elements (ions) rather than compounds.

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*solids* (TDS) in a liter of water. Reported as a percent, that fraction is the proportion of the TDS in test-well water that comes from the 180-foot aquifer computed from the expression of the test-well TDS as a weighted average of the known inland aquifer TDS and the known seawater TDS, the first weight being the proportion of aquifer TDS and the second the proportion of seawater TDS in the well water.<sup>2</sup> The computation relies on the correctness of the assumption that all the non-inland-aquifer TDS in the well water comes from directly-intruded seawater. The return-water doctrine is that compliance with the Agency Act requires only the return to the Salinas Valley groundwater basin of the percentage of fresh water in the well water that comes from the inland aquifer, that percentage considered to be equal to the percentage of inland-aquifer TDS in the well water. As noted earlier, the 2017 MPWSP draft EIR/EIS indicates that this percentage is no larger than 12.

WRAMP1-7  
cont.

Just as the facts concerning water composition indicate otherwise, however, so the facts concerning the percentage of return water also indicate otherwise. Field data, reported by HydroFocus on p. 28 in Appendix E2 of the 2017 MPWSP draft EIR/EIS, show that one-third of the groundwater drawn by the test well comes from the 180-foot aquifer, not 12 percent or less, and that two-thirds comes from the Dune Sand aquifer, none of the water coming directly from the sea, according to the Hopkins memorandum cited earlier.<sup>3</sup> Likewise, most of the TDS in the well water comes from the Dune Sand aquifer which, computed from the return-water formula with weights equal to one-third and two-thirds, contains 38 percent more TDS than seawater. That makes sense

WRAMP1-8

<sup>2</sup> Appendix D of the 2 August 2016 joint-parties settlement agreement filed with the CPUC presents this formula.

<sup>3</sup> The return-water doctrine also underestimates the freshwater contribution of basin groundwater by using the amount of TDS in the inland 180-foot aquifer prior to seawater intrusion. The seawater-intruded 180-foot aquifer directly supplying water to the well site contains a much greater amount of TDS. That is the amount of TDS that should be used to determine the basin contribution of fresh water at the well site. Even seawater-intruded aquifers can contain over 96.5 percent fresh water.

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considering the industrial activity that has been going on for years at the CEMEX well site. Conclusion: Existing and reported data, a critical portion of which is absent from the 2017 MPWSP draft EIR/EIS, indicate that 100 percent of the fresh water extracted by MPWSP wells must be returned to the Salinas River groundwater basin to comply with the Agency Act. The return-water doctrine indicating the percent should be no larger than 12 is contrary to the facts. To apply it would be illegal.

↑  
WRAMP1-8  
cont.

In numerous filings with the CPUC, Water Plus has tried to expose this fatal flaw in the MPWSP, but Cal Am has so far successfully dodged the issue procedurally by persuading the CPUC to exclude most of those filings from the official record on the MPWSP proceeding. Frustrated by that impasse, the Water Plus board decided to take the issue to court. The attached petition for a writ of mandate filed with the Monterey Superior Court last November is the current amendment of the version filed originally earlier in the year.

↑  
WRAMP1-9

**Summary.** In the MPWSP, Cal Am has proposed to replace the illegality of over-pumping water from the Carmel River groundwater basin with the illegality of pumping and exporting water from the Salinas River groundwater basin. The return-water doctrine is the company's attempt to circumvent the second of those illegalities. As proposed, this doctrine is counterfactual and its application would fail to meet the requirements of state law.

↑  
WRAMP1-10

**Recommendation.** A fatally-flawed return-water doctrine being at the core of the MPWSP, Water Plus (aka Water Ratepayers Association of the Monterey Peninsula) recommends that the CPUC either order Cal Am to go back to the drawing board or to purchase water from one of two competing desalination projects as soon as the project has a certified EIR/EIS, just as the CPUC has done for Pure Water Monterey.

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WRAMP1-11



**Water Ratepayers Association of the Monterey Peninsula (WRAMP)  
Letter 2 (WRAMP2)**

Mary Jo Borak  
California Public Utilities Commission

Dear Ms. Borak,

Thank you for your prompt response.

You are suggesting the problem may exist in the input files. That does not make sense. MODEFLOW output would not exhibit the anomalies I observed without manipulation of the program's output in a postprocessor, regardless of the input data. That is because MODEFLOW output would never yield a statistically significant non-zero correlation between calibrated and error values prior to post-processing. To do so would produce calibrated and error value variations that together either fell short of or exceeded the variation of observed measurements. Falling short would mean some of the observed-measurement variation was neither predicted nor unpredicted by the model, and exceeding would mean some of the observed-measurement variation was both predicted and unpredicted by the model. Such MODEFLOW results would be illogical and impossible prior to post-processing.

The data manipulation must have occurred in post-processing. Otherwise, how do you explain the zero correlation between calibrated and error values for the 900-foot aquifer, an aquifer untapped by the proposed intake wells?

The EIR/EIS indicates that LBNL and HydroFocus did not use the proprietary Groundwater Vistas program used by Geoscience as a package including MODEFLOW. If that is true, as you confirm, did LBNL and HydroFocus use a postprocessor that, together with MODEFLOW, confirmed the results obtained by Geoscience? If so, please email me the computer code for that postprocessor, *the very same* postprocessor they used. If they used different postprocessors, I would like particularly the computer code for whatever program or programs HydroFocus used to process and output the results obtained from MODEFLOW. I would also like to know who may have provided that postprocessor to HydroFocus. Thank you.

Most respectfully,

Ron Weitzman

WRAMP2-1

**Water Ratepayers Association of the Monterey Peninsula (WRAMP)  
Letter 3 (WRAMP3)**

Ms. Borak:

Thank you for your reply. I understand from it that you are not going to provide me the postprocessor computer program that HydroFocus used to put the MODEFLOW output data in the form of the file you sent me in response to my request during the comment period for the previous EIR. The reason I requested that postprocessor is that I believe it must contain the computer code that is the source of the corruption of the model output data for the 180-foot aquifer. That corruption is so massive as to render the model output data for the 180-foot aquifer useless for any purpose other than to provide evidence of data tampering. Please also consider this letter a comment on the DEIR/DEIS. Thank you.

Respectfully,  
Ron Weitzman

WRAMP3-1

**Water Ratepayers Association of the Monterey Peninsula (WRAMP)  
Letter 4 (WRAMP4)**

Water Ratepayers Association of the Monterey Peninsula  
Post Office Box 146  
Carmel, California 93921

16 March 2017

|                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Mary Jo Borak, CEQA Lead</b><br/><b>California Public Utilities Commission</b><br/><b>c/o Environmental Science Associates</b><br/><b>550 Kearny Street, Suite 800</b><br/><b>San Francisco, CA 94108</b><br/><a href="mailto:Maryjo.Borak@cpuc.ca.gov">Maryjo.Borak@cpuc.ca.gov</a></p> | <p><b>Karen Grimmer, NEPA Lead</b><br/><b>Monterey Bay National Marine Sanctuary</b><br/><b>99 Pacific Avenue</b><br/><b>Building 455a</b><br/><b>Monterey, CA 93940</b><br/><a href="mailto:Karen.Grimmer@noaa.gov">Karen.Grimmer@noaa.gov</a></p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Dear Ms. Borak and Ms. Grimmer:

The following pages of this attachment contain comments by me in behalf of Water Ratepayers Association of the Monterey Peninsula (aka Water Plus) on the Monterey Peninsula Water Supply Project 2017 draft EIR/EIS.

Please let me know if you have any questions about these comments.

Thank you.

Most respectfully,

Ron Weitzman  
President, Water Ratepayers Association of the Monterey Peninsula (aka Water Plus)

16 March 2017

## **Fallacy of the Return Water Doctrine (for People who have had 1<sup>st</sup>-year Algebra)**

According to Appendix D of the Joint Motion for Approval of the Settlement Agreement on Desalination Plant Return Water filed with the CPUC on 2 August 2016, the return-water doctrine depends upon the equation expressing the total dissolved solids (TDS) in well water ( $W_{TDS}$ ) as a weighted average of the TDS in groundwater ( $G_{TDS}$ ) and the TDS in seawater ( $S_{TDS}$ ):

$$W_{TDS} = XG_{TDS} + (1 - X)S_{TDS} ,$$

the weights being the proportion of groundwater ( $X$ ) and the proportion of seawater ( $1 - X$ ) in the well water. The solution of this equation for  $X$  yields the proportion of TDS in the well water that comes from groundwater:

WRAMP4-1

16 March 2017

$$X = \frac{S_{TDS} - W_{TDS}}{S_{TDS} - G_{TDS}} .$$

Proponents of the return-water doctrine consider this to be the proportion of return water, which is the proportion of fresh water extracted and exported from groundwater in the Salinas Valley that needs to be returned to the valley groundwater basin to satisfy the state Agency Act's prohibition of the exportation of groundwater from that basin.

Solution of this equation for X requires knowledge of the three different TDS values on the right side of it. Little dispute exists about two of the values:

$$S_{TDS} = 33500 \text{ and } W_{TDS} = 31076,$$

33,500 being an acceptable approximation and 31,076

WRAMP4-1  
cont.

16 March 2017

being determined from the test well. The third value,  $G_{TDS}$ , however, is subject to dispute.

Proponents of the return-water doctrine assume this value to be equal to the TDS in the 180-foot aquifer at the inland edge of seawater intrusion into that aquifer, generally agreed upon to be equal to about 500. On this assumption, the amount of extracted and exported fresh water that needs to be returned to the Salinas Valley to satisfy the Agency Act is equal to about 7 percent:

$$X_{500} = \frac{33500 - 31076}{33500 - 500} = \frac{2424}{33000} = .073 .$$

Why the dispute? Three major reasons:

**Reason 1.** Despite a TDS as high as 33,500, seawater still contains 96.5 percent fresh water (pure  $H_2O$ ). The return-water doctrine assumes that all that

WRAMP4-1  
cont.

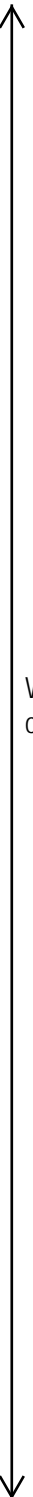
WRAMP4-2



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fresh water accompanying the 3.5 percent TDS in the seawater intruded into the 180-foot aquifer comes from the sea and therefore cannot be considered to be groundwater which, without seawater intrusion, consists of even a greater percentage of fresh water. The fact is, however, that, once intruded into the aquifer, the 96.5 percent fresh water in the intruded seawater becomes part of the groundwater because it is now water under the ground. All the water in the 180-foot aquifer, regardless of its source, is groundwater.

One of Water Plus's attorneys provided the following helpful analogy. The rain falling into your neighbor's water-containment barrels belongs to your neighbor. Even though the water comes from the sky, you cannot use it later on to water your garden. It is not your water. It belongs to your neighbor. Likewise,



WRAMP4-2  
cont.

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even though much of the water in the 180-foot aquifer comes from the sea, it is not water you can use because it belongs to the 180-foot aquifer, which captured it and which the Agency Act prohibits you from using.

So, if 500 is not the correct value to use for  $G_{TDS}$ , then what is? According to Table 2 of the Hydrological Working Group Monthly Report #15 (p.44), the TDS in Monitoring Well 4 (MW4) for the 180-foot aquifer was equal to about 22,600 on 11 January 2017. The HWG claims this represents a steady-state value. Taking this to be the appropriate value for  $G_{TDS}$ , obtained from the 180-foot aquifer just outside the pumping well's cone of depression, we must conclude that the return-water percentage is equal to, not 7 percent, but 22 percent:

$$X_{22,600} = \frac{33500 - 31076}{33500 - 22600} = \frac{2424}{10900} = .222 .$$

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**Reason 2.** Twenty-two percent might be the correct return-water percentage if all the groundwater in the well water came from the 180-foot aquifer, but it does not. According to HydroFocus on p. 28 in Appendix E2 of the MPWSP EIR/EIS, as much as 66 percent of the groundwater in the well water comes from the Dune Sand aquifer, only the remaining 34 percent coming from the 180-foot aquifer. So, a tacit, though critical, assumption of the return-water doctrine is plainly incorrect. The Dune Sand aquifer is largely free of seawater intrusion, and therefore, prima facie, much of the fresh water in the well water must come from Salinas Valley groundwater, most likely a percentage much larger than 22.

WRAMP4-3

**Reason 3.** The MPWSP EIR/EIS failed to cite the 26 May 2016 memorandum to the Marina Coast Water

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District by hydrogeologist Curtis Hopkins in which he showed that none of the water in the test well comes directly from the sea. That being the case, all the fresh water in the well must come from the Salinas Valley groundwater basin. The meaning is clear: All the fresh water extracted and exported from that basin must be returned to it to avoid violation of the Agency Act. Equally clearly, without its return-water foundation, the MPWSP cannot work.

WRAMP4-4  
cont.

**Recommendation.** The CPUC must dismiss the MPWSP proceeding before Cal Am can claim repayment from ratepayers of any additional ratepayer money spent on the project. In fact, ratepayers should be responsible for no money spent on that project at least from the time Water Plus filed its first motion to dismiss the proceeding.

WRAMP4-5

## 8.6.1 Responses to Comments from Ag Land Trust

### 8.6.1.1 Responses to Comments from Ag Land Trust – Letter 1

ALT1-1 The EIR/EIS does not evaluate or recommend mitigation for the test slant well pumping for several reasons. First, the construction and existing operation of the test slant well under its current permits and authorizations is not part of the proposed project; rather, the conversion of the test slant well to a permanent well was described as part of the proposed project in EIR/EIS Section 3.2.1.1. Therefore, the impacts of the test slant well as currently installed and operated are not attributable to the proposed project. Second, the California Coastal Commission (CCC), not the CPUC, issued a Coastal Development Permit (CDP) for the test slant well; the CPUC had no jurisdiction to evaluate or authorize the test slant well. As described in Master Response 11, CalAm Test Slant Well, the CCC and MBNMS, in their independent CEQA and NEPA analyses of the test slant well, adopted necessary mitigation measures relevant to that project, and the results of test slant well pumping have not indicated a degradation of groundwater quality attributable to the test slant well operation. To the extent that the comment expresses concerns over the effects of the proposed project, see EIR/EIS Section 4.4, Groundwater Resources, which indicates that the project will not adversely impact the quality or quantity of water available to Ag Land Trust. With respect to water rights, see EIR/EIS Section 2.6, Water Rights, and Master Response 3, Water Rights.

ALT1-2 Impacts 4.4-3 and 4.4-4 in Section 4.4, Groundwater Resources, evaluate groundwater quality and quantity, which indirectly relate to agricultural production in the Salinas Valley Groundwater Basin. That analysis identifies less-than-significant impacts on existing users of wells that may be affected by the proposed project, including agricultural users (such as Ag Land Trust, whose wells in the vicinity of the proposed slant wells at CEMEX are identified in EIR/EIS Table 4.4-10). Because the proposed project would not affect groundwater quality or levels in a way that would adversely affect existing agricultural users, it would not result in a change in the existing environment that would indirectly result in the permanent conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. No purchase and conversion of such lands is projected to occur as a result of the proposed project; thus, there would be no loss of employment or displacement of farmworkers associated with such conversion. See also response to comment MCRMA-5 in Section 8.5.4.

Regarding the topic of groundwater pumping from the basin, water rights issues are addressed in the Master Response 3, Water Rights.

ALT1-3 CEQA and NEPA require that the respective lead agencies provide specific opportunities for public involvement. These opportunities include the scoping process (described EIR/EIS Section 1.5.1 and in Appendix A) and the public review and comment period following the release of the draft environmental document (described

in EIR/EIS Section 1.5.2). Ag Land Trust has regularly contributed to these processes with timely submittals, for example, with a November 9, 2012, scoping letter included in Appendix A. However, no scoping comment was received from Ag Land Trust in response to the NEPA Notice of Intent issued by NOAA in August 2016.

The visit to the Ag Land Trust farm described in the comment, occurred following the release of the April 2015 Draft EIR. The Draft EIR had stated that “Ag Land Trust has indicated that it has one well that is active and located about one-mile northeast of the proposed slant wells in the agricultural fields” but that field reconnaissance could not locate the well and the SWRCB did not have any record of a well at the location indicated by Ag Land Trust. Representatives of the Lead Agencies contacted the Ag Land Trust after the release of the April 2015 Draft EIR to inquire about a site visit to its wells, and received the following email response: “The Ag Land Trust, in compliance with CEQA, is already preparing comments on your draft EIR and we will submit those comments and all documents previously delivered to the CPUC before your deadline of June 30, 2015. The Trust [would be] willing to arrange to show our farm to you after the comment period is completed so that you may fully evaluate our comments, and others that you may receive, with the facts and physical conditions that exist near the “project area” prior to your determinations regarding both the adequacy of the Draft and/or the significant adverse impacts to adjacent potable groundwater resources and productive coastal farmland (and loss of farm workers’ jobs) that would be required to be identified/mitigated in the Final EIR.” (Ag Land Trust, 2015).”

The comment period on the April 2015 Draft EIR was extended to September 2015, and the Ag Land Trust submitted timely comments on the April 2015 Draft EIR. In October 2015, the representatives of the Lead Agencies again inquired with Ag Land Trust about a site visit; a field visit was conducted on December 15, 2015, and field notes were prepared (ESA, 2016). Much of what was communicated verbally at the site visit confirmed information that was provided by the Ag Land Trust in its comments on the April 2015 Draft EIR. The representatives of the Lead Agencies viewed two Ag Land Trust wells during the December 15, 2015 site visit. Subsequently, both of these wells (the “Big Well” and the “Small Well”) were identified as active wells in the current EIR/EIS; see EIR/EIS Table 4.4-10).

ALT1-4 See Master Response 1, EIR/EIS Authorship. The analyses and conclusions in the EIR/EIS reflect the independent judgment of the Lead Agencies; therefore, the CPUC and MBNMS, not the consultants, are responsible for the scope, content, adequacy, and objectivity of the EIR/EIS.

Impacts on groundwater resources are evaluated in EIR/EIS Section 4.4, Groundwater Resources. Known active supply wells within the vicinity of the proposed MPWSP slant wells are shown in EIR/EIS Table 4.4-10 and in Figures 4.4-14 (Dune Sands Aquifer), 4.4-15 (180-FTE Aquifer), and 4.4-16 (400-Foot Aquifer) and are considered in the impact analysis under Impacts 4.4-3 and 4.4-4. The Ag Land Trust “Small Well”



(14S/2E-18C1) is screened within the 400-Foot Aquifer, and its location relative to the 1-foot response resulting from proposed project pumping is shown in Figure 4.4-16. The project's impact on water availability and water quality related to this well would be less than significant as explained in EIR/EIS Section 4.4.5.2. The "Big Well" is screened within the 900-Foot Aquifer and modeling indicates that no impacts would occur in the 900-Foot Aquifer as a result of proposed project pumping; see Master Response 7, The Deeper Aquifers of the Salinas Valley Groundwater Basin.

The Lead Agencies acknowledge receipt of the first letter of objection (2006), as well as copies of correspondence since 2006 including to and from the CCC, Monterey County Water Resources Authority (MCWRA), and The Law Offices of Michael Stamp, provided as attachments to the comment. The Lead Agencies have considered this correspondence and attachments. Many of these attachments are in regard to the test slant well, the relevance of which to the proposed project is described in response to comment ALT1-1. See also response to comment ALT1-3.

ALT1-5 The CPUC exceeded the public noticing requirements of CEQA Guidelines Section 15087 by providing an approximately 75-day public review and comment period of the Draft EIR/EIS beginning in January 2017. The Lead Agencies mailed a Notice of Availability (NOA) and a 2-CD set of the Draft EIR/EIS to every organization and individual who previously requested such notice (including Mr. Del Piero and Ag Land Trust; see EIR/EIS Appendix A1, p. A1-2), at the same time that a Notice of Completion was mailed to the Office of Planning and Research. That NOA/CD mailing included 390 recipients. Owners and occupants of all properties contiguous with or within 300 feet of a proposed project feature (and alternative proposed project feature) were also mailed a copy of the NOA. That mailing included approximately 2,410 addresses from the latest equalized assessment roll and with the NOA/CD mailing, satisfied CEQA Guidelines Section 15087(a). The Lead Agencies also published the NOA as a quarter-page advertisement in the Monterey Herald on January 13 and 27 and February 6, 2017; and in the Carmel Pinecone on January 13 and February 3, 2017. The NOA was also published in the Federal Register on January 13, 2017, and it was posted on the project website at [http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/ann\\_and\\_sched.html](http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/ann_and_sched.html).

ALT1-6 For responses to the comment letters referenced in this comment, see: Section 8.6.20, Responses to Comments from Water Ratepayers Association of the Monterey Peninsula; Section 8.7.18, Responses to Comments from Larry Parrish; Section 8.7.2, Responses to Comments from David Beech; Section 8.7.1, Responses to Comments from Michael Baer; Section 8.7.22, Responses to Comments from Nancy Selfridge; Section 8.7.3, Responses to Comments from Kathy Biala; Section 8.6.7, Responses to Comments from Citizens for Just Water; Section 8.6.17, Responses to Comments from Public Water Now (signed by George Riley); and Section 8.7.11, Responses to Comments from Myrleen Fisher. No comments received on the Draft EIR/EIS were signed "Water Plus."

The Lead Agencies acknowledge receipt of the attachments to ALT Comment Letter 1, and note that the additional information and objections raised in those attachments and correspondence consist primarily of comments on the test slant well and the April 2015 Draft EIR. Note also that the comment letter and attachments do not raise issues that would require revisions to or recirculation of the Draft EIR/EIS. See also response to comment ALT1-4 and MR-3, Water Rights.

### **8.6.1.2 Responses to Comments from Ag Land Trust – Letter 2**

- ALT2-1 See response to comment ALT1-3.
- ALT2-2 See Master Response 3, Water Rights. There is no evidence to indicate that the project would effect a taking of land or water rights.
- ALT2-3 Master Response 12, The North Marina Groundwater Model (v. 2016), explains that the North Marina Groundwater Model (NMGWM) that was used for the 2015 version of the North Marina Groundwater Model (NMGWM<sup>2015</sup>) was peer reviewed by Lawrence Berkeley National Laboratory (LBNL, see EIR/EIS Appendix E1), and how the Lead Agencies’ hydrogeology consultant (HydroFocus) revised the NMGWM<sup>2015</sup> consistent with LBNL’s recommendations, and incorporated additional improvements (see EIR/EIS Appendix E2). These efforts were undertaken under contract to and direction of the Lead Agencies and not the Hydrogeologic Working Group (HWG). All of this information was also provided in the EIR/EIS Appendices E1 and E2. See Master Response 1, EIR/EIS Authorship; the consultants that form part of the CEQA/NEPA team are contractually obligated to the CPUC and MBNMS, as co-Lead Agencies. See Master Response 5, The Role of the Hydrogeologic Working Group and its Relationship to the EIR/EIS, regarding the HWG. See also Master Response 11, CalAm Test Slant Well, Section 8.2.11.4, regarding the baseline water levels and total dissolved solids (TDS) levels established prior to the long-term pump test in the report titled *Baseline Water and Total Dissolved Solids Levels* referenced in EIR/EIS Section 4.4, Groundwater Resources, as Geoscience, 2015b. Finally, see Master Response 12, The North Marina Groundwater Model (v. 2016), Section 8.2.12.3, regarding the use of superposition in the analysis based on the 2016 version of the NMGWM (NMGWM<sup>2016</sup>).
- ALT2-4 The comment does not specify what available data was omitted, and does not specify or clarify what impacts it is referring to. Impacts on groundwater resources are presented in Section 4.4, Groundwater Resources, of the Draft EIR/EIS. See also response to comments ALT1-2 and ALT1-3.
- ALT2-5 See response to comment ALT1-3. Both the “Small Well” and “Big Well” are acknowledged as active wells in EIR/EIS Section 4.4, Groundwater Resources. The comment does not convey the manner in which the proposed project may have an impact on the dune restoration projects, or that the EIR/EIS omitted important information regarding unmitigated significant and adverse environmental impacts.

Potential project impacts on dune habitat are described in EIR/EIS Section 4.6, Terrestrial Biological Resources. See also response to comment ALT1-2 and ALT1-3.

The Lead Agencies acknowledge receipt of the attachments to ALT Comment Letter 2. The comment letter and attachments do not raise issues that would require revisions to or recirculation of the Draft EIR/EIS. See also response to comment ALT1-4 and Master Response 1, EIR/EIS Authorship; the CPUC and MBNMS, not the consultants, are responsible for the scope, content, adequacy, and objectivity of the EIR/EIS.

### **8.6.1.3 Responses to Comments from Ag Land Trust – Letter 3**

- ALT3-1 Receipt of the attachments is acknowledged. As acknowledged in EIR/EIS Section 2.6, Water Rights, one of the three relevant types of water rights in the Salinas Valley Groundwater Basin is “overlying rights whereby those who own land atop the Basin may make reasonable use of groundwater on such overlying land.” Further, EIR/EIS Section 4.4, Groundwater Resources, acknowledges Ag Land Trust’s two existing, active wells. The documents provided in the comment letter do not present new information that would affect the analysis of project water rights or impacts on groundwater resources.
- ALT3-2 Receipt of the July 2009 water analysis report is acknowledged. This report does not identify the date that the sample was drawn, or from which well; thus, it is unclear which aquifer was the source of the sampled water. Regardless, both of the Ag Land Trust wells (the “Big Well” and “Small Well” as described in response to comment ALT1-3) are identified as active water supply wells in EIR/EIS Table 4.4-10, and thus have been considered in the EIR/EIS analysis of potential project impacts on water quality in Impact 4.4-4. Neither the comment nor the water analysis report provides evidence of an intentional omission of significant adverse impacts necessitating revision to or recirculation of the Draft EIR/EIS.

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## **References**

- Ag Land Trust, 2015. E-mail from Ag Land Trust to Eric Zigas, May 25, 2015.
- ESA, 2016. Field notes from site visit with Ag Land Trust.

## 8.6.2 Responses to Comments from California Unions for Reliable Energy

### 8.6.2.1 Responses to Comments from California Unions for Reliable Energy – Main Letter

- CURE-1 See responses to comments MCWD-78 and MCWD-79 in Section 8.5.2.
- CURE-2 The Draft EIR/EIS at page 4.2-71 acknowledges that “the anticipated future presence of the test slant well on the beach due to coastal retreat would result in a significant impact.” As noted by the commenter, Mitigation Measure 4.2-10 would reduce the impact to less than significant and only applies to the wells that become vulnerable to the effects of coastal retreat. Impact 4.2-10 has been revised to include a discussion of the secondary impacts of this mitigation measure (i.e., of abandonment of the converted test slant well). Unlike the test slant well as currently permitted, which unless converted to a production well pursuant to further permits would be decommissioned per the terms of its CDP, there is no decommissioning phase of the proposed MPWSP. See also response to comment MCWD-80 in Section 8.5.2.
- CURE-3 See responses to comments MCWD-78 and MCWD-79 in Section 8.5.2.
- CURE-4 See responses to comments MCWD-78, MCWD-79, and MCWD-82 in Section 8.5.2. For the reasons explained therein, the 20- to 25-year “useful life” used in project cost amortization calculations is not equivalent to a time period after which the slant wells would necessarily be decommissioned. Therefore, the suggestion that the slant wells would need to be replaced after 20 to 25 years is not applicable.
- CURE-5 The slant wells are described in EIR/EIS Section 3.2.1.1 (see Draft EIR/EIS pages 3-7 and 3-15 through 3-18) which includes details of the slant wells, a plan view map of the well layout (Figure 3-3a), Table 3-2 that lists the lengths of the permanent wells seaward of MHW, and an illustrative cross-sectional view of the subsurface slant wells. This description of the slant wells is adequate to allow for the necessary evaluation of impacts under CEQA and NEPA. As noted correctly by the comment, the test well’s purpose was to inform the design of the proposed slant wells. See response to comment Beech2-8 in Section 8.7.2 and Master Response 11, CalAm Test Slant Well, Section 8.2.11.7 for an explanation of the proposed 14-degree angle of the slant wells.
- CURE-6 As noted by the commenter and EIR/EIS Section 3.3.2.1, the pump would be lowered several hundred feet into each well. See response to comment CURE-Sobczynski-1. As noted in EIR/EIS Section 3.2.2.2, the 24.1 mgd of source water would run through a first pass and partial second pass through the RO membranes (see Table 3-1), which is why a simple calculation of a 42 percent recovery rate multiplied by the feedwater supply rate does not yield the 9.6 mgd of product water. The EIR/EIS explains how

the project would catch-up on production following a 2-day shutdown in Table 3-7. As noted in the text in Section 3.4.1, any fluctuations in daily production would not affect total monthly production.

- CURE-7 Unlike the test slant well, the production wells would not include an inflatable/deflatable packer. See also response to comment CURE-Sobczynski-1.
- CURE-8 Degradation of the slant wells due to biofouling and/or corrosion is not discussed because as noted on Draft EIR/EIS page 3-48, the wells would be completed with super-duplex stainless steel well screens, to avoid corrosion and biofouling. The EIR/EIS disclosed the technical characteristics of all proposed project components, facilities, and activities, and evaluated the environmental impacts thereof in accordance with CEQA and NEPA requirements. See also responses to comments MCWD-78 and MCWD-79 in Section 8.5.2 regarding decommissioning.
- CURE-9 See Master Response 10 regarding CEQA and NEPA baseline, as well as responses to comments CURE-10 through CURE-17, below.
- CURE-10 A detailed and comprehensive assessment of impacts to receiving ocean water quality from operational discharges and associated impacts to marine biological organisms is presented in EIR/EIS Sections 4.3 and 4.5. Section 4.3.1 and Appendices D1 through D3 present detailed baseline water quality information specific to Monterey Bay, including site-specific water quality data for the area immediately surrounding the MRWPCA outfall diffuser, sufficient for assessing the potential impacts from implementation of the MPWSP. Under Impact 4.3-5, baseline water quality data is utilized to conservatively assess impacts from a wide range of water quality constituents present in operational discharges (see Table 4.3-15 for a comprehensive list of constituents assessed).

Regarding the ionic composition of seawater and the common ion effect within the context of the desalination process, the reverse osmosis process, when applied to desalination of seawater, typically rejects major ions and salts at approximately the same ratio. The ratio of major ions and salts in the brine concentrate would be approximately the same as those ratios in the ambient seawater. However, as discussed in the comment, the interactions of various constituents and parameters related to water chemistry are complex and water quality data is not available for all constituents, parameters, and potential interactions. While the water quality assessment conducted for the EIR/EIS is comprehensive in scope and range of potential contaminants assessed under varying ocean season conditions under a variety of operational discharge scenarios, it is acknowledged under Impact 4.3-5 that a compliance determination could not be made for a number of constituents due to insufficient available data. In the absence of such data, it was conservatively concluded that the MPWSP could result in a significant impact on receiving ocean water quality.

Significant impacts related to the discharge of unknown contaminants, and associated impacts on marine biological resources that may result from disturbance or adverse water quality conditions, would be reduced to a less-than-significant level by implementing Mitigation Measures 4.3-4 and 4.3-5. Mitigation Measure 4.3-4, which includes consideration of impacts to marine organisms related to toxicity from operational discharges (such as may occur due to ionic imbalance or resulting precipitates), would ensure that monitoring be conducted in the immediate vicinity of the outfall diffuser within the area of influence. Monitoring would include benthic community health and aquatic life toxicity. Mitigation Measure 4.3-4 ensures that all collected data is assessed against defined performance standards and that corrective actions are implemented in the case that performance standards are not met. Mitigation Measure 4.3-5 requires CalAm to perform an extensive water quality assessment as part of a waste disposal study. Specifically, CalAm would be required to analyze MPWSP operational discharges for the full range of regulated water quality constituents specified in the Ocean Plan *as well as NPDES water quality requirements* (italics added for emphasis), in accordance with protocols approved by the RWQCB. Should performance standards for marine organisms or water quality criteria not be met, a suite of corrective actions is detailed for implementation as part of Mitigation Measure 4.3-5.

As described in Section 4.3.2 and further discussed under Impact 4.3-5, in order for MRWPCA to commingle MPWSP brine with wastewater, the associated NPDES permit will need to be updated and amended to reflect the physical and chemical changes in the commingled effluent plume. As part of the NPDES amendment or update, Whole Effluent Toxicity (WET) testing will be required, representing an integrated approach for assessing the potential for toxicity of discharges occurring under the various proposed operational discharge scenarios (e.g., brine only, brine with waste water, etc.). The primary objective of WET testing is to ensure that effluent released from industrial and municipal facilities into the nation's waters does not cause unacceptable levels of toxicity to aquatic life. To determine whether an effluent has the potential to be toxic, WET tests are performed on various aquatic test species. Specifically, WET testing is a standardized measure of the aggregate toxic effect of an effluent (such as brine or a brine/municipal wastewater mix) measured directly by a toxicity test and is used to evaluate biological impacts of discharges for NPDES permitting. Ion imbalances can cause a toxic response in a WET test.

Toxicity cannot be measured analytically. Chemical analyses are practical only when all potential constituents present in an effluent are known. WET testing assesses the combined toxic effects of all constituents of an effluent, known or unknown. The use of biological testing provides a means to evaluate the impact of chemical and physical mixtures at the site of discharge and, consistent with Mitigation Measure 4.3-4, will consider benthic species and/or species most relevant to the site. As discussed in detail in EIR/EIS Sections 4.3 and 4.5, benthic habitat is of primary concern for effluents that are denser than seawater and sink to the bottom. For these reasons, full ionic



composition testing is not practical, but WET testing is sufficient to assess the potential impact or toxic effect of water constituents, including ionic constituents.

CURE-11 See responses to comments CURE-8, regarding biofouling, and CURE-Sobczynski-3, regarding clay in the area of the slant wells. It would not be possible to have an algal bloom inside of the slant wells. Algal blooms are the result of a combination of environmental factors including available nutrients, temperature, sunlight, ecosystem disturbance (stable/mixing conditions, turbidity), hydrology (river flow and water storage levels) and the water chemistry (pH, conductivity, salinity, carbon availability). The insides of the slant wells would have no sunlight; therefore, an algal bloom would not be possible.

See EIR/EIS Section 4.5.1 for a discussion of the marine resources environmental baseline.

CURE-12 See response to comment CURE-Owens-1.

CURE-13 See response to comment CURE-Owens-3.

CURE-14 See response to comment CURE-Owens-4 and CURE-Owens-5.

CURE-15 See response to comment CURE-Owens-8.

CURE-16 EIR/EIS Section 4.6.1.8, Special-Status Species, includes a thorough discussion of the status of western snowy plover within the project area and the potential for this species to occur within the project area based on known occurrence records and habitat conditions. See Draft EIR/EIS page 4.6-50. This information provides an adequate baseline to evaluate potential project impacts on this species. See responses to comments CURE-Owens-4, CURE-Owens-9, and CURE-Owens-10.

CURE-17 NEPA (40 CFR 1502.15) requires that an EIS “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The descriptions shall be no longer than is necessary to understand the effects of the alternatives.” The setting presented in EIR/EIS Section 4.20, as well as in other Chapter 4 sections referenced by Section 4.20, provides an adequate description of the affected environment relevant to potential project impacts. As described in Draft EIR/EIS Sections 4.3 and 5.5.3 and Sections 4.20 and 5.5.20, respectively, the proposed project and alternatives would not have adverse project-level or cumulative impacts related to drinking water contamination or unemployment. Therefore, incorporation of information sourced from CalEnviroScreen on existing drinking water contamination or unemployment (in addition to information from other sources already described and cited on such topics in Sections 4.3 and 4.20) is not necessary to understand the effects of the proposed project and alternatives.

CURE-18 Responses to general comments on the adequacy or accuracy of the Draft EIR/EIS analysis of various resources are provided where the commenter provides further

specificity. Regarding impacts on ocean water quality, see response to comment CURE-19. Regarding impacts on marine resources, see responses to comments CURE-20 through CURE-28. Regarding impacts on biological resources, see responses to comments CURE-29 through CURE-32. Regarding impacts on air quality, see responses to comments CURE-33 through CURE-37 and CURE-40. Regarding impacts on public health, see responses to comments CURE-38 and CURE-39. Regarding impacts related to vibration, see responses to comments CURE-41 and CURE-42. Regarding impacts related to decommissioning, see response to comments CURE-1 through CURE-3 and CURE-43.

CURE-19 The EIR/EIS does not omit assessment of impacts on ocean water quality or marine biological resources within the Zone of Initial Dilution (ZID), nor does it state that excessive constituents within the ZID would not result in a potentially significant impact. The analyses presented in EIR/EIS Sections 4.3.5 and 4.5.5 assess site-specific impacts of the project, including cumulative impacts (see EIR/EIS Sections 4.3.6 and 4.5.6), related to water resources and marine biological resources from the point of discharge out to various regulatory compliance points and beyond. The analyses presented in EIR/EIS Sections 5.5.3 and 5.5.5 assess similar site-specific impacts of the proposed alternatives, including cumulative impacts, related to water resources and marine biological resources. The impact analyses include assessment of compliance with various relevant regulations, including the California Ocean Plan narrative requirements and numeric WQOs. Additionally, an assessment of impacts on water quality and marine organisms in the area immediately surrounding the point of discharge was conducted for impacts that may occur even if regulatory compliance is achieved, as discussed in EIR/EIS Sections 4.3.5 and 4.5.5.

Impact 4.3-4 relating to water quality standards presents an assessment of incremental salinity increases above ambient, from the point of discharge to the edge of the ZID (18 to 55 meters from point of discharge), and to the edge of the Brine Mixing Zone (BMZ; 100 meters from point of discharge), as well as an assessment of potential changes to dissolved oxygen concentrations and the risk of an occurrence of hypoxia. This analysis focuses not solely on Ocean Plan compliance, but also with waste discharge requirements issued by the Regional Water Board. These water quality results are then utilized under Impact 4.5-4 (see EIR/EIS Section 4.5.5.2) to assess impacts on marine habitat and organisms from the point of discharge to the edge of the ZID (i.e., within the ZID) and to the edge of the BMZ (i.e., within the BMZ). The analyses presented under Impact 4.5-4 describe, for example, that due to the predicted incremental salinity increases considered within the context of various representative species' salinity tolerances, the area outside the ZID and within the BMZ would continue to be suitable for squid spawning. The area within the ZID, however, could become unsuitable for squid spawning if the area exceeding 2 ppt above ambient were to contact the seafloor, which modeling demonstrates it would not; see EIR/EIS Figure 4.3-10. And the impact analysis presents a quantified assessment of the potential loss of habitat area within the ZID and within the context

of total available squid spawning habitat within the Monterey Bay area if it were to contact the seafloor, which is estimated to be approximately 0.0042 to 0.0163 percent of the suitable spawning habitat available in the area. The impact analysis presented in Section 4.5.5.2 similarly assesses and quantifies unanticipated effects on benthic and pelagic communities in the vicinity of the discharge.

Under Impact 4.3-5, the potential for operational discharges to increase the concentrations of a wide range of constituents is assessed and it is concluded that, due to gaps in available data, it is possible that Ocean Plan water quality objectives would be exceeded as a result of operational discharges. It was therefore conservatively concluded that the MPWSP could result in a significant, yet mitigable, impact related to water quality. Similar to the analyses presented for salinity and dissolved oxygen, the water quality results presented under Impact 4.3-5 are then utilized under Impact 4.5-4 (see EIR/EIS Section 4.5.5.2) to assess and quantify impacts to marine habitat and organisms from the point of discharge to the edge of the ZID (i.e., within the ZID). Additionally, the transfer of bioaccumulated contaminants from benthic infauna to higher trophic levels as well as to predators from prey is assessed for the area around the point of discharge independent of regulatory compliance at the edge of the ZID.

Regarding impacts relating to ionic imbalance, the potential for complex chemical interactions, and associated toxicity effects on marine wildlife and human health, see response to comment CURE-10. Regarding comments related to mitigating potentially significant effects related to operational discharges and ocean receiving water quality see responses to comments CURE-10, Surfrider-11 and Surfrider-12 in Section 8.6.19, Marina-39 and Marina-41 in Section 8.5.1, and ERF-10 in Section 8.6.10.

The use of environmentally inert biodegradable additives proposed for use as part of construction (e.g., well drilling) and maintenance (e.g., well screen cleaning) is comprehensively assessed in EIR/EIS Section 4.3.5.1 (water quality) as well as under other resource topics (see Section 4.5.5.1 for an assessment of impacts to marine organisms from the use of environmentally-inert biodegradable additives for construction and maintenance activities). As described, the use of such materials, if discharged directly, could adversely affect water quality in Monterey Bay or other down gradient receiving waters. Consistent with the described regulatory requirements relevant to such actions (e.g., General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities [Order No. 2009-0009, NPDES No. CAS000002]), any effluent containing environmentally inert biodegradable materials would be pumped to a storage container or portable holding tank where any chemical residuals and sediment would settle out for offsite hauling and disposal. Additional detailed analyses relating to the use of environmentally inert biodegradable additives are presented in EIR/EIS Section 4.7.5 (hazards and hazardous materials).

- CURE-20 The EIR/EIS impact conclusion would remain the same, even if the infiltration rate calculated by Dr. Sobczynski was used in the analysis. See response to comment CURE-Sobczynski-1.
- CURE-21 As the Draft EIR/EIS stated on page 3-48, a submersible pump would be lowered several hundred feet into each well. That would put the pump in the upper third of the well, and approximately 300 to 400 feet inland from mean high water in 2020. See response to comment CURE-Sobczynski-1.
- CURE-22 See response to comment CURE-Sobczynski-1.
- CURE-23 See responses to comments CURE-7 and CURE-Sobczynski-1.
- CURE-24 See response to comment CURE-Sobczynski-2.
- CURE-25 See response to comment CURE-Sobczynski-1.
- CURE-26 See response to comment CURE-Sobczynski-1.
- CURE-27 See response to comment CURE-Sobczynski-2.
- CURE-28 EIR/EIS Section 4.1.7 presents the methods used to evaluate cumulative impacts, and lists projects in Table 4.1-2 that may have cumulative effects when combined with the impacts from the proposed project or alternatives discussed in the Draft EIR/EIS. There are two other desalination proposals for the Moss Landing area of Monterey Bay, and they are listed Table 4.1-2 as Project No. 34, Monterey Bay Regional Water Desalination Project (DeepWater Desal, described in Section 5.4.5) and Project No. 57, the People's Moss Landing Water Desalination Project (People's Project, described in Section 5.4.6). Both of these projects propose to utilize screened open water intakes for source water, and not subsurface intakes. The EIR/EIS evaluates these projects in the cumulative analyses as proposed by their applicants, and does not speculate on their use of subsurface intakes. It is not clear why the organic matter that originated in the ocean would contaminate the ocean upon its release. See also response to comments CURE-Sobczynski-1, CURE-Sobczynski-2, and CURE-Sobczynski-4 and Master Response 15, Alternative Desalination Projects – Status, Information Sources, and Cumulative Scenario.
- CURE-29 See responses to comments CURE-Owens-5 and CURE-Owens-6.
- CURE-30 See responses to comments CURE-Owens-11, CURE-Owens-12, CURE-Owens-13, and CURE-Owens-17.
- CURE-31 See response to comment CURE-Owens-27.
- CURE-32 See response to comment CURE-Owens-28.

- CURE-33 For responses to comments related to substantial evidence supporting the air quality impact analysis, including documentation of such evidence in the EIR/EIS and administrative record, refer to responses to comments CURE-Fox-6 through CURE-Fox-10.
- CURE-34 For responses to comments related to the adequacy of the construction air quality mitigation measures, refer to responses to comments CURE-Fox-12 through CURE-Fox-40.
- CURE-35 See responses to comments CURE-Fox-41 through CURE-Fox-51.
- CURE-36 See responses to comments CURE-Fox-54 through CURE-Fox-62.
- CURE-37 See responses to comments CURE-Fox-63 through CURE-Fox-70.
- CURE-38 See responses to comments CURE-Fox-71 through CURE-Fox-78.
- CURE-39 See responses to comments CURE-Fox-79 through CURE-Fox-105.
- CURE-40 See responses to comments CURE-Fox-106 through CURE-Fox-122.
- CURE-41 This comment is a summary of comments CURE-Fox-137 through CURE-Fox-150, which are responded to in depth at responses to comments CURE-Fox-137 through CURE-Fox-150.
- CURE-42 The proposed project would not be constructed in the vicinity of any of historic buildings or structures in the City of Monterey. As shown in Figure 3-2 (Draft EIR/EIS p. 3-5), the only project component within the City of Monterey would be a portion of the Ryan Ranch-Bishop Interconnection Improvements. This component is not located near any of the properties listed in the City of Monterey's Vibration Control Plan. No additional analysis is warranted for potential vibration impacts to historic buildings or structures in the City of Monterey because no project construction would occur near these structures.
- CURE-43 See responses to comments MCWD-78, MCWD-79, and MCWD-82 in Section 8.5.2.
- CURE-44 See responses to comments CURE-Owens-7, CURE-Owens-14, CURE-Owens-17, CURE-Owens-20, CURE-Owens-21, CURE-Owens-22, CURE-Owens-23, CURE-Owens-24, and CURE-Owens-25.
- CURE-45 This comment provides legal background for arguments in comments CURE-46, CURE-47, and CURE-48; see responses to these substantive comments below.
- CURE-46 Compliance with the law is not a discretionary action and is required as a condition of certification of the project and approval of permits. This includes the regulations discussed in the Regulatory Framework of every impact analysis section and also the regulations cited by the commenter relating to the Ocean Plan and NPDES permit

process. Regulations are enforceable because (1) the project applicant cannot acquire certification of the EIR without committing to comply with all relevant and applicable regulations and (2) the various permitting agencies will not approve of permits that do not include compliance with all relevant and applicable regulations.

CURE-47 See response to comment CURE-Owens-2.

CURE-48 Compliance with the law is not a discretionary action and is required as a condition of certification of the project and approval of permits. This includes the regulations discussed in the Regulatory Framework of every impact analysis section and also the regulations cited by the commenter. Regulations are enforceable because (1) the project applicant cannot acquire certification of the EIR without committing to comply with all relevant and applicable regulations and (2) the various permitting agencies will not approve of permits that do not include compliance with all relevant and applicable regulations.

CURE-49 See response to comments MCWD-168 and -170. The reverse osmosis system proposed by CalAm, described in EIR/EIS Section 3.2.2.2, would be modular and would comprise six active and one standby module, each capable of producing 1.6 mgd of desalinated water. The EIR/EIS did not identify any impacts that would need to be lessened or avoided by using packaged desalination systems.

CURE-50 EIR/EIS Section 6.3.3 presents the requirements of CEQA Guidelines Section 15126.2(d); the growth inducement analysis in the EIR/EIS Section 6.3 adheres to those guidelines and the NEPA requirements. As discussed in Section 6.3.5, some water provided by the proposed project would replace supplies that are no longer available to CalAm to meet existing demands. Water supply used to meet existing demands would not be available to serve additional growth and would not be growth inducing. As also discussed in Section 6.3.5, the project would provide some water supply to serve new development that cannot currently be served because existing supplies are limited. Supply provided for this purpose would be growth-inducing. For example, the EIR/EIS states that “water supply that would serve currently vacant lots of record would remove water supply limitations as an obstacle to the development of these lots and would induce growth under CEQA and NEPA” (see Draft EIR/EIS page 6-17). The analysis of the proposed project’s growth inducement was evaluated in this EIR/EIS, and not in a negative declaration.

With respect to water quality, the EIR/EIS Section 4.3 addresses non-point source as well as point source discharge impacts (see Table 4.3-8). Urban runoff is a nonpoint source discharge regulated under the NPDES General Permit WDRs for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). As described on Draft EIR/EIS pages 4.3-40 and 4.3-41, Monterey County and its cities are permittees regulated by the Phase II Municipal General Permit, which requires regulated small MS4s to develop and implement best management practices, measurable goals, and timetables for implementation, designed to reduce the discharge



of pollutants to the maximum extent practicable and to protect water quality. As described in the cumulative impact analysis in Section 4.3.6, in July 2013, the Central Coast RWQCB adopted Resolution No. R3-2013-0032, which prescribes new Post-Construction Requirements for projects that create or replace 2,500 square feet or more of impervious area and receive their first discretionary approval for design elements after March 6, 2014. The requirements of the Resolution are implemented through the Monterey Regional Stormwater Management Program and NPDES Municipal Stormwater Permit. The stormwater requirements are part of a regional program designed to address the potential cumulative effects of past, present, and foreseeable projects within the region; adherence to these requirements would ensure hydrology and water quality effects related to the alteration of drainage patterns would not cause a significant cumulative impact. Accordingly, the NPDES General Permit requirements are themselves measures based, in part, on the consideration of cumulative effects on receiving waters; therefore, discharges would be within parameters considered not to result in a cumulatively significant effect on water quality.

Discharges from the MRWPCA outfall would be point source discharges that are currently regulated by RWQCB Waste Discharge Requirements (WDRs) for the Monterey Regional Water Pollution Control Agency Treatment Plant (Order No. R3-2014-0013, NPDES Permit No. CA0048551). As described on Draft EIR/EIS pages 4.3-42 and 4.3-43, the NPDES permit incorporates the Ocean Plan water quality objectives to ensure the protection of the beneficial uses of Monterey Bay, and would need to be amended to include brine discharges prior to the implementation of the MPWSP and operation of the MPWSP Desalination Plant. The EIR/EIS evaluates water quality constituent concentrations in effluent discharged to Monterey Bay via the MRWPCA outfall for multiple discharge scenarios including brine-only, and brine combined with varying flows of secondary treated wastewater.

Table 4.3-16, referenced in Footnote 640 in this comment, presents the results of the MPWSP Operational Discharge Scenarios and does not, as the comment states, indicate the levels of contaminants are already at the brink of exceeding Ocean Plan thresholds. The table presents results of the brine discharge modeling and demonstrates which constituent, under which operating scenario, would come closest to its Ocean Plan water quality threshold. In response to comments on the Draft EIR/EIS received from MRWPCA, however, 60 additional modeling runs were conducted for this Final EIR/EIS and as a result, Tables 4.3-15 and 4.3-16 have been revised accordingly. See response to comment MRWPCA-9 and the revised Appendices D1 and D3 in this Final EIR/EIS for more information on this additional modeling. The additional modeling confirmed, and the Final EIR/EIS maintains the conclusion of a potentially significant impact due to possible exceedences of Ocean Plan water quality thresholds for 2 constituents (that are contained in the wastewater, and not the brine) and data gaps regarding Ocean Plan compliance for 10 other constituents. The implementation of Mitigation Measures 4.3-4 and 4.3-5 would result in an impact determination of less than significant with mitigation.

Because this is a water supply project, the water demands anticipated as a result of development of the general plans was compared with the portion of MPWSP supply that would be available for new development. The analysis in EIR/EIS Section 6.3 does show that growth supported by the proposed project would be consistent with growth anticipated in adopted general plans. The general plan future water supply needs were prepared by the MPWMD in 2006 in consultation with cities in the CalAm service area, Monterey County, and Monterey Peninsula Airport District, as described in EIR/EIS Section 2.5.3.4. The future supply needs identified in 2006 have since been updated as warranted, as recently as 2015, as shown in Table 2-5. In most cases the updated estimates reduce the jurisdiction's original demand estimate; in one case, for the City of Seaside, the estimate increased to account for new development not previously considered, consistent with a concern raised in this comment. The amount of water provided by the project would not fully meet demands associated with general plan buildout, nor does the project propose to serve general plan buildout.

The growth inducement analysis in EIR/EIS Section 6.3.6 makes clear that growth that is consistent with adopted plans can result in significant environmental impacts, and impacts that are cumulatively significant. In fact, the analysis determined that the indirect growth inducing impacts of the proposed project would be significant and unavoidable.

EIR/EIS Section 4.1.7 explains that the cumulative impact analysis in the respective EIR/EIS sections considers the impact on the environment which may result from the incremental impact of the proposed project when added to other past, present, and reasonably foreseeable future actions. The growth inducement potential of cumulative water supply projects is addressed in Section 6.3.7.

The reference to "The Port" in this comment is unclear; no Port entity is participating as a lead or responsible agency or project sponsor of the MPWSP; this part of the comment may concern a different project.

Table 6.3-9 in Section 6.3.6 and Table J2-1 in Appendix J2 have been revised to refine and clarify impacts identified in the adopted general plans of service area jurisdictions. These revisions do not change the conclusion that the indirect growth inducing impact of the proposed MPWSP would be significant and unavoidable.

CURE-51 The above responses to this comment letter demonstrate that the EIR/EIS satisfies both CEQA and NEPA procedural and evidentiary standards. The EIR/EIS and revisions included in the Final EIR/EIS adequately describe the project and environmental setting, sufficiently address potential impacts to the environment, proposes adequate mitigation measures, and provides sufficient alternatives. For these reasons, the Lead Agencies are not required to recirculate a revised Draft EIR/EIS.

### 8.6.2.2 Responses to Comments from California Unions for Reliable Energy – Fox Letter

- CURE-Fox-1 The third paragraph of the comment includes incorrect information about the project size. As stated in Section ES 5.1 and throughout the EIR/EIS, the project would produce approximately 10,750 acre-feet per year (afy) of desalinated water, and nine new slant wells would be constructed. In addition, approximately 22 miles of pipeline would be constructed under the proposed project, not 30 miles.
- CURE-Fox-2 The comment includes a bullet list introducing the themes of the subsequent comments. For detailed responses to each of the specific comments, refer to responses to comments CURE-Fox-3 through CURE-Fox-152. With respect to comments on the April 2015 Draft EIR, as described on Draft EIR/EIS pages 1-10 and 1-11, per CEQA Guidelines Section 15088.5(f)(1), regarding the treatment of comments when recirculating a substantially revised, complete EIR, the CPUC need not provide individual responses to comments received on the April 2015 Draft EIR, and such responses are therefore not provided in this EIR/EIS. Instead, the comments received on the April 2015 Draft EIR by September 2015 are part of the administrative record of this proceeding, and key substantive comments and themes of comments received on the April 2015 Draft EIR have been addressed in the appropriate sections of this EIR/EIS. Accordingly, no individual responses to the referenced July 2015 letter are provided.
- CURE-Fox-3 The commenter’s experience and credentials are noted.
- CURE-Fox-4 The comment is a summary statement of the types of air pollutants that would be generated during construction and operation of the project, which are consistent with the analysis in EIR/EIS Section 4.10, Air Quality.
- CURE-Fox-5 For responses to comments related to the adequacy of the construction air quality mitigation measures, refer to responses to comments CURE-Fox-19 through CURE-Fox-40.
- CURE-Fox-6 Documentation related to the operational emissions estimates was provided in Draft EIR/EIS Appendix G1.1 on pages labeled G1.1.8 (On-Road Operational Criteria Pollutant Emissions), G1.1.10a (Proposed Action Emergency Generator Testing Criteria Pollutant Emissions), G1.1.10b (Alternative 3 Emergency Generator Testing Criteria Pollutant Emissions), and G1.1.12 (GHG Operational Emissions – includes five pages). For each category of operational emissions estimates, emission factors and usage assumptions used to derive emissions estimates were provided.
- Documentation related to emissions estimates for construction-related worker and hauling trips was provided in Draft EIR/EIS Appendix G1.1 on pages

labeled G1.1.3 (Construction Worker Auto and Truck Trips), G1.1.6 (Construction Criteria Pollutant Exhaust Emissions – includes seven pages), and G1.1.13 (EMFAC 2014 On-Road Emission Factors). For each category of construction-related emissions estimates, emission factors and usage assumptions used to derive emissions estimates were provided. The construction-related fugitive dust emissions were inadvertently omitted from Draft EIR/EIS Appendix G1.1. Appendix G1 Section G1.1.7, Construction Fugitive Dust, has been inserted into Final EIR/EIS Appendix G1.1 between sections G1.1.6 and G1.1.8. And while this additional data does not amount to significant new information, it also does not change the impact determination.

Although this page was inadvertently omitted from the Draft EIR/EIS Appendix G1, Draft EIR/EIS Air Quality Section 4.10.4, Approach to Analysis, did include a comprehensive discussion of the methods and formulas used to estimate construction-related fugitive dust emissions, including identification of the specific emission factors and the associated regulatory reference documents (refer to Draft EIR/EIS page 4.10-19). Thus, the Draft EIR/EIS provided adequate opportunity for the public to independently review the Lead Agencies' conclusions regarding the significance of the Project's construction and operational emissions.

In addition, pursuant to its February 8, 2017 Public Records Act request, the unlocked Appendix G1 spreadsheet, including Section G1.1.7 (Fugitive Dust), was provided to Adams Broadwell Joseph & Cardozo on February 13, 2017.

- CURE-Fox-7 For the EMFAC 2014 model inputs (assumptions) and outputs, refer to Draft EIR/EIS Appendix G1, Section G1.1.13, EMFAC 2014 On-road Emission Factors. All emissions factors used to estimate on-road operational and construction emissions are for running exhaust, with the exception of factors for particulate matter, which include running exhaust as well as brake and tire wear factors. The units for running exhaust and the wear factors are grams per mile, so are summed for the PM10 and PM2.5 emission factors. Emissions of running loss and diurnal/resting loss, idling, and hot soak and start would be negligible for this project and were not estimated.
- CURE-Fox-8 See response to comment CURE-Fox-7, above.
- CURE-Fox-9 See responses to comments CURE-Fox-6 and CURE-Fox-7, which demonstrate that the EIR/EIS did include the underlying technical data necessary to verify estimates of the project's impacts. As the unlocked Appendix G1 spreadsheet was provided to Adams Broadwell Joseph & Cardozo on February 13, 2017, it is clearly part of the administrative record for this project.
- CURE-Fox-10 See responses to comments CURE-Fox-6 and CURE-Fox-7, which demonstrate that the Draft EIR/EIS provided adequate opportunity for the

public to independently review the Lead Agencies' conclusions regarding the significance of the project's construction and operational emissions.

- CURE-Fox-11 For responses to individual comments on mitigation to reduce NO<sub>x</sub> emissions, refer to responses to comments CURE-Fox-12 through CURE-Fox-40.
- CURE-Fox-12 Mitigation Measure 4.10-1a has been revised to include Tier 4 equipment use requirements. Refer to response to comment MBARD-1 in Section 8.5.3.
- CURE-Fox-13 Regarding the use of Tier 4 equipment, Mitigation Measure 4.10-1a has been revised to include Tier 4 equipment use requirements and/or alternatively powered equipment, where feasible. See Response MBARD-1 in Section 8.5.3.

As indicated by the commenter, it is likely that Tier 4 equipment would be available locally; however, because the availability of Tier 4 equipment at the time of construction cannot be substantiated at this time, the exclusive use of such equipment during construction cannot be assumed. Nonetheless, Mitigation Measurement 4.10-1a requires CalAm and/or its contractors to make efforts to obtain high-tiered equipment or, as revised in response to comment MBARD-1 in Section 8.5.3, construction equipment powered by electricity, natural gas, propane, ethanol blends, or gasoline, where feasible. A requirement to obtain Tier 4 equipment from vendors within 1,000 miles of the project site would be overly burdensome to CalAm and its construction contractor(s) and could result in overall higher amounts of diesel exhaust emissions due to tractor truck hauling that could be required to transport the equipment over such distances.

The commenter also suggests that if Tier 4 equipment for construction of the project cannot be obtained, the lower-tier, higher emitting engines used should be retrofitted to meet Tier 4 standards. Given that the majority of equipment that would be used to construct the project would be owned by a third party, such a mitigation requirement would pose practical and economic constraints that do not meet the CEQA Guidelines feasibility criteria. As revised, Mitigation Measure 4.10-1a includes requirements for all available feasible equipment emission controls, and includes the requirement that CalAm or its construction contractor provide documentation to the CPUC from two local heavy construction equipment rental companies that indicates that the companies do not have access to Tier 4 equipment or alternatively powered equipment. Additional revisions to Mitigation Measure 4.10-1a are not warranted.

- CURE-Fox-14 Mitigation Measure 4.10-1a has been revised to include Tier 4 equipment use requirements. Refer to Response MBARD-1. No Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for the MPWSP.
- CURE-Fox-15 It is true that the measure references idling limits required by State law; however, the intent of the measure in the EIR/EIS was primarily to increase

awareness of the law by requiring signs to be posted that would be viewed by construction workers at all access points to construction areas, which is not a State requirement. However, in response to this comment and in recognition that idling-related NOx emissions would contribute to overall NOx emissions that result in a significant unavoidable impact during construction, Mitigation Measure 4.10-1b has been revised to clarify the requirement to post signage, to require that CalAm and/or its contractors prepare and maintain a written idling policy and distribute it to all equipment operators, and to lower the idling time limit for off-road diesel engines to 2 minutes (all other engines remain subject to existing law).

Pursuant to the Mitigation Monitoring, Reporting, and Compliance Program (MMRCP) that would be prepared for the project or an alternative if approved, the CPUC would be required to ensure that CalAm and its contractors effectively implement all mitigation measures, including Mitigation Measure 4.10-1b.

- CURE-Fox-16 For specific discussion of each of the identified measures, see responses to comments CURE-Fox-17 through CURE-Fox-38.
- CURE-Fox-17 Per the requirements of Mitigation Measure 4.18-1, Construction Equipment Efficiency Plan, CalAm would be required to implement procedures to ensure that all construction equipment is properly tuned and maintained at all times (see EIR/EIS Section 4.18, Energy Conservation, Impact 4.18-1 discussion). Therefore, this suggested measure already was incorporated in the Draft EIR/EIS.
- CURE-Fox-18 As described in response to comment MBARD-1 in Section 8.5.3, Mitigation Measure 4.10-1a has been revised to include requirements for construction equipment powered by electricity, natural gas, propane, ethanol blends, or gasoline, as an alternative to Tier 4 diesel engines, where feasible.
- CURE-Fox-19 See response to comment CURE-Fox-18.
- CURE-Fox-20 Per the requirements of Mitigation Measure 4.18-1, CalAm would prepare a Construction Equipment and Vehicle Efficiency Plan that identifies the specific measures that CalAm (and its construction contractors) would implement to increase the efficient use of construction equipment to the maximum extent feasible and to ensure that construction activities are conducted in a fuel-efficient manner (see Draft EIR/EIS Section 4.18, Energy Conservation, Impact 4.18-1 discussion). Implementation of Mitigation Measure 4.18-1 would achieve the apparent intent of the commenter's suggested measure. Mitigation that would reduce emissions by limiting simultaneous construction activities would pose practical and economic constraints that do not meet the CEQA Guidelines feasibility criteria, as explained in detail in response to comment MBARD-5 in Section 8.5.3.



- CURE-Fox-21 Implementation of Mitigation Measure 4.18-1, described above, would achieve the apparent intent of the commenter's suggested measure.
- CURE-Fox-22 Beginning in 1975, most gasoline-powered vehicles have been required to be equipped with catalytic converters per U.S. Environmental Protection Agency (USEPA) exhaust emission regulations. In addition, State aftermarket catalytic converter requirements include the prohibition of installing used catalytic converters, as well as standards for new aftermarket catalytic converters. Thus, the existing gasoline-powered equipment fleet is equipped with catalytic converters, and there is no need for the suggested measure.
- CURE-Fox-23 See response to comment CURE-Fox-15.
- CURE-Fox-24 As described in Impacts 4.10-3 and 4.10-5, air quality impacts on sensitive receptors would be less than significant. Therefore, no mitigation is required to reduce such impacts; though mitigation measures recommended to reduce other air quality impacts would further reduce emissions affecting sensitive receptors.
- CURE-Fox-25 This measure is the same as that listed in comment CURE-Fox-21, and is addressed in response to comment CURE-Fox-21.
- CURE-Fox-26 This measure is the same as that listed in comment CURE-Fox-20, and is addressed in response to comment CURE-Fox-20.
- CURE-Fox-27 Final EIR/EIS Mitigation Measure 4.18-1, *Construction Equipment and Vehicle Efficiency Plan*, has been revised as follows to include a requirement to provide worker carpooling options.

**Mitigation Measure 4.18-1: Construction Equipment and Vehicle Efficiency Plan.**

CalAm shall contract a qualified professional (i.e., construction planner/energy efficiency expert) to prepare a Construction Equipment Efficiency Plan that identifies the specific measures that CalAm (and its construction contractors) will implement as part of project construction and decommissioning to increase the efficient use of construction equipment and vehicles to the maximum extent feasible. Such measures shall include, but not necessarily be limited to: procedures to ensure that all construction equipment is properly tuned and maintained at all times; requirement to provide options for worker carpooling; a commitment to utilize existing electricity sources where feasible rather than portable diesel-powered generators; and identification of procedures (including the routing of haul trips) that will be followed to ensure that all materials and debris hauling is conducted in a fuel-efficient manner. The plan shall be submitted to CPUC and the Sanctuary for review and approval at least 30 days prior to the beginning of construction activities and at least 30 days prior to the beginning of decommissioning activities.

- CURE-Fox-28 Mitigation Measure 4.10-1a has been revised to include requirements for construction equipment to be alternatively powered, including powered by methanol, propane, and natural gas, where feasible. See response to comment MBARD-1 in Section 8.5.3.
- CURE-Fox-29 Mitigation Measure 4.10-1a has been revised to include requirements for construction equipment to be alternatively powered, where feasible. See response to comment MBARD-1 in Section 8.5.3.
- CURE-Fox-30 Given that the majority of construction equipment would be owned and operated by a third party, a mitigation requirement to modify construction equipment engines with retrofits would pose practical and economic constraints that do not meet the CEQA Guidelines feasibility criteria. As revised, Mitigation Measure 4.10-1a includes requirements for all available equipment that meets the highest USEPA-certified tiered emission standards, and includes the requirement that CalAm or its construction contractor provide CPUC documentation from two local heavy construction equipment rental companies that indicates that the companies do not have access to Tier 4 equipment or alternatively powered equipment for any given equipment need. Additional revisions to Mitigation Measure 4.10-1a are not warranted.
- CURE-Fox-31 Mitigation Measure 4.10-1a has been revised to include Tier 4 equipment use requirements or alternatively powered equipment, where feasible. See response to comment CURE-Fox-13.
- CURE-Fox-32 Given that the majority of construction trucks would be owned by a third party, a mitigation requirement to convert part of the construction truck fleet to natural gas would pose practical and economic constraints that do not meet the CEQA Guidelines feasibility criteria. However, as described above, Mitigation Measure 4.10-1a has been revised to include requirements for alternatively powered equipment, such as natural gas, where feasible.
- CURE-Fox-33 As described in response to comment MBARD-1 in Section 8.5.3, Mitigation Measure 4.10-1a has been revised to include Tier 4 equipment use requirements or alternatively powered equipment where feasible. These revisions would have the same effect as requiring the use of new or rebuilt equipment where feasible.
- CURE-Fox-34 A recent study has indicated mixed results related to the ability of heavy-duty hybrid construction equipment to reduce emissions compared to conventional construction equipment (Johnson, et al., 2013). As part of the study, the University of California, Riverside College of Engineering – Center for Environmental Research and Technology facilitated the deployment of ten hybrid bulldozers and six hybrid excavators within eight California-based fleets. Hundreds of hours of in-use dozer and excavator activity were observed

and logged at six locations to develop typical in-use hybrid dozer and excavator duty cycles.

The findings of the study suggest that although the use of the hybrid construction equipment resulted in consistent reductions of carbon dioxide (CO<sub>2</sub>) emissions of between 14 and 16 percent compared to emissions from the conventional equipment, hybrid construction equipment emissions of nitrogen oxides (NO<sub>x</sub>) were up to 13 percent higher than emissions from the conventional construction equipment, and hybrid construction equipment emissions of particulate matter were up to 27 percent higher than emissions from the conventional construction equipment. Given the mixed results of this study, and the potential for the use of hybrid off-road construction equipment to increase emissions of NO<sub>x</sub> (already a significant and unavoidable impact as described in Section 4.10) and particulate matter relative to the use of conventional off-road construction equipment, the Lead Agencies have not incorporated the suggested measure into project mitigation measures.

- CURE-Fox-35 The California Air Resources Board (CARB) approved the Tractor-Trailer Greenhouse Gas regulation to reduce greenhouse gas emissions produced by certain heavy-duty tractor-trailers. The regulation requires the use of USEPA SmartWay verified aerodynamic technologies and low rolling resistance tires on vehicles operating on California highways. The compliance deadline for the regulation was January 1, 2013, for tractors and January 1, 2017, for trailers (CARB 2012). Therefore, the suggested measure has not been incorporated since it is already required in California and therefore would not further reduce emissions.
- CURE-Fox-36 See responses to comments CURE-Fox-15 and CURE-Fox-24, which explain that equipment and vehicle idling during construction would be addressed by requiring signs to be posted at all access points to construction areas that identify the idling limit requirements per Mitigation Measure 4.10-1b. No evidence has been provided that indicates use of idling reduction technology would result in meaningful exhaust emission reductions compared to the recommendations identified in Mitigation Measure 4.10-1b. The suggested measure has not been incorporated.
- CURE-Fox-37 This measure is the same as that listed in comment CURE-Fox-32, and is addressed in response to comment CURE-Fox-32.
- CURE-Fox-38 The cited sources recommend the use of equipment idle reduction and control, engine preventive maintenance, equipment operator training, ultra-low sulfur diesel and biodiesel, equipment retrofit technologies, engine upgrades, and equipment electrification. As discussed in previous responses to comments, Mitigation Measure 4.10-1a has been revised to include Tier 4 equipment use requirements or alternatively powered equipment, where feasible. See response

to comment MBARD-1 in Section 8.5.3. Use of newer equipment that meets Tier 4 emission standards and/or use of alternative fuels, including electricity, is consistent with these USEPA recommendations to reduce diesel equipment emissions. Mitigation Measures 4.10-1b addresses equipment idle reduction and control. Mitigation Measure 4.18-1 addresses engine preventive maintenance and operator training.

- CURE-Fox-39 The construction mitigation program for the project would be carried out by CPUC through implementation of its MMRCPP. Mitigation Measure 4.18-1 already requires implementation of procedures to ensure that all construction equipment is properly tuned and maintained at all times.
- CURE-Fox-40 For discussion of each of the identified measures, including whether or not they are considered to be feasible and have been incorporated into the Final EIR/EIS, refer to responses to comment CURE-Fox-17 through CURE-Fox-38. All feasible mitigation measures have been incorporated as described therein, and no new significant impacts or substantially more severe significant impacts have been identified. Therefore, these comments do not provide a compelling reason to recirculate the Draft EIR/EIS.
- CURE-Fox-41 As stated in the first paragraph of Impact 4.10-4 on Draft EIR/EIS page 4.10-31, it is acknowledged that indirect emissions of criteria pollutants associated with electricity use from the regional power grid are not addressed in the Draft EIR/EIS air quality analysis, because it would be impractical and impossible to do so with any certainty.
- CURE-Fox-42 The statement quoted from the Monterey County General Plan EIR about the indirect impacts of water supply projects is acknowledged. To the extent feasible, all relevant indirect impacts on water resources, biological resources and energy conservation have been analyzed in the EIR/EIS. The Monterey County General Plan EIR air quality analysis (Monterey County, 2008) did not address or quantify indirect emissions of criteria pollutants associated with electricity usage.
- CURE-Fox-43 Basic understandings of the energy sources, their emission rates, and their locations are critical to conducting a meaningful analysis relative to the potential for the project to contribute to a violation of an ambient air quality standard since attainment of standards is based on the amount of pollutants generated within specific geographical air basins. This is different than analysis for greenhouse gas (GHG) emissions, where it is appropriate to estimate indirect emissions associated with electricity use because GHG emissions have global climate change implications that are not limited to specific locations.

The comment includes reference to an EIR prepared over 10 years ago, apparently as evidence that EIR air quality analyses “routinely” include

indirect emissions from electricity generation. This evidence is not persuasive for that argument. In addition, the sentence referenced in the comment from the Monterey Bay Air Resources District's (MBARD)<sup>1</sup> 2008 CEQA Guidelines is out of context. The comment omits the footnote at the end of the referenced sentence, which identifies the air district's definition of "indirect sources" relative to its significance thresholds for criteria pollutants. As shown below, indirect sources are defined as mobile sources in the footnote explaining the referenced sentence:

Indirect emissions come from mobile sources that access the project site but generally emit off-site; direct emissions are emitted on-site (e.g., stationary sources, onsite mobile equipment). (MBARD, 2008, p. 5-4)

When discussed in proper context, the commenter's suggestion that the Draft EIR/EIS should include quantification of criteria pollutants relative to the project's electricity use is not supported.

CURE-Fox-44 Although the Lead Agencies agree that indirect emissions of criteria pollutants would not be limited to the air basin of the project location, there must be some evidence to identify what other air basins should be considered. With regard to electricity use for the project, there is no way to ascertain with specificity where the electricity would be generated, so it would be speculative to attempt to identify other air basins that should be considered. Furthermore, significance thresholds for criteria pollutants are specific to the air district, and govern emissions that occur on a project basis within the air basin. Thus, including indirect emissions from facilities outside the air basin would be inconsistent with the MBUAPCD's guidance on the use of significance thresholds.

CURE-Fox-45 The sources of electricity for Pacific Gas and Electric Company (PG&E)'s power grid are known, but it is not known which of those sources would generate the electricity that would be used by the project. In this situation, a worse-case analysis is not required. CEQA does not require the lead agency to engage in speculation about impacts that are not reasonably foreseeable (CEQA Guidelines §15145) and NEPA does not require a worst-case analysis when confronted with incomplete or unavailable information (40 CFR §1502.22). The reason the EIR/EIS does not include any of the information that would be required to estimate indirect criteria pollutant emissions associated with electrical use is that the information is unknown, and for the Lead Agencies to suggest otherwise would have been overly speculative.

Also refer to responses to comments CURE-Fox-43 and CURE-Fox-44.

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<sup>1</sup> The Monterey Bay Air Resources District was formerly known as the Monterey Bay Unified Air Pollution Control District (MBUAPCD)

- CURE-Fox-46 As explained in response to comment CURE-45, neither CEQA nor NEPA require an analysis of the “maximum plausible” (i.e., worst case) scenario for indirect emissions from stationary sources already subject to air district permitting. For the specific responses related to the commenter’s emission estimates for project electricity use, see to responses to comments CURE-Fox-47 through CURE-Fox-50.
- CURE-Fox-47 The assumption that electricity for the project would be generated by an uncontrolled gas turbine plant is not supported by evidence. To the contrary, as shown in Table 4.18-1 on Draft EIR/EIS page 4.18-3, only 25 percent of PG&E’s electric power mix as of 2015 was generated by natural gas plants, and it is unrealistic to assume that all electricity generated by such plants would occur under startup/shutdown or uncontrolled conditions, nor is such an assumption supported by evidence.
- CURE-Fox-48 As explained in response to comment CURE-Fox-47, the calculation in the comment is based on overly speculative assumptions about the emissions from PG&E-provided electricity, and likely overestimates NOx emissions by using unrealistic and unnecessary worst-case assumptions. Further, as clarified in response to comment CURE-FOX-43, the MBARD’s significance threshold for NOx is only applicable to direct (on-site) and indirect (off-site *mobile source*) emissions, and all MBARD thresholds are only applicable to sources within the North Central Coast Air Basin because they have been set based on the need to attain and maintain ambient air quality standards (AAQS) within the Basin. The comment includes no evidence to suggest that the emissions would be generated within the North Central Coast Air Basin.
- CURE-Fox-49 See responses to comments CURE-Fox-47 and CURE-Fox-48 regarding the speculative nature of the commenter’s emission estimates. Based on evidence and analysis provided in the Draft EIR/EIS, the Project would generate NOx emissions in excess of the MBUAPCD’s NOx significance threshold with or without mitigation. See, e.g., Table 4.10-5, Estimated Maximum Daily Construction Emissions (pounds/day).
- CURE-Fox-50 Even if it could be assumed that all electricity for proposed project operation would be generated at the Gateway Generation Station (a 600-megawatt (MW) power station in Antioch), an assumption not supported by evidence, the use of the maximum daily emissions of NOx from the entire power plant is grossly over-conservative compared to the energy needs of the project, which would amount to a net increase in electrical demand of approximately 6 MW, or 1 percent of the capacity of the Gateway Generating Station.<sup>2</sup> At most, this would add approximately 12 pounds per day (1,152\*0.01) to the total

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<sup>2</sup> 51,698 MWh/year (Draft EIR/EIS page 4.18-16) is equivalent to approximately 6 MW. (51,698MWh/year)\* (year/365day)\*(day/24hour) = 5.90 MW.



operational NO<sub>x</sub> emissions, which would not cause an exceedance of the MBARD significance threshold. However, for the reasons stated in this response and in responses to comments CURE-Fox-41 through CURE-Fox-49, this is not an appropriate approach to estimating operational criteria air pollutant emissions.

- CURE-Fox-51 The Lead Agencies do not agree that the maximum daily emissions associated with the Gateway Generation Station should be disclosed as a significant impact associated with the MPWSP for the reasons described above in response to comment CURE-Fox-50. Therefore, mitigation to offset emissions generated at the Gateway Generation Station is not warranted or appropriate.
- CURE-Fox-52 For the reasons described in responses to comments CURE-Fox-43 through CURE-Fox-51, the lead agencies do not agree with the commenter that the EIR/EIS should include quantification of indirect criteria pollutant emissions associated with electricity use from PG&E's power grid.
- CURE-Fox-53 See responses to comments CURE-Fox-54 through CURE-Fox-70 for specific responses to this summary comment.
- CURE-Fox-54 The summary of general NO<sub>2</sub> emissions and its sources is acknowledged. See responses to comments CURE-Fox-55 through CURE-Fox-69 for specific responses to NO<sub>2</sub> and NO<sub>x</sub>-related comments.
- CURE-Fox-55 As stated in the first sentence of Section 4.10.4.2 on Draft EIR/EIS page 4.10-18, for the purposes of the air quality evaluation, the NO<sub>x</sub> significance threshold represents emissions of all NO<sub>x</sub>, including NO<sub>2</sub>. The Draft EIR/EIS disclosed a significant and unavoidable impact due to the project's potential to contribute to an exceedance of the ozone and NO<sub>2</sub> standards (see Impact 4.10-1, *Impact Conclusion*, discussion in EIR/EIS Section 4.10.5.1).

The NO<sub>x</sub> emission threshold of 137 pounds per day that was used to make that impact determination is based on California Clean Air Act (CCAA) offset requirements identified in Monterey Bay Air Resources District Rule 207, *Review of New or Modified Sources*. Rule 207 does not identify a CCAA offset requirement for NO<sub>2</sub>; however, it does identify 150 pounds per day NO<sub>x</sub> (as NO<sub>2</sub>) as the emissions where Best Available Control Technology (BACT) requirements apply (MBUAPCD, 2011).

As stated in Section 3.3 of Rule 207:

In no case shall the emissions from the new or modified stationary source, or in conjunction with other increases in emissions, cause or contribute to the violation of an ambient air quality standard or exceed any air quality increment..." and "In making this determination the

District shall take into account the mitigation of emissions through offsets obtained pursuant to this Rule.

All pollutants with ambient air quality standards are applicable to Rule 207; however, the NO<sub>x</sub> and NO<sub>2</sub> limits discussed above are likely focused on ozone standards as opposed to NO<sub>2</sub> standards because, as illustrated in EIR/EIS Table 4.10-1, ozone concentrations in the air basin are higher than NO<sub>2</sub> concentrations and the ambient air quality standards for ozone are more stringent compared to NO<sub>2</sub>. The fact that Rule 207 does not include an offset requirement for NO<sub>2</sub> indicates that the MBARD did not identify a need to address the potential for an NO<sub>2</sub> ambient air quality standard to be exceeded when it adopted this rule. Nonetheless, in the absence of an NO<sub>2</sub>-specific significance threshold, the Lead Agencies determined it was prudent to use the NO<sub>x</sub> significance threshold as such.

- CURE-Fox-56 The adverse health effects of NO<sub>2</sub> are acknowledged. The project-related NO<sub>2</sub> emissions have been evaluated relative to the NO<sub>2</sub> ambient air quality standards. See response to comment CURE-Fox-55.
- CURE-Fox-57 As indicated in EIR/EIS Section 4.10.1.2, it is acknowledged that NO<sub>x</sub> and SO<sub>2</sub> can convert in the atmosphere to sulfates and nitrates, thereby contributing to fine particulate matter emissions; this section also acknowledges contributions of SO<sub>2</sub> to acid rain formation. However, similar to the formation of ozone, such conversions are highly variable and occur due to complex chemical reactions in the atmosphere generally downwind and at some distance from the original emission sources. Current air pollution emission estimating models, such as CalEEMod that was used to estimate project construction emissions, are not capable of estimating secondary pollutant emissions such as these, and the Lead Agencies are not aware of any established methods or guidance available to estimate those emissions that would be associated with the project. The analysis in EIR/EIS Section 4.10 follows established guidance from MBARD for estimating and mitigating, as needed, construction emissions of criteria pollutants.
- CURE-Fox-58 The project-related NO<sub>2</sub> emissions have been evaluated relative to the NO<sub>2</sub> ambient air quality standards. The federal annual average secondary ambient air quality standard for NO<sub>2</sub>, which is designed to protect public welfare, including damage to crops, is the same as the primary standard at 0.053 parts per million (ppm). The Draft EIR/EIS disclosed a significant and unavoidable impact due to the project's potential to contribute to an exceedance of the NO<sub>2</sub> standards (see Impact 4.10-1, *Impact Conclusion* discussion in EIR/EIS Section 4.10.5.1). Also see response to comment CURE-Fox-55.

- CURE-Fox-59 Impacts associated with construction-related NO<sub>2</sub> emissions were evaluated in the Draft EIR/EIS relative to the MBARD mass emissions significance threshold for NO<sub>x</sub>. See response to comment CURE-Fox-55.
- CURE-Fox-60 There is no annual average ambient air quality standard for NO<sub>x</sub> and the EIR/EIS presents no ambient concentrations for NO<sub>x</sub>. EIR/EIS Table 4.10-includes recorded maximum hourly concentrations of NO<sub>2</sub>. Annual average NO<sub>2</sub> concentrations were not included in Table 4.10-1 because those concentrations are very low relative to the standards. For example, CARB data suggest that the maximum annual average NO<sub>2</sub> concentrations for years 2011 through 2015 was 0.006 parts per million (ppm) (CARB, 2017). This represents one fifth of the State NO<sub>2</sub> ambient air quality standard of 0.030 ppm.
- The EIR/EIS evaluated NO<sub>2</sub> emissions and disclosed a significant and unavoidable project-related impact for the potential to contribute to an exceedance of the NO<sub>2</sub> standards (see Draft EIR/EIS page 4.10-24). See response to comment CURE-Fox-55.
- CURE-Fox-61 Impacts associated with construction-related NO<sub>2</sub> emissions were evaluated in the Draft EIR/EIS relative to the MBARD's mass emissions significance threshold for NO<sub>x</sub>. See response to comment CURE-Fox-55.
- CURE-Fox-62 It is not apparent that the significance thresholds used by the counties listed in the comment were developed to assess impacts other than those related to the ozone ambient air quality standards, nor why these thresholds would be applicable to emissions generated in the North Central Coast Air Basin. Shasta County is not in attainment of state ozone standards, and Colusa County has been in attainment only since 2013, following the preparation of the BAAQMD source cited in the comment for these thresholds (CARB, 2016a; BAAQMD, 2009). Mendocino and Modoc Counties, both of which *are* in attainment of ozone standards, have notably higher significance thresholds for NO<sub>x</sub> than Shasta and Colusa Counties, in many cases higher than the MBUAPCD thresholds used in the Draft EIR/EIS. All of the air basins in California, including the North Central Coast Basin and all basins in which the counties cited in the comment are located, have been in attainment of NO<sub>2</sub>-specific state ambient air quality standards for at least the last 20 years (CARB, 2016b), so the cited thresholds do not provide evidence that the districts mentioned have developed these thresholds to address anything other than ozone concentrations. Regardless, impacts associated with NO<sub>x</sub> and NO<sub>2</sub> emissions were evaluated in the Draft EIR/EIS relative to the MBUAPCD's mass emissions significance threshold for NO<sub>x</sub>. See response to comment CURE-Fox-55.
- CURE-Fox-63 For a detailed response about why the health risk assessment (HRA) conducted for the project did not evaluate the health effects of speciated emissions of ROG, see response to comment CURE-Fox-78.

CURE-Fox-64 The commenter appears to suggest that the significance of NO<sub>x</sub> as a respiratory irritant was not evaluated in the Draft EIR/EIS because air dispersion modeling was not performed. The Lead Agencies note that this comment seems to contradict comment CURE-Fox-62, which recommends use of one out of a group of other mass (weight-based) emissions thresholds similar to that used in this EIR/EIS, as opposed to a concentration-based threshold that would require a dispersion modeling analysis, as is recommended by this comment. See also response to comment CURE-Fox-55.

CURE-Fox-65 See response to comment CURE-Fox-55.

CURE-Fox-66 With respect to the health-related properties of NO<sub>2</sub> that are unrelated to its property as an ozone precursor, the MBUAPCD CEQA Guidelines do not provide a significance threshold for NO<sub>2</sub> alone. The Basin does not come close to exceeding ambient air quality standards for NO<sub>2</sub> as shown in Table 4.10-1.

CURE-Fox-67 See response to comment CURE-Fox-57.

CURE-Fox-68 See responses to comments CURE-Fox-55 through CURE-Fox-67. As explained therein, the EIR/EIS adequately addresses concerns related to the effects of NO<sub>2</sub> as an air pollutant.

CURE-Fox-69 The comment states that other air districts that are in attainment of state and federal ozone standards have established significance thresholds for NO<sub>x</sub> of 25 lb/day to 180 lb/day, but goes on to suggest that Shasta County provides an appropriate threshold of 25 lb/day that should be applied to the project's NO<sub>x</sub> emissions. However, as described in response to comment CURE-Fox-62, Shasta County is in non-attainment of ozone standards, and indeed identifies ozone pollution as "the major air contamination concern" in the county (Shasta County, 2004, p. 6.5.02).

The Lead Agencies disagree that the project operational emissions of NO<sub>x</sub> should be considered significant because they would exceed Shasta County's "Level A" threshold of 25 pounds per day of NO<sub>x</sub>. Shasta County's Level A thresholds are designed to identify the level at which appropriate best available mitigation measures should be applied. Shasta County's "Level B" thresholds serve as significance criteria by screening for a level of significance that would require the preparation of an EIR. Shasta County's guidance suggests that if project emissions can be reduced to below Level B thresholds, a mitigated negative declaration can be prepared, and if emissions exceed the Level B threshold even after application of Shasta County's uniform mitigation approaches and offsets, then an environmental impact report must be prepared (Shasta County, 2004). Notably, Shasta County's Level B thresholds for NO<sub>x</sub> and ROG are 137 pounds per day, which are equivalent to MBARD's NO<sub>x</sub> and ROG thresholds of significance used to evaluate operational emissions that

would be associated with the MPWSP. Therefore, these thresholds provide no new information for assessing the significance of the proposed project's NOx emissions.

- CURE-Fox-70 The commenter's estimated electricity-related emissions for the project not only use speculative assumptions that are not supported by evidence, but also includes use of an overly conservative emissions estimate not scaled properly for the project. See response to comment CURE-Fox-50, which explains why the Lead Agencies properly identified no significant operational NOx impact.
- CURE-Fox-71 For responses to the commenter's more specific individual comments that are summarized in this comment, see responses to comments CURE-Fox-72 through CURE-Fox-78.
- CURE-Fox-72 Construction activities associated with Wells ASR-5 and ASR-6 were evaluated in the HRA conducted for the EIR/EIS. Those wells make up the construction site identified as the ASR Injection/Extraction Wells Site in EIR/EIS Table 4.10-6, Maximum DPM Concentrations, Cancer Risks, and Chronic Health Indices. As the comment acknowledges, the ASR Injection/Extraction Wells was evaluated in the HRA and in the EIR/EIS.
- CURE-Fox-73 As indicated in Section 4.10.4, Approach to Analysis, pipeline construction activities were not evaluated in the HRA conducted for the project because they would proceed linearly at a rate of 150 feet to 250 feet per day, which would limit the duration of exposure for any given receptor. The Office of Environmental Health Hazard Assessment (OEHHA) does not recommend assessing cancer risk for projects lasting less than 2 months at the maximum exposed individual resident (OEHHA, 2015). Factoring the daily progress rate of proposed pipeline construction, individual receptors along the pipeline routes would be exposed to construction emissions for periods that would be substantially less than 2 months. Therefore, the EIR/EIS's approach to evaluating health risk associated with pipeline construction is consistent with OEHHA guidance.
- CURE-Fox-74 The excerpts of the OEHHA 2015 guidance cited by the commenter are acknowledged.
- CURE-Fox-75 The comment is incorrect. For health risk related to construction of the Carmel Valley Pump Station, in addition to evaluating exposures of 3 months after birth, exposures were also evaluated for 3 months prior to birth, for a total exposure period of 6 months. This approach to analysis is consistent with OEHHA guidance.
- CURE-Fox-76 The MBARD recommends the use of 10 in one million as a cancer risk threshold, and has not identified a more stringent threshold for short-term

exposure periods. In addition, OEHHA's 2015 guidance includes calculations that account for higher risks for infants. That 2015 guidance was used to calculate the health risks described in the EIR/EIS. The 2015 guidance includes a factor that accounts for the higher breathing rates of infants. That same 2015 guidance also includes age sensitivity factors (ASFs) for infants. The ASFs increase risks by a factor of 10 for exposure during the third trimester to age 2 years, and by a factor of 3 for exposure during ages 2 through 15 years. These ASFs and the higher breathing rates for infants were used to estimate the risks shown in the EIR/EIS. Consequently, both the risk approach and the risk thresholds used in the EIR/EIS correctly evaluate potential health risks to infants.

CURE-Fox-77 The EIR/EIS uses the 10 in a million threshold recommended by the MBARD's CEQA guidance document (MBUAPCD, 2016). The comment does not provide evidence to support the suggestion that a 1 in a million threshold would be more appropriate. The cited source for this suggestion is a presentation on surface water quality and refers to human-health-based criteria to protect people from consumption of fish, shellfish, and drinking water. This is not relevant to the air quality analysis prepared consistent with MBARD's CEQA Guidelines.

CURE-Fox-78 Appendix D of OEHHA's 2015 Guidance describes risk assessment procedures to evaluate emissions from diesel-fueled engines. According to Section 2.3 of Appendix D, there may be certain situations where an evaluation of the speciated chronic or acute health effects of diesel exhaust may be warranted if requested by the local air district.

OEHHA has established a chronic reference exposure level (REL) for inhalation of diesel exhaust, which is the REL used in the Draft EIR/EIS chronic health risk analysis. However, Appendix D of the OEHHA 2015 Guidance states that the local air district may elect to require a multi-pathway analysis if: 1) reliable data are available to speciate diesel exhaust; and 2) the district feels that such an analysis is warranted. Speciation of diesel exhaust would need to include both metal and ROG components. The MBARD recommends using its current CEQA guidance to conduct health risk assessments, which does not require speciation of diesel exhaust (MBARD, 2017). Since the air district's guidance does not require a multi-pathway, speciated analysis to evaluate diesel exhaust chronic hazards, the approach used in the Draft EIR/EIS was the correct approach for evaluating the project's chronic health risks.

OEHHA has not developed an acute REL for diesel exhaust. To analyze acute health risks from diesel exhaust, the exhaust would need to be speciated into its metal and ROG constituents. Appendix D of OEHHA's 2015 guidance states that acute health risks from diesel exhaust could be estimated if: 1) reliable data are available to speciate diesel exhaust; and 2) the district feels that such an analysis is warranted. The MBARD was also asked about the need for an acute



hazard analysis from diesel exhaust. The air district recommends using its current CEQA guidance to conduct HRAs, which does not require speciation of diesel exhaust to evaluate acute risks. The air district indicated that their preferred option would be not to estimate the chronic and acute health hazards of speciated diesel exhaust, but instead require the use of Tier 3 and Tier 4 equipment to minimize diesel emissions (MBARD, 2017). Mitigation Measure 4.10-1a in the EIR/EIS does just that by minimizing diesel emissions, including the ROG component of diesel exhaust, by requiring all construction equipment meets the highest USEPA-certified tiered emission standards.

CURE-Fox-79 The information on Valley Fever provided by the commenter is acknowledged.

CURE-Fox-80 The information on Valley Fever provided by the commenter is acknowledged. For discussion about the commenter's specific concerns related to the Draft EIR/EIS analysis on sensitive receptor exposure to *coccidioides immitis* spores, refer to Responses CURE-Fox-81 through CURE-Fox-105, below.

CURE-Fox-81 The Draft EIR/EIS statement regarding the substantial decline in cases of Valley Fever in 2014 and the inference that Valley Fever appears to be decreasing locally in Monterey County was based on facts available at the time of its writing. However, based on new information, the Final EIR/EIS Section 4.10.1.4, *Valley Fever*, has been revised as follows:

~~Incidence of Valley Fever appear to be decreasing locally in Monterey County.~~ Cases of Valley Fever in Monterey County between 2011 through 2013 ranged between 68 and 753 cases per year, which equaled rates of 16.20 to 17.83 cases per populations of 100,000. In 2014 and 2015, cases of Valley Fever dropped substantially to 19-20 and 34 cases, respectively, which were equal to a rates of 4.75 and 7.9 per population of 100,000, respectively (CDPH, 20165); however, the unofficial number of Valley Fever cases in 2016 rose back to pre-2014 levels with 78 cases (MCHD, 2017).

The following revision and new reference have been added to the Final EIR/EIS Air Quality Section 4.10 references.

California Department of Public Health (CDPH), 20165. Yearly Summaries of Selected General Communicable Diseases in California, 2011 – 20154, last updated June 20165.

Monterey County Health Department (MCHD, 2017). Personal communication between Kristine Michie, Epidemiologist/Project Manager I at Monterey County Health Department, and Matt Fagundes, Environmental Science Associated, May 22, 2017.

CURE-Fox-82 The EIR/EIS points out that construction activities associated with the project would result in localized ground disturbing activities similar to those that occur continually within the County as a result of other construction projects, and that therefore the project would not result in a substantial increase in spore release compared to existing and ongoing ground disturbance. This is the basis for the conclusion that construction of the project would not represent an increased risk to public health (see Impact 4.10-3). In this context and consistent with the EIR/EIS analysis, the Lead Agencies agree that County residents that have been exposed to *coccidioides immitis* spores are part of environmental baseline.

CURE-Fox-83 It is acknowledged that the higher the concentration of PM<sub>10</sub> and PM<sub>2.5</sub> fugitive dust emissions in the air from disturbed soils that contain *coccidioides immitis* spores, the greater the potential would be to cause the spores to become airborne and inhaled. That is why implementation of Mitigation Measure 4.10-1c is referenced due to its potential to control spore-containing dust from becoming airborne (see Impact 4.10-3, Draft EIR/EIS page 4.10-28). The measure requires application of fugitive dust control measures to ensure that fugitive dust that could contain *coccidioides immitis* spores would be controlled to the maximum extent feasible.

The EIR/EIS does not suggest that previous exposure to the spores guarantees immunity to Valley Fever.

CURE-Fox-84 The comment provides no supporting evidence for the claim that earth-disturbing activities that would occur under the project would increase the amount of *coccidioides immitis* spores in the atmosphere, other than identifying the total area of disturbance that would be associated with the project. Although there is a potential that some of the soil disturbed during construction of the project would contain spores, and could thus release them into the atmosphere as a result of project construction, the Lead Agencies are not aware of any evidence that suggests that these soils definitively contain the spores. Thus, there is no basis to conclude that impacts would be significant. Nonetheless, as described in response to comment CURE-Fox-83, implementation of Mitigation Measure 4.10-1c would have the potential to control spore-containing dust from becoming airborne.

CURE-Fox-85 Valley Fever-related less-than-significant impacts identified in the EIR/EIS are discussed in terms of increased risk to public health in general (see Impact 4.10-3). It is acknowledged that people who have jobs where dirt and soil are disturbed, including construction workers that would be associated with the project, may have a higher risk of getting infected than others. It is important that workers understand the potential hazards related to their work and how to protect themselves. Employers also have responsibilities to control

workers' exposure to hazardous materials, including spores that cause Valley Fever. For worker safety laws designed to protect workers from exposure to spores that cause Valley Fever that must be implemented by the project, refer to the response to Marina-99.

- CURE-Fox-86 It is acknowledged that the potentially exposed population would be larger than the number of project construction workers and that *coccidioides immitis* spores can stay entrained within the atmosphere longer than some fractions of particulate matter; however, no evidence has been provided by the comment to support the claim that dust raised during construction of the project would expose a large amount of people to spores hundreds of miles away. Instead, the comment includes reference to a discussion that appears to be related to the most severe dust storm on record that occurred in Bakersfield in 1977 (NOAA, 2008). Such a storm does not represent reasonably foreseeable conditions.
- CURE-Fox-87 The Draft EIR/EIS does not argue that prior exposure to *coccidioides immitis* spores confers immunity to Valley Fever. Instead, it discloses that much of the population of Monterey County has already been exposed to *coccidioides immitis* spores and would continue to be exposed because of the various earthmoving activities that occur as a result of agricultural and construction activities throughout the region; thus, the project would not represent a substantial increase in exposure compared to existing conditions. Construction activities associated with the project would result in similar localized ground disturbing activities to those that occur continually within the County and the project would not result in a substantial overall increase in spores emitted to the atmosphere that would represent an increased risk to public health (see EIR/EIS Impact 4.10-3).
- CURE-Fox-88 See response to comment CURE-Fox-85.
- CURE-Fox-89 See response to comment CURE-Fox-85.
- CURE-Fox-90 As pointed out in comment CURE-Fox-91, and as evidenced by the Monterey County Health Department's recommended prevention measures (2017), dust control is an important defense against Valley Fever infection.
- The commenter indicates that the Draft EIR/EIS does not contain any mitigation that specifically addresses fine particulate matter (PM<sub>2.5</sub>) as a subset of PM<sub>10</sub>. Although it is acknowledged that Mitigation Measure 4.10-1c is required to reduce construction related PM<sub>10</sub> impacts to a less-than-significant level, its implementation would also reduce emissions of PM<sub>2.5</sub>.
- CURE-Fox-91 See response to comment CURE-Fox-90.
- CURE-Fox-92 The connection between the small size and potential low settling rate of *Coccidioides* spores and the effectiveness of Mitigation Measure 4.10-1c is

unclear; in fact, the intent of Mitigation Measure 4.10-1c is to reduce the potential for spore-containing dust to become airborne in the first place.

CURE-Fox-93 It is acknowledged that on an annual basis, Valley Fever infections in California tend to peak during the late summer and early fall when conditions are driest.

CURE-Fox-94 The potential effect of drought periods on Valley Fever infection rates is acknowledged.

CURE-Fox-95 Valley Fever-related impacts associated with the project are considered to be less-than-significant as described in Impact 4.10-3; therefore, additional mitigation measures to further reduce the potential impact are not warranted. Further regarding valley fever, see Response to comment CURE-Fox-85.

Regarding construction-related PM10 emissions and fugitive dust control more generally, see EIS/EIS Mitigation Measure 4.10-1c (Construction Fugitive Dust Control Plan). The actions recommended in this mitigation measure, including watering active construction areas multiple times daily; covering all trucks hauling soil, sand, and other loose materials; applying water or non-toxic soil stabilizers on unpaved access roads, parking areas, and staging areas at construction sites; hydroseeding or applying non-toxic soil stabilizers to inactive construction areas; and replanting vegetation in disturbed areas as quickly as possible; among other actions, are consistent with the County of Monterey Health Department's *coccidioidomycosis* prevention guidance (Monterey County Health Department, 2017).

See also EIR/EIS Mitigation Measure 4.6-1p (Control Measures for Spread of Invasive Plants), which requires that tools, equipment, and vehicles be cleaned before entering and leaving worksites (e.g., wheel washing stations at project site access points). While not specifically developed to address a risk of transporting cocci outside endemic areas, the implementation of Mitigation Measure 4.6-1p would reduce the risk of spores being transported on- or off site on project equipment, vehicles, or other items.

CURE-Fox-96 See responses to comments CURE-Fox-85 and CURE-Fox-95. The commenter's preference for use of trenchless methods to construct pipelines (as described in the EIR/EIS) is acknowledged; however, because no significant impact has been identified, there is no basis to require that CalAm use trenchless construction methods to reduce the potential to release spores.

CURE-Fox-97 See responses to comments CURE-Fox-85 and CURE-Fox-95.

CURE-Fox-98 Mitigation Measure 4.10-1c has been revised at the request of MBARD to require all active construction areas to be watered at least three times daily. See responses to comments CURE-Fox-95 and MBARD-8 in Section 8.5.3.

- CURE-Fox-99 The daily sweeping required by Mitigation Measure 4.10-1c would be conducted with water sweepers that are designed to control fugitive dust.
- CURE-Fox-100 See response to comment CURE-Fox-95.
- CURE-Fox-101 See response to comment CURE-Fox-95.
- CURE-Fox-102 See response to comment CURE-Fox-95.
- CURE-Fox-103 See responses to comments CURE-Fox-85 and CURE-Fox-95. As noted in the Greentech Media article cited in the comment, the remedy to the Antelope Valley air district notices of violation included the implementation of dust control measures that had been shown to work in other parts of the valley, and to comply with the provisions of the company's conditional use permit ("They have been told it is time to use things to control dust that have worked elsewhere in the valley," Hickling told the town council. "Fines are not issued unless [the company] fails to correct the problem. They have to demonstrate they have dealt with the dust, re-vegetation and landscaping issues as outlined in the CUP.") (Trabish, 2013). A different company's noncompliance with a different air district's rules and regulations to control construction dust is not evidence that the applicant for this project will fail to comply with applicable permit obligations and other requirements.
- CURE-Fox-104 The comment regarding construction workers that contracted Valley Fever in San Luis Obispo is noted. See response to comment CURE-Fox-85 for more information about construction worker exposure to valley fever.
- CURE-Fox-105 See responses to comments CURE-Fox-85 and CURE-Fox-95.
- CURE-Fox-106 The comment is an introductory statement summarizing comments on the greenhouse gas (GHG) emissions analysis conducted for the project. For responses to the commenter's individual comments, see responses to comments CURE-Fox-107 through CURE-Fox-136.
- CURE-Fox-107 See responses to comments CURE-Fox-108 through CURE-Fox-136 for responses that address the commenter's specific concerns regarding the Draft EIR/EIS GHG mitigation measures.
- CURE-Fox-108 In *Keep Berkley Jets Over the Bay Committee v. Board of Port Commissioners of the City of Oakland*, the court found that an EIR for a project with a significant and unavoidable environmental impact must sufficiently explore the significant environmental effects created by the project, and that the EIR's approach of simply labeling the effect "significant" without accompanying analysis of the project's impact is inadequate to meet the environmental assessment requirements of CEQA (CNRA, 2001).

The EIR/EIS GHG emissions analysis did not simply label the effect of project-related GHG emissions significant without an accompanying analysis of the project's impact. EIR/EIS Section 4.11.5 includes a robust analysis and quantification of the GHG emissions that would be associated with the project and included discussion of whether or not these emissions would be consistent with the State's GHG emissions reduction goals. Impact 4.11-1 provides a quantitative estimate of total amortized GHG emissions of the project and acknowledges that unmitigated emissions would exceed the 2,000 metric tons per year significance threshold. Mitigation measures are then described that would require that construction activities be conducted in a fuel-efficient manner (Mitigation Measure 4.18-1), and that a GHG emissions reductions plan be implemented (Mitigation Measure 4.11-1). See response to comment USEPA-4 for the text of the revised Mitigation Measure 4.11-1, which would require that CalAm achieve net zero GHG emissions from operational electricity use. As a result of these revisions, GHG-related impacts are reduced to a less-than-significant level as described in Section 4.11 of the Final EIR/EIS.

CURE-Fox-109 The comment is a general statement that suggests the GHG mitigation measures identified in the EIR/EIS are unenforceable, ambiguous, and do not include all feasible mitigation. See responses to comments CURE-Fox-110 through CURE-Fox-136 for responses that address the commenter's specific concerns regarding the Draft EIR/EIS GHG mitigation measures.

CURE-Fox-110 See response to comment USEPA-4 for the text of the revised Mitigation Measure 4.11-1, which would require that CalAm achieve net zero GHG emissions from operational electricity use. As a result of these revisions, GHG-related impacts are reduced to a less-than-significant level as described in Section 4.11 of the Final EIR/EIS.

On-site solar power is one of the options provided in revised Mitigation Measure 4.11-1. However, regarding the comment that renewable generation sources should be built to provide 100 percent of the project's energy demand, this would not be feasible given the continuous and constant nature of the project's electricity demand and the scope of the renewable facilities that would be required. It is not reasonable to assume that 100 percent of the project's energy demand could be met by constructing dedicated renewable energy generation sources, such as solar and wind power. In addition, the size and nature of the renewable facilities would result in their own potentially significant environmental impacts.

Solar power for the project's electricity demand is only possible during hours of sunlight. For example, a solar power proposal considered by County of Monterey was predicted to generate electricity for approximately 7 hours per



day on an annual average (County of Monterey, 2014). Because the energy demand for the project is constant and continuous, this would equate to only 30 percent of the energy demand for the project. Assuming 30 percent of the project's electricity demand could be met by solar power generation, and 1 acre of solar plant in Monterey County can generate approximately 242 megawatt-hours (MWh) per year of electricity,<sup>3</sup> the solar plant would have to be over 63 acres in size, which would be equivalent to more than 2.5 times the size of the proposed MPWSP Desalination Plant. Such a conversion of land use to supply only 30 percent of the project's energy demand would have its own environmental and legal challenges that would be akin to a separate energy generation project, which the Lead Agencies do not consider to be fitting mitigation for this water supply project.

With regard to wind power, wind turbines generate electricity for fewer hours per day on average than solar power. For example, a wind turbine proposal considered by the City of Soledad was estimated to generate electricity for approximately 5 hours per day on an annual average (City of Soledad, 2013). This would represent an opportunity to satisfy approximately 21 percent of the project's electricity needs. Assuming that 1.5-MW wind turbines can each generate up to 2,700 MWh per year (City of Soledad, 2013), four wind turbines could satisfy approximately 21 percent of the project's energy needs. Based on research conducted by the National Renewable Energy Laboratory, the average land requirements for 1 MW of wind power ranges from 30 to 141 acres (NREL, 2013). Therefore, development of four 1.5 MW wind turbine towers would require up to 843 acres. It should also be noted that each turbine would be approximately 340 feet tall (City of Soledad, 2013). The conversion of land use that would be required to supply only 21 percent of the project's energy demand would have its own environmental and legal challenges that would be akin to a separate energy generation project, which the Lead Agencies do not consider to be reasonable mitigation for this water supply project.

CURE-Fox-111 See responses to comments USEPA-4, CURE-Fox-108, and CURE-Fox 110. The Lead Agencies do not agree that no regard is needed relative to the intra-year timing of when renewable energy facilities constructed for the project would generate electricity. As discussed in response to comment CURE-Fox-110, the electricity demand for the project would be continuous and constant, while power output from any renewable generation facility that would be built to provide power for the project would only be available to offset up to 30 percent of the daily load on annual-average basis.

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<sup>3</sup> Based on the specifications of a 3,000-acre solar power plant recently evaluated by Monterey County that would have a capacity of 726.9 gigawatt-hours (GWh) per year (County of Monterey, 2014).

Procuring renewable energy through the Green Tariff Shared Renewables program does not appear to be an appropriate mitigation measure under CEQA. Per CEQA Guidelines Section 15126.4(c)(3), off-site measures can be used to mitigate GHG emissions impacts; however, they should include “offsets that are not otherwise required.” This is interpreted to mean that offsets must be additional to baseline conditions of the project.

PG&E’s Solar Choice program is part of its Green Tariff Shared Renewables Program and was created to expand access to renewable energy resources. The program offers a way for customers to meet their electrical needs with generation from renewable energy resources. For new enrollees in the Solar Choice program, the purchased solar energy is sourced from existing solar resources in PG&E’s renewables portfolio, while new projects are built specifically for the program. Although these projects currently exist, PG&E refers to them as “incremental” because they will not be counted toward California’s Renewable Portfolio Standards (PG&E, 2017). Therefore, the Lead Agencies do not consider this type of mitigation to be viable. However, other feasible offset options are provided in revised Mitigation Measure 4.11-1.

CURE-Fox-112 See response to comment USEPA-4 for the revised Mitigation Measure 4.11-1, which includes revised performance standards for the preparation and implementation of the Emissions Reduction Plan, consistent with CEQA Guidelines Section 15126.4(a)(1)(B).

CURE-Fox-113 Implementation of Mitigation Measure 4.11-1 would be strictly enforced by the CPUC pursuant to the MMRCPP that would be legally binding pursuant to a Commission decision that would approve the project.

The comment cites *San Franciscans for Reasonable Growth v. City & County of San Francisco* (1984) as evidence that Mitigation Measure 4.11-1 is inadequate because it is vague and undefined; however, in that case, the court found that the cumulative impact analyses in the subject EIRs were legally defective because they were too narrowly defined, which understated the true impacts of the project, and thereby undermined any effort to provide adequate mitigation measures (CNRA, 2017a). This case does not support the commenter’s position.

*Kings County Farm Bureau v. County of Hanford* (1990) is also not directly relevant. In the context of the comment, the concern for that case was focused on whether a groundwater mitigation agreement was relied upon for a finding of no significant impact (CNRA, 2017b). In the case of the Draft EIR/EIS, Mitigation Measure 4.11-1 was found to reduce the carbon footprint of the proposed project, but the impact associated with GHG emissions was found to remain significant and unavoidable because it is not possible to substantiate numerically that the GHG emissions would be reduced to a less-than-

significant level based on the information available. However, see response to comment USEPA-4 for text of the revised Mitigation Measure 4.11-1. Also see responses to comments CURE-Fox-110 through CURE-Fox-112.

CURE-Fox-114 As stated in the first sentence of Mitigation Measure 4.11-1, CalAm would be required to have a qualified professional prepare the GHG Emissions Reduction Plan. However, the first sentence of the measure has been revised as follows to identify what would constitute a qualified professional:

**Mitigation Measure 4.11-1: GHG Emissions Reductions Plan.**

(a) ***Energy Conservation Technologies.*** CalAm shall have a qualified professional (a licensed mechanical engineer or other appropriately certified professional approved by the CPUC) prepare and submit a GHG Emissions Reduction Plan (Plan) to the CPUC ~~and the Sanctuary~~ for approval prior to the start of project construction activities.

CURE-Fox-115 The CPUC would confirm that Mitigation Measure 4.11-1 (and all approved mitigation measures) is properly implemented and would ensure that reporting would be conducted pursuant to the MMRCP.

CURE-Fox-116 See response to comment USEPA-4 for text of the revised Mitigation Measure 4.11-1, which includes additional measures to reduce or offset project operational GHG emissions. With implementation of this measure, total project GHG emissions would be less than significant (including amortized annual construction emissions), and further mitigation related to construction emissions would not be required.

CURE-Fox-117 See response to comment CURE-Fox-116.

CURE-Fox-118 See response to comment CURE-Fox-116.

CURE-Fox-119 Community energy conservation and demand management programs such as those recommended in the comment require third party voluntary participation and agreements. As separate programs that would not be under CPUC or MBNMS jurisdiction or CalAm's control, the Lead Agencies could not guarantee a level of participation that would be required to achieve meaningful energy savings. For these reasons, this mitigation approach was eliminated from further consideration. See response to comment USEPA-4 for text of the revised Mitigation Measure 4.11-1, which includes additional measures to reduce or offset project operational GHG emissions. With implementation of this measure, the impacts related to GHG emissions would be less than significant, and the measure suggested in the comment would not be required.

CURE-Fox-120 See response to comment USEPA-4 for text of the revised Mitigation Measure 4.11-1, which includes additional measures to reduce or offset project operational GHG emissions, including the purchase and retirement of carbon offsets.

CURE-Fox-121 See response to comment CURE-Fox-119, which also applies to water conservation programs such as those recommended in the comment.

CURE-Fox-122 As explained in Section 4.11.2.2, State Regulations, this executive order does not contain any requirements that would have to be complied with directly by the proposed project; however, future actions taken by the State to implement the goals of Executive Order S-3-05 may affect the project, depending on the specific implementation measures that are developed.

For discussion of the ability of solar power to supply 100 percent of the project's electricity demand, refer to response to comment CURE-Fox-110. In addition to a solar plant, the comment recommends installation of a battery storage facility, which could increase the daily amount of available power from a solar plant by several hours. Assuming that a battery storage facility could double the amount of available electricity output associated with a solar power plant to 60 percent of the project electricity demand, the size of the solar plant would have to be over 126 acres in size, which would be equivalent to more than five times the size of the proposed MPWSP Desalination Plant. A solar plant of this size would have its own environmental and legal challenges that would be akin to a separate energy generation project, which the Lead Agencies do not consider to be fitting mitigation for this water supply project.

CURE-Fox-123 See response to comment CURE-Fox-27 for changes to Mitigation Measure 4.18-1 subsequent to the Draft EIR/EIS. Mitigation Measure 4.18-1 is sufficient as drafted; it identifies specific measures that CalAm (and its construction contractors) would be required to implement as part of the Construction Equipment Efficiency Plan. The measures include, but are not limited to, procedures to ensure that all construction equipment is properly tuned and maintained at all times; a requirement to provide options for worker carpooling; a commitment to utilize existing electricity sources where feasible rather than portable diesel-powered generators; and identification of procedures (including the routing of haul trips) that would be followed to ensure that all materials and debris hauling is conducted in a fuel-efficient manner.

The amount of electricity and indirect energy consumption that would be associated with construction of the project is currently unknown and cannot be estimated as it would be too speculative given existing data. (see Draft EIR/EIS, p. 4.18-15.) More important, the precise plan of construction as to timing of elements, sequencing, and the precise exact types of construction equipment to be employed, etc., cannot be known until the project is approved,

a contractor is hired, and construction level plans are available. Therefore, it is premature to prepare a fully-developed construction equipment efficiency plan at this time. Deferral of the specifics of mitigation (“the details of exactly how mitigation will be achieved”) is permissible so long as the mitigation measures commit the project applicant to mitigation and list alternatives to be considered, analyzed, and possibly incorporated into a mitigation plan. (*California Native Plant Soc. v. City of Rancho Cordova* (2009), 172 Cal.App.4th 603, 621; see also *City of Hayward v. Board of Trustees of the California State University* (2015) 242 Cal.App.4th 833, 855-856.)

- CURE-Fox-124 In this context, a “qualified professional” is defined as a construction planner/energy efficiency expert (see Impact 4.18-1 in EIR/EIS Section 4.18, Energy Conservation). The Lead Agencies disagree that a registered civil engineer would possess a more appropriate qualification than a construction planner/energy efficiency expert to prepare the mitigation plan.
- CURE-Fox-125 For responses relative to the specific mitigation recommendations, see responses to comments CURE-Fox-126 through CURE-Fox-133, below.
- CURE-Fox-126 See response to comment CURE-Fox-17.
- CURE-Fox-127 See responses to comments CURE-Fox-15 and CURE-Fox-23.
- CURE-Fox-128 See response to comment CURE-Fox-12.
- CURE-Fox-129 As stated in Section 4.13.1.3, *Solid Waste Services*, all solid waste generated by project construction or operation would be disposed of at the Monterey Peninsula Landfill or diverted for recycling or reuse at the Monterey Materials Recycling Facility. The materials that would be targeted by operators at the materials recovery facility include paper, cardboard, bottles and cans, commercial waste, wood waste and yard waste, and construction and demolition debris. An additional mitigation measure to require reuse and recycling of construction and demolition waste is not warranted.
- CURE-Fox-130 Mitigation Measure 4.10-1a, Equipment with High-Tiered Engine Standards, has been revised to include requirements for construction equipment to be alternatively powered, where feasible. Refer to response to Comment MBARD-1.

As described in the Air Quality Impact 4.10-1 conclusion, construction of the proposed project could contribute to an exceedance of a state and/or federal standard for ozone and NO<sub>2</sub> based on the estimated maximum daily mass emissions levels of NO<sub>x</sub>. Therefore, use of biodiesel fuel is not considered to be viable mitigation to reduce project GHG emissions during construction because its exhaust can include NO<sub>x</sub> emissions 20 percent higher than exhaust from

standard diesel fuel (Rincon, 2014), which would substantially increase the severity of the significant and unavoidable air quality impact. Furthermore, because amortized construction emissions associated with the project would only account for less than five percent of the total project GHG emissions, even if all construction-related GHG emissions could be avoided, the overall project emissions would continue to exceed the significance threshold (see EIR/EIS Table 4.5-5). Such a mitigation requirement would do little to reduce the significant GHG emissions impact, but could substantially increase the severity of the significant air quality impact. The mitigation recommendation has not been incorporated. See also response to comment USEPA-4 which contains the revised text of Mitigation Measure 4.11-1.

- CURE-Fox-131 Identification of procedures (including the routing of haul trips) that would be followed to ensure that all materials and debris hauling is conducted in a fuel-efficient manner would already be required pursuant to Mitigation Measure 4.18-1, Construction Equipment and Vehicle Efficiency Plan (see Impact 4.18-1 in EIR/EIS Section 4.18, Energy Conservation).
- CURE-Fox-132 Pursuant to the MMRCPP that would be implemented for the project, the CPUC would be required to ensure that CalAm and its contractors effectively implement all mitigation measures. The CPUC would have an on-site third-party mitigation monitor that would note any problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the CPUC. In addition, pursuant the program, the CPUC would conduct tracking/reporting on the implementation of mitigation measures.
- CURE-Fox-133 See response to comment CURE-Fox-27.
- CURE-Fox-134 CalAm would not solicit construction contractors for the MPWSP until after the project has been approved. At this point in the planning and review process, information about the actual construction equipment (e.g., the years equipment engines were produced) is not available. However, equipment inventory assumptions for each project component, including equipment horsepower ratings, hours of equipment use, equipment fuel types, and construction phasing, have been estimated for the Draft EIR/EIS analysis and are included in EIR/EIS Appendix G.1, Air Quality and Greenhouse Gas Emissions Estimates.
- CURE-Fox-135 See response to comment CURE-Fox-132. The requested changes to Mitigation Measure 4.18-1 are not warranted.
- CURE-Fox-136 See responses to comments CURE-Fox-118 through CURE-Fox-135.
- CURE-Fox-137 Predicted vibration levels presented in Table 4.12-10 of the Draft EIR/EIS were calculated using FTA equations for vibration propagation on pages 11 and



12 of their document *Transit Noise and Vibration Impact Assessment*, cited in EIR/EIS Section 4.12.

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where: PPV (equip) is the peak particle velocity in in/sec of the equipment adjusted for distance

PPV (ref) is the reference vibration level in in/sec at 25 feet

D is the distance from the equipment to the receiver.

Reference vibration levels at 25 feet were taken directly from FTA's Table 12-2 in the same document. As an example, for a Bore/Drill Rig the reference vibration level at 25 feet is 0.089 inches per second, as indicated in Table 4.12-10 of the Draft EIR/EIS. Applying this vibration level in the above equation yields a resultant vibration level at 50 feet (for the ASR-5 and ASR-6 wells) of 0.031 inches per second. All other values in Table 4.12-10 were calculated in a similar fashion.

CURE-Fox-138 While the analysis in Impact 4.12-3 of the Draft EIR EIS is accurate, the impact conclusion paragraph on Draft EIR/EIS page 4.12-48 summarized the analysis incorrectly and is amended as indicated below:

#### **Impact Conclusion**

Construction of the subsurface slant wells, MPWSP Desalination Plant, ~~Pipeline to the CSIP Pond, Brine Discharge Pipeline and Source Water Pipeline~~ would result in less-than-significant vibration impacts with regard to structural damage, and no impact with regard to human annoyance. Construction of the Castroville Pipeline, ASR-5 and ASR-6 Wells, ~~Terminal Reservoir, ASR Conveyance Pipeline, ASR Recirculation Pipeline, ASR Pump to Waste Pipelines, Ryan Ranch-Bishop Interconnection Improvements, Carmel Valley Pump Station, and Main System-Hidden Hills Interconnection Improvements~~ would result in less-than-significant vibration impacts with regard to both structural damage and human annoyance. There could be significant vibration impacts related to structural damage and human annoyance from construction of the ~~Castroville Pipeline and Source Water Pipeline~~, as well as the new Desalinated Water Pipeline and new Transmission Main where trenchless construction methods are required for these pipelines. However, with implementation of the mitigation measures identified above, all significant construction vibration impacts would be reduced to a less-than-significant level.

Additionally, Table 4.12-10 has been revised to reflect that no historic structures are located within distances of concern along these pipelines and the threshold of 0.3 inches per second applies. Consequently, the references to Mitigation Measure 4.15-1a have been deleted from Section 4.12.

Mitigation Measure 4.12-3 establishes a performance standard for addressing potential vibration impacts related to human annoyance and building damage and provides numerous measures of achieving this standard. As a practical matter, reducing vibration from rollers to below the building damage threshold would involve a minor reduction from 3.1 PPV to 2.9 PPV, which could be achieved with alternative compaction methods in areas close to structures.

With respect to addressing human annoyance impacts, Mitigation Measure 4.12-3 identifies restriction of construction activities to daytime hours. Given that installation of sheet piles for a given trench pit would take only a few hours and compaction using rollers could also be completed in proximity to receptors in a few hours, human annoyance effects of vibration would not occur during times when most people sleep and would only be perceptible for a brief period of time, if at all.

CURE-Fox-139 See response to comment CURE-Fox-138.

CURE-Fox-140 The City of Monterey's Vibration Control Plan addresses vibration impacts on historic structures in the Spanish Royal Presidio, in the Monterey Old Town National Historic Landmark District, near historically significant buildings, and in the Presidio of Monterey Historic District. The proposed project would not be constructed in the vicinity of any of historic buildings or structures in the City of Monterey.

CURE-Fox-141 The suggested measure is already incorporated into Mitigation Measure 4.12-3 on page 4.12-48 of the Draft EIR/EIS.

CURE-Fox-142 The suggested alternative shoring method, as well as the suggested alternative compaction method described in comment CURE-Fox-145, has been added to Mitigation Measure 4.12-3, as indicated below:

- a. Vibration monitoring shall be conducted for the first 500 feet of pipeline construction for each segment to confirm vibration levels do not exceed the above vibration threshold. If vibration levels exceed the limits of this mitigation measure, construction practices shall be modified to use smaller types of construction equipment or excavator-mounted compaction wheels, operate the equipment in a manner to reduce vibration, or use alternate construction methods (such as use of manual shoring jacks), and monitoring shall continue for an additional 200 feet or until construction practices meet the required vibration levels. The monitoring in this

mitigation measure shall be repeated if the construction methods change in a manner that would increase vibration levels, or when structures are closer to the limits of construction than previous vibration monitoring have confirmed is below the vibration thresholds.

- CURE-Fox-143 The suggested mitigation measure is incorporated into Mitigation Measure 4.12-3 on page 4.12-48 of the Draft EIR/EIS but with an implementing distance standard that addresses non-historic structures.
- CURE-Fox-144 The suggested mitigation measure does not apply to proposed use of rollers or sheetpile drivers that have been identified as potential sources of vibration impacts.
- CURE-Fox-145 See response to comment CURE-Fox-142.
- CURE-Fox-146 The suggested mitigation measure does not apply to the proposed project, which would not impact historic structures as indicated in Impact 4.15-1 of the Draft EIR/EIS.
- CURE-Fox-147 Mitigation Measure 4.12-3 on page 4.12-48 of the Draft EIR/EIS already identifies a requirement for vibration monitoring. The proposed project would not impact historic structures, as indicated in Impact 4.15-1 of the Draft EIR/EIS.
- CURE-Fox-148 The suggested mitigation measure is already incorporated into Mitigation Measure 4.12-3 on page 4.12-48 of the Draft EIR/EIS.
- CURE-Fox-149 The suggested mitigation measure appears to be taken from a proposed scope of work, as identification of a specific manufacturer of seismograph is not a necessary component of the mitigation measure. The monitoring task could be adequately performed by a number of different available seismograph types.
- CURE-Fox-150 See response to comment CURE-Fox-140.
- CURE-Fox-151 See response to comment CURE-42. The New Monterey Pipeline was previously included as part of the proposed project. However, it is no longer part of the proposed project and no components of the proposed project would be constructed in the vicinity of any historic buildings or structures in the City of Monterey.

### 8.6.2.3 Responses to Comments from California Unions for Reliable Energy – Owens Letter

CURE-Owens-1 The Draft EIR/EIS includes a thorough description of the regional environmental setting in Section 4.6.1.3, Regional Terrestrial Biological Resources, and describes the regional significance. On page 4.6-7 of this section, the Draft EIR/EIS states, “Monterey County is situated at the confluence of the San Francisco Bay, Central Coast, and South Coast Range floristic provinces. As a result, the flora of Monterey County is some of the most diverse in California. Monterey County represents the southern and northern population range limits of many rare species endemic to the northern and southern portions of the state, respectively.” The Draft EIR/EIS describes the existing biological resources present, or potentially present, in the project area and evaluates potential project and cumulative impacts on these resources as required by CEQA and NEPA.

CURE-Owens-2 As noted in the comment “*Where the effect of the potential conflict would be significant, feasible mitigation is identified to resolve or minimize that conflict*” (emphasis added). The impact analysis in Section 4.6.5 finds that not all “potential conflicts” identified at the screening level in Section 4.6.2.3 would result in significant impacts; therefore, not all require mitigation under CEQA and NEPA. As disclosed in Impact 4.6-4, the project would have impacts on resources that could meet Marina LCLUP’s definition of primary and secondary habitat, including species identified in the LCLUP’s list of sensitive species and others not on that list. The commenter correctly notes that CalAm would be required to comply with independently enforceable requirements of agencies with jurisdiction. Such requirements are indeed effective independent of any reference in an EIR/EIS. Nevertheless, Mitigation Measure 4.6-2a requires CalAm to consult with the CCC and local jurisdiction (e.g., City of Marina) to verify the extent of ESHA within or adjacent to portions of the proposed project within the Coastal Zone (see Final EIR/EIS Section 4.6.1.5 for a description of the identification process to date) as part of the process of obtaining a Coastal Development Permit(s), and Mitigation Measure 4.6-2b requires CalAm to implement avoidance, minimization, and compensation measures for impacts on ESHA and primary habitat. Restoration and mitigation activities required for compensation lands under Mitigation Measure 4.6-2b would be included in the Habitat Mitigation and Monitoring Plan (HMMP) (Mitigation Measure 4.6-1n) which CalAm must implement after developing and submitting to the appropriate resource agencies, including the CCC and local jurisdictions, for approval prior to project construction. The EIR/EIS’s mitigation measures appropriately place the responsibility for interpreting the local coastal plan policies in the hands of the applicable jurisdiction(s) considering and approving a Coastal Development Permit, and stipulate that the project shall not move forward until CalAm has heeded that interpretation. See response to comment CURE-Owens-4 regarding protocol surveys.

- CURE-Owens-3 See response to comment CURE-Owens-2. The Draft EIR/EIS does consider seaside painted cup (*Castilleja latifolia* ssp. *latifolia*) and Eastwood's ericameria (*Ericameria fasciculata*). See the discussion of Monterey coast paintbrush (*Castilleja latifolia*) and Eastwood's goldenbush (*Ericameria fasciculata*), respectively in Section 4.6.1.8, Special-Status Species, for a discussion of the potential for these species to occur in the project area. The Final EIR/EIS includes an analysis of potential impacts on globose dune beetle (*Coelus globosus*) and Salinas kangaroo rat (*Dipodomys heermanni goldmani*) in Section 4.6.5; these analyses do not identify any new or substantially more severe significant impacts compared to the Draft EIR/EIS.
- CURE-Owens-4 EIR/EIS Section 4.6.1.2, Information Sources and Survey Methodology, describes the numerous biological field surveys that have been conducted within the project area between 2012 and 2016. These surveys include a combination of reconnaissance-level field surveys and focused and protocol-level surveys for some species. Over 60 days of field surveys were conducted by experienced professional biologists well-versed in the local flora and fauna and also experienced in the standards and data requirements for CEQA and NEPA compliance. The EIR/EIS evaluates the potential for special-status species and sensitive natural communities to occur within the project area based on the results of these numerous surveys as well as multiple other sources, including, but not limited to CNDDDB records, USFWS records, CNPS records, and several biological reports prepared in the region. The EIR/EIS evaluates potential impacts on these sensitive biological resources based on their potential to occur. See Section 4.6.4, Approach to Analysis for a discussion of this impact analysis. Protocol-level surveys are not required for all CEQA/NEPA documents. For example, under CEQA, where there is sufficient, current information regarding biological resources to determine potential impacts on sensitive biological resources and develop mitigation measures, new protocol surveys would not be necessary. The fact that additional studies might be helpful does not mean that they are legally required. (See e.g., *Association of Irrigated Residents v. County of Madera* (2003) 107 Cal.App.4<sup>th</sup> 1383.) Generally, NEPA requires high quality, accurate data with scientific integrity.
- In response to a Public Records Act request, the GIS data and all field survey notes used to support the determinations regarding potential to occur and impact analysis were provided to Adams Broadwell Joseph & Cardozo on March 15, 2017.
- Comments regarding the adequacy of mitigation measures for impacts on sensitive species are addressed below where the commenter provides further specificity.
- CURE-Owens-5 See the response to CURE-Owens-4 in regard to the need for focused and protocol level surveys and to the approach to analysis. Section 4.6.1.8,

Special-Status Species, includes a general description of the location of the nearest occurrence record for each special-status species with a moderate to high potential to occur at the site. The Draft EIR/EIS does not rely solely on CNDDDB occurrence records or results from the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Species. Results from the CNDDDB and CNPS information have been used, along with an evaluation of habitat conditions and life history of each special-status species, to determine whether a special-status species has potential to occur within the project area. Additionally, many observations of these species were documented as part of the multiple biological surveys conducted within the project area between 2012 and 2016, in part for the specific purpose of obtaining primary source data for analysis of the proposed project.

The entire Section 4.6, Terrestrial Biological Resources, includes a thorough description of existing conditions. Section 4.6.1, Setting/Affected Environment, provides a thorough description of the existing site conditions including vegetation communities and habitat types, sensitive natural communities, wetlands and other waters, wildlife movement corridors, special-status species, and critical habitat based on the surveys listed in Section 4.6.1.2, Information Sources and Survey Methodology. Section 4.6.1.8, Special-Status Species, includes a description of each special-status species with a moderate or high potential to occur in the project area and includes a description of where each species has been observed in or around the project area during the surveys listed in Section 4.6.1.2. All of these observations are included on maps and spreadsheets that are in the administrative record for this EIR/EIS. This information and the GIS shapefiles were sent to CURE on March 15, 2017. This information was used to evaluate the potential for species to occur in the project area, determine whether impacts would be significant, and recommend mitigation measures where necessary to reduce impacts to less than significant. The cited sentence in the comment, "The impact analysis described in this section is based on special-status species observations available to Environmental Science Associates (ESA) as of June 20, 2016," is not intended to be read as a citation to a specific study or reference. The meaning of this statement is that the analysis in the Draft EIR/EIS was based upon all materials *available to* ESA as of that date – those materials have been referenced and included in the administrative record as described above.

With regard to the wetland delineation, wetland delineation mapping has been conducted by AECOM as part of its biological surveys conducted in support of the project. As described on Draft EIR/EIS page 4.6-35 in Section 4.6.1.6, wetlands or waters potentially regulated by the USACE, RWQCB, and/or CCC were mapped in the project's study area during wetland mapping conducted by AECOM and other field studies conducted by ESA between 2012 and 2016. A wetland delineation report, based on some of these field surveys, has been



prepared and is referenced in the Final EIR/EIS. Additionally, the USFWS National Wetland Inventory (NWI) was queried to identify wetlands and other waters within or adjacent to the study area. In the absence of a wetland verification by the USACE, RWQCB, and CCC, and based on the best available information from numerous surveys, the EIR/EIS conservatively assumes that all areas mapped as potential wetlands or waters during surveys conducted by ESA and AECOM between 2012 and 2016, by the NWI, and in the wetland delineation would be considered potentially jurisdictional by the USACE, RWQCB, and/or CCC. A wetland delineation will be submitted to the USACE, RWQCB, and CCC as part of project permitting, which is separate from the CEQA/NEPA analysis. In response to this comment, the text in Section 4.6.1.6, Wetlands and Other Waters has been revised to clarify these assumptions. See the response to comment MCWD-134 for the revised text. Additionally, in response to this comment, the following text from Draft EIR/EIS pages 4.6-69 and 4.6-70 has been revised as shown:

The occurrence potential for special-status species considers the habitat requirements and life history of the individual species, site-specific reconnaissance-level biological surveys (habitat assessments) of the project area, and focused and protocol-level surveys of special-status species at select facility locations as described in Section 4.6.1.2.

CURE-Owens-6 See responses to comments CURE-Owens-4 and CURE-Owens-5. If CDFW or USFWS require additional focused and protocol surveys for federal and/or state-listed species in support of permit approvals, CalAm will be required to conduct these surveys. These permitting approvals are separate from this CEQA/NEPA analysis.

CURE-Owens-7 See response to comment CURE-Owens-5. Results from the plant surveys described in Section 4.6.1.2, Information Sources and Survey Methodology, are included in the description for each special-status species with a moderate or high potential to occur in the project area in Section 4.6.1.8, Special-Status Species.

Mitigation Measure 4.6-1e provides appropriate and adequate measures to ensure that impacts on special-status plants are reduced to less than significant. This measure has been revised in response to comment CDFW-4. The revised measure would ensure that impacts on special-status plant species are reduced to less than significant regardless of the size the population. It stipulates that impacts on special-status plants shall be avoided where possible, and if impacts cannot be avoided, then measures to minimize impacts shall be implemented. Regardless of the number of plants, CalAm would be required to implement these avoidance and minimization measures. The revised measure includes compensatory mitigation requirements that would ensure 1:1 ratios for temporary impacts and 2:1 ratios for permanent impacts and performance

standards to ensure that the restoration areas have either similar cover or a similar number of species as the impacted area. Regardless of the size of the impact, compensatory mitigation would be provided at least twice the size of the impact area, and restoration areas would be required to have similar conditions to those in the area affected.

This measure does not rely on “last-minute” pre-construction surveys to document special-status plant occurrences nor does it rely upon an assumed presence of a special-status species. Rather, the measure requires that focused botanical surveys be conducted during the appropriate blooming period prior to ground disturbance to determine the presence and abundance of special-status species specific to that season or year. Implementing these surveys will ensure that special-status plants are accurately documented within the project area prior to construction, and mitigation applied in accordance with the performance standards outlined in adopted measures.

CURE-Owens-8 See response to comment CURE-Owens-4. Figures 4.6-2a through 4.6-2c include a list of species with CNDDDB occurrence records in the project area. The exact locations of special-status species records are not included in this public document in accordance with the CNDDDB Data Use Guidelines (2011). Per the CNDDDB Data Use Guidelines, “the concern is that, while it is important that the CNDDDB information is available to those whose job it is to conserve species, there is the very real possibility that some people will use the detailed location information to do harm to a species or its habitat. Because of the sensitivity of the data, we try to limit the level of location detail that is made readily available to the public.” In response to this comment, Figures 4.6-2a through 4.6-2c have been revised to include the CNDDDB disclaimer.

Section 4.6.1.8, Special-Status Species, includes a general description of the location of the nearest occurrence record for each special-status species with a moderate to high potential to occur at the site.

CURE-Owens-9 The conservation status of western snowy plover is acknowledged in EIR/EIS Section 4.6.1.8, Special-Status Species. As described on page 4.6-2 of the Draft EIR/EIS, ESA requested western snowy plover occurrence data within the project area from Point Blue Conservation Science (i.e., data not published in their annual report), but Point Blue Conservation Science has not provided this data because they have not received authorization from CEMEX to share data specific to the CEMEX property with the Lead Agencies. This remains accurate as of publication of the Final EIR/EIS. In the absence of this information, ESA has relied on multiple western snowy plover resources to describe the status of western snowy plover in the project area. These resources are cited on Draft EIR/EIS page 4.6-50 in Section 4.6.1.8 and

include a Point Blue Conservation Science Publication, *Nesting of the Snowy Plover in the Monterey Bay Area, California in 2015* (a more recent version of the 2012 report cited in the comment's footnote 41), unpublished western snowy plover monitoring data provided in the *Technical Memorandum Biological Resources Assessment MPWSP Exploratory Borings Program Package 1 – CEMEX Active Mining Area*, as well as a letter from Kriss Neuman, Waterbird Ecologist, Point Blue Conservation Science, describing historic western snowy plover nest observations in the backdunes of the CEMEX active mining facility. All materials referenced in the Draft EIR/EIS were made available to the public during the public review period for the Draft EIR/EIS. The Final EIR/EIS relies on all of this information to acknowledge the high potential for this species to nest and winter in and around the project area. See the response to comment CURE-Owens-4, which explains that CEQA and NEPA do not require protocol-level surveys. The EIR/EIS provides sufficient information, based on the best available information, regarding the status of western snowy plover in the project area to adequately determine potential impacts on this species. Impacts are acknowledged to be potentially significant, and effective, multi-faceted mitigation measures are recommended to reduce these impacts.

Note that permitting under laws such as the federal Endangered Species Act (FESA) is a separate process from the CEQA and NEPA process and is being undertaken by CalAm and permitting agencies (e.g., USFWS) concurrent with and following CEQA and NEPA review. The Lead Agencies anticipate that the permitting process will result in additional specific mitigation requirements, and Mitigation Measure 4.6-1d, item 1, requires compliance with all avoidance and minimization measures required by USFWS as part of the FESA Section 7 consultation between the ONMS and USFWS, in addition to the actions specified in this mitigation measure.

CURE-Owens-10 See the response to comment CURE-Owens-4, which explains that CEQA and NEPA do not require protocol-level surveys. The Draft EIR/EIS references construction of the test slant well as an example of a similar, albeit smaller, project that has been implemented in the same project area and that used some of the same construction methods as would the proposed project. This example demonstrated that for the smaller-scale test slant well project, take of western snowy plover was avoided. The Draft EIR/EIS acknowledges that the scope of work for the test slant well is smaller than the scope of work for the proposed project. The revised Mitigation Measure 4.6-1d provides measures to reduce impacts from the proposed project and takes into account the scale of the proposed project.

The Draft EIR/EIS provides a description of the number of western snowy plovers in the breeding population in the Monterey Bay for context. In response to this comment, the Final EIR/EIS has been revised to include the

number of nests observed in the Marina subregion in 2015 and 2016. This information is based on breeding season surveys conducted along the beach, west of the project area. While protocol-level breeding season surveys have not been conducted within the project area, Mitigation Measure 4.6-1d requires CalAm to engage a qualified biologist to perform one year of surveys during the nesting season preceding construction. Additionally, the number and location of nests fluctuates year to year, so future predictions on the number of plovers that may occur within the project disturbance area during future construction are based on estimates. The EIR/EIS uses the best available information to analyze impacts and provide mitigation to reduce impacts to less than significant. This is based on the approach to analysis as described in Section 4.6.4.

- CURE-Owens-11 The locations and primary constituent elements of western snowy plover critical habitat are described on Draft EIR/EIS pages 4.6-68 and 4.6-69. The EIR/EIS evaluates potential impacts on western snowy plover critical habitat and requires implementation of mitigation measures to reduce potential impacts to less than significant. See Impacts 4.6-2 and 4.6-7, which evaluate impacts, including direct and potential indirect impacts from foot traffic outside the construction area, trash and debris from construction, and/or the spread of invasive species, on snowy plover critical habitat that may result from construction of the subsurface slant wells (Draft EIR/EIS page 4.6-187) and Source Water Pipeline (Draft EIR/EIS page 4.6-190). These are the only project components that would have the potential for indirect impacts on snowy plover critical habitat. As stated on Draft EIR/EIS page 4.6-68, portions of the new Transmission Main and new Desalinated Water Pipeline alignments are located a minimum of 0.2 to 0.6 mile (1,000 to 3,000 feet) from snowy plover critical habitat. As shown on Figure 4.6-3, the closest portion of these pipelines to snowy plover critical habitat is an approximately 2-mile portion of the new Transmission main that would be located west of Highway 1 along the Transportation Agency for Monterey County (TAMC) right-of-way. Dunes separate the TAMC right-of-way from the snowy plover critical habitat (located on the beach) in this location, providing visual and topographical separation between the critical habitat and proposed construction activities, in addition to the 1,000-foot distance. Along other portions of these pipeline alignments, the distance to critical habitat is greater and intervening roadways (e.g., Highway 1) provide additional separation. No indirect effects on snowy plover critical habitat are anticipated from the new Transmission Main or new Desalinated Water Pipeline.
- CURE-Owens-12 The Draft EIR/EIS acknowledges that loss of western snowy plover habitat (both breeding and wintering) and impacts on individual breeding and wintering birds would be a potentially significant impact. Construction impacts on western snowy plover are described in Impact 4.6-1, construction

impacts on western snowy plover critical habitat are described in Impact 4.6-2, operational impacts on western snowy plover are described in Impact 4.6-6, and operational impacts on western snowy plover critical habitat are described in Impact 4.6-7. Within those impact discussions, the proposed mitigation measures to reduce impacts on western snowy plover, including impacts on individuals and on habitat, to less than significant include Mitigation Measures 4.6-1a through 4.6-1d, 4.6-1n, 4.6-1p, 4.6-2b, 4.12-1b, and 4.14-2. Several of these measures have been revised to provide clarification or for consistency with permitting applications. The revised measures are provided in Final EIR/EIS Section 4.6.

Implementation of the measures described above would ensure that impacts on western snowy plover, including breeding and wintering birds, are reduced to less than significant. The revised Mitigation Measure 4.6-1d specifically requires that work be conducted during the non-breeding season if feasible and if it is not feasible, then measures would be implemented to avoid and minimize impacts on nesting birds. For work in the non-nesting season, measures will be implemented to avoid direct impacts on western snowy plover. Additionally, the measure specifies clear compensatory mitigation and performance standards for loss of habitat. As described in Impact 4.6-6, periodic maintenance of the subsurface wellsevery 5 years is assumed to result in a permanent loss of approximately 6 acres of habitat, because this area of habitat would be subject to repeated disturbance. Per revised Mitigation Measure 4.6-1d, this would be compensated at a minimum 3:1 ratio and would reduce the impact from the loss of western snowy plover habitat to less than significant.

In response to this comment, the following text revisions have been made in the “Subsurface Slant Wells” subsection of Impact 4.6-1 in Section 4.6.5.1:

The 9-acre construction footprint for the subsurface slant wells is located within potential nesting habitat and construction of the nine subsurface slant wells and conversion of the test well to a permanent production well ~~during the breeding season~~ would result in the temporary loss of 8.0 acres (for temporary construction disturbance to areas that would be restored) and permanent loss of 1.0 acre (for new permanent above-ground facilities) of potential ~~wintering~~ habitat.

In response to this comment, the following text revisions have been made in the “Source Water Pipeline” subsection of Impact 4.6-1 in Section 4.6.5.1:

Construction work within the western end of the proposed Source Water Pipeline would result in the temporary (since the construction area would be returned to pre-construction conditions and birds may breed in the area following construction) loss of approximately 0.2 acre of potential ~~nesting~~ habitat (some of this area may overlap with the impact area for the

subsurface slant wells as described above), a significant impact. The remainder of the Source Water Pipeline would be constructed away from the beach and foredunes where plovers typically nest and would not result in the temporary loss of plover ~~breeding~~ habitat.

CURE-Owens-13 In response to this comment, Mitigation Measure 4.6-1d has been revised to clarify the performance standards that CalAm must meet to obtain approval for work that cannot be completed during the non-nesting season. These performance standards would ensure that even if work extends into the breeding season (in instances where drilling is partially complete at the end of the non-breeding season and cannot be suspended until the next non-breeding season), avoidance and minimization measures will be implemented to ensure that nesting snowy plovers would not be significantly impacted. For wintering plovers, Mitigation Measure 4.6-1d has been revised to include a performance standard to ensure that plovers are not directly impacted by construction by implementing avoidance and minimization measures. Once the project has advanced beyond the preliminary design phase and the development of construction-level plans make it practicable to do so, then appropriate site-specific avoidance and minimization measures shall be determined and submitted to the Lead Agencies and USFWS for review and approval in final design submittals as required by Mitigation Measure 4.6-1d Subpart 3a, and implemented when determined to be necessary under Subparts 3d and 3e of this measure. Additionally, the selection and placement of these measures would vary depending on the exact location or the number of western snowy plovers present in the work area, their relation to existing vegetation and topography, individual sensitivity, weather conditions, etc., none of which can be known at this time. The process by which CalAm would identify feasible measures during final design, and obtain concurrence from lead and permitting agencies, has been clarified in revised Subpart 3a of Mitigation Measure 4.6-1d. The Lead Agencies have no authority over USFWS permitting or enforcement actions. However, regardless of any measures that are required as part of the permitting process, CalAm will still be held to the measures and performance standards described in Mitigation Measure 4.6-1d; the most stringent measures and performance standards will prevail whether they are EIR/EIS mitigation measures or permit conditions. Regarding the comment's claim that the permitting agencies may be pressured to authorize work during the breeding season, this portion of the comment does not address this specific project or the adequacy or accuracy of the Draft EIR/EIS; regardless, the underlying premise has been addressed by the revisions to Mitigation Measure 4.6-1d, which identify specific criteria and performance standards to apply both during breeding and non-breeding seasons.

Contrary to the commenter's claim, the Draft EIR/EIS does not conclude that impacts on western snowy plover by development of their habitat would be



avoided due to the fact there is abundant habitat nearby for them to relocate, forage, and breed. Rather, although the Draft EIR/EIS describes on page 4.6-129 and 4.6-130 that the abundance of suitable wintering habitat north and south of the site may provide alternative wintering habitat for the short-term, temporary displacement of wintering birds during construction, temporary and permanent impacts on wintering birds and western snowy plover habitat are nonetheless found to be potentially significant. Implementation of Mitigation Measure 4.6-1d would reduce impacts to western snowy plover habitat (both wintering and breeding) to less than significant. The text of the impact analysis has been revised to clarify this impact. See CURE-Owens-12 for this revised text.

- CURE-Owens-14 The Draft EIR/EIS analyzes the potential direct and indirect impacts described in this comment in Impact 4.6-1 and Impact 4.6-6, and cumulative impacts are addressed in Impact 4.6-C. As described in these impact analyses, implementation of Mitigation Measures 4.6-1a, 4.6-1b, 4.6-1c, and 4.6-1d (as revised in the Final EIR/EIS, where applicable) would ensure that direct and indirect impacts on western snowy plover from human disturbance would be reduced to less than significant. These measures have been designed to ensure that a biological monitor will oversee construction, construction will be limited to the project boundary, a trash abatement program will be implemented to reduce the attraction of predators, nesting surveys will be conducted if work will occur during the nesting season, pre-construction surveys will be conducted, and other measures will be implemented to ensure that work would not cause an adult to abandon an active nest or young, change an adult's behavior so it could not care for an active nest or young, or directly impact individual plovers. The comment does not address the adequacy of these mitigation measures. The significance threshold used in this EIR/EIS to determine if impacts on special-status species would be significant is described in Section 4.6.4, Approach to Analysis. As stated therein, CEQA Guidelines Section 15065 directs lead agencies to find that a project may have a significant effect on the environment if it has the potential to substantially reduce the number or restrict the range of an endangered, rare, or threatened species. "Substantial" is further defined in Section 4.6.4 as a function of the magnitude or intensity and duration of the impact, rarity and context of the affected resource, and susceptibility of the affected resource to disturbance. These factors have been used to determine that project impacts on western snowy plover would be significant, as well as to determine that with implementation of avoidance and minimization measures required in the mitigation measures listed above, impacts would be reduced to a less-than-significant level.
- CURE-Owens-15 The information provided in this comment (summarizing case studies of how human activities affect western snowy plover) has been reviewed and considered by the EIR/EIS preparers. It does not present new information that would affect the impact analysis and significance conclusions in Section 4.6,

Terrestrial Biological Resources, because the analysis in that section already acknowledges the potential for human activities to adversely affect plovers and their habitat. Specifically, Impact 4.6-6 concludes that project construction and ongoing maintenance would result in the permanent loss of up to 6 acres of western snowy plover habitat. The proposed project would not have an effect related to recreational use of the project site or adjacent areas.

CURE-Owens-16 This comment is a summary of comments CURE-Owens-11, CURE-Owens-12, CURE-Owens-13, and CURE-Owens-14. See the responses to those comments above.

Additionally, the commenter asserts that future development of the HMMP as part of mitigation is improper. Mitigation Measure 4.6-1d has been revised to include specific performance standards and compensation requirements that will be fully incorporated and described in the HMMP. The HMMP is described in Mitigation Measure 4.6-1n. Once the design has progressed beyond the preliminary design phase and the development of construction-level plans make it practicable to do so, the exact avoidance and minimization measures (among those listed in Mitigation Measure 4.6-1d, Subpart 3a) would be determined in consultation with the Lead Agencies and USFWS based on the exact impact area (see revised Mitigation Measure 4.6-1d for clarification of this process). CEQA and NEPA do not require a plan to be prepared prior to project approval if the mitigation measure includes performance standards and monitoring requirements and it is impractical to prepare the plan prior to approval.

CURE-Owens-17 Comments regarding the lack of conservation strategies for western snowy plover in plans and policies adopted by the City of Sand City are beyond the scope of the proposed project, which would not be subject to Sand City plans and policies in any event. Similarly, comments regarding the lack of compliance with USFWS recommendations by cities and developers of other projects are also beyond the scope of the proposed project. As described in EIR/EIS Section 4.1.7, CEQA and NEPA require that an EIR/EIS cumulative impacts analysis consider the combination of the individual effects of two or more projects. Thus, the cumulative analysis for impacts on western snowy plover focuses on the physical environmental impacts of projects in the cumulative scenario, in combination with the physical environmental impacts of the proposed project.

CURE-Owens-18 The revised Mitigation Measure 4.6-1d requires that permanent loss of western snowy plover habitat be compensated at a minimum ratio of 3:1 and states that compensation may be in the form of on-site or off-site creation, restoration, enhancement, or preservation of habitat for western snowy plover. As described in Impact 4.6-1 and 4.6-6, implementation of this mitigation measure, as well as other mitigation measures, would reduce potential impacts on western snowy

plover to less than significant and no additional mitigation is required. As described in Impact 4.6-C, the incremental effects of the MPWSP would not result in a significant cumulative effect on western snowy plover.

CURE-Owens-19 The technical basis for the claims made in this comment are not clearly explained so this response provides clarification regarding the MPWSP slant well source water and the potential for slant wells to impact the groundwater available to the dune plants. The source of the fresh water available to the dune plants is precipitation and moisture from fog, which infiltrates into the dune surface and remains perched within the upper dune sand sediments. As indicated by the measurements of the groundwater level underlying the CEMEX area (see Appendix E-3), the brackish groundwater in the Dune Sands Aquifer that would contribute to the MPWSP slant well feedwater is 20 to 35 feet below the surface of the dunes. The perched freshwater available to the dune plants is not thought to be in hydraulic connection with the brackish Dune Sand Aquifer and water surface fluctuation in the aquifer would not translate to the upper perched freshwater. Furthermore, the slant wells have solid casing under the dunes with the screened sections beginning deeper and towards Monterey Bay so the slant wells screens would not pull on and capture the fresh water perched in the upper regions of the dunes. While the temporary localized disturbance of the dunes during construction and maintenance of slant wells is anticipated, as discussed in Section 4.6.5.1, Construction Impacts, and Section 4.6.5.2, Operational and Facility Siting Impacts, long-term operations of the slant wells would not directly affect the dune hydrology or intercept the naturally perched fresh water available to the dune plants.

CURE-Owens-20 CalAm would be required to implement all mitigation measures that become requirements in any permits or authorizations. This would include respecting the authority of the Lead Biologist, or other biological monitors, to stop work in accordance with provisions of adopted mitigation measures. Regarding the comment's claim that the biological monitors may be pressured by construction contractors, this portion of the comment does not address this specific project or the adequacy or accuracy of the Draft EIR/EIS. The comment correctly states that a project applicant (i.e., CalAm) has the authority to oversee its contractors; simultaneously, CalAm would have the legal responsibility to successfully carry out mitigation requirements, and the CPUC has the authority to enforce these measures. As the CEQA Lead Agency, CPUC proposes mitigation measures in this EIR/EIS, not CalAm. The assurance of the Lead Biologist's and biological monitors' authority to stop work or otherwise carry out their responsibilities in the mitigation measures, including reporting of violations, also is under the enforcement authority of the CPUC.

In response to this comment, Mitigation Measure 4.6-1a has been revised to clarify that

“Work shall proceed only after the construction-related hazards to special-status species and habitats are removed and, if a special-status wildlife species is present, work shall proceed only if the species is no longer at risk of injury or death.”

Further, in response to this comment and others, Subpart 10 of Mitigation Measure 4.6-1c has been revised to clarify that

“If special-status wildlife species are found on the site immediately prior to construction or during project construction, construction activities shall cease in the vicinity of the animal until the animal moves on its own (if possible, as determined by the Lead Biologist or biological monitor) outside of the project area ~~(if possible).~~”

It is not practical to stipulate at what point it would be possible for an animal to move of its own volition. This would depend on the health and status of the animal and site conditions, which cannot be predicted. Further, Subpart 10 of Mitigation Measure 4.6-1c has been revised to clarify that avoidance, minimization, and relocation requirements for specific resources are provided in resource-specific mitigation measures and shall be followed (e.g., Mitigation Measure 4.6-1f describes the relocation requirements for Smith’s blue butterfly, while Mitigation Measure 4.6-1h describes the relocation (exclusion) requirements for western burrowing owl).

CURE-Owens-21 See responses to comments CURE-Owens-4 and CURE-Owens-5 regarding the need for protocol surveys and where in the EIR/EIS the results from completed surveys and other sources of information are presented. See response to comment CURE-Owens-7 regarding the adequacy of Mitigation Measure 4.6-1e, as revised.

CURE-Owens-22 See response to CURE-Owens-4 regarding protocol surveys. Multiple biological surveys have been conducted within the project area (see Section 4.6.1.2, Information Sources and Survey Methodology). All occurrences of the host plants for Smith’s blue butterfly observed in the project area during the surveys conducted in Section 4.6.1.2, as well as from other relevant biological resources documents, are described in Section 4.6.1.8.

Subpart 1 of Mitigation Measure 4.6-1f does not inappropriately defer mitigation. It does state that CalAm would be required to implement all avoidance and minimization measures imposed by USFWS, through its Biological Opinion, to comply with the Federal Endangered Species Act (FESA). CalAm would be bound to comply with FESA whether this item is listed in the measure or not. Mitigation Measure 4.6-1f does not rely solely on compliance with USFWS avoidance and minimization measures, but includes avoidance, minimization, and compensation measures in Subparts 2 through 5 to reduce impacts on Smith’s blue butterfly to less than significant.

Subpart 2 of Mitigation Measure 4.6-1f does not innappropriately defer mitigation and does not prevent a thorough analysis of mitigation efficacy. This measure requires that plants be mapped and avoided where possible, and where they cannot be avoided, the measure includes minimization and compensation requirements subject to specific, enforceable performance standards to reduce the impact to less than significant.

Mitigation Measure 4.6-1f requires a minimum 2:1 compensation ratio for permanent impacts on habitat. Subpart 5 of this measure has been revised to specify performance measures for compensatory mitigation.

Although the commenter suggests that the measure limit work to outside of the Smith's blue butterfly flight season based on a recommendation in the USFWS 1984 Smith's Blue Butterfly Recovery Plan (USFWS, 1984), a recent Programmatic Biological Opinion prepared by USFWS for Highway 1 Management Activities that Affect the Smith's Blue Butterfly (USFWS, 2008) does not contain a similar measure, and so it has not been incorporated into EIR/EIS mitigation. USFWS did not provide any comments on the inadequacy of the Draft EIR/EIS or any of the mitigation measures; however, Subpart 1 of Mitigation Measure 4.6-1f specifies that CalAm and its construction contractor(s) shall implement all measures required by USFWS in its Biological Opinion; therefore, if USFWS determines that the 1984-era recommendation is applicable to this project and includes it in the Biological Opinion, CalAm will be required to implement it.

Although Impact 4.6-1 does not include the exact number of plants that would be impacted, it describes the approximate acreage of Smith's blue butterfly that would be impacted by construction, which is sufficient to describe the impacts and determine appropriate mitigation. The revised Mitigation Measure 4.6-1d includes performance standards that would ensure that mitigation areas have either similar cover or number of host plants to the impact area.

CURE-Owens-23 See response to comment CURE-Owens-4 regarding focused surveys. Mitigation Measure 4.6-1g requires that a qualified biologist conduct focused pre-construction surveys for black legless lizard, silvery legless lizard, and coast horned lizard to identify these species and, if present, relocate them outside of the project area. These surveys include walking transects for visual coverage specifically to identify coast horned lizard and hand raking soil and leaf litter specifically to identify legless lizards. The commenter does not describe or include a citation with information describing other habitats that these species may forage and move within beyond those recognized in the Draft EIR/EIS (the cited resources pertain to desert habitats not present at the project site). The Lead Agencies and the qualified biologists among their EIR/EIS consultants have described the habitats in the project area known to be used by these species based on the accounts and information cited in the EIR/EIS and consider the

EIR/EIS descriptions and analyses of these species to be adequate and supported by substantial evidence. The commenter insinuates that visual surveys may not adequately detect coast horned lizard. Coast horned lizard is designated a species of special concern by CDFW. CDFW does not provide a survey protocol for this species. In the absence of a standard survey protocol for this species, the Draft EIR/EIS has incorporated a survey protocol based on this species life history, EIR/EIS consultant's experience surveying for this species, and mitigation measures that have been approved for other similar projects. Based on the above, visual surveys have been proposed to identify coast horned lizard during pre-construction surveys for this species.

Regarding the relocation plan, see response to comment MCWD-120.

Mitigation Measure 4.6-1c has been revised to prohibit the use of insecticide.

CURE-Owens-24 Mitigation Measure 4.6-1i has been revised to include a measure for continuous monitoring, and if continuous monitoring is not feasible, then a no-disturbance buffer shall be maintained. This measure has been revised per the recommendation from CDFW, the entity that oversees the California Fish and Game Code, which protects nests or eggs of any bird, hawks, and owls. USFWS typically does not require pre-construction nesting survey reports. Mitigation Measure 4.6-1i includes avoidance and minimization measures to avoid take of birds protected under the Migratory Bird Treaty Act. A take permit would not be required if take is avoided. To allow for the remote possibility that the applicant may require a take permit, Mitigation Measure 4.6-1i has been revised.

If a bird initiates a nest within the vicinity of a construction activity that was started in the non-breeding season, it is common, accepted practice to assume that the bird is acclimated to that same type of construction activity. Subpart 3 of Mitigation Measure 4.6-1i has been revised to clarify that no surveys are required as long as a similar type of construction continues.

CURE-Owens-25 As described in Mitigation Measure 4.6-1n, the HMMP itself would not address the need for compensatory mitigation. Rather, compensatory mitigation requirements and ratios for permanent impacts on special-status species and sensitive natural communities are described in the revised species- and sensitive natural community-specific mitigation measures listed in Impacts 4.6-1 and 4.6-2. These measures, as revised, also include clarification of performance standards and monitoring durations. The HMMP required under Mitigation Measure 4.6-1n would include all of these requirements in a comprehensive plan.

CURE-Owens-26 The Draft EIR/EIS requires several measures to ensure that impacts on black legless lizard, silvery legless lizard, and coast horned lizard are reduced to less than significant. Mitigation Measure 4.6-1a requires a qualified biologist or



qualified biological monitor to be onsite during all fencing and ground disturbance activities to monitor for special-status species; in the event that several monitors are needed to cover the active construction sites, CalAm would be required to provide for this need. Subpart 9 of Mitigation Measure 4.6-1c requires installation of exclusion fence around all areas where special-status reptiles have potential to occur to ensure that these species do not enter the project construction area, including roadways within construction areas where shown in Chapter 3 figures. Subpart 10 of Mitigation Measure 4.6-1c requires that if any special-status wildlife species is observed in the project area, work shall be halted, and the animal either be allowed to move on its own or be relocated. Mitigation Measure 4.6-1g requires extensive pre-construction surveys to identify any special-status lizards within the work area and requires development and implementation of a relocation plan to identify suitable locations to relocate any special-status lizards observed in the work area. Per Mitigation Measure 4.6-1g, the relocation sites would be assessed to determine that they are not overpopulated and have suitable habitat conditions, which would facilitate success of relocation efforts. Traffic would be restricted by limiting vehicle speeds to 15 miles per hour on roads within the project sites, as described in subpart 3 of Mitigation Measure 4.6-1c. These measures are consistent with the commenter's recommendations, do not constitute deferred mitigation, and would avoid and minimize impacts on special-status lizards.

CURE-Owens-27 As defined in EIR/EIS Section 4.6.1.7, wildlife movement corridors “link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or by areas of human disturbance or urban development.” As the commenter states, some wildlife species utilize agricultural and developed areas. However, these types of habitats do not serve as unobstructed or undisturbed wildlife movement corridors for the majority of wildlife species. The presence of human disturbance, including tilling, cultivation of crops, harvesting, paving, grading, traffic, recreation, etc., will separate less disturbed areas and limit wildlife movement between these areas. As described in 4.6.3, Evaluation Criteria, the majority of the site is within or adjacent to developed or disturbed areas that do not serve as wildlife movement corridors, or are already in an impaired state. Since the majority of the work would occur within these developed or disturbed areas, the majority of work would only create short-term temporary impacts, and this work would be implemented in segments, the project would have no impact on migratory wildlife corridors and no mitigation is required.

CURE-Owens-28 The EIR/EIS acknowledges that the proposed project would conflict with the City of Marina's LCLUP policies governing protection of Primary and Secondary Habitats. See Impact 4.6-4.

## 8.6.2.4 Responses to Comments from California Unions for Reliable Energy – Sobczynski Letter

CURE-

Sobczynski-1 The potential for impingement of organisms or fine particulate matter on the seafloor is evaluated in Impact 4.5-4 in the EIR/EIS. While various experts may have different methodologies and conclusions on infiltration rates at particular locations along a well's screen, the purpose of the analysis of Impact 4.5-4 is to determine the potential for the impingement of marine organisms or fine organic matter on the seafloor, or changes to soft substrate habitat, as a result of proposed project pumping.

While the California Ocean Plan notes that subsurface intakes collect water through sand sediment, which acts as a natural barrier to organisms and thus eliminates impingement and entrainment, EIR/EIS Section 4.5.5.2 explains that a key and fundamental concern about desalination facilities is the potential for impingement and entrainment of marine organisms during the intake of seawater. The Lead Agencies independently calculated the infiltration rate of the slant wells at the seafloor in Impact 4.5-4, assuming only the seafloor seaward of Mean High Water (MHW) would be affected. The commenter introduces a series of variables that could affect the calculation of the infiltration rate – including the location of the submersible pump in the well column, the sediment profile, the use of inflatable packer(s), and clogging in the seabed – to support a conclusion that the Draft EIR/EIS underestimates the infiltration rate.

It is correct that the pump would be located in the upper third of the well (approximately 300 to 400 feet inland from MHW in 2020), and water would flow through the Dune Sands and 180-Foot Equivalent (FTE) Aquifers (aka Terrace Deposits) at different rates (see EIR/EIS Appendix E1). The EIR/EIS does not address the use of inflatable/deflatable packers in the production wells since unlike the test slant well, inflatable packers are not included in the proposed project.

The commenter notes that the shallower section of the slant wells would pump from older dune sands (Dune Sand Aquifer) and the deeper section of the slant wells would pump from the deeper Terrace Deposits (180-FTE Aquifer) and states this sediment profile was not accounted for in the model. However, the sediment profile from which the slant wells would pump from is shown in Figure 4.4-3. The existing Test Slant Well is shown as pumping from both geologic units and the proposed slant wells would also be constructed across and pump from both units. Although the materials of both units are expected to be highly permeable, the shallower dune sand unit is expected to be more permeable than the deeper terrace deposits. As discussed in Appendix E2, the modeling takes this into account by assigning a higher hydraulic conductivity to the Dune Sand relative to the Terrace Deposits. The North Marina Groundwater Model (NMGWM) assigns a hydraulic conductivity of 150 feet per day to the Dune

Sand Aquifer and 50 feet per day to the 180-FTE Aquifer, as listed on Table 5.1 of Appendix E2. As a result, the modeling indicates that the ratio of water sources from the dune sand to terrace deposits is anticipated to be 66/34 percent, also listed in Table 5.1.

Several of the comments on clogging in the seabed challenge conclusions drawn by Williams 2015, which is a presentation Dr. Williams gave at the International Desalination Association World Congress on Desalination and Water Reuse. The commenter also makes repeated references to Williams 2010 and Jenkins 2010, both of which were prepared in support of the 2016 California Ocean Plan amendment, and address the Doheny Ocean Desalination Project and the Dana Point Test Well, and not the MPWSP. However, the EIR/EIS referred to but did not rely directly on Williams 2010, Jenkins 2010, or Williams 2015 for the impact analysis.

The commenter concludes that the EIR/EIS-calculated infiltration rate of 0.011 to 0.016 millimeters per second (mm/sec) underestimates the infiltration rate at the seafloor and thus underestimates the potential for clogging on the seafloor. When each factor introduced by the commenter is considered, the commenter asserts that the infiltration rate of a 19-degree slant well would be 0.16 mm/sec at its peak above the submersible pump, and 0.01 mm/sec at the well bore end. The commenter also opines that the infiltration rate for a proposed 14-degree angle slant wells would be 0.48 mm/sec but does not state if this rate would be over the pump or at the well bore end; it is assumed he meant inside or adjacent to the well casing. The commenter apparently concludes that his estimate of 0.48 mm/sec directly over the well pump would also occur at the seabed/ocean interface. Regardless of what the infiltration rate is at the pump, the infiltration rate at the seabed/ocean interface would be less since the pressure exerted by the pump at any given point in three-dimensional space would decrease with increasing distance from the pump. As an example, a vacuum cleaner will exert noticeable suction on your hand if held close to the nozzle but much less noticeable suction if held a few feet away. Similarly, the variable pressure distribution inside and next to the slant well will make little noticeable difference farther away from the slant well. Instead, the pressure created by the pump would generally radiate out in all directions, preferentially pulling in water along the paths of least resistance. Since the distance to open water without the restriction of sediment is to the ocean, the majority of flow will come from the ocean.

The EIR/EIS presents the swimming speeds of plankton, invertebrates, and larval fish in Table 4.5-8, which range from 0.2 mm/sec to 600 mm/sec, with all but phytoplankton and protozoa having swimming speeds above 0.5 mm/sec. The EIR/EIS concludes that “studies of invertebrate plankton have found swimming speeds substantially exceed the estimated vertical infiltration rate for the MPWSP slant wells (see Table 4.5-8) by several orders of magnitude. Therefore, no impingement from slant well operations is expected to occur.” If the infiltration

rate reached levels calculated by the commenter at the well bore end, the conclusion drawn in the EIR/EIS would still be the same since an infiltration rate of 0.01 mm/sec would be exceeded by swimming speeds. The infiltration rate of 0.48 mm/sec calculated by the commenter for a well at 14 degrees would also be (marginally) exceeded by swimming speeds; if that infiltration rate were to occur above the well pump, it would be several hundred feet inland of MHW, as previously established, and impingement would not occur at all due to the inland location. Thus, clogging of the seafloor due to the impingement of plankton, invertebrates, and larval fish would not occur.

The same holds true for the potential impingement of organic matter on the seafloor. As the Draft EIR/EIS states on page 4.5-53, “normal wave generated water velocities at the seafloor locations of the slant wells is predicted to be 8 to 20 times greater than that required for fine-grained material to accumulate on the sea floor over the subsurface slant wells. As a result, there would be no potential for the impingement of fine organic matter on the sea floor or changes to soft substrate habitat.” Thus, clogging of the seafloor due to the impingement of organic matter would not occur.

Based on the above-described considerations, while the methodologies, assumptions, and estimates by various experts on infiltration rates may vary, the ultimate conclusion of a less-than-significant impact on marine organisms from impingement remains unchanged. Therefore, no edits were made to the Draft EIR/EIS in response to this comment.

#### CURE-

#### Sobczynski-2

The potential for impingement of organisms or fine particulate matter on the seafloor is evaluated in Impact 4.5-4 in the Draft EIR/EIS. As further explained in the response to comment CURE-Sobczynski-1 above, the clogging of the seafloor due to the impingement of plankton, invertebrates, larval fish, and organic matter would not occur. There would be no buildup of biomass due to the pumping of the slant wells. Without the buildup of biomass, the commenters speculation regarding changes to the dissolved oxygen and the resultant buildup of hydrogen sulfide buildup would also not occur.

Draft EIR/EIS Section 4.5.5.2 presents the operational and facility siting impacts of the MPWSP and presents a quote on page 4.5-52, from the California Ocean Plan that subsurface intakes eliminate impingement and entrainment. Footnote 81 in the comment letter suggests that since the Ocean Plan was cited, and since the quoted passage from the Ocean Plan included a reference to MWDOC, 2010, which included Jenkins, 2010 and Williams, 2010, that the conclusions reached in the Draft EIR/EIS are based on Jenkins’ work. In fact, the analysis on impingement of marine organisms and organic matter on the seafloor was prepared independently by the Lead Agencies as previously noted in response to

comment CURE-Sobczynski-1, and relies on the data and assumptions presented in the section, and does not rely directly on Williams, 2010 and Jenkins, 2010.

In addition, even if the infiltration rate of slant wells on the seafloor would be as described in the comment (see response to comment CURE- Sobczynski-1 above), the analysis in the Draft EIR/EIS of impingement of marine organisms or organic matter on the seafloor still would not warrant revisions since the recalculated rates are exceeded by the orbital velocities of ocean waves presented in the Draft EIR/EIS on page 4.5-53 (i.e., 250 cm/sec to 600 cm/sec).

It is correct that the filter medium can be scrubbed from inside the well as the EIR/EIS describes in Section 3.4.1, and from the surrounding sediment through airlifting and blasting. However, the relevance to the proposed project of comments about suspended organic matter (SOM) that may become concentrated in the sand above an infiltration gallery is not clear, since the MPWSP does not propose to utilize an infiltration gallery. Nor is it clear why the SOM that originated in the ocean, and which is not a regulated contaminant, would contaminate the ocean upon its release.

CURE-

Sobczynski-3 The complete sentence on Draft EIR/EIS page 4.3-39 in Section 4.3.2.2 that is referenced in the comment, regarding discussion of state regulations as they relate to surface water quality, reads as follows: “The muds and clay slurry generated during the drilling and development of the subsurface slant wells *and the proposed ASR-5 and ASR-6 Wells in the Fitch Park military housing area would fall under the category of ‘Water Supply Well Drilling Muds’*” [emphasis added]. The sentence is not providing evidence of clay at the slant wells; it is discussing the waste discharge requirements in the RWQCB General Discharge Waiver.

A local geologic cross-section is shown in EIR/EIS Figures 4.2-3 and 4.4-3, and a cross-section of the test slant well is provided in the Baseline Water and Total Dissolved Solids Levels Technical Memorandum referenced in EIR/EIS Section 4.4 as Geoscience, 2015b. As described in EIR/EIS Section 4.4.1.2, the Terrace Deposits of the 180-FTE Aquifer are composed of former alluvial fan and river floodplain deposits, possibly with some marine terrace deposits that contain sand, silt, and gravel now buried under the coastal dunes. Clays are minimally present and would not be present in the sedimentary layers around the slant wells. In addition, well yield is determined by the coarse-grained sediment – little to no water is provided by the clays. If substantial clay deposits were present, then the well yield would be poor and the project infeasible. The results of the test slant well indicate that the well yield is good and the proposed project is feasible. The postulated build-up of organic matter around clays, if any, would therefore, have a negligible effect on well yield.

The Salinas Valley Aquitard (SVA), on the other hand, is a blue or yellow sandy clay formation up to 100 to 150 feet thick that lies mostly north of and generally parallel to the northwest-flowing Salinas River. The SVA thins and becomes discontinuous away from the centerline of the unit and at the Pacific Ocean, and was not observed in the exploratory borings at the CEMEX site. Thousands of vertical wells throughout the Salinas Valley penetrate the Salinas Valley aquifers, and most of them penetrate the clay that is the SVA. The concern about organic matter build-up on the clay is not necessarily unique to slant wells, and the extensive utilization of wells in the Salinas Valley that do not experience this issue suggests that it would not be of concern during project operation.

CURE-

Sobczynski-4 EIR/EIS Appendix E2 Section 5.3 describes the slant well capture zone as the three-dimensional volume of aquifer that contributes the water extracted by the wells; see Master Response 8, Project Source Water and Seawater Intrusion. In map view, the capture zone is a two-dimensional surface that delineates the underlying aquifer volume and becomes the primary source for the wells. The model-calculated, steady-state ocean water capture zone for the proposed slant wells is shown in Appendix E2 Figure 5.6. Turning off one well among the 10 wells would not create an impermeable barrier within the capture zone. Rather, the distances between two adjacent wells would simply increase. The operating wells would continue to produce 24.1 mgd of oxygenated water that would move through the large well capture zone. Therefore, if biomatter were to build up on colloidal deposits above an inactive well, the water would not stagnate and respiration of bacteria would not become anaerobic.

EIR/EIS Section 4.11.5 includes a discussion of the project's CO<sub>2</sub> off gassing, and the total metric tons is quantified in Table 4.11-4. See also EIR/EIS Appendix G2, and responses to comments from William Bourcier in Section 8.7.4 for a further discussion of GHG off-gassing from the slant wells.

CURE-

Sobczynski-5 As discussed above in the responses to comments CURE-Sobczynski-1 through CURE-Sobczynski-4, the Draft EIR/EIS presents all of the necessary relevant and supporting information in support of the impact conclusions.

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### 8.6.3 Responses to Comments from California American Water Company

- CalAm-1 The Lead Agencies' responses to CalAm's suggested technical corrections, clarifications, and/or revisions in Exhibit 1 of this letter are addressed in individual comment responses below.
- CalAm-2 This comment regarding water rights is noted. Additional discussion of water rights is provided in Master Response 3, Water Rights.
- CalAm-3 The requested clarification has been made.
- CalAm-4 The requested technical corrections and clarifications have been made.
- CalAm-5 Footnote 2 in the Executive Summary has been revised as follows:
- In October 2014, MBNMS finished its NEPA review of the construction of the test slant well and the operation of the pilot program. In November 2014, ~~the City of Marina and~~ the California Coastal Commission completed its ~~their~~ CEQA review.
- CalAm-6 The requested technical correction has been made.
- CalAm-7 Reference to Mitigation Measure 4.15-1a has been removed from Table ES-2 in the Executive Summary. Further, the Lead Agencies have revised the Impact Conclusion subsection under Impact 4.12-3 in Section 4.12, Noise and Vibration, to clarify that no significant vibration impact would occur from construction of the Source Water Pipeline. This clarification is consistent with the analysis provided for the Source Water Pipeline (see Draft EIR/EIS page 4.12-44), which explains that potential impacts from both open-trench and trenchless construction of the Source Water Pipeline would be less than significant (or that no impact would occur). Also consistent with this analysis and the clarification made in the Impact Conclusion subsection, reference to Mitigation Measure 4.15-1a. This reference was made inadvertently; no Mitigation Measure 4.15-1a is recommended in Section 4.15, Cultural and Paleontological Resources, and no mitigation is required for impacts on historic resources during construction because as described in Impact 4.15-1 in Section 4.15, no such impact would occur.
- CalAm-8 The requested clarification has been made.
- CalAm-9 The footnote in question in Chapter 1 has been revised to reflect that in September 2014, the City of Marina declined to adopt its Initial Study and Mitigated Negative Declaration and denied CalAm's CDP application for development of the test slant well, and in November 2014, the CCC approved the CDP application on appeal and documented its compliance with CEQA requirements.

- CalAm-10 An in-text citation (NOAA, 2016) and reference for NOAA Administrative Order 216-6A have been added to Chapter 1.
- CalAm-11 A citation and reference to CPUC Decision 16-09-021 was provided in Draft EIR/EIS Section 2.4.5. See Draft EIR/EIS page 2-20, “(CPUC, 2016),” and page 2-44, where the reference for this in-text citation for Decision 16-09-021 is provided. The paragraph referenced in the comment has been clarified to provide the decision number in addition to the in-text citation.
- CalAm-12 The requested clarification has been made.
- CalAm-13 The requested technical correction has been made.
- CalAm-14 Section 2.6, Water Rights, has been updated to cite authority in the noted location.
- CalAm-15 Section 2.6, Water Rights, has been revised to remove the repeated text.
- CalAm-16 The requested clarification has been made.
- CalAm-17 Footnote 2 in Chapter 3 has been revised as described in response to comment CalAm-9.
- CalAm-18 The requested clarification has been made.
- CalAm-19 The clarification that the pretreatment building would be 4,000 square feet in size and not 6,000 square feet has been made in Table 3-1, under the Desalination Facilities heading in the Pretreatment System row, and in the second paragraph of Section 3.2.2.1, Pretreatment System.
- CalAm-20 The description of subsurface slant wells in Table 3-1 has been clarified as follows:
- Each well site would have one wellhead ~~vault~~ (Sites 1, 3, 4, and 5) or three wellheads ~~vaults~~ (Sites 2 and 6), ~~aboveground~~-mechanical piping vault (meter, valves, gauges), one electrical control cabinet, and one pump-to-waste ~~vault~~-basin.
  - ~~Except for Site 1 (test slant well site), the aboveground facilities (at Sites through 6) would be built on a concrete pad ranging between 5,250 and 6,025 square feet in area.~~
- CalAm-21 The requested clarification has been made.
- CalAm-22 EIR/EIS Figure 3-3a identifies the wells from north to south; the test slant well is identified as SW-1, and the southern-most well is identified as SW-10. The text in the second bullet for the Subsurface Slant Wells in Table 3-1 has been clarified to indicate that the wells extend

“seaward of the Mean High Water (MHW) line (i.e., within MBNMS, except SW-#810 which would not extend past the MHW line; see [Table 3-2](#) and [Figure 3-3a](#)).”

In addition, the text from Draft EIR/EIS page 3-15 has been clarified in the same manner.

- CalAm-23 The clarification that the Brine Discharge Pipeline would be 36 inches in diameter and not 30 inches has been made in Table 3-1, under the Brine Storage and Disposal Facilities heading in the Brine Storage and Disposal row, and in the first paragraph of Section 3.2.2.5, Brine Storage and Disposal.
- CalAm-24 The clarification that there would be two large treated water pumps and not four has been made in Table 3-1, under the Desalinated Water Conveyance and Storage Facilities heading in the Desalinated Water Pumps row, and in the first paragraph of Section 3.2.3.2, Desalinated Water Pumps.
- CalAm-25 Figure 3-3a has been revised to make the clarifications described in the comment.
- CalAm-26 The requested clarification has been made.
- CalAm-27 Figure 3-3b has been revised to make the clarifications described in the comment.
- CalAm-28 The requested clarifications have been made, with the exception that details regarding the size of aboveground wellheads have not been removed, as no replacement details were provided by CalAm.
- CalAm-29 The requested clarification has been made.
- CalAm-30 The clarification that the pipeline alignment would be located within the TAMC ROW has been made in Section 3.2.1.2.
- CalAm-31 Two clarifications have been made regarding pretreatment in Section 3.2.2.1: (1) that multimedia gravity filtration is more likely than not a required process, and (2) that coagulation, flocculation, and membrane filtration are processes that will be included in pretreatment only if necessary.
- CalAm-32 See response to comment CalAm-23.
- CalAm-33 See response to comment CalAm-24.
- CalAm-34 The clarification that the pipeline alignment would be located within the TAMC ROW has been made in the first paragraph of Section 3.2.3.3.
- CalAm-35 The requested clarification has been made.

- CalAm-36 The requested clarification has been made.
- CalAm-37 Reference to the Upper Tierra Grande Booster Station and related upgrades has been removed.
- CalAm-38 A brief description of the purpose and function of the ASR system has been added as a clarification in the second paragraph of Section 3.2.4.
- CalAm-39 The combined injection capacity of ASR 5 and 6 wells has been revised to 4.3 mgd (3,000 gpm) in the third paragraph of Section 3.2.4.1.
- CalAm-40 The requested clarifications regarding Subsurface Slant Wells have been made in the sixth paragraph of Section 3.3.2.1.
- CalAm-41 Section 3.3.3 has been revised to clarify that no import or export of fill material would be necessary during construction of the desalination plant.
- CalAm-42 The referenced Table 5-7 does not exist in Chapter 3. The Lead Agency interprets comment 42 to reference 3-7. Daily production has been revised from 9.5 mgd to 9.6 mgd in Table 3-5 in Section 3.4.1.
- CalAm-43 The requested clarifications have been made.
- CalAm-44 The requested clarification regarding the fact that CDPH no longer regulates public water systems has been addressed. CDPH has been replaced in Row 4 of Table 3-8 with the correct agency: California Environmental Protection Agency, State Water Resources Control Board, Division of Drinking Water.
- CalAm-45 The clarification regarding the location of Project No. 60 (Monterey Pipeline and Pump Station) has been added to Table 4.1-2, Cumulative Projects. The Project has also been added to Figure 4-1, Cumulative Projects.
- CalAm-46 The introductory text for Table 4.2-6, Applicable Regional and Local Plans and Policies Relevant to Geology, Soils, and Seismicity, explains that this table is provided to screen policies for further discussion. That more detailed discussion is provided in the referenced impact discussion. This is true for all other Applicable Regional and Local Plans and Policies tables in all of the Chapter 4 resource sections.
- CalAm-47 All of the references listed in the Final EIR/EIS are available at <https://drive.google.com/drive/u/2/folders/0B63ty1hxcSNhV2JvMU15UW9VcHc>
- CalAm-48 Although the profiles shown in Figure 4.2-8 and discussed in the 2014 study have not changed, the proposed slant well locations have changed since the 2014 study. The text describing the Coastal Profile (Vertical Erosion Estimates) in Section 4.2.4.5, Coastal Retreat Study has been revised to clarify that the initially proposed locations

for the nine new slant wells are shown on the coastal profiles in Appendix C2 (whereas relocated slant wells are shown on Figure 4.2-8).

CalAm-49 The requested clarification has been made.

CalAm-50 The requested reference to Figure 4.3-3, Areas Subject to Sea Level Rise in the Project Area, has been added to Section 4.2, Geology, Soils, and Seismicity in Section 4.2.1.3, Sea Level Rise and Coastal Erosion, and in Section 4.2.4.5, Coastal Retreat Study.

CalAm-51 The requested clarification has been made regarding the definition of EFH. A definition of EFH, which stands for “Essential Fish Habitat” has been added to Section 4.3.2.1.

CalAm-52 The requested clarification has been made.

CalAm-53 In response to the comment, and to make units consistent within the section, the last sentence of the first paragraph on page 4.3-71 of the Draft EIR/EIS has been revised as follows:

Seasonal average temperatures ranged between ~~11.5 and 14.5~~ 52.7°F and 58.1°F and seasonal salinity levels ranged from 33.3 to 33.9 ppt at the depth of the diffuser.

CalAm-54 The requested clarification has been made.

CalAm-55 A clarification/update has been added to Section 4.6.2.2 State Regulations, regarding the FORA *Draft Installation-Wide Multispecies Habitat Conservation Plan* publication schedule.

CalAm-56 In Mitigation Measure 4.6-1d, subpart 5, “several days” has been revised to “no more than 3 days” prior to construction.

CalAm-57 Mitigation Measure 4.6-11, Subpart 2 has been revised to clarify that a qualified biologist will conduct pre-construction surveys within 14 days prior to disturbance of trees or structures identified as potential bat roosting habitat or active roosts.

CalAm-58 Mitigation Measure 4.6-4 has been revised to clarify that the tree survey shall be performed at least 30 days prior to start of planned ground disturbance or tree removal.

CalAm-59 Figure 4.8-1 has been revised to show that the Coastal Zone extends over the ocean.

CalAm-60 There are no parks, conservation areas, golf courses, or trails in the vicinity of the Main System-Hidden Hills Interconnection. Therefore, revising Figure 4.8-3 to include this component (e.g., by changing the scale of the figure) would not provide

additional information relevant to the analyses, and would reduce the scale of relevant resources shown in the figure.

- CalAm-61 The cited sections describe the land use and recreational setting for the pipeline alignments. The placement of pipelines below ground is appropriately described in the impact analysis portion of Section 4.8, Land Use, Land Use Planning, and Recreation.
- CalAm-62 Consistency with the Fort Ord Reuse Plan (including allowable/compatible uses such as subterranean pipelines) is addressed in Table 4.8-2.
- CalAm-63 The requested clarification has been made in Section 4.8.2.2
- CalAm-64 The settlement agreement is cited as CalAm, 2012, and included in the references list. All materials referenced in the Draft EIR/EIS were made available to the public during the review period for the Draft EIR/EIS, and will remain available (with updates and additions, as applicable) after publication of the Final EIR/EIS.
- CalAm-65 The Lead Agencies acknowledge the discussion of desalination facilities in California policy documents such as Safeguarding California: Reducing Climate Risk – An update to the 2009 California Climate Adaptation Strategy (California Natural Resources Agency, 2014) as cited in the comment. However, inclusion of the recommended text would not affect the conclusions reached in Section 4.11, Greenhouse Gas Emissions. Because it would not change the conclusions in the analysis of impacts or comparison of alternatives, the recommended discussion has not been incorporated.
- CalAm-66 Clarification has been added to Section 4.11.2.2 under the heading “Mandatory Reporting Requirements” regarding the fact that many of the project’s sources of GHG emissions are not directly subject to CARB’s mandatory reporting program.
- CalAm-67 Clarification has been added to Section 4.11.2.2 under the heading “Market-Based “Cap-and-Trade” Compliance Mechanism” regarding the fact that the fossil fuel power plants that would generate the electricity that could be used by the project are already subject to and participate in CARB’s cap-and-trade program.
- CalAm-68 The requested clarification has been made.
- CalAm-69 Section 4.11.5 has been clarified to indicate that SB 350 has been signed into law.
- CalAm-70 The cited Mitigation Measure 4.12-1d establishes a performance standard of 60 dBA, Leq at a distance of 50 feet for construction noise related to the ASR-5 and ASR-6 wells. The additional discussion regarding the attenuation capabilities of barrier blankets was included to demonstrate that the performance standard is achievable. However, the degree of attenuation for these blankets cited in the mitigation measure



may be more than necessary to achieve the identified performance standard. Consequently, the mitigation measure has been rewritten, as indicated below, to clarify that such blankets represent one of many options available to the applicant or its contractors.

Additionally, acoustic barriers and/or enclosures shall be used with a goal of reducing noise from well drilling activities to 60 dBA,  $L_{eq}$  or less at a distance of 50 feet from the construction work area. There are a number of options available to achieve this performance standard. Barrier blankets are available with a sound transmission class rating of 32, providing which can provide 16 to 40 dBA of sound transmission loss, depending on the frequency of the noise source (ENC, 2014). The realized sound transmission reduction of barrier blankets need be sufficient to achieve the performance standard of 60 dBA,  $L_{eq}$  or less at a distance of 50 feet from the construction work area.

- CalAm-71 The California Coastal Act subsection of Section 4.13.2.2, State Regulations, discusses MPWSP consistency with Coastal Act policies concerning public facilities, and the requested text clarification has been made.
- CalAm-72 The requested clarification has been made.
- CalAm-73 The requested clarification has been made.
- CalAm-74 The requested clarification has been made.
- CalAm-75 The requested clarification has been made in Section 4.14.3.2.
- CalAm-76 The requested clarification has been made in Section 4.14.6.1
- CalAm-77 Section 4.18.2.2 has been revised to reflect the most recent Integrated Energy Policy Report.
- CalAm-78 The requested clarification that “the county” refers to “Monterey County” has been made in Section 4.19.1.2.
- CalAm-79 Section 4.19.3 states that “The impacts *of growth* that could be indirectly induced by the MPWSP are addressed in Section 6.3, Growth Inducement” (emphasis added). Other indirect impacts related to the evaluation criteria in Section 4.19.3 are addressed in Section 4.19.5; no change has been made.
- CalAm-80 The requested revisions have been made.
- CalAm-81 EIR/EIS Section 5.3.5 explains that since the desalination facilities described for the proposed project would be required at any of the desalination plant site options, and since the proposed project would include a minimum of 15 acres of impervious surfaces (see EIR/EIS Section 3.2.2), a minimum of 10 acres was assumed for the alternative sites. However, as noted in Table 5.3-3, each plant site option has

adequate acres and the 10-acre minimum was not a constraint. The minimum acres could have been assumed to be more or less, and the conclusions would not be any different.

CalAm-82 The requested clarification has been made.

CalAm-83 The requested revisions have been made. However, CalAm provided a subsequent revision to the slant well layout (Ian Crooks, 2018) and the EIR/EIS text has been revised accordingly.

CalAm-84 The requested revisions have been made.

CalAm-85 The requested clarification has been made.

CalAm-86 The requested clarifications have been made.

CalAm-87 The clarification that Mitigation Measure ALT 2-Marine-1 would not apply to the proposed project or to any project that does not include an open water intake has been added to Section 5.5.5.5.

CalAm-88 The clarification that Mitigation Measure ALT 2-Marine-2 would not apply to the proposed project, or to any project that does not include an open water intake has been added to Section 5.5.5.5.

CalAm-89 The requested clarification has been made.

CalAm-90 The clarification that Mitigation Measure ALT3-NO would not apply to the proposed project has been added to Section 5.5.12.6.

CalAm-91 The clarification that Mitigation Measure ALT4-NO would not apply to the proposed project has been added to Section 5.5.12.7.

CalAm-92 The clarification that Mitigation Measure ALT1-CULT would not apply to the proposed project has been added to Section 5.5.15.4.

CalAm-93 The spelling of “Trussell” in Appendix G2 has been corrected.

CalAm-94 CalAm provided a subsequent comment on the Draft EIR/EIS. As a result, Applicant Proposed Measure 4.4-3, Groundwater Monitoring and Avoidance of Well Damage, has been revised accordingly.

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## Reference

Crooks, Ian. 2018. E-Mail to Eric Zigas. March 12.

## 8.6.4 Responses to Comments from Carmel River Steelhead Association

CRSA-1 CalAm's legal entitlement to 3,376 afy from the Carmel River system established in State Water Resources Control Board (SWRCB) Order 95-10 is a composite right made up of CalAm's pre-1914 appropriative right of 1,137 afy, its riparian right of 60 afy, and its post-1914 appropriative right at Los Padres Dam of 2,179 afy (License 11866). In Order 95-10, CalAm's pre-1914 direct diversion right is treated as a year-round right, with a season of diversion from January 1 through December 31. In contrast, CalAm's right to divert water to storage behind Los Padres Dam is limited to the season of October 1 through May 31. Thus, of the 3,376 afy entitlement, only 1,197 afy (pre-1914 and riparian rights) are currently not subject to seasonal restrictions. Similarly, Monterey Peninsula Water Management District's (MPWMD) and CalAm's SWRCB permits to divert water for the ASR Phase 1 and 2 projects include requirements to maintain minimum mean daily instream flows for the protection of fisheries and wildlife and other instream uses (as noted in Section 2.4.3), as does CalAm's permit to divert Table 13 water (discussed in Section 2.4.6.1). CalAm's existing Carmel River water rights are not part of the proposed project and thus are not analyzed in this EIR/EIS. However, implementation of the MPWSP and ASR programs is expected to provide CalAm with the operational flexibility to minimize its summer diversions to the greatest extent feasible.

## 8.6.5 Responses to Comments from Carmel River Watershed Conservancy

- CRWC-1 The Lead Agencies acknowledge the Carmel River Watershed Conservancy's support for the proposed project and for Alternatives 5a and 5b, which would provide a desalinated water supply supplemented by the Pure Water Monterey Groundwater Replenishment Project.

## 8.6.6 Responses to Comments from CEMEX

CEMEX-1 The comment letter from CEMEX on the April 2015 Draft EIR has been received and comments are considered in the following responses since CEMEX incorporated the 2015 comments into the current comment letter.

With respect to the Annexation Agreement, please see Master Response 3, Water Rights, Section 8.2.3.8, Effect of Annexation Agreement. In accordance with revisions to EIR/EIS Section 2.6, Water Rights, it is not expected that an injection well would be constructed on the CEMEX property; therefore, it is not part of the proposed project and is not required to be analyzed in this EIR/EIS.

CEMEX-2 The comment is acknowledged, but addresses processes outside of the scope of the CEQA and NEPA review of the proposed project. CalAm's responsibility to prepare or bear the cost of preparing a reclamation plan amendment is a matter to be addressed between CalAm and CEMEX.

CEMEX-3 The slant wells would be constructed on a previously disturbed, retired portion of the CEMEX sand mining facility, south of the access road. This location would not interfere or interact with the ongoing sand mining operations located north of the access road and further inland. Other than the well heads, the wells and piping would be located underground. CalAm and its contractors would be required to implement all applicable worker and construction site safety laws and regulations. Environmental review under CEQA and NEPA should assume that the applicant complies with such applicable laws and regulations such that no further mitigation measures are warranted to ensure that duty is met. Further, Mitigation Measure 4.7-2a requires the implementation of a site-specific Health and Safety Plan as required by and in accordance with 29 CFR 1910.120. CalAm's responsibility to indemnify CEMEX for CalAm's actions at the CEMEX site is a matter to be addressed in agreements between CalAm and CEMEX and is outside of the scope of the EIR/EIS.

CEMEX-4 As stated on page 4.9-24 of the Draft EIR/EIS, the traffic control and safety assurance plan (Mitigation Measure 4.9-1) shall be developed on the basis of detailed design plans for the approved project, and shall include, but not necessarily be limited to, the elements listed on pages 4.9-24 to 4.9-26. The following additional element is added to the list of measures that could be included in the traffic control and safety assurance plan:

- Consult with non-jurisdictional parties (e.g., CEMEX), as appropriate, regarding strategies for reducing increased traffic on roads that would provide access to construction work areas.

CEMEX-5 CEMEX and CalAm mutually entered into an "Agreement for Temporary Investigatory Easement, Option for Permanent Easements, and Joint Escrow Instructions" on November 4, 2014. Subsequent to the release of the Draft EIR/EIS

in January 2017, CEMEX and the California Coastal Commission entered into a Consent Settlement Agreement dated July 13, 2017, that acknowledges the CalAm-CEMEX Option. See Master Response 14, CEMEX Settlement Agreement. CalAm will need to coordinate activities on the property with CEMEX or the new owners in accordance with the agreements between CalAm and CEMEX. In addition, EIR/EIS Section 4.17, Mineral Resources, found that the proposed project would have a less-than-significant impact on the mining operations at CEMEX.

CEMEX-6 Subsidence impacts were fully addressed in the EIR/EIS, including potential effects on the CEMEX property. The EIR/EIS conclusion that subsidence would not constitute a significant impact on the CEMEX lands was not based on the assumption that the slant wells would draw water from offshore coastal aquifers, as the comment suggests. Rather, the analysis considered the possibility of some inland groundwater being drawn into the supply wells. As explained in Section 4.2 Geology, Soils, and Seismicity, in Impact 4.2-8, sand- and gravel-rich soils are less prone to subsidence because the larger grains comprise a skeleton less dependent on water pressure for support. As shown on Figure 4.2-3, about the upper 200 feet of materials beneath the CEMEX facility, where the deeper extent of drawdown would occur, is primarily composed of sands and gravels. The maximum estimated amount of drawdown centered on the proposed slant wells area is estimated to be on the order of tens of feet at most. The maximum drawdown estimated at any of the onsite monitoring wells is less than 18 feet in Well MW-1M (see Appendix E2, Figure 5.2). In addition, because the subsurface slant wells would draw water from the offshore coastal aquifers, seawater would replace the water pumped from the slant wells, as discussed in Section 4.4, Groundwater Resources. The continuous replacement of water would keep the pore spaces between the grains filled with water, further supporting the granular structure. Consequently, the soil structure above the slant wells would be unable to subside as a result of pumping and there would be no impact from subsidence impacts associated with the subsurface slant wells. Thus, this area would not be susceptible to subsidence and no revisions were made in response to this comment.

CEMEX-7 EIR/EIS Figure 4.2-5, which shows the liquefaction potential, shows that the area where the well heads of the slant wells would be constructed on the CEMEX site is an area of moderate liquefaction potential. The risks from liquefaction are high in sandy areas with shallow groundwater (e.g., Castroville Pipeline and Source Water Pipeline portions within the Salinas River floodplain). The well heads would be set back from the beach behind the sand dunes, where the depth to groundwater would be deeper, thus reducing the risk (see Impact 4.2-4). In addition, as discussed in Section 4.2.4, Approach to Analysis, the proposed project components would undergo a final geotechnical investigation and CalAm would implement all geotechnical recommendations in design and construction of the project to resist damage from seismic shaking. Because the slant wells would not be located in an area with high liquefaction potential, they would not be expected to experience

damage from liquefaction. The secondary risk to the existing CEMEX structures resulting from liquefaction impacts affecting the slant wells would be very low.

CEMEX-8 Mitigation Measure 4.2-10, Slant Well Abandonment Plan, has been revised in response to this comment, to require that the slant well abandonment plans be prepared and implemented in coordination with the property owner.

CEMEX-9 In response to the comment, the discussion of Impact 4.3-9 under “Subsurface Slant Wells” (see Draft EIR/EIS page 4.3-116) has been revised as follows:

As shown in Figure 4.3-2, the subsurface slant wells and associated structures would be located within or adjacent to the 100-year coastal flood hazard area. The subsurface slant wells would be constructed at the western terminus of the CEMEX access road and just south of the CEMEX settling ponds. The ~~E~~lectrical control cabinet at each well site (Figure 3-3a) would be a single-story structure 16 feet long by 7 feet wide. Any flood flows associated with 100-year coastal flooding diverted by the electrical control cabinet would be diverted to the sandy areas immediately surrounding the cabinet, ~~still~~ within the CEMEX active mining area, and would be temporary in nature, and highly localized in extent, and would not affect other properties or structures or otherwise interfere with CEMEX operations. The wellheads and supporting structures would extend at a maximum height of 2 feet above the ground surface and would not impede or redirect flood flows in the area. Therefore, the impact would be less than significant.

CEMEX-10 Impact 4.2-10 assess impacts related to coastal erosion patterns, beach erosion, and bluff retreat following implementation of the project and considers such hazards within the context of sea level rise as a predicted environmental condition that could adversely affect certain components of the project sometime in the future. Impact 4.3-11 focuses only on the long-term impacts related to exposure of people or structures to a significant risk of loss, injury, or death from flooding due to sea level rise. As discussed in detail under Impact 4.3-11, because the subsurface slant wells would be constructed underground (and are not designed for human occupancy) and designed to withstand inundation, these facilities would not be subject to a significant risk of damage, injury, or loss from flooding due to sea level rise. Impacts on the CEMEX active mining area related to coastal flooding and inundation of project components is discussed in detail under Impact 4.3-9 (see also response to comment CEMEX-9).

CEMEX-11 As the commenter correctly notes, Applicant Proposed Measure 4.4-3 has been proposed by CalAm. The EIR/EIS determination under Impact 4.4-3 is less than significant, and the Lead Agencies have not recommended mitigation to reduce this impact. However, Applicant Proposed Measure 4.4-3 would be incorporated into the Mitigation Monitoring and Reporting Plan (MMRP), which would be approved



concurrently with the MPWSP or an alternative. Thus, the Lead Agencies would be responsible for enforcing this measure, including approval of the expansion of the regional groundwater monitoring program as contemplated by Applicant Proposed Measure 4.4-3.

The CEMEX production well, also referred to as the “South Well,” is currently the only active production well at the site; however, it cannot be accessed for monitoring. The “North Well” collapsed and is no longer in use (Villalobos, 2017). Groundwater conditions beneath the CEMEX site would be monitored continually after MPWSP start-up using CalAm’s monitoring well clusters 1, 3, and 4. Groundwater Monitoring Well 3-D and 4-D are screened in the 400-Foot Aquifer (similar to the South Well) and thus conditions in the 400-Foot Aquifer would be continually monitored through CalAm’s monitoring program, even if the South Well is not accessible. If excessive drawdown is identified in Monitoring Wells 3-D and 4-D, it would be expected that a similar response would be occurring in the South Well. Response to South Well pumping has also been observed in the Monitoring Well 4-S and 4-M. Moreover, if well yields decrease substantially in the South Well, it would be an additional indicator of excessive drawdown caused by the slant well pumping. Applicant Proposed Measure 4.4-3 has been revised to clearly state that wells in the 400-Foot Aquifer will be monitored and conditions will be corrected under the measure if the wells are found to be adversely impacted by MPWSP pumping. Thus, the Applicant-proposed measure includes monitoring conditions in the 400-Foot Aquifer and applies to wells screened in that aquifer, as stated in Applicant Proposed Measure 4.4-3. Ameliorative actions under this measure would be triggered if drawdown exposes the well screens, damages the well, and/or decreases yield in a production well. This includes wells screened in the 400-Foot Aquifer. These triggers represent the performance standard within Applicant Proposed Measure 4.4-3 given that action would be taken to address and alleviate project effects if any of the triggers occur.

CEMEX-12 See response to comment CEMEX-11.

CEMEX-13 Text in EIR/EIS Section 4.4.5.2 regarding the allowable dredge pond depth and the underlying geologic materials has been updated to reflect the information provided in this comment. This information does not change any of the impact conclusions in the EIR/EIS.

CEMEX-14 Applicant Proposed Measure 4.4-3 is not mitigation for a significant impact, and is not intended to nor does it address potential drawdown effects on vegetation. See response to comment CURE-Owens-19 in Section 8.6.2 regarding the source of the water available to dune plants, which do not rely on groundwater in the aquifers intersected by proposed slant well screens.

CEMEX-15 In addition to the analysis presented in Impact 4.4-3 of the EIR/EIS, details on the potential effects of pumping on the CEMEX dredge pond are provided in EIR/EIS Appendix E3, Section 2.4.5.3. As shown in Table 3.1 of EIR/EIS Appendix E2, the CEMEX dredge pond was not represented in the 2015 version of the North Marina Groundwater Model (NMGWM<sup>2015</sup>) but was represented in the 2016 version of NMGWM (NMGWM<sup>2016</sup>, which informed the EIR/EIS analysis) as constant head cells in Layer 1 (ocean) to represent the effect of the dredge pond. Moreover, the initial head of the dredge pond was not represented in NMGWM<sup>2015</sup> but was in NMGWM<sup>2016</sup> as active cells with initial heads equal to mean sea level. Therefore, the NMGWM<sup>2016</sup> did not necessarily model the effects of the proposed slant well pumping on the dredge pond specifically, because the active cells representing the dredge pond behave the same as the active cells representing the ocean since the dredge pond is tidally influenced. As stated in the comment, the EIR/EIS analysis considered the CEMEX model simulation completed in September 2014 and based on that, hypothesized that full scale MPWSP pumping could result in additional lowering of the dredge pond water levels, but added that when compared to daily tidal fluctuations, the decline in surface water levels from slant well pumping would be masked by the consistent recharge and tidal influence of the ocean.

As discussed in the EIR/EIS in Section 4.4.4.1, Subsurface Investigations, and in Impact 4.4-3, CalAm installed a pressure transducer in the dredge pond at the beginning of the Test Slant Well long-term pumping test and data were collected from April 2015 to October 2015. The dredge pond was breached on October 28<sup>th</sup>, 2015 and the transducer was eventually buried. Transducer data show that dredge pond levels may have been affected by test slant well pumping as evidenced by the slight increase (about 1 foot) in pond levels that occurred when the pump was turned off on June 5, 2015 (see Appendix E-3, Figure 2.1). The data also show, however, that tides and dredge operations influence pond levels and that under non-pumping conditions, pond levels fluctuate as much as 2 feet. Water levels are maintained in the dredge pond because it is hydraulically connected to the ocean through the sand and occasional breaches during storms. Consistent with the findings in the EIR/EIS, water level fluctuations due to dredging and tides would have a much greater effect on dredge pond water levels than the MPWSP slant well pumping. As stated in the EIR/EIS (Impact 4.4-3), the impact would be less than significant because, while there may be slight changes in dredge pond levels from MPWSP pumping, the magnitude of change would not interfere with recharge or inhibit mining operations primarily because the dredge pond is hydraulically connected to the ocean and constantly recharged by ocean water. Since the dredge pond is located within the 1-foot drawdown, and the Applicant proposed measure includes the area within the 1-foot drawdown (plus one mile), the dredge pond could be included in the groundwater monitoring program. However, the sand mining operation at CEMEX will be closed by 2020, the dredge mining operations will cease and the pond will be restored. See Master Response 14, CEMEX Settlement Agreement.

The text in the EIR/EIS has been updated to discuss the full set of dredge pond data collected between April and October 2015.

CEMEX-16 The mitigation measures for biological impacts that are listed in the EIR/EIS and that are of concern to the commenter – Mitigation Measures 4.6-1c through 4.6-1h – are all avoidance and minimization measures and all address activities that would be occurring inside the project area boundary, as delineated on EIR/EIS Figure 3-3a. As described in Master Response 14, CEMEX Agreement, CEMEX has granted an easement to CalAm for the wells and the pipelines that are proposed on the CEMEX property. As noted in Section F(3)(e) of the easement option, “CalAm shall minimize the impact to the Greater CEMEX Property by confining its activities to the footprint within the Option Property.” As noted in Section F(3)(f) of the easement option, “To the extent CalAm is required to perform remediation activities in connection with its activities, CalAm shall be able to use the property subject to the Permanent Easements to fulfill any such obligations.” Compliance with Mitigation Measures 4.6-1c through 4.6-1h would not interfere with any CEMEX pre-existing mining operations, reclamation activities, or access. In implementing the mitigation measures, CalAm would be obligated to comply with and limited to its rights under its agreements with CEMEX on use of the CEMEX land.

Subsequent to the publication of the Draft EIR/EIS, the CCC, the California State Lands Commission, and the City of Marina reached an agreement with CEMEX in July 2017 to end the sand mining operations. As a result of the July 2017 Settlement Agreement, the property will no longer be owned by CEMEX by 2020, and the deed restriction placed on the property as a result of the Settlement Agreement must preserve the open space and habitat values of the property, and must reflect that improvements to provide low-impact passive recreation, public access, and public education, removal activities, and activities to restore native habitat will be consistent with existing easements or other rights of record; see Master Response 14, CEMEX Settlement Agreement. Mitigation Measure 4.6-1n is the Habitat Mitigation and Monitoring Plan (HMMP) and it shall be implemented at all areas where special-status species habitat or sensitive natural communities will be restored, created, or enhanced to mitigate for project impacts either prior to, concurrently with, or following project construction and its implementation. Mitigation Measure 4.6-1n would outline measures to be implemented, depending on the mitigation requirements, to restore, improve, or re-establish special-status species habitat, sensitive natural communities, and critical habitat. To that end, CalAm’s HMMP may or may not focus the restoration activities on the CEMEX property, but the sand mining operations would have ceased, and CEMEX would no longer be the property owner.

In response to this comment, Mitigation Measure 4.6-1c has been revised to clarify that existing access roads within the CEMEX site will be returned to their existing use.

CEMEX-17 As described in the Draft EIR/EIS, a final wetland delineation report has not been verified by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Coastal Commission (CCC). A wetland delineation report, based on some of these field surveys, has been prepared and is referenced in the Final EIR/EIS. In the absence of a verified wetland delineation by the USACE, RWQCB, and CCC, the Draft EIR/EIS conservatively assumes that any wetland or water feature mapped during field surveys conducted for the proposed project, mapped in the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), and mapped in the wetland delineation report is potentially jurisdictional. The wetland delineation report would need to be approved by the agencies to determine the limits of jurisdictional wetlands and waters within the project area. In response to this comment, the text in Section 4.6.1.6, Wetlands and Other Waters has been revised to clarify these assumptions. See the response to comment MCWD-134 in Section 8.5.2 for the revised text.

CEMEX-18 As described on Draft EIR/EIS page 4.15-21, in its cultural resources investigation and evaluation for the test slant well, SWCA determined that the Lapis Sand Mining Plant was a Historic District eligible for listing in the National Register of Historic Places and the California Register of Historical Resources under Criteria A/1 (association with an important event) and Criteria C/3 (architectural merit). The SHPO concurred with this recommendation, see EIR/EIS Section 7.1.3, and the Lead Agencies defer to the SHPO's concurrence.

The proposed Source Water Pipeline would be installed within the boundaries of the Historic District; however, the buildings and structures that contribute to the district are outside of the direct and indirect APE for the proposed project. Therefore, no further consideration of the architectural components of this resource was deemed necessary for the proposed project. Since publication of the Draft EIR/EIS, the SHPO concurred with a finding of No Adverse Effects to Historic Properties for the proposed project, see EIR/EIS Section 7.1.3.

CEMEX-19 As discussed in EIR/EIS Section 4.17, Mineral Resources, although mining operations would experience minor disruptions during project construction, access for mining vehicles would continue during construction, access to the dredge pond would continue during construction, and mining operations would continue throughout project construction. Also, as stated on Draft EIR/EIS page 4.17-8, "since CEMEX facility operators mine sand from the dredging pond, which is continuously replenished by sand that is washed over the berm, the siting of the subsurface slant wells in the CEMEX active mining area would not interfere with sand mining activities or adversely affect the availability of mineral resources for future recovery." For those reasons, Section 4.17 supports the conclusion that construction-related impacts would be less than significant.

As discussed on Draft EIR/EIS pages 4.9-24 and 4.9-25 in Section 4.9, Traffic and Transportation, Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan) has been developed for the project as a whole and applies to all project components and associated construction activities. Mitigation Measure 4.9-1 includes several requirements that would be applicable to the CEMEX access road, including maintaining alternate one-way traffic flow past the construction zone where possible, restoring roads and streets to normal operation by covering trenches with steel plates outside of normal work hours or when work is not in progress, and complying with roadside safety protocols to reduce the risk of accidents.

In addition, Mitigation Measure 4.9-6 applies to all proposed facilities and associated construction activities and requires that CalAm repair roads damaged by project-related construction vehicles to a structural condition equal to that which existed prior to construction activities.

The following text addition has been made in Section 4.17, Mineral Resources, Impact 4.17-1, under the Impact Conclusion heading:

For a discussion of mitigation measures that would apply to all project components related to traffic control and safety, as well as roadway rehabilitation, see Section 4.9, Traffic and Transportation, Impacts 4.9-1 and 4.9-6.

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## References

Villalobos, Brian, 2017. Personal Communication between Brian Villalobos, Geoscience Support Services, Inc., and Pete Hudson, Sutro Science, August 14, 2017.

## 8.6.7 Responses to Comments from Citizens for Just Water

CJW-1 This EIR/EIS was prepared by the CPUC as the CEQA lead agency, and Monterey Bay National Marine Sanctuary (MBNMS) as the NEPA lead agency; see Master Response 1, EIR/EIS Authorship. See also Master Response 2, Source Water Components and Definitions, and Master Response 3, Water Rights.

CJW-2 EIR/EIS Section 4.4.1 presents the setting/affected environment for groundwater resources, and the proposed project's consistency with the Sustainable Groundwater Management Act (SGMA) is presented in Section 4.4.2.2. As summarized in Section 4.4.2.2, SGMA became effective January 1, 2015, and gives local agencies the authority to manage groundwater in a sustainable manner. A Groundwater Sustainability Plan will be prepared by the local groundwater agency that describes how users of groundwater within the basin would manage and use groundwater in a manner that can be sustainably maintained during the planning and implementation horizon without causing undesirable results. SGMA defines undesirable results as follows:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply;
- Significant and unreasonable reduction of groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies;
- Significant and unreasonable land subsidence that substantially interferes with surface land uses, and;
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

A summary of the analyses to address each undesirable result identified in SGMA has been added to Final EIR/EIS Section 4.4 in Impacts 4.4-3 (groundwater supplies and recharge) and 4.4-4 (groundwater quality) under the subheadings "Consistency with Regulatory Requirements." Based on those discussions, the project would not result in any of the six undesirable results cited in SGMA; therefore, the proposed project would be consistent with SGMA, and SGMA would not restrict the project's ability to pump groundwater as proposed. See also Master Response 6, Sustainable Groundwater Management Act.

MCWD supplies would not be affected by the proposed project; see EIR/EIS Table 4.4-10, Master Response 2, Source Water Components and Definitions, and Master Response 3, Water Rights, Section 8.2.3.7, and Master Response 8, Project Source Water and Seawater Intrusion. Furthermore, the text prepared by the Lead Agencies (not the proponent) on Draft EIR/EIS page 4-37 is neither self-serving,

because the Lead Agencies do not represent the interests of the Applicant, nor gratuitous, because NEPA requires the analysis of beneficial as well as adverse impacts. The assertion is substantiated by the EIR/EIS text that follows the quote provided in the comment: “Regarding the former [seawater intrusion], groundwater modeling shows that the proposed project would retard the advance and limit the ultimate inland extent of seawater intrusion. With respect to the latter [water surface elevations in the 400-Foot Aquifer], by returning in-lieu desalinated water to the CCSD, the proposed project would provide recharge benefits to groundwater levels in the 400-Foot Aquifer.” This supports the conclusion on Draft EIR/EIS page 4.4-37 that, “. . . the proposed project would not conflict with the SGMA.”

- CJW-3 The topic of water rights is not typically addressed in an EIR/EIS. It is a legal matter that is rarely relevant to the question of whether a proposed project being evaluated under CEQA or NEPA would generate impacts on the environment. The issue of water rights is addressed in this EIR/EIS in Section 2.6 as a matter of project feasibility. See also Master Response 3, Water Rights, specifically Section 8.2.3.2 regarding the sequence of approvals vis-s-vis water rights. As noted, there is no state or local agency with authority to approve CalAm’s water rights for the MPWSP. As stated on page 35 of the State Water Resources Control Board (SWRCB) Final Review of CalAm’s MPWSP (EIR/EIS Appendix B2), “No permit is required by the State Water Board to acquire or utilize appropriate groundwater rights.”
- CJW-4 As noted in EIR/EIS Table 3-1, “The slant wells would draw water from groundwater aquifers that extend beneath the ocean floor (the Dune Sands Aquifer and the 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin) for use as source water for the MPWSP.” As explained in Section 3.2.1.1, “Each well would be screened for approximately 400 to 800 linear feet at depths corresponding to both the Dune Sand Aquifer and the underlying 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin.” See also Figure 4.4-3; Master Response 2, Source Water Components and Definitions; Master Response 3, Water Rights; and Master Response 4, The Agency Act and Return Water.
- CJW-5 EIR/EIS Section 4.4.1.3 presents the Groundwater Enhancement Programs in the SVGB that are described by the commenter. EIR/EIS Section 4.4.5.2 found impacts on the groundwater basin resources, and therefore, impacts to these enhancement projects, to be less than significant.
- CJW-6 See Appendix E2, Section 5.1, which states: “the slant wells will be screened in both the Dune Sand Aquifer and 180-FT Aquifer.” See also quoted text in response to comment CJW-4. The existing MCWD 300-afy desalination plant is located 1-mile south of the test slant well, and has not been operational for at least a dozen years due to corrosion of the pipes and pumps.



EIR/EIS Section 4.4.4 presents the approach to analysis while Section 4.4.5 presents the direct and indirect effects of the proposed project on groundwater resources, and concludes the impacts would be less than significant. The analysis is supported by groundwater modeling that is described in Appendix E2. As described in Applicant Proposed Measure 4.4-3, the cost and responsibility for mitigating the unlikely effects of increased salinity or lowered groundwater levels would fall on CalAm, and not the well owners or ratepayers of MCWD.

See also Master Response 8, Project Source Water and Seawater Intrusion.

- CJW-7 See Master Response 11, CalAm Test Slant Well. Specifically, Section 8.2.11.2 describes the City of Marina’s review process and clarifies that the city declined to adopt its *Draft Initial Study and Mitigated Negative Declaration for the California American Water Slant Test Well Project*. Section 8.2.11.2 also describes the California Coastal Commission CEQA review process for the test slant well and Section 8.2.11.3 describes the NEPA review process. In response to this and other similar comments, footnote 2 in the Executive Summary (and other locations where similar text appears in the EIR/EIS) has been revised to clarify these agencies’ actions and processes regarding consideration of the test slant well.
- CJW-8 The EIR/EIS does, in fact, identify key differences between the MPWSP and the prior Coastal Water Project in Sections 1.4.1 and 1.4.2. However, differences between the MPWSP and the prior project, or between the EIR/EIS and the prior Coastal Water Project EIR are not pertinent to the current CEQA/NEPA analysis, which analyzes the impacts of the proposed MPWSP described in Chapter 3, against the existing environmental setting, or baseline conditions.
- CJW-9 See response to comment PWN2-38 in Section 8.6.17 and Master Response 10, Environmental Baseline under CEQA and NEPA. The HWG prepared a separate baseline report for the test slant well, as described in Master Response 11, CalAm Test Slant Well, Section 8.2.11.4. It is referenced in EIR/EIS Section 4.4 as Geoscience, 2015b; the April 20, 2015 report titled *Baseline Water and Total Dissolved Solids Levels Test Slant Well Area* was prepared by the HWG in response to Special Condition 11 of the CDP, and continues to be publicly available at: [https://docs.wixstatic.com/ugd/28b094\\_bd1db648e7b44f32a9676dfc7bf71989.pdf](https://docs.wixstatic.com/ugd/28b094_bd1db648e7b44f32a9676dfc7bf71989.pdf)
- CJW-10 See Master Response 9: Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM).
- CJW-11 See Master Response 11, CalAm Test Slant Well, Section 8.2.11.8, and response to comment Marina-11 in Section 8.5.1. In addition to the slant wells discussed in Master Response 11, Santa Cruz rejected subsurface intakes because of the lack of sand cover over bedrock (Kennedy/Jenks Consultants, 2011).

Monitoring of the slant test well at CEMEX demonstrates that the salinity impacts are very localized. The EIR/EIS provides modeling results of the proposed production slant wells that indicate they would also increase salinity locally at the CEMEX site, but would retard further inland encroachment of seawater. See Draft EIR/EIS Section 4.4.5.2 at page 4.4-77 and Appendix E2 Section 5.4 at page 40 and Master Response 8, Project Source Water and Seawater Intrusion. Uncertainty is addressed in EIR/EIS Appendix E2 Section 6.

- CJW-12 EIR/EIS Section 4.4.5 presents the direct and indirect effects of the proposed project on groundwater resources, and concludes the impacts on the SVGB would be less than significant and water supplies would not be affected by the proposed project. See Master Response 8, Project Source Water and Seawater Intrusion, as well as responses to comments MCWD-168 and MCWD-170 in Section 8.5.2.

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## References

Kennedy/Jenks Consultants, 2011. scwd2 Seawater Desalination Intake Technical Feasibility Study. Prepared for scwd2 Desalination Program, September. [http://www.scwd2desal.org/documents/Draft\\_EIR/Appendices/AppendixH.pdf](http://www.scwd2desal.org/documents/Draft_EIR/Appendices/AppendixH.pdf).

## 8.6.8 Responses to Comments from Coalition of Peninsula Businesses

- CPB-1 See the discussion of “Supply Provided by the Desalination Plant” in Section 8.2.13.3 of Master Response 13, Demand (Project Need) and Growth.
- CPB-2 See the discussion under “Comments Urge Higher Demand Number” in Section 8.2.13.2 of Master Response 13.
- CPB-3 EIR/EIS Table 2-4, CalAm Monterey District Water Supplies with Proposed MPWSP, shows the amount of water supply available for other uses after meeting service area demand. Other uses would include CalAm’s return water obligation. While the precise quantity of Salinas Valley Groundwater Basin return water that will be needed initially, until the wells equilibrate, and how much that will change over time is not currently known, groundwater modeling conducted for the EIR/EIS assessed a range of return water scenarios between 0 and 12 percent. See the discussion under “Supply available for other use” in Master Response 13, Section 8.2.13.3 . See also Master Response 4, The Agency Act and Return Water.
- CPB-4 The demand numbers shown in Chapter 2 indicate system demand – not consumption by water users – and thus include non-revenue water. As discussed in EIR/EIS Section 2.5.3.3., the SWRCB’s 2009 cease and desist order (CDO) requires CalAm to reduce non-revenue water in the Monterey District, and for the last three years for which data were available (2013 through 2015), the reduction in system losses exceeded the target established in the CDO.
- CPB-5 The EIR/EIS evaluates the desalination plant as proposed by CalAm in its application for project approvals, and as updated by subsequent testimony and amendments (i.e., a 9.6 mgd plant). Consideration of a larger desalination plant than currently proposed is not within the scope of this EIR/EIS. See also the discussion under “Comments Urge Higher Demand Number” in Section 8.2.13.2 and “Supply Provided by the Desalination Plant” in Section 8.2.13.3 of Master Response 13.
- CPB-6 An expansion of the proposed MPWSP would require additional evaluation by the Lead Agencies; however, at this time, no such project change has been proposed.
- CPB-7 The peer review by LBNL was conducted on the 2015 version of the North Marina Groundwater Model (NMGWM<sup>2015</sup>), which both LBNL and HydroFocus independently determined to be deficient in the simulation of the Ford Ord area and the Dune Sand aquifer. As part of the HydroFocus review of the NMGWM<sup>2015</sup> and revision that resulted in the 2016 version (NMGWM<sup>2016</sup>), available geologic reports from the area were reviewed. HydroFocus determined the need to include the A-Aquifer and the Fort Ord-Salinas Valley Aquitard independent of the LBNL review, and the NMGWM<sup>2016</sup> implements this revision. See Master Response 12, The North Marina Groundwater Model (v. 2016), for more information.

CPB-8 The discussion of water supply and growth for each of the alternatives appears in EIR/EIS Section 5.5.21.2. This section provides details on the source of water and return water for each of the alternatives that include water from the GWR Project (i.e., Alternatives 5a and 5b). See also Master Response 13 for a detailed discussion on water supply and growth related to the proposed project under various scenarios and supply from the GWR Project. But the comment that the now-approved Water Purchase Agreement (WPA) allows for less than expected GWR water production for essentially two or three year periods, is unclear. The WPA approved by the CPUC in September 2016, includes a Water Availability Guarantee at Section 13, that speaks to CalAm's allotment of 3,500 afy from the GWR project, and CalAm's right to draw on reserve water<sup>1</sup> in the event the MPWMD fails to deliver CalAm's allotment in any given year, in order to meet the Water Availability Guarantee.

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<sup>1</sup> Reserve water is the quantity of water delivered annually to the Seaside Basin in excess of CalAm's annual allotment of 3,500 afy, minus the quantities of reserve water previously drawn upon to satisfy CalAm's annual allotment.

## 8.6.9 Responses to Comments from DeepWater Desal, LLC

DWD-1 The DeepWater Desalination Project is undergoing a separate environmental review process. See Master Response 15, Alternative Desalination Projects – Status, Information Sources, and Cumulative Scenario. As noted in EIR/EIS Section 5.4.5, “The evaluation of this alternative in this EIR/EIS is based on information available publically, information provided by MBNMS, and the independent judgement of the analysts using the best available information. More detailed analyses of the DeepWater Desal Project will be forthcoming in the separate EIR/EIS and will be based on technical studies that were not available at the time this EIR/EIS was being prepared. The approach to analysis of the impacts of the DeepWater Desal Project in this EIR/EIS is intended to be reasonable so as not to over- or under-state impacts, but also draws conservative conclusions where information is currently unavailable.”

Throughout Chapter 5, Alternatives Screening and Analysis, the analysis of Alternative 3 impacts clearly indicates that some conclusions are conservative because not enough information is available to conclude that impacts would be less than significant or that mitigation would be effective in reducing impacts to less than significant. However, the MPWSP EIR/EIS necessarily includes significance determinations in the analysis of the environmental impacts of this potential alternative, as required by CEQA Guidelines Section 15126.6(d) and 40 CFR 1502.16.

DWD-2 The MPWSP EIR/EIS does not analyze a “scaled-down” version of the DeepWater Desal Project (Monterey Bay Regional Water Project or MBRWP), either as Alternative 3 or as a cumulative project in combination with other alternatives. Rather, the EIR/EIS analyzes the DeepWater Desal Project in the form and scope proposed by the DeepWater Desal proponent. As described in EIR/EIS Section 5.4.5, the description of Alternative 3 “includes the construction and operation of a screened open ocean intake system, a seawater desalination facility, a co-located data center, and associated components to provide up to 25,000 afy of potable water and data transmission and storage services.” Because project alternatives must meet most of the basic project objectives, the EIR/EIS must evaluate a description of Alternative 3 that would serve the same Monterey District demand that the MPWSP is proposed to serve. However, because product water from Alternative 3 would exceed this demand, the balance is proposed to serve other areas. For example, as was stated on Draft EIR/EIS page 5.4-34, “The DeepWater Desal proposal includes product water pipelines to supply three different areas: the Monterey Peninsula; Castroville and Salinas; and North Monterey and Santa Cruz Counties. It is assumed that up to an additional 25 miles of product water pipelines could be constructed to accommodate the product water that would not serve the Monterey Peninsula.” Similarly, when analyzing the DeepWater Desal Project in the cumulative scenario relevant to other alternatives, the analysis assumes the project would be constructed as proposed by DeepWater Desal, LLC.

DWD-3 The EIR/EIS does not consider the DeepWater Desal Project in the context of the MPWSP only as an “either/or” situation. The DeepWater Desal Project is considered as a choice instead of the MPWSP (thus, as an “either/or” choice) in Alternative 3, but the EIR/EIS also addresses the DeepWater Desal Project as a cumulative project that could be built in addition to the MPWSP.

As described in Master Response 15, Section 8.15.2.3, and as explained in more detail below, the DeepWater Desal Project is proposed by DeepWater Desal, LLC as a regional project that would serve customers in CalAm’s Monterey District service area as well as customers in Salinas and Santa Cruz County. The DeepWater Desal Project is best understood as an alternative to the MPWSP because it is a desalination plant being separately proposed to meet the same project objectives of the MPWSP. However, the DeepWater Desal Project is also considered in the cumulative impacts analysis because the project proponent has indicated that it intends to proceed even if another desalination plant is selected to serve the Monterey District service area since it would provide water to other areas outside the CalAm service area. Therefore, the EIR/EIS considers two reasonably foreseeable scenarios that include development of the DeepWater Desal Project:

- 1) Development of the DeepWater Desal Project as an alternative to the MPWSP (serving CalAm’s Monterey District service area and customers in Salinas and/or Santa Cruz County). This regional project is Alternative 3, and it is described in EIR/EIS Section 5.4.5 and is analyzed in Section 5.5.
- 2) Development of the DeepWater Desal Project as a separate project *in addition to* the MPWSP or another alternative that would serve CalAm’s Monterey District service area; see Project No. 34 in EIR/EIS Table 4.1-2. In this case, the impacts of the DeepWater Desal Project are considered in the cumulative scenario since the provision of water to Santa Cruz County and the City of Salinas would be a reasonably foreseeable project in addition to the MPWSP. A scenario in which the MPWSP, as well as the DeepWater Desal Project may be constructed, is addressed in the cumulative analyses of the proposed project in EIR/EIS Chapter 4; scenarios in which the DeepWater Desal may be constructed in addition to other alternatives are addressed in the cumulative scenario relevant to all other alternatives in Section 5.5; see EIR/EIS Table 5.5-1.

DWD-4 The Lead Agencies acknowledge that DeepWater Desal, LLC does not propose a scaled-down version of the DeepWater Desal Project. As described below, the statement on Draft EIR/EIS page 5.3-16, “This analysis assumes a version that has been scaled down to meet the needs of the 9.6 mgd project proposed by CalAm,” refers specifically to Intake Option 9 and not to the DeepWater Desal alternative (Alternative 3).

See introductory text in EIR/EIS Section 5.3, Alternatives Development, Screening and Evaluation Process, which describes the process of screening alternative components to those proposed by CalAm – including intake, outfall, and desalination plant options. As stated therein, “Components that are considered to be the least environmentally

damaging are then combined into “whole” alternatives in Section 5.4.” As described in response to comment DWD-2, the EIR/EIS does not analyze a scaled-down version of the DeepWater Desal Project. Rather, Section 5.3 of the EIR/EIS evaluates component options (options for intake, outfall, and desalination plant locations) for various factors to determine which options are carried forward. Some of the intake and outfall options screened in Section 5.3 are considered because they are similar to options proposed by other projects and proponents, including DeepWater Desal. See EIR/EIS Section 5.3.2 for a description of this component development and screening process.

Section 5.3.3 pertains only to intake options (i.e., that may be combined with a desalination plant, an outfall facility, distribution pipelines, and other project components into a “whole” alternative). As described in Section 5.3.3.9, Intake Option 9 was carried forward into the development of Alternative 2, and is not part of the DeepWater Desal alternative (Alternative 3).

Similarly, Section 5.3.4 pertains only to outfall options (i.e., that may be combined with other components into a “whole” alternative). As stated therein, “only the proposed use of the existing [MRWPCA] outfall was carried forward in the development of the “whole” alternatives.”

- DWD-5 Table 5.3-1, Intake Option Screening Results, and Section 5.3.3.9, Intake Option 9 – Screened Deep-water Ocean Intake at Moss Landing, have been revised as suggested in this comment for clarity. Note that the description of the intake pipeline diameter of 36-inches is consistent with the description of Alternative 2 in Section 5.4 (see Table 5.4-1) and therefore, does not alter the impact analysis of Alternative 2. Note also that Intake Option 9 is not relevant to the description of Alternative 3 (the DeepWater Desal Project), and is only relevant to the Lead Agencies’ process of creating other alternatives by combining components as described in Section 5.3.
- DWD-6 Table 5.3-2, Outfall Options Screening Results and Section 5.3.4.7, Outfall Option 7 – New Outfall at Moss Landing, have been revised as suggested in this comment. However, note that Outfall Option 7 was screened out from further evaluation in Section 5.3.6.1 and is not included in any of the alternatives analyzed in detail. Therefore, these revisions do not alter the impact analysis. Note that the referenced sentence on Draft EIR/EIS page 5.3-16, “This analysis assumes a version that has been scaled down to meet the needs of the 9.6 mgd project proposed by CalAm,” refers specifically to Intake Option 9 and not to the DeepWater Desal alternative (Alternative 3).
- DWD-7 The suggested change has been made in Section 5.4.5.1.
- DWD-8 The suggested change has been made in Section 5.4.5.1.
- DWD-9 As explained in EIR/EIS Section 3.2.1, Source Water Intake System, the proposed slant wells would extend west beneath the seafloor. The EIR/EIS explains in



Impact 4.2-4 that “In comparison to aboveground structures, underground pipelines, and buried structures are generally less susceptible to liquefaction damage because they are embedded in compacted backfill that can tolerate more seismic wave motion.” Pipelines are relatively narrow and flexible structures able to accommodate some movement. In addition, the susceptibility to the potential for damage from liquefaction decreases with the increasing depth of the slant wells further out under the ocean. Finally, as explained in EIR/EIS Section 2.4, Available Supplies, and as listed in Table 2-4, CalAm does have other available water supplies in the event that damage to the slant wells requires a temporary shutdown for repairs. Therefore, a public health emergency due to the shutdown of the slant wells is unlikely.

The commenter provided the results of a recent liquefaction study of the DeepWater Desal Project area that indicates the potential for liquefaction at the location of the Alternative 2 and/or Alternative 3 intake infrastructure is relatively low. However, as explained above, the potential for damage due to liquefaction at the proposed slant well location is similarly relatively low. Therefore, the requested revision – “reduced impact related to liquefaction” – was not made in response to this comment.

- DWD-10 EIR/EIS Table 5.3-6 has been revised to indicate that the preliminary environmental impacts comparison of Desalination Plant Site Option 3 for surface water hydrology and water quality would be “Similar” to the proposed project desalination plant site. To clarify, as stated on Draft EIR/EIS page 5.3-54, among the alternative desalination plant sites considered in the screening of alternative components, “only the Charles Benson Road site was carried forward for development of whole alternatives.” Thus, Desalination Plant Site Option 3 was not incorporated into alternatives developed specifically for the proposed MPWSP. However, because this site is the location of the proposed DeepWater Desal plant, it is evaluated in detail under Alternative 3 in EIR/EIS Section 5.5.3.6, which evaluates surface water hydrology and water quality impacts of Alternative 3. This analysis acknowledges that “impacts related to flooding and flood risks, including those from tsunami and sea level rise, would result in a slightly reduced level of impact compared to the proposed project due to the inland location of the desalination facility and data center;” therefore, no revisions were made to the analysis of Alternative 3 in response to this comment.
- DWD-11 EIR/EIS Table 5.3-4, Intake Options Evaluation – Preliminary Environmental Impact Comparison, in Section 5.3.6.1, Evaluation Results for Intake, Outfall and Desalination Plant Options, has been revised as requested in this comment. Note that this revision is consistent with detailed analysis of Alternative 2 (which incorporated Intake Option 9) in Section 5.5.16.5, which explains that operation and siting of the intake system would have no impact on agricultural resources.
- DWD-12 The second sentence of the quoted text from Table 5.3-4 on Draft EIR/EIS page 5.3-32 is not specific to construction impacts. No change has been made in response to this comment. Detailed analysis of Alternative 2 (which incorporated Intake Option 9) is provided in Section 5.5.

- DWD-13 It is not currently known whether feasible mitigation strategies would be available to address the stated impingement and entrainment impacts. Thus, no change is warranted in response to this comment. Detailed analysis of Alternative 2 (which incorporated Intake Option 9) is provided in Section 5.5.
- DWD-14 EIR/EIS Section 5.5.1 presents an overview of the approach to the alternative impact analysis. The results of the evaluation of the proposed project on marine biological resources are summarized in Section 5.5.5.2; the operational and facility siting impacts of Alternative 3 (DeepWater Desal) using the same evaluation criteria that were applied to the proposed project are presented in Section 5.5.5.6. An alternatives impact summary is presented in Table 5.6-1 and conclusions on marine biological resources impacts are summarized on Draft EIR/EIS pages 5.6-10 and 5.6-11. While each impact statement often included analysis of several components that would contribute to the impact being analyzed, the impact conclusions in the EIR/EIS were drawn only for each impact statement. For example, Impact 4.5-4<sup>1</sup> for Alternative 3 considered the permanent loss of seafloor, entrainment, ability to effectively mitigate, brine salinity, and other Ocean Plan constituents including polychlorinated biphenyls (PCBs), and temperature. The conclusion for Impact 4.5-4 for Alternative 3 was determined to be significant and unavoidable because of the 16,700 square feet of permanent loss of seafloor habitat, the uncertainty of the efficacy of mitigation for entrainment impacts on marine resources, the potential for salinity to exceed 2 parts per thousand (ppt) beyond the brine mixing zone (BMZ), and an increase in temperature of the discharge. Since an impact conclusion was not drawn for each component within the impact statement, and no independent conclusion was drawn for the severity of the potential entrainment impact, no changes to the significance conclusions for Alternative 3 have been made in response to this comment.

While the Lead Agencies appreciate the presentation of the 2004 CA Coastal Commission's Coastal Act Report, the approach to fisheries management plans and the extensive discussion of proportional mortality, the EIR/EIS does not rely on the cited 2004 quote for the threshold of significance for entrainment impacts. Rather, the analysis, as required by CEQA and NEPA, compares the potential impacts of the proposed project (and alternatives) against baseline conditions and the No Action alternative respectively, to determine if the proposed project would "result in a substantial adverse effect, either directly or through habitat modifications . . . on any species, natural community, or habitat . . ." See CEQA Guidelines Appendix G Environmental Checklist Form, Section IV(a). The analysis in EIR/EIS Section 5.5.5.6 relies on the 2016 Ocean Plan acknowledgment that seawater is habitat and recommends using Area of Production Forgone (APF) to estimate mitigation. During operations, the DeepWater Desal Project would draw 55 mgd of habitat as source water, which represents a reduction in habitat. The impact conclusion in Section 5.5.5.6 relied on the likelihood of Alternative 3 to effectively

<sup>1</sup> Have a substantial adverse effect, either directly or through habitat modification . . . on any marine species, natural community, or habitat . . . during operations.

compensate for the loss of habitat, and as noted in Section 5.5.5.6, “. . . residual impacts may remain due to the uncertainty of the efficacy of the mitigation.” See also response to comment DWD-15.

DWD-15 CEQA requires an EIR to include sufficient information about each alternative to allow meaningful evaluation and comparison. NOAA’s NEPA implementing policy, “Policy and Procedures for Compliance with the National Environmental Policy Act and Related Authorities,” requires the decision maker to use the “best available scientific information and analysis to present the environmental effects of the proposed action and alternative(s) in comparative form, providing a clear basis for choice among the options.” (NOAA 2017) EIR/EIS Section 5.1.1.1 notes that if an alternative would cause one or more significant effects not caused by the proposed project (in this case, entrainment at the screened open water intake), the significant effects must be disclosed but in less detail than the significant effects of the project. EIR/EIS Section 5.1.1.2 notes that NEPA requires agencies to provide substantial and detailed treatment to each alternative in the analysis, and impacts of the alternatives should be presented in comparative form in order to sharply define the issues and provide a clear basis for choice to the public and the decision-makers. What is presented in Section 5.5.5.6 on Draft EIR/EIS page 5.5-122 is an impact that is unique to the alternatives proposing screened open water intakes, and the estimated APF is provided as a general indication of the order of magnitude of each project’s potential effect that would not also be caused by the proposed project. The impact conclusion was based on the fact that although mitigation is required, “residual impacts may remain due to the uncertainty of the efficacy of the mitigation” (Draft EIR/EIS page 5.5-122), consistent with 40 CFR 1508.27(b)(5) which requires a NEPA lead agency to consider “The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks” in its assessment of impact intensity.

With respect to the use of preliminary information prior to finalization of the Tenera Report to support the EIR/EIS conclusions, MBNMS is currently reviewing the Tenera Intake Assessment and Addendum (Tenera, 2016), in coordination with the California Coastal Commission, in the context of its role as Lead Agency for the separate NEPA analysis of the DeepWater Desal Project application. At this time, it is premature to conclude that this most recent report supports a conclusion that entrainment impacts would not be significant. Moreover, as discussed in EIR/EIS Section 5.5.5.6, the consideration of potential operational impacts from Alternative 3 was not limited to analysis of the potential ETM/APF, but also included consideration of updated brine discharge modeling as well as potential temperature increase to receiving waters from the brine discharge. Although the separate DeepWater Desal Project CEQA and NEPA analysis, when completed, may include more detailed conclusions that differ somewhat from those presented here for Alternative 3, the Lead Agencies for the MPWSP are obligated to make conclusions based on the best available information to support the necessary comparison among alternatives. Therefore, no changes have been made in response to this comment.

- DWD-16 Until such time as the Lead Agencies confirm the feasibility analysis and SWRCB provides a determination of consistency with Water Code 13142.5(b) on the intake, “Alternative 3 may be inconsistent with MBNMS Desalination Guidelines with regard to its open water intake and lack of a combined discharge”, as concluded in EIR/EIS Section 5.5.5.6. No changes have been made in response to this comment. Also, see added text in EIR/EIS Section 6.4 regarding this alternative’s consistency with MBNMS Desalination Guidelines.
- DWD-17 The comment does not dispute the facts presented in the EIR/EIS, but points out that the “circumstances required for this situation include the data center using no water for cooling, a Davidson current, and the desalination plant undergoing start-up activities.” As noted in the Draft EIR/EIS on page 4.2-49, “such exceedances are based on worst-case model simulations and may not occur under actual operational conditions,” in agreement with this assessment. The Lead Agencies note that such potential worst-case exceedances are not the basis for the conclusion in Section 5.5.3.6 that Alternative 3 would have a less-than-significant impact with mitigation. Rather, the significant impact conclusion is based on the absence of a monitoring and reporting plan, which is in conflict with applicable plans and policies.

Further, the comment notes that the DeepWater Desal Project now proposes a modification of the discharge louvers, with more jets that would result in no modeled exceedance outcomes as explained in Jenkins’ update to the Brine Dilution Analysis for the DeepWater Desal Project (2017). That update describes a discharge design with 14 discharge jets as compared to the five jets proposed in the project description information that is the basis for the analysis of Alternative 3. No additional information on this revised project design change has been submitted to the MPWSP Lead Agencies, and no other analysis has been undertaken to address this change. Although salinity impacts may be reduced compared to the five-jet design, construction-related impacts and permanent impacts related to this revised design also may change. In the absence of additional information about this revised proposal, and because salinity impacts already are considered less than significant, no changes have been made to the Draft EIR/EIS in response to this comment.

- DWD-18 In response to this comment, the last paragraph of “Facility Siting Impacts” in Section 5.5.3.6 has been revised as follows:

In addition to physical impacts, Alternative 3 may be inconsistent with The MBNMS Desalination Guidelines (NOAA, 2010), with regard to its lack of a combined discharge compared to the proposed project, which would use an existing outfall. One of the guidelines state: “project proponents should investigate the feasibility of diluting brine effluent by blending it with other existing discharges.” Although a combined discharge currently is not proposed for Alternative 3, the DeepWater Desal Project proponent is investigating the feasibility of diluting brine effluent by blending it with Moss Landing Power Plant cooling water through a combined discharge. If proposed by DeepWater

Desal, the separate EIR/EIS for the DeepWater Desal Project will evaluate this option in detail, but it is not included as part of Alternative 3.

DWD-19 In response to this comment, the Lead Agencies reviewed the conclusion that Alternative 3 would have a significant and unavoidable contribution to significant cumulative impacts related to salinity and other Ocean Plan constituents and found that this conclusion statement was in error. Text in the last paragraph of Section 5.5.3.6 has been revised as follows:

The most recent amendment to the Ocean Plan (SWRCB, 2016b) reflects the SWRCB's process of adapting to the need to regulate discharges from desalination projects. Ocean Plan water quality objectives are incorporated into NPDES permits in the form of specific water quality requirements. As discussed above, under some circumstances, Alternative 3 discharges occasionally cwould exceed the 2 ppt salinity significance threshold by 0.15 ppt, and could exceed Ocean Plan water quality objectives for PCBs. Because proponents of the DeepWater Desalination Project have not proposed a monitoring and reporting plan that demonstrates methods of compliance with the Ocean Plan objectives that are protective of beneficial uses, and feasible mitigation strategies have not yet been identified, Alternative 3 in combination with other cumulative projects would result in significant and unavoidable cumulative impacts on ocean water quality and Alternative 3 would have a cumulatively considerable contribution to such effects ~~(significant and unavoidable)~~. However, with the implementation of a monitoring plan consistent with Ocean Plan requirements that defines clear performance standards and feasible corrective actions linked to the defined performance standards substantially similar to **Mitigation Measures 4.3-4 and 4.3-5** (but revised specific to the Alternative 3 project final design and defined operating conditions), the contribution of Alternative 3 could be reduced to a level that is less than significant because it would comply with Ocean Plan requirements (less than significant with mitigation).

Additionally, the summaries of impacts in Table ES-1 and Table 5.6-1 have been revised to indicate that this impact (4.3-C) would still be increased compared to the proposed project, but would be less than significant with mitigation, rather than significant and unavoidable. The above revision does not affect the consideration of Alternative 3 compared to the proposed project and other alternatives because the relative impact of Alternative 3 remains increased compared to the other alternatives.

DWD-20 As noted in the description of Alternative 3 in Section 5.4.5.1, “the Castroville Pipeline, the Pipeline to CSIP Pond, and the operational components related to delivering water to CCSD would not be implemented” for this alternative. Alternative 3 would require 6.5 miles of product water pipeline between the desalination plant and the CalAm distribution system; the 25 miles of additional pipeline are assumed to be to the north of the Alternative 3 desalination plant. As noted in Table 5.4-1, Alternative 3 would have a total of 48 miles of pipelines; this

total accounts for the product water pipelines that differ from the proposed project. No changes have been made in response to this comment.

- DWD-21 The Draft EIR/EIS on page 5.5-121 discusses additional construction activities associated with Alternative 3 beyond those cited in the comment (e.g., anchor chains on construction barges used during placement of both intake and discharge structures would pose temporary obstructions, temporary disturbance to and possible loss of soft substrate habitat or function), which “could cause altered behavior (altered foraging and swimming patterns) in some special status fish, marine mammals and sea turtles.” No changes have been made in response to this comment.
- DWD-22 At this point in the planning and review process for the DeepWater Desal Project, the Lead Agencies cannot substantiate that any constraint on local and/or regional power transmissions caused by MBRWP would be mitigated before interconnection. No changes have been made in response to this comment.
- DWD-23 See response to comment DWD-3.
- DWD-24 See response to comment DWD-2.
- DWD-25 Receipt of the four attachments to the DeepWater Desal letter is acknowledged. Where the letter has made specific reference to these attachments in comments DWD-1 through DWD-24, specific responses have been provided.

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## References

- Tenera Environmental, 2016. Monterey Bay Regional Water Project Intake Assessment Addendum to Intake Assessment for 49 mgd Intake Flow and 1 mm Wedgewire Screen. March 31.
- Scott A. Jenkins Consulting (Jenkins), 2017. Brine Dilution Analysis for DeepWater Desal, LLC, Monterey Bay Regional Water Project at Moss Landing, CA. March 24.

## 8.6.10 Responses to Comments from Ecological Rights Foundation, the Center for Biological Diversity, and Our Children's Earth Foundation

ERF-1 See responses below for specific discussions of revisions made to the EIR/EIS. Per CEQA Guidelines Section 15088.5, "New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project's proponents have declined to implement." Furthermore, "Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR." Likewise, under NEPA regulations at 40 CFR 1502.9(c), a supplement to an EIS is required if there are significant new circumstances or information relevant to environmental concerns and the impacts of the proposal. The questions raised by the commenter, and any revisions that have been made to the Draft EIR/EIS in response, are not significant in a way that would require recirculation of or supplement to the Draft EIR/EIS because they provide additional clarifications, and do not change any of the impact determinations, previously discussed in the Draft EIR/EIS.

ERF-2 Regarding the CEQA and NEPA baseline generally, see EIR/EIS Section 4.1.3 and Master Response 10, Environmental Baseline under CEQA and NEPA, which explains that since the CPUC issued its NOP in 2012, the Lead Agencies have developed or received new data on some of the resource areas, so they have updated the baseline data as appropriate. EIR/EIS Table 4.3-5 presents concentrations over varying time periods for the contaminants of concern for impacts on water quality and marine organisms and the associated discussion describes how such concentrations relate to and are considered in the impact analyses for project operations. Regarding the need for additional water quality data to fully describe baseline conditions and to assess impacts, EIR/EIS Section 4.3.1 and Appendix D3 present detailed baseline water quality information specific to Monterey Bay, including site-specific water quality data for the area surrounding the MRWPCA outfall diffuser, sufficient for assessing the potential impacts from implementation of the MPWSP. The list of references used in the preparation of Section 4.3 includes Central Coast Long-term Environmental Assessment Network (CCLEAN) data referenced in the comment from 2011 and 2014, as well as CCLEAN data from 2012, 2013, and 2016.

Regarding environmental monitoring conducted as part of mitigation to comply with the Ocean Plan and how such obtained information relates to the project baseline in regards to assessing impacts from implementation of the project, see response to comment Marina-41 in Section 8.5.1, which explains that surveys conducted as part of Mitigation Measure 4.3-4 do not constitute deferral under CEQA of either a characterization of baseline conditions or the analysis of potential impacts from implementation of the proposed project or alternatives.



ERF-3 The EIR/EIS uses the ABA Consultants 1999 report to help identify and characterize the benthic community occurring at the study site. The report reflects monitoring and sampling taken between 1977 and 1994, and although the sampling methodology may have changed over time and has some limitations described by the commenter, the information is sufficient and is the best available to provide overall observations of the condition of the benthic community. But the EIR/EIS impact analysis did not rely on the conclusions of that report regarding potential effects of the MRWPCA wastewater discharges, which are not the subject of the impact analysis in this EIR/EIS. As described in EIR/EIS Section 4.5.1.4, the EIR/EIS also relies on video of the benthic community surrounding the MRWPCA outfall taken during routine maintenance in 2014, and the conditions documented are similar to those summarized in, and confirm, the ABA Consultants report.

ERF-4 See response to comment ERF-2 and Master Response 10, Environmental Baseline under CEQA and NEPA.

ERF-5 This comment uses several terms including need, objectives, proposed project, and proposed action, in ways that are inconsistent with their definitions and uses in the EIR/EIS, and references Draft EIR/EIS pdf page 3 (“Dear Reviewer” letter), and Section ES.3.3 and ES.3.2 (Executive Summary), while the objectives are provided in Section 1.3, Project Objectives and Purpose and Need. The project purpose (and need for the project) is presented in EIR/EIS Section 1.3 and begins by explaining the MPWSP is **needed** to replace existing water supplies that have been constrained by legal decisions affecting the Carmel River and Seaside Groundwater Basin water resources. As a result of the constrained supply situation, nine (9) primary **objectives**, and six (6) secondary **objectives**, of the proposed project are clearly listed in EIR/EIS Section 1.3.1 (and in Section 5.1.2.1), including the demands the **proposed project** intends to meet.

EIR/EIS Section 3.1 explains that the project (and Alternative 5a, the Environmentally Superior/NEPA-Preferred Alternative with GWR, see EIR/EIS Section 5.6) is proposed to produce approximately 10,750 afy to develop a new water supply for the Monterey District service area, and the proposed MPWSP desalination plant would have a rated capacity of 9.6 million gallons per day (mgd). See also Footnote 1 in EIR/EIS Section 3.1.

EIR/EIS Section 2.3 describes the project demand assumptions that were proposed by the Applicant as the basis for the MPWSP’s proposed capacity, including demands of existing customers (Objective 4), legal lots of record (Objective 6), and tourism under recovered economic conditions (Objective 7). EIR/EIS Section 6.3 evaluated, determined and disclosed how much of the proposed project capacity would be utilized for existing customers and how much would be available for growth.

EIR/EIS Section 5.4 describes alternatives to the proposed project, and each alternative is evaluated for its ability to meet project objectives; see EIR/EIS Sections 5.4.2.4, 5.4.3.4, 5.4.4.4, 5.4.5.4, 5.4.6.4, 5.4.7.4, and 5.4.8.4.

ERF-6 Impacts on marine species during MPWSP operations, as a result of the potential impingement of organisms or through the accumulation of fine particulate material on the seafloor, are evaluated in detail in EIR/EIS Section 4.5.5.2. The analysis examined the speeds of wave-induced and ambient ocean currents, and the velocity of water being drawn through the seafloor to the slant wells to determine the probability of impingement of organisms and particulate material against the seafloor. The EIR/EIS concludes that swimming speeds of invertebrate plankton substantially exceed the estimated vertical infiltration rate for the MPWSP slant wells (see Table 4.5-8) by several orders of magnitude. Therefore, no impingement from slant well operations is expected to occur.

The impingement of organic matter on the seafloor is also addressed in Section 4.5.5.2 and the EIR/EIS concluded that normal wave generated water velocities at the seafloor locations of the slant wells is predicted to be 8 to 20 times greater than that required for fine-grained material to accumulate on the seafloor over the subsurface slant wells. As a result, there would be no potential for the impingement of fine organic matter on the seafloor or changes to soft substrate habitat.

The screened portion of the slant wells that would be located within MBNMS (below Mean High Water, see EIR/EIS Figure 3-3a) would be within the intertidal and nearshore habitats as described in EIR/EIS Section 4.5.1.2, which are characterized by sandy beaches subject to daily tidal changes. Various invertebrate animals live in the sand and in wracks of decaying seaweed and other detritus, while market squid (*Doryteuthis (Loligo) opalescens*) inhabit the pelagic habitat in Monterey Bay but return to shallower nearshore areas (in water depths between 18 to 55 meters or 59 to 180 feet) to spawn on sand and mud sea floor habitats. Because the depth ranges for squid spawning is much deeper than the intertidal zone where slant wells would be located, potential impacts on market squid from slant well pumping would not be a reasonable conclusion.

ERF-7 The EIR/EIS extensively assesses the potential concentration of the brine discharge within the Brine Mixing Zone (BMZ) (Section 4.3.5.2, Surface Water Hydrology and Water Quality) that was in turn used to assess the potential effects on marine biological resources inhabiting the Project Study Area and the BMZ. The Coanda Attachment and hypoxia are discussed on Draft EIR/EIS page 4.3-83, and the EIR/EIS concludes that it would not occur because the plume would be affected (influenced and further diluted) by ocean currents and waves (which generate horizontal and vertical movement) after contact with the seafloor, and therefore, would not follow and travel along the seafloor “like Saran Wrap.”

An extensive analysis of brine discharge impacts on marine biological resources, including special-status species (EIR/EIS Impact 4.5-4), considered increased salinity/brine concentrations as well as potential toxicity from any concentrated contaminants in the brine discharge. The analysis determined that as a result of dispersal and dilution of the brine discharge by the outfall dispersion jets, the reasonable worst-case brine-only discharge would not exceed 1.6 parts per thousand (ppt) over ambient by the time it reaches the seafloor (see Table 4.5-12). Furthermore, as illustrated in Tables 4.5-9, 4.5-10, and 4.5-11, the documented salinity concentrations at which toxic effects have been shown to occur in marine organisms is an order of magnitude greater than the projected 1.6 ppt over ambient salinity at the seafloor or within the BMZ. Laboratory research performed by Dr. Carol Reeb demonstrated that salinity concentrations greater than 50 ppt are needed to affect market squid egg hatching, and the projected salinity concentration from the project brine discharge is estimated to be 35.23 when it reaches the seafloor (see EIR/EIS Impact 4.5-4). See response to comment Reeb-7 in Section 8.7.20, and Marina-67 in Section 8.5.1.

As for whether the infiltration rate of the slant well intakes was or should have been considered in the brine discharge modelling, as shown in EIR/EIS Figure 4.3-7, the BMZ and outfall jets are located about 2 miles downslope from the location of the slant well intakes and would not be affected by the slant well intakes (or vice versa).

ERF-8 The EIR/EIS explains in Impact 4.5-4 under the subheading, Potential Effects of Elevated Salinity, that in all cases, the Ocean Plan salinity limit of 2 ppt would be met at the edge of the ZID, the length of which ranges from approximately 10 to 39 feet for the dense discharge scenarios, which is well within the regulatory limits of the BMZ (100 meters or 328 feet from the diffuser). This subsection of the EIR/EIS assesses the potential salinity concentrations within the ZID and the BMZ and describes the potential effects on both hard and soft substrate taxa and marine organisms inhabiting the water column itself.

The EIR/EIS evaluates the water-column salinity at the point of discharge that would exceed 2 ppt and concludes that for the worst-case brine-only discharge scenario modeled (which only could occur during the dry season months of April through October in any given year), 1,100 cubic feet of water is anticipated to exceed 2 ppt and would be located above the seafloor (see EIR/EIS Figure 4.3-10). Thus, the modelling reflects that nowhere near 27-acres of the BMZ would exceed 2ppt. The small volume of water that would be greater than 2 ppt above ambient salinity would not come into contact with any hard-substrate organisms inhabiting the ballast rock anchoring the outfall or benthic fauna located on the sea floor. Consequently, benthic communities near the outfall would not be affected by the increased salinity brine discharge. Additionally, the water area around each diffuser (estimated at 2 feet by 8 feet) is a small area for any of the marine mammals referenced by the commenter to spend any substantive time occupying in order for any detectable or documentable impact to occur. See also response to comment Marina-67 in Section 8.5.1.

Finally, even if the estimated 27-acre BMZ were to exceed 2 ppt as permitted under the Ocean Plan, which modeling, as explained above, indicates would not likely occur, when compared to the overall project study area, 27-acres represents an infinitesimally small fraction of the MBNMS and California coast.

ERF-9 The Southern California Coastal Water Research Project (SCCWRP) report cited in the comment was prepared prior to the State Water Board Resources Control Board (SWRCB) amending the Ocean Plan and establishing State regulations concerning desalination brine discharges; see the Draft Substitute Environmental Document prepared for the Ocean Plan Amendment (SWRCB, 2015, at Section 8.7.1, Background: Effects of Saline Discharges on the Marine Environment). The Science Advisory Panel (Roberts et al. 2012) recommended, based on the studies of the effects of brine discharges, that the maximum salinity increase at the edge of the zone of initial dilution (also referred to as the mixing zone) should be no more than 5 percent above ambient background. Even though natural background salinity varies throughout California, and by season, salinity is generally close to 34 ppt as a state-wide average (average Monterey Bay salinity is 33.5 ppt). The Science Advisory Panel recommended that salinity vary by no more than five percent at the edge of the ZID. For most California coastal waters, this translates to an increase of 1.7 ppt (rounded up, 2 ppt) above ambient background (Roberts et al. 2012). Additional review of salinity effects on marine life (Foster et al. 2013) found that salinity increases less than 2 to 3 ppt were protective of most marine life.

The Science Advisory Panel further recommended that the salinity objective should be based on the most conservative species. The reports by Phillips et al. (2012) and Roberts et al. (2012) provide the basis to develop a receiving water limitation for California's ocean waters. Studies showed that red abalone was most sensitive to elevated salinity, with a lowest-observed-effect concentration (LOEC) at 35.6 ppt (2.1 ppt above Monterey Bay background salinity of 33,500 mg/L). Since salinity toxicity studies were not done for all organisms in the California marine environment, the 2 ppt limit may be overly conservative for some species, but not conservative enough for others. However, the majority of the studies on elevated salinity showed that effects were not seen below 2 to 3 ppt above natural salinity. (Roberts et al. 2012).

It is understood that a 5 percent increase above pre-project ambient salinity levels would result in a smaller BMZ. However, as the commenter clearly stated, the 2 ppt threshold for the BMZ is what the SWRCB has established as State regulatory limit in the Ocean Plan Amendment. Whether or not the 2 ppt is greater than the 5 percent by 17 percent is not relevant to the analysis however, because while this EIR/EIS did use 2 ppt above ambient as the threshold of significance, none of dense plume scenarios modeled would exceed 1.61 ppt or 4.8 percent (see EIR/EIS Table 4.3-13) above ambient salinity (33,500 mg/L) at the edge of the ZID, which would meet the 5 percent threshold.

ERF-10 As described in detail in EIR/EIS Section 4.3.5.2, the assessment of impacts and regulatory compliance related to the discharge of brine via the existing MRWPCA outfall

diffuser is based on model analyses that incorporate conservative (i.e., worst-case) assumptions regarding effluent and receiving water density, dilution and mixing dynamics (assumed zero ocean currents), and concentrations of water quality constituents. These conservative assumptions were applied to ensure the results of the impact assessments are appropriately cautious. The results of the model analyses were further assessed against both the regulatory requirements (Section 4.3.2) and the significance criteria (Section 4.3.3) related to operational discharges, representing a rigorous standard for analyzing potential impacts. The consideration of all regulatory standards, requirements, and performance thresholds (described in detail in Section 4.3.2), included specific recent (2016) amendments to the California Ocean Plan for avoiding and/or minimizing potential adverse impacts on marine life associated with desalination facility operations. Such amendments to the Ocean Plan were based on the findings of the SCCWRP (see response to comment ERF-9), which evaluated methods of brine disposal and monitoring strategies. The Ocean Plan amendments were further assessed as part of a SWRCB Substitute Environmental Document and staff report (SWRCB, 2015), providing the rationale for how implementing such measures reduce potential environmental impacts from desalination facilities.

The model analyses conducted for this EIR/EIS to determine dilution and mixing, the results of which were subsequently utilized to determine compliance with Ocean Plan water quality objectives for salinity and other constituents, was conducted in a manner consistent with the recommendations in the SWRCB's technical report on discharges from desalination plants (described in detail in EIR/EIS Appendix D1 and discussed in Section 4.3.5.2 under Impacts 4.3-4 and 4.3-5). Also presented in detail in Appendix D1 are the results of a comprehensive literature review and incorporation of peer reviewed methodologies, assumptions, and results into the assessment of operational impacts. The extensive model analyses assessed, in part, the hydraulics of the outfall, which includes horizontally oriented diffuser ports, as well as dilution and mixing of operational discharges with receiving waters under a range of discharge scenarios and ocean conditions. As described under Impact 4.3-4, two separate analytical methodologies were employed to provide redundancy in the analysis and confirmation of the results characterizing dilution; both methods are consistent with the regulatory approach recommended by the SWRCB for analyzing brine discharges. Further, in response to public comments relating to concerns over the model analyses, and at the request of MBNMS, the model analyses underwent peer review (see Impact 4.3-4).

While impacts related to water quality from operational discharges have been determined to be less than significant based on the comprehensive and detailed model analyses, additional monitoring and reporting will further ensure that discharges will comply with the Ocean Plan as well as comply with MBNMS guidelines for operation of desalination facilities that are protective of the beneficial uses (including aquatic wildlife and habitat) of Monterey Bay. Furthermore, Mitigation Measure 4.3-4 would ensure that water quality and biological monitoring data considers impacts on marine resources and that all collected data is assessed against defined performance standards and that corrective actions are implemented in the case that performance standards are not met. Corrective

actions to be implemented in the case that performance standards are not met are detailed in Mitigation Measure 4.3-5 (Implement Protocols to Avoid Exceeding Water Quality Objectives), which includes retrofitting the existing outfall diffuser to include inclined diffuser jets positioned at the optimum angle to achieve maximum dilution.

Finally, EIR/EIS Section 4.13.5.2 identified the potential for the proposed project to increase corrosion of the MRWPCA outfall and diffuser as a result of brine discharge. Based on studies provided by the MRWPCA (E2 Consulting Engineers, 2015), Impact 4.13-5 determined the proposed project could accelerate corrosion of a nearshore portion of the offshore segment, as well as the land segment, of the outfall. The EIR/EIS concludes the impact could be significant and includes Mitigation Measures 4.13-5a and 4.13-5b, which would apply to the offshore segment and the land segment, respectively. Impact 4.3-5 in EIR/EIS Section 4.3.5 and Mitigation Measure 4.3-5 have been revised to reflect the concern that the existing outfall diffuser end gate may need to be modified in order for operational discharges from the proposed project to comply with Ocean Plan and NPDES permitting requirements. See responses to comments MRWPCA-2 through MRWPCA-6 in Section 8.5.9 for further discussion related to suitability of the outfall diffuser to discharge brine.

ERF-11 See Final EIR/EIS Section 5.3.2, which was revised to clarify that alternative brine disposal options were considered but rejected as infeasible. Also, the article in the July 16, 2015 edition of the Monterey County Weekly authored by Kera Abraham and referred to by the comment letter in Footnote 15, acknowledges there are “major hitches” with extracting salt from the desalination brine; not the least of which is that the salt extraction plant would cost even more to build than the desalination plant itself, and the natural gas needed to power it would cost about \$1,200 per acre foot. Furthermore, the proposed project would generate approximately 14 mgd of brine that would need to be shipped in 10,000-gallon tanker trucks, resulting in 1,400 truck trips a day, or approximately 1 truck trip every minute of every day. Alternative 5a, the Environmentally Superior Alternative would result in less brine, but would still generate approximately 9 mgd of brine, resulting in 900 truck trips per day.

See responses to comments MCWD-168 and -170 in Section 8.5.2.

ERF-12 The laboratory results of the water quality testing that is referred to in the comment is presented in Appendix G of Appendix C of EIR/EIS Appendix E3. The low concentrations of volatile organic compounds identified in the groundwater samples from the soils borings at CEMEX represent analytical laboratory surrogates. Surrogates are compounds similar in chemical composition to the analytes of interest and added into environmental samples prior to preparation and analysis as part of the quality control protocols. They are used to evaluate extraction efficiency and matrix interference on a sample-specific basis. While they are included in the laboratory quality control sheets and may appear as a low concentration detection, these compounds were not detected in the water samples and are not present in the groundwater.

EIR/EIS Section 4.4.5.2 includes Impact 4.4-4: Violate any groundwater quality standards or otherwise degrade groundwater quality during operations. Impact 4.4-4 addresses impacts associated with existing groundwater remediation systems, and discusses how the slant well pumping could effect the migration of the contaminated groundwater located to the southeast, in the Former Fort Ord (see EIR/EIS Section 4.7.1.1). The EIR/EIS determined that the radius of influence of pumping in the Dune Sand and 180-FTE Aquifers is expected to extend close to, but not overlap with, the contaminant plumes associated with the ongoing cleanup at the former Fort Ord. However, it is remotely possible that the radius of influence could reach and affect the contaminant plumes. Implementation of Mitigation Measure 4.4-4 would prevent the significant and unreasonable degradation of water quality due to the migration of contaminant plumes that impair water supplies.

- ERF-13 As discussed in Section 4.7, Hazards and Hazardous Materials, the CEMEX sand mining facility has no records of hazardous materials releases and does not have any underground storage tanks for fuel or oil.
- ERF-14 Although the GeoTracker website still lists the Fort Ord OU1 plumes sites as open, review of the documents indicates that groundwater monitoring is no longer occurring and the sites are awaiting regulatory agency closure upon destruction of wells and treatment systems (GeoTracker, 2017; Central Coast Regional Water Quality Control Board, 2016).
- ERF-15 Adverse impacts on the water quality of receiving ocean waters and on marine resources from operational discharges are comprehensively assessed in EIR/EIS Sections 4.3.5 and 4.5.5, respectively. The analysis of impacts from operational discharges presented in Section 4.3.5.2 assesses compliance with numeric water quality objectives prescribed in the California Ocean Plan (described in detail in Section 4.3.2), including chlorine and chlorine residuals that result from the use of sodium hypochlorite (see Table 3-1) as part of standard drinking water supply disinfection. Further, as presented in detail in Appendix D3, for all operational discharges, dechlorination of potable water supplies will occur such that the total chlorine residual will be below detection and thus, below the Ocean Plan water quality objective.
- ERF-16 The EIR/EIS fully discloses the potential for special status species, including fully protected State species, to occur in the study area in Sections 4.5.1.3 (Special Status Marine Species) and Section 4.6.1.10 (Sensitive Terrestrial Biological Resources in the Study Area). The Brown pelican is identified in Table F-1 in EIR/EIS Appendix F as a California fully protected species with a low potential to occur in the project area. The Brown Pelican may well roost in MBNMS, but Table F-1 explains that suitable roosting habitat does not exist in the project area; see response to comment Marina-66 in Section 8.5.1. And while the Brown pelican may forage in ocean waters in the vicinity of the MRWPCA ocean outfall and the subsurface slant wells, Brown pelicans do not breed locally.



California Fish and Game Code Section 4700 is addressed in EIR/EIS Section 4.5.2.2, which states, the MPWSP components proposed for the marine environment would be consistent with Fish and Game Code Sections 3503, 3511, 4700, 5050, and 5515 because their construction and operation are not expected to result in the take or possession of any State protected species.

The commenter is correct in stating that the Pacific right whale, the northern elephant seal, and the southern sea otter are fully protected mammals as designated by the state of California. The Pacific right whale, the northern elephant seal and the Southern sea otter are listed in EIR/EIS Table 4.5-2 as special status species with a potential to occur in the study area. The potential project effects on all marine mammals are evaluated in Impact 4.5-4 in EIR/EIS Section 4.5.5, which concludes that the proposed project operations would have a less than significant impact from salinity and other Ocean Plan constituents (via bioaccumulation) on special-status species that frequent the study area. Furthermore, Impact 4.5-4 concludes that impacts due to shear stress caused by the brine discharge would be limited to plankton, because motile organisms would be able to avoid turbulence in the immediate vicinity of the brine discharge; the impact would be less than significant because of the small percentage of plankton abundances potentially affected. Because there is little risk that benthic infauna and macrofauna populations would decline due to impingement, shear stress, and increased salinity, impacts are not anticipated on fish, marine mammals (such as the Southern sea otter and California gray whale), seabirds, and other species. The acknowledgement that the above-listed species are fully protected results in no change to the EIR/EIS analysis or conclusions of impacts on these species, which already were identified as being protected by the Federal Endangered Species Act, and the Marine Mammal Protection Act. See also EIR/EIS Section 7.1.1.

EIR/EIS Section 4.5.1.3 identifies Dungeness crab as a valued commercial species in Monterey Bay that typically resides within hard rock habitat. Proposed project operations would not affect hard rock habitat. In its assessment of potential effects of increased salinity and other Ocean Plan constituents on marine communities, Impact 4.5-4 considered all marine species, including crab species, and concluded that project operations would have a less than significant impact. Salinity would be 1.6 ppt above ambient or less at the edge of the ZID (see EIR/EIS Table 4.3-13) which is well below the tolerance level of the crab species. See also response to comment ERF-9.

Finally, the EIR/EIS thoroughly discusses the potential toxic effects of elevated brine discharge, as well as the potential physical effects of the brine discharge itself (see Draft EIR/EIS pages 4.5-54 through 4.5-66).

- ERF-17 The background on the Federal Endangered Species Act (FESA) and western snowy plover are noted, and are consistent with descriptions in the EIR/EIS. Regarding the assertion that the EIR/EIS did not adequately analyze project impacts on snowy plover, see responses to comments ERF-18 through ERF-21, which provide greater specificity. Also note that since MBNMS is a federal Lead Agency under NEPA, FESA

consultation with the USFWS will occur under Section 7, not Section 10 and an HCP would therefore, not be required. See also response to comment ERF-21.

ERF-18 In regard to the comment that sea level rise and erosion linked to climate change will also contribute to reduction of plover habitat, see the response to comment Point Blue-3 in Section 8.6.15; sea level rise and ongoing coastal erosion act in concert to move beach profiles inland, such that average beach width is anticipated to be maintained in this location. See EIR/EIS Figures 4.2-7 and 4.2-8 which show the anticipated beach profiles over time, and see also EIR/EIS Appendix C2. As the bluff erodes, it maintains the beach width, as described in Impact 4.2-10.

Contrary to the commenter's assertion, the EIR/EIS evaluates the impacts of operational and maintenance activities on western snowy plover in Section 4.6, and acknowledges that the repeated disturbance associated with ongoing periodic maintenance of slant wells would result in the permanent loss of up to 6 acres of snowy plover habitat.

Mitigation Measure 4.6-1d does not limit mitigation to "restoration actions beyond the Project site." This measure does not specify that mitigation would occur off-site. In response to this comment, Mitigation Measure 4.6-1d has been revised to clarify that compensation may occur on-site or off-site. In this context, "on-site" may refer to adjacent areas within the CEMEX property that could be restored (see Master Response 14, CEMEX Settlement Agreement); however, on-site restoration of the permanently impacted habitat (such as between maintenance activities) would result in repeated re-occurrence of maintenance-related disturbance of restored habitat and, potentially, individual plovers. Therefore, no on-site (i.e., within the permanently impacted area) restoration is recommended. Impact 4.6-6 describes that implementation of multiple mitigation measures, including Mitigation Measure 4.6-1d, would reduce impacts to less than significant as fully described in Impact 4.6-1. See also EIR/EIS Section 7.1 for a discussion of Lead Agency consultation with USFWS.

ERF-19 The EIR/EIS provides an analysis of noise impacts on snowy plover in Section 4.6. As stated in Impact 4.6-6, the noise generated from the well pumps would be less than the ambient noise of the combination of CEMEX operations, crashing waves, and Highway 1 traffic. The comment incorrectly describes the characterization of ambient noise at the project site as a cumulative impact analysis; rather, this combination of existing noise sources represents the current total ambient noise. As explained in Impact 4.6-6, since ambient noise levels at the CEMEX active mining area include noise generated from heavy machinery and mining vehicles associated with the CEMEX operations (85 dBA at 50 feet), crashing waves at the Pacific Ocean (57 dBA at 300 feet), and vehicle traffic along Highway 1, the 66 dBA attenuated noise level from pump operations would be less than the combination of these existing sources. Since the attenuated noise from the pumps would not exceed ambient noise levels, the pumps would not be expected to impact migratory birds or other special-status wildlife at the site. Therefore, although pump operations may generate some low-level

increased noise, this would not be above ambient noise levels at the project site under existing conditions, and would not significantly impact western snowy plover.

Despite this less-than-significant conclusion, as reiterated in response to comment ERF-18, the EIR/EIS has assumed that the entire 6-acre maintenance area around the well heads would be permanently lost because of disturbance associated with ongoing periodic maintenance at the well heads. Therefore, it is assumed that since no suitable habitat would be available at “significantly closer than 50 feet away from the well pumps,” that snowy plover would also not be closer than 50 feet from the wellhead. This habitat impact would be reduced to less than significant through implementation of several mitigation measures, including compensation at a 3:1 ratio for permanent impacts as described in the revised Mitigation Measure 4.6-1d in the Final EIR/EIS.

- ERF-20 The EIR/EIS did not fail to analyze the potential impacts on western snowy plover from the vibrations caused by the well pump. EIR/EIS Section 4.12.14 explains that operation of the Project would not involve equipment that would produce ground borne vibration; therefore, no impacts related to excessive ground borne noise levels would occur in connection with Project operations. Since operation of the well pumps would not produce ground borne vibration, there would be no impact on western snowy plover.

In response to this comment, the following text has been added to the Subsurface Slant Wells section in Impact 4.6-6:

As described in Section 4.12.14, Evaluation Criteria in Section 4.12, Noise and Vibration, operation of the proposed project would not involve equipment that would produce ground borne vibration. Since operation of the well pumps would not produce ground borne vibration, there would be no impact on western snowy plover from such vibration.

- ERF-21 Habitat Conservation Plans (HCPs) are developed by permit applicants in support of an incidental take permit application pursuant to section 10(a)(1)(B) of the ESA for projects with no federal nexus. Because there is a federal nexus related to this project, any take authorization sought would be pursuant to ESA Section 7, and therefore, a HCP is not prepared. Rather, the action federal agency (MBNMS) would prepare a biological assessment and the USFWS and NMFS would either respond with a letter of concurrence (where no adverse effects are expected) or with a biological opinion that would support an incidental take statement (which gives take authorization).

A Biological Assessment, which evaluates the project's impacts on federally listed species, has been prepared in support of Federal Endangered Species Act Section 7 consultation between the ONMS and USFWS. See EIR/EIS Section 7.1.

- ERF-22 The EIR/EIS in Impact 4.5-C explains that the five-mile coastal geographic area was chosen because beyond this area, other projects would be too distant from the MPWSP

to result in any combined salinity or elevated brine constituent plumes, or to combine in any other way that may cause a cumulative effect on marine biological resources. Unlike other environmental stressors or impacts, such as air emissions, the impacts on marine resources are not wide-scale or mobile, and are instead localized. To interact or accumulate, a five-mile area of analysis is more than adequate for the nature of these particular stressors and impacts. For example, the largest possible size for the BMZ would be 27 acres, or .04 square miles.

ERF-23 The approach to the cumulative analysis is presented in EIR/EIS Section 4.1.7.1, which explains that for each resource or issue considered in this chapter, the cumulative effects analysis identifies the relevant geographic area and time period within which cumulative effects could occur and then considers existing conditions (which are the combination of the natural condition and the effects of past projects) and describes the effects of other past, present and reasonably foreseeable future projects in combination with the effects of the proposed project. This approach is consistent with CEQ regulations which define a cumulative impact as an “impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions” and emphasizes that “cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” As described in Section 4.1.7, cumulative effects may arise from single or multiple actions and may result in additive or interactive effects.

Brine impacts result in small, localized, less than significant impacts on benthic communities in only the worst case scenarios. Therefore, the appropriate scale for assessing cumulative impacts for brine discharges is to examine the potential for other projects within a five-mile coastal area that may also result in benthic impacts, or other projects where brine plumes or their impacts, while individually minor, may have additive or incremental impacts. In the case of the cumulative analysis for Alternatives 5a and 5b, the potential for cumulative effects of GWR combined with the MRWPCA recognizes the interactive cumulative effect, which required detailed modelling to account for changes in buoyancy and dispersal of contaminants when the brine discharge is added to GWR effluent.

As for the commenter's concern about improperly limiting the cumulative impacts analysis of construction impacts geographically, the excerpted statement was part of a longer statement in the Draft EIR/EIS on page 4.5-67: “With the exception of DeepWater Desal and People's Project, all of these projects are either built (No. 47), not reasonably foreseeable in its current configuration (No. 31), or projected to have very localized construction impacts.” Since CEQA Guidelines Section 15130 states that “the focus of analysis should be on the cumulative impact to which the identified other projects contribute, rather than on attributes of the other projects that do not contribute to the cumulative impact,” the statement is characterizing the level of construction impacts of the other projects and is, therefore, consistent with CEQA and NEPA.

- ERF-24 The EIR/EIS did not exclude the Sand City Desalination project. The plant is already constructed and has been in operation since 2010, which means it is a “past project” and as noted in Footnote 2 in EIR/EIS Section 4.1.7.2, while a cumulative analysis includes past, present and reasonably foreseeable future projects, the category of past projects is captured within the existing setting, or baseline, against which impacts are judged throughout the EIR/EIS, including the cumulative analysis. The two new wells that are proposed at the Sand City plant (see EIR/EIS Table 4.1-2) will allow the plant to operate as designed: the brackish source water would result in brine that is discharged into Monterey Bay at lower than or equal to the ambient ocean salinity.
- ERF-25 See response to comment ERF-22. The Bay Avenue Outfall Project would be located almost 8 miles south of the MRWPCA outfall and would be outside of the geographic scope of the marine biological resources cumulative impact analysis. The Bay Avenue outfall project would reduce (Phase 1) and ultimately eliminate (Phase 2) discharges of storm water from the City of Seaside to Monterey Bay.
- ERF-26 See Master Response 15, Alternative Desalination Projects – Status, Information Sources, and Cumulative Scenario, Section 8.2.15.3, which reiterates the explanation provided in EIR/EIS Section 4.1.7 regarding the consideration of the People’s Project in the cumulative context. Master Response 15 also clarifies the status of the People’s project and associated CEQA/NEPA review.
- ERF-27 See Master Response 15, Alternative Desalination Projects – Status, Information Sources, and Cumulative Scenario.
- ERF-28 The cumulative impact discussion for marine biological resources (EIR/EIS Section 4.5.6) explains that the cumulative projects listed in Table 4.1-2 that are located within the geographic scope and whose impacts could overlap with those of the MPWSP include Test Slant Well (No. 47), RUWAP Desalination Element (No. 31), and RUWAP Recycled Water Element (No. 35). In addition, it is expected that either the DeepWater Desal Project (No. 34) or The People’s Moss Landing Desal Project (No. 57), but not both, would be constructed and operated in the reasonably foreseeable future. With the exception of DeepWater Desal and People’s Project, all of these projects are either built (No. 47), or not reasonably foreseeable in its current configuration (No. 31).

Since the test slant well (No. 47) is a past project, it was considered in the evaluation of the proposed project, as explained in response to comment ERF-24. The RUWAP Desalination Element (No. 31,) see Table 4.1-2) was not considered directly in the cumulative scenario for marine biological resources, but it was considered in the EIR/EIS Section 4.3 discussion on discharges and outfall capacity; see response to comment Marina-117 and -156 in Section 8.5.1. The RUWAP Desalination Element (No. 31) was also considered in the cumulative scenario for effects on groundwater resources; see EIR/EIS Section 4.4.6 and response to comment MCWD-155 in Section 8.5.2.

The RUWAP Recycled Water Element (No. 35) would reduce wastewater flows to the MRWPCA ocean outfall. The impacts that would result from a range of brine with wastewater flows were evaluated for the proposed project under Impact 4.5-4 (see Table 4.5-12) and for Alternative 5a (the Environmentally Superior Alternative) in Section 5.5.3.8 (see Table 5.5-3). Therefore, since the RUWAP Recycled Water Element (No. 35) was considered in combination with the proposed project (and alternatives), and the impacts of the test slant well was considered in the analysis of the proposed project analysis (and alternatives), the cumulative analysis included the impacts of the combination of these reasonably foreseeable identified projects.

ERF-29 The third paragraph in EIR/EIS Section 4.5.6 explains that the RUWAP Recycled Water Element (No. 35) would reduce wastewater flows to the MRWPCA ocean outfall. The impacts that would result from a range of brine with wastewater flows were evaluated for the proposed project under Impact 4.5-4. The paragraph draws a conclusion on level of impact, and does not improperly terminate any consideration; but to clarify, the last sentence of this paragraph has been revised as follows:

Therefore, the cumulative scenario that would result from the RUWAP Recycled Water Element in combination with the proposed project would be within the range of brine with wastewater flows that were analyzed under Impact 4.5-4; that impact was determined to be less than significant.

The potential effects of impingement, elevated salinity (and hypoxia), other brine contaminants, and shear stress resulting from the range of brine with wastewater flow discharge scenarios (combinations of wastewater and brine discharge), are discussed in EIR/EIS Section 4.5.5.2. For each of the potential impacts, (salinity, other contaminants, and shear stress) all of the various discharge scenarios were considered.

The EIR/EIS explains that if the discharge plume between the diffuser port and the edge of the ZID on both sides of the outfall were to settle on the seafloor (which the model results indicate it would not), approximately 0.0042 to 0.0163 percent of the suitable spawning area south of Monterey Submarine Canyon would be unsuitable for squid spawning. That potential impact was considered to be less than significant. See response to comment Marina-67 in Section 8.5.1.

ERF-30 As stated in Section 4.1.7.1, “Where the analysis finds that the cumulative effects of past, present and future projects would be significant and adverse, the analysis then identifies whether the proposed project’s contribution to the overall adverse effect would be of a considerable nature such that the project’s contribution to cumulative effects in that area is deemed significant.” Thus, the cumulative analyses in the EIR/EIS do not dismiss cumulative impacts solely because project impacts are less than significant. Each of the cumulative impact discussions in Impact 4.5-C specifically describe why the project would not contribute at all to cumulative impacts (e.g., because the project would result in *no impact* or because the project’s impacts *could not* combine with the impacts of other projects due to distance or other factors), or why

the cumulative impact to which the project could contribute would not be significant, or why the project's contribution to a potentially significant cumulative impact would not be considerable (e.g., because the project would comply with standards below which incremental project impacts are not considered significant in a cumulative context).

ERF-31 CEQA Guidelines Section 15130(a)(1) states that "an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR." And, while cumulative effects analysis must consider the additive or incremental effects of individually minor effects, the proposed project must have at least an individually minor effect that is one that could accumulate or interact with other minor effects. The EIR/EIS explains in Section 4.5.6 that the MPWSP does not propose any in-water construction activities that are expected to result in disturbance or effects on marine biological resources. For instance, underwater construction noise would be less than the ambient noise, and there would be no other projects in the vicinity that would generate underwater construction noise. The EIR/EIS does explain the potential for a risk of spills associated with the slant well drilling but it also explains that any discharge of clarified water to the ocean would be in compliance with Ocean Plan Water Quality standards, and that NPDES permit requirements already consider and prohibit cumulative effects on the receiving water.

ERF-32 There are no other reasonably foreseeable projects that would contribute to the salinity impact. See also responses to comments ERF-26 and ERF-28 and Master Response 15, Alternative Desalination Projects – Status, Information Sources, and Cumulative Scenario.

ERF-33 The 2012 Science Advisory Panel, chaired by Dr. Philip Roberts, is included as a reference to the EIR/EIS (SWRCB, 2012a). The recommendations from that panel were later incorporated into the 2016 amendment to the California Ocean Plan (SWRCB, 2016). It is the Ocean Plan that sets the regulatory limit of the BMZ. As explained in the EIR/EIS and as modeled by Dr. Philip Roberts in EIR/EIS Appendix D1, the edge of the ZID represents the near field mixing zone that is influenced by the dynamics of the discharge, while the area between the edge of the ZID and the BMZ at 100 meters (328 feet), represents the far field where the ocean turbulence effects the plume dilution. As explained in response to comment ERF-8, the ZID for the proposed project would extend approximately 10 to 39 feet from the diffuser for the dense discharge scenarios modeled (see EIR/EIS Table 4.3-13) and salinity at the edge of the BMZ for those same scenarios would range between 1.3 and .01 ppt above ambient, within the range of natural ocean salinity changes. The DeepWater Desal point of discharge would be located almost 5-miles north from the proposed project's BMZ, at a depth of 100 feet in the Monterey Submarine Canyon; therefore, it is highly unlikely the plumes from the two projects would merge.

The plume from the proposed project's dense discharges would not attach to the seafloor (see response to comment ERF-7), and the lack of dissolved oxygen (hypoxia) would not be an issue for the MPWSP, at a project-specific level or in a cumulative



context, because oxygen would be supplied to the discharged plume by ambient seawater entrained during turbulent mixing and dilution. See also EIR/EIS Section 4.3.5.2.

ERF-34 The EIR/EIS analyzed in detail the project-level and cumulative impacts of greenhouse gas emissions by quantifying construction and operational emissions and comparing them to thresholds that apply to both project-specific significance determinations as well as determinations regarding the significance of contributions to cumulative impacts. As explained in Impact 4.11-C, the evaluation of GHG emissions impacts is inherently a cumulative impact analysis, and as a result, if MPWSP construction and operations emissions exceed numeric thresholds or conflict with AB 32 Scoping Plan Measures, the MPWSP would not be considered consistent with the State's GHG reduction goals and the associated impact would be cumulatively considerable. All of the climate change-related effects discussed in Section 4.11.1.1 stem from global, cumulative greenhouse gas emissions levels.

Furthermore, as discussed in response to comment USEPA-4, Mitigation Measure 4.11-1 has been revised to ensure that the MPWSP would result in net zero indirect operational greenhouse gas emissions from electricity consumption. With implementation of this revised measure, project-level greenhouse gas impacts – and by definition, the project's contribution to cumulative greenhouse gas impacts – would be reduced to below applicable numeric thresholds and would be less than significant. See Final EIR/EIS Section 4.11 for a revised discussion of the significance greenhouse gas emissions following implementation of this mitigation measure.

ERF-35 EIR/EIS Section 6.3, Growth Inducing Impacts, provides much of the information reiterated in this comment, in particular in Section 6.3.1, Introduction, and 6.3.3, Regulatory Framework, which provides the basis for the analysis. See Master Response 13, Demand (Project Need) and Growth, Section 8.2.13.1, regarding demand assumptions and Section 8.2.13.3 regarding the water that the project would provide for growth and the impacts of growth, including the impacts of cumulative water projects.

ERF-36 Project water supply available to serve additional development would be allocated to jurisdictions or reserved by MPWMD. The impacts of growth within the service area jurisdictions have been analyzed in the jurisdictions' general plan CEQA documents; these are the impacts of growth that would be supported, to some degree, by the proposed project, as described in EIR/EIS Section 6.3. More specific analysis of hypothetical specific projects that could be supported by project water supply would be speculative. See also Section 8.2.13.2, Growth Inducement, in Master Response 13.

ERF-37 The EIR/EIS analysis of the proposed project determined that impacts on marine life specific to the MPWSP's proposed intake and brine discharge systems would be less than significant. The MPWSP's consistency with the MBNMS Desalination Guidelines, including those listed in the comment, is discussed in EIR/EIS Section 6.4. The project need is discussed in Section 1.3, project background is discussed in

Section 1.4, water supply is discussed in Chapter 2, and alternatives are analyzed in full in Chapter 5. The Monterey Peninsula Water Conservation and Rationing Plan is addressed in Section 5.4.2.3. As described therein, the No Project Alternative would trigger actions under this plan, and the impacts of these actions would be a result of the No Project Alternative (see Section 5.5.20.3). The Monterey Peninsula Water Conservation and Rationing Plan is addressed in Section 5.4.2.4 and in Appendix K, and is considered in the impacts assessment under the No Action Alternative.

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## References

- Central Coast Regional Water Quality Control Board, 2016. Letter to U.S. Department of the Army, Fort Ord Base Realignment and Closure. Subject: Draft Armstrong Ranch OU-1 Well Destruction and Pipeline Decommissioning Work Plan, Former Fort Ord, Monterey County. November 2. Available online at: [https://geotracker.waterboards.ca.gov/regulators/deliverable\\_documents/3753555774/11-02-2016\\_DoD\\_Ft\\_Ord\\_OU1\\_draft\\_WP.pdf](https://geotracker.waterboards.ca.gov/regulators/deliverable_documents/3753555774/11-02-2016_DoD_Ft_Ord_OU1_draft_WP.pdf).
- GeoTracker, 2017. Fort Ord OU1 (Off-Site Plume) (DOD100220600) Site Maps/Documents. Available online at [https://geotracker.waterboards.ca.gov/profile\\_report?global\\_id=DOD100220600](https://geotracker.waterboards.ca.gov/profile_report?global_id=DOD100220600). Accessed November 16, 2017.
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- Roberts, P. (Chair), S. Jenkins, J. Paduan, D. Schlenk and J. Weis. 2012. Management of Brine Discharges to Coastal Waters: Recommendations of a Science Advisory Panel. Environmental Review Panel (ERP). Southern California Coastal Water Research Project (SCCWRP). Costa Mesa, CA. Technical Report 694.
- State Water Resources Control Board (SWRCB), 2015. Draft Staff Report Including the Draft Substitute Environmental Documentation, Amendment to the Water Quality Control Plan For Ocean Waters of California Addressing Desalination Facility Intakes, Brine Discharges, and the Incorporation of Other Nonsubstantive Changes. Division of Water Quality, State Water Resources Control Board, California Environmental Protection Agency. March 25, 2015.
- State Water Resources Control Board (SWRCB), 2016. *Water Quality Control Plan – Ocean Waters of California*. California Ocean Plan, 2015. Effective January 28, 2016.

## 8.6.11 Responses to Comments from Fort Ord Recreational Users

- FORU-1 The purpose of the slant wells, as explained in EIR/EIS Table 3-1 is to draw water from groundwater aquifers that extend beneath the ocean floor (the Dune Sands Aquifer and the 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin) for use as source water for the MPWSP Desalination Plant. Section 4.4.1.4 explains that the proposed slant wells would draw water from the Dune Sand Aquifer and the 180-FTE Aquifer from about 30 feet below msl to 200 feet below mean sea level. See Master Response 2, Source Water Components and Definitions, which clarifies terms, as well as Master Response 8, Project Source Water and Seawater Intrusion, Sections 8.2.8.1 and 8.2.8.2, which discuss the source water capture zone.
- FORU-2 See Master Response 3, Water Rights, Section 8.2.3.7, Effect on Marina Coast Water District, as well as Master Response 8, Sections 8.2.8.1 and 8.2.8.2, which discuss the source water capture zone. Marina Coast Water District's (MCWD) need for water supplies for the redevelopment of the Former Fort Ord is discussed in EIR/EIS Section 4.1.7.2. Project 31 (Regional Urban Water Augmentation Project Desalination Element) in Table 4.1-2 describes the three-party water supply planning agreement between MCWD, Fort Ord Reuse Authority, and the Monterey Regional Water Pollution Control Agency. EIR/EIS Section 4.4.6 addresses the cumulative impacts associated with the proposed project and Project 31 on groundwater resources.
- FORU-3 See Master Response 8, which clarifies the hydrogeology and water quality characteristics of the source water capture zone, and Impacts 4.4-2 and 4.4-4 in EIR/EIS Section 4.4.5.2. Additionally, Master Response 2, provides clarification on the definitions of terms used to describe source water. As item 3 in this comment notes, the purpose of moving the proposed slant wells inland was related to coastal erosion, and not water source; see coastal erosion impact analysis and related mitigation in Impact 4.2-10 in EIR/EIS Section 4.2, Geology, Soils, and Seismicity.
- FORU-4 See Master Response 3, Water Rights, Section 8.2.3.5.
- FORU-5 EIR/EIS Chapter 5 provides a comprehensive evaluation of alternatives: Sections 5.1.1 and 5.1.2 describe the guidelines for alternatives analysis under CEQA and NEPA; Section 5.2 presents and discusses other water supply alternatives that were considered, but not carried forward for detailed evaluation; Section 5.3 describes the process employed to develop, screen and evaluate potential alternative components, and develop whole alternatives for analysis; Section 5.4 describes a No Project/No Action Alternative and five action alternatives; Section 5.5 presents the impact analyses of the No Project/No Action Alternative and the five action

alternatives, and; Section 5.6 identifies the environmentally superior/preferred alternative(s) and the NEPA agency preferred alternative.

- FORU-6 See response to comment FORU-2.
- FORU-7 EIR/EIS Sections 2.6 and 3.2.3.7 explain that the portion of the water drawn from the subsurface slant wells that is determined to be groundwater originating from the Salinas Valley Groundwater Basin (SVGB), would be delivered to Castroville Community Services District (CCSD) as desalinated water in lieu of CCSD pumping an equivalent amount of groundwater. See Master Response 4, The Agency Act and Return Water.
- FORU-8 See Master Response 3, Section 8.2.3.5, for a discussion of whether the MPWSP would cause harm to other groundwater users. See EIR/EIS Section 4.4.5.2, Impact 4.4-4, and Master Response 8 for discussion of the MPWSP's impact on seawater intrusion.
- FORU-9 There is ample background information regarding the interconnection between the 180-Foot, 400-Foot, and deeper aquifers of the SVGB, which is based on numerous hydrogeologic studies in the SVGB region; see EIR/EIS Section 4.4.1.2. Graphical representation of the underlying hydrostratigraphy is presented in Figure 4.4-3, which is based on numerous soil borings and groundwater monitoring wells. Master Response 8, Section 8.2.8.1 provides supplemental information regarding the slant wells and the capture zone of source water. Master Response 7, The Deeper Aquifers of the Salinas Valley Groundwater Basin, provides additional information on the deeper aquifers (including the "900-Foot Aquifer" referred to in the comment).
- FORU-10 Regarding baseline reporting for groundwater conditions, see Section 8.2.11.4 of Master Response 11, CalAm Test Slant Well. Regarding the groundwater modeling used to assess potential impacts of project pumping, including peer review of the 2015 version of the model prepared by CalAm's consultant, and the 2016 version of the model prepared by a consultant to the Lead Agencies, see Master Response 12, The North Marina Groundwater Model v. 2016. The project's impacts on groundwater quantity and quality are discussed in Section 4.4, Groundwater Resources, Impacts 4.4-3 and 4.4-4.
- FORU-11 Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), describes how ERT technology relates to and has been addressed in the Final EIR/EIS.
- FORU-12 Regarding the Santa Barbara studies and the Dana Point well, see Master Response 11, Section 8.2.11.8. Santa Cruz rejected subsurface intakes because of the lack of sand cover over bedrock (Kennedy/Jenks Consultants, 2011). See also response to comment Marina-11 in Section 8.5.1. On the issue of outages and

interruptions, see Master Response 11, Section 8.2.11.5 and responses to comments Baer-29 and Baer-30 in Section 8.7.1 and Beech2-13 in Section 8.7.2.

The Draft EIR/EIS at page 3-15 explains that the site-specific field data collected during the pilot test well program are intended to inform the final design of the subsurface slant wells, the overall source water intake system, and the MPWSP Desalination Plant treatment system. The Draft EIR/EIS used the test slant well data in the groundwater modeling (see Master Response 11, Section 8.2.11.6, and Appendix E2, Section 4.2). The use of this EIR/EIS and how other issues that have been established in the record of this proceeding (including but not limited to economic, social, and need) will be used in decision making by the Lead Agencies, is explained in EIR/EIS Section 1.5.4.

- FORU-13 See response to comment FORU-2.
- FORU-14 EIR/EIS Section 4.8.1.2 explains the proposed desalination plant would be located in unincorporated Monterey County. Section 4.20, Socioeconomics and Environmental Justice, addresses potential construction-related and operational socioeconomic and environmental justice impacts on Marina, which is identified as a minority and low-income population. The Desalination Plant would not result in operational air quality emissions that would exceed any of the thresholds derived from applicable air quality plans. Additionally, as stated on Draft EIR/EIS page 4.14-38, mature trees along Charles Benson Road would screen or block views to the MPWSP Desalination Plant from the south and west. Long-term noise and traffic impacts associated with the Desalination Plant also would be minimal, even when considered in combination with existing and planned sources of noise and traffic; see EIR/EIS Sections 4.9.5 and 4.12.6.
- FORU-15 No proposed project facilities would be located within Marina State Beach or within Fort Ord Dunes State Park. See Section 8.4.3 for comments from the California Department of Parks and Recreation. These comments, and responses to these comments, address potential impacts on central dune scrub at Fort Ord Dunes State Park related to construction of the Transmission Main. Coastal retreat is anticipated to occur independent of the MPWSP; it is a baseline condition that will continue regardless of the proposed project, and the EIR/EIS analysis indicates the MPWSP would not impact, accelerate, or exacerbate the rate of coastal erosion, as explained in Section 4.2, Impact 4.2-10 (see Draft EIR/EIS pages 4.2-68 through 4.2-72).
- FORU-16 The effect of the proposed project on MCWD is explained in Master Response 3, Water Rights, Section 8.2.3.7. EIR/EIS Section 4.1.5, Project Consistency Analysis, describes the process undertaken in the Draft EIR/EIS to analyze the proposed project's consistency (or potential conflicts) with applicable general plans, specific plans, and regional plans, including Local Coastal Plans.

FORU-17 The Lead Agencies acknowledge the commenter's request for denial of EIR/EIS certification and project approval. This comment will be considered during the agencies' decision making process; see EIR/EIS Section 1.5.4.

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## References

Kennedy/Jenks Consultants, 2011. scwd2 Seawater Desalination Intake Technical Feasibility Study. Prepared for scwd2 Desalination Program, September. [http://www.scwd2desal.org/documents/Draft\\_EIR/Appendices/AppendixH.pdf](http://www.scwd2desal.org/documents/Draft_EIR/Appendices/AppendixH.pdf).

## 8.6.12 Responses to Comments from Just Water

- JW-1 EIR/EIS Section 2.6 addresses water rights. See also Master Response 3, Water Rights.
- JW-2 The commenter states that there is inadequate proof of “no harm” to the basin from seawater intrusion. EIR/EIS Section 4.4.5.2 presents the analysis of potential impacts of the proposed project on groundwater resources in the Salinas Valley Groundwater Basin, and concludes that impacts would be less than significant. See also EIR/EIS Section 2.6, as well as Master Response 3, Water Rights, Section 8.2.3.5 which addresses potential harm or injury to users in the basin, and Master Response 7, Deeper Aquifers of the Salinas Valley Groundwater Basin.
- JW-3 The proposed project would not take groundwater from the Marina Coast Water District. See EIR/EIS Section 2.6, as well as Master Response 3, Water Rights, Section 8.2.3.7, Effects on Marina Coast Water District, and Master Response 8, Project Source Water and Seawater Intrusion.
- JW-4 The comment is unclear about what “regional justice” is and how the proposed project “ignores” it “for a sustainable and protected water source.” Environmental justice is addressed in EIR/EIS Section 4.20, Socioeconomics and Environmental Justice. Impacts on the Salinas Valley Groundwater Basin are addressed in Section 4.4.5.2. See also Master Response 3, Water Rights, Section 8.2.3.5 which addresses potential harm or injury to the basin; Master Response 8, Project Source Water and Seawater Intrusion as well as Master Response 6, The Sustainable Groundwater Management Act.



## 8.6.13 Responses to Comments from Land Watch Monterey County

LWMC-1 Return water percentages are discussed in the EIR/EIS Section 4.4.4.2 and a description and explanation of the return water percentages and the calculation of those percentages are provided in Master Response 4, Agency Act and Return Water, Section 8.2.4.3. By November 2015, just as preparation of the Draft EIR/EIS was beginning, the test slant well at CEMEX was extracting water that was reported by the Hydrogeologic Working Group (HWG) to be in the range of 29,400 mg/L (see Table 3 in Geoscience, 2016), or 12 percent of ocean water salinity (33,500 mg/L), suggesting 12 percent was a reasonable upper limit.

LWMC-2 The MPWSP would **not** be able to meet all of the project objectives under the 12 percent return water scenarios. Table 5.2 in EIR/EIS Appendix E2 indicates 3,242 afy would be required for a 12 percent return water scenario in 2012 and 2073 for the proposed project at CEMEX and for Alternative 1 (Slant Wells at Potrero Road); 2,085 afy of return water would be required for the 6.4 mgd desalination plant (Alternatives 5a and 5b).

EIR/EIS Table 6.3-4 presents water supplies and demands during the Seaside Groundwater Basin replenishment period for the proposed project with 6 percent and 12 percent return water obligation and EIR/EIS Section 6.3.5.1 explains that the available supply would meet existing service area demand and water entitlements, and demand associated with the existing hospitality industry (12,845 afy), with a surplus of 209 or 1,829 afy, depending on the return water obligation. The table also compares available supply with the total 14,275 afy demand that the MPWSP is proposed to meet. Assuming a 6 percent SVGB return water obligation, there would be enough water to meet existing and anticipated demand. But assuming a 12 percent return water obligation, supplies would **not** be able to fully meet anticipated demand.

LWMC-3 CalAm's entire Monterey District includes more than the main distribution system and the Bishop, Hidden Hills, and Ryan Ranch satellite systems. CalAm's Monterey District includes the Monterey main distribution system and five satellite systems located along the Highway 68 corridor, as stated in EIR/EIS Section 2.2.1, Existing Water System. As stated in Section 2.2.1, two of these small systems, the Toro and Ambler systems, would not be served by the project and therefore, were not included in the project supply and demand assumptions. CalAm's Monterey District also includes two satellite systems located farther north and east of the project area (the Ralph Lane system north of Salinas and Chualar system to the east in the community of Chualar) that also are not included in the project. Only the main system and the three satellite systems that would be served by the MPWSP are included in the smaller population figure cited in this comment.

LWMC-4 See Master Response 3, Water Rights, Section 8.2.3.1.

- LWMC-5 See response to comment USEPA-4 in Section 8.3.5 for revised text of Mitigation Measure 4.11-1. Implementation of this revised measure, including the preparation and approval of a GHG Emissions Reduction Plan that ensures the approved project’s operational electricity use would result in net zero GHG emissions, would reduce impacts related to greenhouse gas emissions to less than significant. Revised Mitigation Measure 4.11-1 includes an option for the purchase of offsets (among several options for reducing or offsetting greenhouse gas emissions).
- LWMC-6 Because of the return water obligation, the proposed project would not produce enough surplus to justify a smaller project; see response to comment LWMC-2. See also response to comment LWMC-5; with the revisions to GHG Mitigation Measure 4.11-1, and the related revision to the conclusion of Impact 4.11-1 (incremental contribution to climate change from GHG emissions) to less than significant with mitigation, the EIR/EIS does not identify a significant impact for any resource that would require inclusion of a downsized alternative as mitigation. See also response to comment Surfrider-6 in Section 8.6.19.
- LWMC-7 See the discussion of lots of record in Master Response 13, Demand (Project Need) and Growth in Section 8.2.13.2, Demand Assumptions, and response to comment LWMC-6.
- LWMC-8 See the discussion under “Water Available for Growth” in Master Response 13, Section 8.2.13.4.
- LWMC-9 See the discussion of “Other approaches to estimating future water demands” in Master Response 13, Section 8.2.13.2, Demand Assumptions. Regarding the EIR/EIS use of MPWMD’s estimate of water demand associated with general plan growth, see the discussion of “Water Available for Growth” in Master Response 13, Section 8.2.13.4. Reliance on the CEQA documents prepared for jurisdictions’ general plans to characterize the impacts of growth that would be supported by project water supply is appropriate because general plans and related adopted plans and policies would guide the development decisions of any jurisdictions receiving project water. Project water not otherwise needed or reserved would be allocated to jurisdictions pursuant to MPWMD’s allocation process, which is yet to be determined for the MPWSP. More specific information about where or how this water would be used is not currently available. Therefore, more specific analysis of the impacts of future projects that could be supported by project water supply would be speculative.

See also response to comment LWMC-2; assuming a 6 percent SVGB return water obligation, there would be enough water to meet existing and anticipated demand, and there could be a surplus of between 209 and 1,829 afy, not the 2005 stated in the comment. This is consistent with the expectations in the General Plans, and the environmental consequences of this planned growth – whether it would be 836 or 7,316 (or 8,020) new dwelling units – have been largely addressed in the general plan CEQA reviews as well as in other, project-specific documentation. Some of the

identified indirect effects of growth are significant and unavoidable; others are significant but can be mitigated; see EIR/EIS Appendix J2.

- LWMC-10 See the discussion under “Water Available for Growth” in Master Response 13, Section 8.2.13.4.
- LWMC-11 See Master Response 3, Water Rights, Section 8.2.3.8, Effect of Annexation Agreement.
- LWMC-12 As stated in EIR/EIS Section 4.4.4.3, the State Water Resource Control Board (SWRCB, 2013, see EIR/EIS Appendix B2) reviewed the proposed MPWSP and provided specific investigation and modeling recommendations to demonstrate the project would not harm or cause injury to other legal water users. One of the three possible categories of injury that could result from the MPWSP was, “a reduction in groundwater elevations that require users to expend additional pumping energy to extract water from the basin.” This criterion was not included in the evaluation criteria (significance thresholds) applied to the CEQA/NEPA analysis of groundwater resource impacts because while CEQA/NEPA does not require an EIR/EIS to consider costs, the additional energy required to lift the water an additional foot in the handful of wells that may be affected would be insignificant. The active wells that may be susceptible to drawdown because they would be located within the slant well capture zone, are shown in EIR/EIS Table 4.4-10. The foreseeable injuries identified by the SWRCB, that overlying groundwater users could experience are presented and discussed in the EIR/EIS Sections 2.6.1 and 4.4.4.3 and Master Response 3, Section 8.2.3.5.
- LWMC-13 A significant reduction in well yields due to lower groundwater levels is defined as a substantial reduction in the volume of groundwater that a user is able to withdraw from the production well, and would apply equally to the proposed project and to the cumulative scenario. This is directly related to the degree of drawdown that the well would experience from MPWSP pumping. As discussed in the EIR/EIS Section 4.4.5.2, Impact 4.4-3, the neighboring wells that could be impacted by the MPWSP slant wells are projected to experience drawdown between 1 and 5 feet under current sea level conditions and less following several years of project operation as sea level rises (see EIR/EIS Figures 4.4-14 and -15). The projected additional drawdown in neighboring groundwater wells affected by MPWSP pumping is not expected to impact well yield. However, if a substantial reduction in well yield is observed and found to be a consequence of MPWSP slant well pumping, Applicant Proposed Measure 4.4-3 would provide an interim water supply and would require CalAm to begin developing a mutually agreed upon course of action to repair or deepen the existing well, restore groundwater yield by improving well efficiency, provide long term replacement of water supply, or construct a new well.
- LWMC-14 As discussed in the EIR/EIS Section 4.4.6, the cumulative analysis considers the cumulative projects (**Table 4.1-2**) that are within the geographic scope and involve

construction, development and use of a large yield production well. The only project of this type was the Granite Ridge Water Supply Project (No. 33), which the analysis determined would not combine with the effects of the MPWSP because these two projects are far enough apart and in different aquifer systems. The analysis also considered those projects that have the potential to pump groundwater and create a cone of depression that could possibly coalesce with the area of pumping influence of the MPWSP. Of those projects, the only pertinent project would be the Regional Urban Water Augmentation Project (RUWAP) Desalination Element (No. 31). The other projects in this category would likely use municipal supplies and not attempt to develop a water supply that depends on private groundwater extraction from either the 180-Foot Aquifer or 400-Foot Aquifer, which are impacted by seawater intrusion where these cumulative projects are located. If other projects did privately extract groundwater for supply, it would be from the deeper aquifers (also sometimes referred to as the 900-Foot Aquifer). The MPWSP would not extract groundwater from the deeper aquifers and the 2016 version of the North Marina Groundwater Model (NMGWM<sup>2016</sup>) projected that there would be no response in the deeper aquifers from MPWSP pumping; see Appendix E2.

As discussed in EIR/EIS Section 4.4.5.2 and further clarified in Master Response 8, Source Water and Seawater Intrusion, Section 8.2.8.4, the MPWSP slant wells would draw water at the coast from a capture zone, which would over time be recharged by seawater. The projected influence of the MPWSP wells is discussed in EIR/EIS Section 4.4.5.2 and shown graphically on Figures 4.4-13a through 4.4-16. The capture zone and the relationship to the cone of depression is shown in Master Response 8, Figures 8.2.8-1 and 8.2.8-2. The relationship between the cone of depression and the capture zone is shown on Figure 8.2.8-3. In essence, the capture zone and the associated groundwater response from the MPWSP slant well pumping would be confined to a localized area adjacent to the coast that, other than a minor drawdown response inland from the coast, would not extend to such a degree that it influences groundwater conditions in the inland regions of the SVGB. For that reason, the project would not have a cumulatively considerable contribution to impacts on water supplies or the advancement of seawater intrusion.

Cumulative projects that currently pump groundwater from the SVGB, or those that could in the future, are located outside the MPWSP area of pumping influence but the geographic scope of the cumulative analysis extended further inland, beyond the influence of the MPWSP groundwater pumping to consider other regional groundwater production projects. There were no cumulative projects within the area of MPWSP pumping influence or within the larger area of the geographic scope. As discussed in the EIR/EIS Section 4.4.5.2, Impact 4.4-4, the MPWSP would not exacerbate seawater intrusion, and MPWSP brackish groundwater/seawater extraction from the coast would be expected to retard future inland migration of the seawater intrusion front. The NMGWM<sup>2016</sup> projected the groundwater response under current sea level and after 63 years accounting for sea level rise. The NMGWM<sup>2016</sup> projected

that the area of influence from MPWSP pumping would eventually decrease because of higher sea levels at the coast.

LWMC-15 CEQA and NEPA do not make a distinction between cumulative impacts that are adverse or beneficial when determining what projects are necessary to consider in the cumulative analysis. The cumulative analysis presented in the EIR/EIS Section 4.4.6 identifies what projects, when combined with the MPWSP, would have a cumulative effect, either adverse or beneficial, on groundwater resources. In this case, the groundwater projects that were identified are those with region-wide effects that would also improve SVGB conditions. Furthermore, whether or not the beneficial cumulative impacts are mentioned as part of the analysis has no bearing on and does not change the overall impact conclusions. The proposed project would draw brackish groundwater and seawater from the coastal terrace deposits and Monterey Bay, and not from aquifers inland from the coast where other users are extracting groundwater for municipal, agricultural, and industrial uses. The MPWSP impacts on groundwater resources would be localized and would not extend beyond the area of influence of the slant well pumping, which is delimited, for the sake of the analysis, by the -1-foot drawdown contour. However, the EIR/EIS did conclude that the project would not exacerbate and would retard seawater intrusion, which is a regional beneficial effect. See EIR/EIS Section 4.4.5.2, Impact 4.4-4.

LWMC-16 The geographic scope of the groundwater resources cumulative analysis in the Salinas Valley Groundwater Basin was established to adequately encompass the 180/400-Foot Aquifer in the western portion of the Pressure Area and more than fully encompasses the area of influence from the MPWSP pumping. The maximum projected extent of influence from slant well pumping is shown in the EIR/EIS Figures 4.4-13a and 4.4-13b and in Master Response 8, Source Water and Seawater Intrusion, Figures 8.2.8-1 and 8.2.8-2. The geographic scope extends an additional 4 miles inland from the furthest projected inland extent of the MPWSP cone of depression and includes the entire north-south extent of the western Pressure Area and the entire Seaside Basin. This is appropriate due to the nature of the groundwater response from the MPWSP. The maximum projected MPWSP area of pumping influence (cone of depression) would only extend at most 4.5 miles inland and the actual capture zone would be located at the coast in an area containing brackish to saline groundwater, which is recharged directly by seawater in the Dune Sand and 180-Foot Aquifer. From a hydrogeological perspective, the geographic scope of the cumulative groundwater analysis is not arbitrary but is based on established hydrogeologic boundaries and an adequate inland distance to ensure that other regional projects that could combine cumulatively with MPWSP would be considered.

LWMC-17 The conclusion that the MPWSP's contribution would not be cumulatively considerable is based on the hydrogeologic setting and the groundwater response to slant well pumping. As explained in EIR/EIS Section 4.4.5.2 and further clarified in Master Response 8, Section 8.2.8.4, the effects to the underlying aquifers from slant well pumping would be confined to the coast where the groundwater is brackish to

saline and where the slant well capture zone is constantly recharged by seawater infiltrating through coastal terrace deposits. The effects of MPWSP pumping would not extend far enough inland to cumulatively contribute to the depletion of SVGB groundwater supplies or the violation of groundwater quality standards.

LWMC-18 As stated in the final paragraph of Section 4.4.6 (Impact 4.4-C), “Because the MPWSP combined with the possible RUWAP desalination element would not result in a significant adverse cumulative impact and may have beneficial consequences, and the Salinas Valley Water Project Phase II and the Interlake Tunnel would have beneficial effects, the cumulative effect of these four possible projects on groundwater resources would be less than significant.” This summarizes the above discussion that outlines in greater detail the expected beneficial cumulative impacts resulting from the proposed project and projects in the cumulative scenario.

LWMC-19 The MPWSP would not contribute to the depletion of groundwater supplies or the degradation of groundwater quality in the inland aquifers of the Pressure Area because the source water to the MPWSP would be the brackish to saline groundwater extracted from a coastal capture zone, which would initially be recharged by ambient, heavily brackish to saline groundwater and eventually by seawater. The project would not draw fresh groundwater from inland sources. As discussed in Master Response 4, Agency Act and Return Water, Section 8.2.4.1, CalAm has proposed to satisfy the Agency Act by annually calculating (based on water quality sampling from the slant wells) the percentage of supply water that originated in the SVGB as fresh water (i.e., the fresh water component of the brackish water drawn by the slant wells that originated in the SVGB). CalAm would then “return” to the SVGB that same amount of water by providing desalinated product water to the Castroville Community Service District (CCSD) in lieu of its pumping an equal amount of groundwater. The return water component of the MPWSP would recharge the 400-Foot Aquifer because of the reduced pumping by CCSD. The return water is not considered mitigation for the depletion of groundwater from inland regions of the SVGB. The projected 1- to 5-foot change in groundwater levels due to slant well pumping, as determined by the NMGWM<sup>2016</sup> would be a minor drawdown localized within the area of influence of the slant well pumping. Of the past, present, and foreseeable projects considered for the cumulative analysis, the only potential project near the area of influence that would contribute to the drawdown of groundwater levels is the RUWAP Desalination Element (No. 31). As stated in EIR/EIS Section 4.4.6, the MPWSP and a desalination project at MCWD, would not deplete the basin groundwater supply and could have a combined beneficial effect because the capture zone for inland flowing seawater would expand to the south and would retard the inland advance of the existing seawater intrusion front.

LWMC-20 See responses to comments LWMC-14, LWMC-17, and LWMC-19. The MPWSP would not contribute to the declining groundwater levels in the SVGB and would not contribute to overdraft elsewhere in the SVGB. However, the project could

provide a benefit in that it would reduce groundwater pumping in the CCSD service area, return water to the 400-Foot Aquifer, and contribute to retarding the advance of seawater intrusion.

- LWMC-21 In regard to the comment's footnote 7, see response to comment LWMC-12. Responses to comments LWMC-14, LWMC-17, LWMC-19 address the concerns expressed in this comment.
- LWMC-22 See Master Response 8, Source Water and Seawater Intrusion, Section 8.2.8.1 and 8.2.8.2 for additional clarification regarding the difference between the capture zone and the cone of depression. Water would not be drawn into the wells from the inland edge of the cone of depression. Groundwater currently flows landward from the inland extent of the capture zone to the inland edge of the cone of depression (see Figure 8.2.8-3). Drawdown of less than 1 foot could indeed extend farther than the -1-foot contour used to delimit the zone of MPWSP pumping influence, but a water level decline of less than 1 foot would not be considered a measurable or substantial drawdown, and would likely not be distinguishable from seasonal variations in groundwater levels.
- LWMC-23 The MPWSP would not contribute to the depletion of a groundwater supply because under steady state conditions, the proposed slant wells would draw over 95 percent of the required feedwater from Monterey Bay. See responses to comments LWMC-14, LWMC-17, LWMC-19, and LWMC-22. See also Master Response 4, The Agency Act and Return Water, Section 8.2.4.3 as well as EIR/EIS Appendix E3.

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## References

- Geoscience Support Services, Inc. (Geoscience), 2016. *Monterey Peninsula Water Supply Project, Test Slant Well Long Term Pumping Monthly Monitoring Report No. 7, 1-May-16 - 31-May-16*, June 15.
- State Water Resources Control Board (SWRCB), 2013. *Final Review of California American Water Company's Monterey Peninsula Water Supply Project*. July 31.



## 8.6.14 Responses to Comments from Pebble Beach Company

- PBC-1 As described in EIR/EIS Section 2.3.3.1, water entitlements totaling 380 afy were granted by the MPWMD to the Pebble Beach Company and the other fiscal sponsors of the wastewater reclamation project; the wastewater project saves substantially more water than the water entitlements represent. Because MPWMD has issued water permits associated with this entitlement, counting the total amount of the entitlements along with existing water demand would double count some water use associated with the entitlements. For the reasons discussed in Section 2.3.1.3, the EIR/EIS analysis assumed that of the 380 afy, entitlements totaling about 325 afy would not be reflected in existing service area demand; this amount was included with existing demand and other demands the MPWSP is proposed to meet. In response to this comment and comments from MPWMD, as well as the SWRCB's recognition of the Pebble Beach water entitlements in the CDO, the discussion of Pebble Beach water entitlements in the EIR/EIS has been revised to show that the remaining Pebble Beach entitlements are considered existing service area demand that CalAm is obligated to serve with or without the project. The Chapter 2 discussion of the Pebble Beach entitlements has therefore been moved from the aforementioned Section 2.3.3.1 to Section 2.3.1.3 of the Final EIR/EIS and other associated text revisions have been made throughout the EIR/EIS.
- PBC-2 See response to comment PBC-1.
- PBC-3 See response to comment PBC-1. Revisions to Section 6.3 recognize that the entitlements represent an existing obligation by CalAm to serve the associated properties, with or without the proposed MPWSP; that lack of water is not an obstacle to their development; and that water for these entitlements would therefore not be growth-inducing. These revisions do not affect the overall significance conclusions in Section 6.3.
- PBC-4 In response to this comment and recognition that neither MPWMD nor Monterey County have the authority to reassign the water entitlements or reallocate the associated water supply, the second paragraph under "Assumptions Regarding Allocation and Use of MPWSP Water Service Capacity" in Section 6.3.5.1 has been deleted. These revisions do not affect the overall significance conclusions in Section 6.3.

## 8.6.15 Responses to Comments from Point Blue Conservation Science

Point Blue-1 In response to this comment, the following text revisions have been made in the “Subsurface Slant Wells” discussion in Impact 4.6-1 in EIR/EIS Section 4.6.5.1:

The beach north and south of the site is subject to ~~relatively little~~ some disturbance from humans or dogs, ~~and, however, birds can readily use~~ access these areas during construction.

and,

Construction activities may temporarily displace birds that typically winter along the beach near the western portion of the Source Water Pipeline. ~~However, there is abundant, relatively undisturbed h~~ Habitat is available, located on the beach and in the dunes north and south of the project area ~~that is available~~ for wintering use during construction.

Point Blue-2 Draft EIR/EIS (page 4.6-136 in Impact 4.6-1) acknowledges that impacts on western snowy plover habitat are anticipated to be significant. Additionally, Draft EIR/EIS text has been revised to clarify that impacts would occur on both nesting and wintering western snowy plover habitat. See also response to comment CURE-Owens-13 in Section 8.6.2.

Point Blue-3 CEQA and NEPA require that potential project impacts be analyzed compared to existing (baseline) conditions (see Master Response 10, Environmental Baseline under CEQA and NEPA, for further discussion). Based on these existing conditions, which include ongoing coastal erosion, the Draft EIR/EIS (page 4.6-136, Impact 4.6-1) acknowledges that impacts on western snowy plover habitat are anticipated to be significant. See EIR/EIS Appendix C2 for an analysis of projected beach profiles under potential future conditions; both sea level rise and ongoing coastal erosion were considered and act in concert to move beach profiles inland, such that average beach width is anticipated to be maintained in this location; see EIR/EIS Figures 4.2-7 and 4.2-8 which show the anticipated beach profiles over time. As the bluff erodes, it maintains the beach width, as described in Impact 4.2-10.

Point Blue-4 Mitigation Measure 4.6-1d in EIR/EIS Section 4.6 requires restoration of temporarily impacted habitat and compensation for permanent loss of habitat. This measure has been revised to include performance standards to ensure that the restoration and compensation areas meet certain standards relative to the condition of the impacted area. The newly added performance standards require that native vegetation cover be at least 70 percent of baseline, and that no net increase in invasives occurs. These are consistent with Point Blue’s recommendations. These

compensation requirements would be described in the Habitat Mitigation and Monitoring Plan (HMMP) required in Mitigation Measure 4.6-1n. See Final EIR/EIS Section 4.6 for the revised Mitigation Measure 4.6-1n. The HMMP will describe the restoration and compensation requirements for impacts on all special-status species and sensitive habitats as described in Mitigation Measures 4.6-1d, 4.6-1e, 4.6-1f, 4.6-1h, 4.6-1m, 4.6-1o, and 4.6-2b. Each of these measures describes the restoration and compensation requirements, including performance standards for each species. Restoration and compensation requirements will be specific to each species, although some requirements may overlap.

- Point Blue-5 Based on consultation with USFWS, Mitigation Measure 4.6-1d in EIR/EIS Section 4.6 has been revised to no longer include an option to contribute funds to an existing restoration program because this would not likely be a feasible option that would be approved by local jurisdictions and regulatory agencies; therefore, the recommendation to require that such a restoration program be located in an area where recreational impacts on plovers are adequately managed no longer applies to this measure. Nonetheless, in response to this comment, the measure has been revised to ensure that the Habitat Mitigation and Monitoring Plan (as described in Mitigation Measure 4.6-1n) will include measures to manage recreational activities to benefit western snowy plover.
- Point Blue-6 The revised Mitigation Measure 4.6-1d specifies a 3:1 compensation ratio. This ratio has been revised for consistency with permitting application documents, which specify a 3:1 compensation ratio, which is assumed to be the minimum that USFWS will require to compensate for permanent impacts.

## 8.6.16 Responses to Comments from Public Trust Alliance

- PTA-1 The issues raised in this comment are discussed in Master Response 13, Demand (Project Need) and Growth, under the headings “Existing Annual Service Area Demand,” “Supply Assumptions,” and “Water Available for Growth.”
- PTA-2 The EIR/EIS does not ignore the analysis prepared by MPWMD with respect to hospitality sector rebound demand. See response to comment MPWMD-59 in Section 8.5.7 for a discussion of MPWMD’s range of results, of which 194 afy is the lowest, and the EIR/EIS’ consideration of this analysis.

There are two distinct ways in which the EIR/EIS uses estimates of demand to analyze the project. The first is to evaluate the project *as proposed by CalAm* to determine its potential environmental effects, including potential growth-inducing effects. As noted in Section 2.3.2.1, which describes CalAm’s estimate as part of the basis for sizing the project as proposed, the MPWMD’s direct testimony to the CPUC in February 2013 concluded that CalAm’s estimate of demand related to tourism rebound (i.e., 500 afy) was reasonable. However, that section of the EIR/EIS also acknowledges that this estimate may be too high, and refers readers to the analysis of growth inducement in Section 6.3. As discussed in EIR/EIS Section 6.3.5.1, in addition to considering MPWMD’s analyses of commercial sector demand, the EIR/EIS preparers conducted an independent analysis that included several comparisons, and concluded that the increased demand associated with economic recovery of the hospitality industry could be closer to 250 afy, and thus assumed that the remaining 250 afy of CalAm’s estimate of 500 afy could in fact be available for new development, rather than recovery. Thus, in its analysis of the potential impacts of the project as proposed, the EIR/EIS does not rely solely on CalAm’s estimates of demand. The estimates used in the growth inducement analysis are supported by substantial evidence including MPWMD’s analysis and the independent analysis undertaken for the EIR/EIS.

The second way the EIR/EIS uses demand estimates is to determine whether feasible alternatives exist that would meet most of the basic objectives of the project, which requires an analysis of the reasonableness of – and assumptions supporting – those objectives. As discussed in Master Response 13, Demand (Project Need) and Growth, Section 8.2.13.5, a sensitivity analysis was conducted to determine if using 250 afy instead of 500 afy, in addition to other adjustments in demand, could support the approval of a smaller desalination plant than proposed. Further, as also discussed in Master Response 13, additional analysis prepared for this Final EIR/EIS suggests that 500 afy is a reasonable estimate of increased demand that could occur under a fully recovered economy at existing commercial businesses, industries, and institutional/public sector uses. Regarding elasticity of demand, as used in the EIR/EIS the term occupancy rates refers to the occupancy levels or use rates (e.g., the relative proportion of occupied to unoccupied lodging rooms or restaurant seats at visitor-serving businesses), not the prices of rooms (“room rates”) or restaurant meals.

PTA-3 See the discussion of Table 13 water rights under the heading “Supply Assumptions” in Master Response 13, Demand (Project Need) and Growth. Note also that 12,270 afy was used to represent demand of existing customers, as discussed in Master Response 13 under “Existing Annual Service Area Demand.” The EIR/EIS does not assume that demand would be higher in wet years than in normal water years; an extended rainy season in wet years can reduce outdoor irrigation needs, reducing water demand for that purpose. The basis for the assertion that “the DEIR does incorporate increased demand during wet years” is unclear. However, following the end of a drought, some relaxation of voluntary, temporary (behavioral) conservation efforts could lead to somewhat higher demand than during a drought. Operation of the ASR system is predicated on water being available for storage in wetter periods or years for use in dryer periods or dryer years. Although the SWRCB’s CDO currently requires CalAm to use any Carmel River water diverted to ASR storage within the same year so that available ASR water is used to reduce unlawful diversions from the Carmel River, when CalAm is no longer unlawfully diverting Carmel River water (e.g., following implementation of a new water supply project such as the MPWSP), CalAm will be allowed to manage carry-over storage for greater flexibility in operating the ASR system. The ASR system could then be used to store water over a period of years for use in dry years

PTA-4 See responses to comments MCWD-168 and MCWD-170 in Section 8.5.2.

PTA-5 EIR/EIS Section 6.4, Project Consistency with Monterey Bay National Marine Sanctuary Desalination Guidelines, states that the guidelines are *non-regulatory guidelines* (italicized for emphasis) developed to help ensure that any future desalination plants in the Sanctuary would be sited, designed, and operated in a manner that results in minimal impacts on the marine environment. The consistency assessments included in Section 6.4 are meant to assist the Superintendent of MBNMS with decision-making concerning the special use permit and permit authorizations and any terms or conditions that may be necessary to ensure that MBNMS resources are protected. Response to comment Marina-151 in Section 8.5.1 addresses maximization of wastewater recycling. Regarding mitigation of greenhouse gas emissions, see responses to comments PTA-11 and PTA-12, and regarding the comment about sea level rise and potential erosion, see response to comment PTA-6, below.

PTA-6 As summarized in Section 4.2.1.3 of the EIR/EIS and described in more detail in Appendix C2, Analysis of Historic and Future Coastal Erosion with Seal Level Rise, the sea level rise projection used to assess the proposed project is based on the 2013 state guidance. NRC (2012) projects an upper range of sea level rise of 66 inches by 2100.

The comment’s reference to “the Assessment Report from the IPCC from 2016” is unclear, and no specific citation is provided in the letter. The International Panel on Climate Change (IPCC) 2014 report is the IPCC’s Fifth Assessment Report. The IPCC

is currently working on its sixth Assessment Report, which is scheduled for completion in 2022. As per the IPCC's press release of April 28, 2017: "[Assessment Report] 6 will assess scientific findings that have been published since the IPCC's last comprehensive report, the Fifth Assessment Report (AR5), which was completed in 2014" (IPCC, 2017). The Lead Agencies are not aware of and were unable to locate an IPCC Assessment Report from 2016 that has bearing on this comment.

EIR/EIS Figure 4.3-1 shows "Surface Water Resources in the Project Area" and does not reference sea level rise. Rather, Figure 4.3-3, "Areas Subject to Sea Level Rise in the Project Area," shows areas subject to sea level rise in 2100, referencing a 2009 report by The Pacific Institute cited in Section 4.3, Surface Water Hydrology and Water Quality.

The summary of the IPCC Fifth Assessment Report on Draft EIR/EIS page 4.3-15 is revised to clarify that the report actually states that up to 7 meters is potentially possible over a millennium or more (not by 2099) and that realizing this amount of sea level rise would require near-complete collapse of the Greenland ice sheet (which is dependent upon the amount of future warming and not certain to occur). Some of this qualification was included in the Draft EIR/EIS's footnote 16 on page 4.3-15. This statement has been revised in the Final EIR/EIS, as follows:

The more recent Assessment Report predicts mean sea level could, depending on future emissions, rise by up to 7 meters (23 feet) over a millennium or more, assuming near-complete loss of the Greenland ice sheet globally by 2099 (IPCC, 2014, p. 12).<sup>16</sup>

The associated footnote 16 has been deleted to avoid repetition.

One of the citations on Draft EIR/EIS page 4.3-15, the National Research Council (NRC) *Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012), was and remains the latest available federal study of the sea level science and projections specific to the west coast. The findings from this report were adopted by California as official state guidance (California Ocean Protection Council, 2013). Therefore, the EIR/EIS's use of the sea level rise projections from the NRC (2012) study was consistent with current state guidance and adopted best available science at the time of its publication (see below regarding recent updates to state guidance).

As indicated by the three references for sea level rise predictions in EIR/EIS Section 4.3.1.4 (i.e., IPCC, 2014; NRC, 2012; and Pacific Institute, 2009), there is a range of sea level rise projections, and these projections continue to be updated in response to new observations and scientific analysis. For all sea level rise projections, the uncertainty increases as more distant future times are considered. Thus, the difference between 2100 sea level rise projections of 55 inches (Pacific Institute, 2009) and 66 inches (NRC, 2012) is probably best viewed as reflecting inherent uncertainty about the future. These two projections are based on different information and

assumptions, and due to uncertainty, it is not possible to say one particular projection of sea level rise, particularly when considered to the nearest inch, is “best.” This uncertainty stems from the unknowable future greenhouse gas (GHG) emissions and the climate’s response to these scenarios.

Since the preparation of the Draft EIR/EIS, new scientific studies of sea level rise projections have been released. In preparation for the 2018 updates to the state’s sea level rise guidance (California Ocean Protection Council, 2017), California agencies reviewed the latest sea level rise projections (Cayan et al., 2016; Griggs et al., 2017). These recent studies confirm that the expected range of sea level rise by 2100 is within a range of 3 to 6 feet, similar to the NRC (2012) projections of 17 to 66 inches cited in the Draft EIR/EIS. In addition to the expected range, the studies acknowledge that an extreme sea level rise scenario, resulting from rapid ice sheet loss, cannot yet be ruled out, and could result in sea level rise of nearly 10 feet by 2100. Although current science cannot resolve the likelihood of this extreme scenario, these recent studies do provide new assessments in the form of probability estimates for projected sea level rise. For the highest GHG concentration scenario, Cayan et al. (2016) estimates that 2100 sea level rise has a 50 percent probability of exceeding 4.5 feet and 0.5 percent probability of exceeding 8.6 feet. Similarly, Griggs et al. (2017) estimates that 2100 sea level rise has a 50 percent probability of exceeding 2.5 feet and 0.5 percent probability of exceeding 5.9 feet. Note that both these cases are for the scenario in which GHG emissions continue to rise through 2100, and therefore represent no or little reduction in present-day emission trends. If GHG emissions are reduced, as proposed in the international Paris Agreement of 2015, GHG concentrations and hence sea level rise will likely be less.

With respect to the specific instance of sea level rise analysis as applied to the MPWSP in Figure 4.3-3, this figure is intended to indicate the regional extent of potential coastal hazards by 2100. To do so, the figure includes the available regional coastal hazard mapping, which is from the Pacific Institute (2009). At the time of the Pacific Institute study, the upper range of sea level rise was projected to result in 55 inches by 2100. Since the hazard zones in this figure are for 2100, and are based on the upper range of sea level rise projections, this figure adequately represents the potential coastal flooding facing the MPWSP project.

For the trajectory that arrives at 66 inches by 2100 (NRC, 2012), the projected sea level rise by 2060 is 28 inches (Table 4, Appendix C1). This 28 inches of sea level rise is used in the coastal erosion analysis in Appendix C2. In the coastal erosion analysis, sea level rise is not only assumed to increase mean water levels, but also to accelerate sand dune erosion faster than historic erosion rates and to bring the potential erosion from the 100-year storm event further inland. In its review of the coastal erosion analyses in Appendix C2, another coastal engineering firm found the approach of Appendix C2 to be reasonable and the resulting erosion predictions to be conservative in their predictions of maximum possible landward erosion extents (Sea Engineering, 2014).



As discussed above, the amount of sea level rise used to assess potential impacts is consistent with the upper end of the projected sea level rise range. Therefore, the EIR/EIS does not underestimate the degree to which structures may be exposed to erosion and flooding.

The slant wells would be buried underground, and therefore not subject to surface flooding. The well head vaults would be located above 30 feet NAVD as shown in Figures 4.2-7 and 4.2-8. The present-day base flood elevation for the 100-year coastal event, including wave run-up, is 18 to 21 feet NAVD (FEMA, 2017). Therefore, the well head vaults would not be exposed to coastal flooding hazard for the upper range of projected sea level rise, which is 28 inches or 2.3 feet by 2060.

The potential coastal erosion, including accelerated erosion due to the upper range of projected sea level rise and 100-year storm events up to 2060, was mapped horizontally and vertically. As shown in Figure 4.2-7, the test well head vault may be exposed to erosion at 2060 in the event of a 100-year storm event. As shown in Figure 4.2-8, the well head vaults for the main set of slant wells are not expected to be exposed to erosion at 2060 even for the upper range of sea level rise and a 100-year storm event. As per Mitigation Measure 4.2-9, Slant Well Abandonment Plan, coastal erosion would be monitored by CalAm annually, and when any of the slant wells may be exposed within 5 years, CalAm would be required to prepare a plan for abandoning the threatened wells. The threatened wells would be abandoned according to well destruction standards and regulatory permitting requirements. Sea walls would not be used to adapt the slant wells to coastal erosion.

As noted by Cayan et al. (2016) and Griggs et al. (2017), the possibility of an extreme sea level rise scenario that exceeds the upper range of expected projections cannot yet be ruled out. Under an extreme scenario, sea level rise could reach 9.3 feet by 2100 (Griggs et al., 2017). In the event that this scenario comes to pass, most of the sea level rise would occur in the second half of the 21<sup>st</sup> century. Therefore, even for the most extreme (and therefore very unlikely) sea level rise scenario, the main wells are not likely to face erosion during most or all of their functional lifespan, and if exposure does become likely to occur, Mitigation Measure 4.2-9 would address this.

- PTA-7 See the discussion under “Impacts of Growth” in Master Response 13.
- PTA-8 See the discussion under “Water Available for Growth” in Master Response 13.
- PTA-9 CEQA Guidelines Section 15126.2(a) requires analysis of the significant environmental impacts of a project and Section 15126.2(d) requires consideration of a project’s growth-inducing impacts. Chapters 4 and 5 of the EIR/EIS evaluate the environmental impacts of the MPWSP and MPWSP alternatives, respectively, including the direct growth-inducing impacts of project construction and operation, while Section 6.3 evaluates the indirect growth-inducing impact of the water supply provided by the project. Therefore, Section 4.8.5 evaluates the effects of project construction and

operation (e.g., construction and operation of the slant wells, desalination plant, pipelines and related infrastructure) on land use and recreation consistent with the significance criteria provided in Appendix G of the CEQA Guidelines and NEPA guidance, relying on and consistent with conclusions in EIR/EIS Section 4.19 regarding the project's potential direct growth-inducing impact, while as shown in Table 6.3-9, growth indirectly induced by the project water supply would result in significant traffic, land use, and recreational impacts. These separate conclusions regarding direct and indirect impacts are not contradictory, and are addressed in separate sections of the EIR/EIS because the cause of growth inducement (i.e., direct employment vs. water supply) differs substantially and merits separate, in-depth discussion. The significant traffic, land use, recreational, and other impacts described in Section 6.3 that were identified in the General Plan CEQA documents of jurisdictions that would be served by the project are the basis for the EIR/EIS's conclusion that the project's indirect growth inducing impact would be significant and unavoidable.

- PTA-10 See the discussion under "Impacts of Growth" in Master Response 13.
- PTA-11 Subsequent to the release of the Draft EIR/EIS, Greenhouse Gas (GHG) Emissions Mitigation Measure 4.11-1 has been revised to include a net zero indirect operational GHG emissions requirement for project-related electricity use (see response to comment USEPA-4 in Section 8.3.5 for specific revisions to this measure, and Impact 4.11-1 discussion in Final EIS/EIR Section 4.5.11 for revised discussion based on this measure). The first item identified in the revised measure's emission reduction loading order is for CalAm to obtain renewable energy from on-site solar photovoltaic (PV) panels and/or from the adjacent Monterey Regional Waste Management District (MRWMD) landfill-gas-to-energy (LFGTE) facility. Any remaining indirect emissions associated with electricity use would be off-set through procurement of renewable energy from off-site sources, procurement and retirement of Renewable Energy Certificates, and/or procurement and retirement of carbon offsets.
- PTA-12 As described in EIR/EIS Section 4.18.5.2, the analysis of project-related operational energy demand considers the change in total system-wide demand with the project compared to baseline system-wide energy consumption. Thus, the analysis does not "assume that none of the existing supplies and operations would be ongoing," rather, it properly analyzes the change compared to baseline (baseline consumption is not attributable to the project and therefore is not a project impact). The comment is unclear regarding which significance criterion is alleged to have been disregarded; all evaluation criteria listed in Chapter 4 have been evaluated as described in individual resource sections. With respect to Mitigation Measure 4.11-1 for GHG impacts, see response to comment PTA-11. Revisions to this measure include enforceable performance standards and a suite of feasible options for achieving such standards, and do not constitute deferral of mitigation.

PTA-13 The comment does not specify the source of “CARB’s mandates to employ less energy intensive water infrastructure;” however, EIR/EIS Section 4.11.2.2 describes CARB’s action measure W-3: Water System Energy Efficiency, from the Climate Change Scoping Plan. With this measure, CARB has set a 20 percent energy use reduction target from 2006 levels. The GHG Emissions Reductions Plan that would be implemented pursuant to Mitigation Measure 4.11-1 would include a commitment by CalAm to incorporate all available feasible energy recovery and conservation technologies; or, if CalAm finds that any of the technologies will not be feasible for the project, the Plan shall clearly explain why such technology is considered to be infeasible. This provision of the mitigation measure is consistent with the intent of CARB’s Measure W-3; however, as explained in Impact 4.11-3, the CPUC cannot substantiate that the proposed project’s electricity use would be reduced by 20 percent. As described in response to comment PTA-11, above, Mitigation Measure 4.11-1 has also been revised to include a net zero indirect operational GHG emissions requirement for project-related electricity use, which is consistent with the comment’s recommendation to obtain or produce onsite sufficient renewable power to reduce emissions below the 2,000 metric tons CO<sub>2</sub>e per year threshold.

PTA-14 The California Constitution is not a plan or policy against which the project must be judged. Nonetheless, it is not expected that the project would be inconsistent with Article X, Section 2 of the Constitution, which states in pertinent part:

[T]he general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.

There is no basis to conclude that use of seawater, with an incidental amount of brackish water, is a waste or unreasonable use of water. Indeed, the development of the new water source can be characterized as a reasonable and beneficial use of water. See Master Response 3, Water Rights, for additional discussion.

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## References

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## 8.6.17 Responses to Comments from Public Water Now

### 8.6.17.1 Responses to Comments from Public Water Now – Letter 1

PWN1-1 The California Energy Commission is not listed in EIR/EIS Table 3-8 (Anticipated Permits and Approval) because they do not have any permit authority over the proposed MPWSP. The discussion of the planned retrofit of the once-through cooling system at Moss Landing Power Plant, and the cumulative effects of the retrofit for each alternative in Chapter 5.4 that include an open water intake at Moss Landing, was not omitted, but is discussed for these alternatives as follows:

- Alternative 2 in Section 5.5.5.5 on Draft EIR/EIS page 5.5-120,
- Alternative 3 in Section 5.5.5.6 on Draft EIR/EIS page 5.5-125, and
- Alternative 4 in Section 5.5.5.7 on Draft EIR/EIS page 5.5-128.

For clarification, the planned retrofit of the once-through cooling system at Moss Landing Power Plant has been added to Table 4.1-2 and Figure 4-1 as cumulative project No. 60, and the text in Section 5.5.5 been revised to acknowledge that the planned retrofit by the power plant would not offset the significant adverse cumulative impact attributable to entrainment and impingement at the Moss Landing alternatives that propose to use screened open water intakes. However, because the MPWSP would result in no impingement or entrainment of fish or invertebrate species (as discussed on Draft EIR/EIS pages 4.5-52, 4.5-53, and 4.5-68), the planned retrofit of the once-through cooling system at Moss Landing Power Plant is not included in the cumulative impact analysis for the MPWSP.

This clarification results in no changes to the conclusions regarding the cumulative effects of the MPWSP or alternatives.

PWN1-2 The Sustainable Groundwater Management Act (SGMA) is discussed in the Draft EIR/EIS Section 4.4.2.2 on page 4.4-37. See also Master Response 6, The Sustainable Groundwater Management Act.

PWN1-3 The comment is not clear regarding what authority the CPUC may claim as superior to local governments, or what other materials may have been omitted that could support other options. See response to comment PWN1-2 and Master Response 6 regarding the relationship of the SGMA to the project.

### 8.6.17.2 Responses to Comments from Public Water Now – Letter 2

PWN2-1 The water supply challenges facing the Monterey Peninsula have been documented in the Draft EIR/EIS in several places. Section 1.3 (Project Objectives and Purpose and Need), describes the overdrafting of the Carmel River and the Seaside Basin, SWRCB Order 95-10, and the Monterey County Superior Court Adjudication; the order and the adjudication are further discussed in Section 2.2.3 and Section 2.2.4, respectively. The MPWSP objectives, and purpose and need, are discussed again in

the alternative analysis at Section 5.1.2.1. CalAm's history of proposing water supply projects in response to these challenges, including the New Los Padres Dam and Reservoir, the Carmel River Dam and Reservoir, and the Coastal Water Project (and the North Marina Project and the Regional Project) are discussed in Section 5.2.

- PWN2-2 The conflict of interest issue is discussed in the Draft EIR/EIS in Section 1.4.3, which notes that the CPUC made the groundwater data files available for public review, and the CPUC employed the Lawrence Berkeley National Laboratory to conduct an independent evaluation of that data. The results of that evaluation were provided in Appendix E1. See also Master Response 5, *The Role of Hydrogeologic Working Group (HWG) and its Relationship to the EIR/EIS*, which addresses this issue among other issues related to this group.
- PWN2-3 See Master Response 2 regarding source water components and definitions. The proposed slant wells are described in Draft EIR/EIS Section 3.2.1.1 and are shown on Figures 3-3a and 3-3b, including a table with lengths of proposed well casing above and below mean high water. See also Table 3-2, which shows the lengths of permanent slant wells seaward of mean high water.
- PWN2-4 See Master Response 11 regarding the test slant well. Specifically, Section 8.2.11.2 describes the City of Marina's review process and that the city declined to adopt its *Draft Initial Study and Mitigated Negative Declaration for the California American Water Slant Test Well Project*. Section 8.2.11.3 describes the California Coastal Commission CEQA review process for the test slant well. In response to this and other similar comments, footnote 2 in the Executive Summary (and other locations where similar text appears in the EIR/EIS) has been revised to clarify these agencies' actions and processes regarding consideration of the test slant well.
- PWN2-5 The impacts from the MPWSP on the groundwater resources of the Salinas Valley Groundwater Basin (SVGB) are not ignored. Potential impacts on groundwater resources in the SVGB, as well as water rights related to other users of the basin, are clearly identified as an area of controversy in the Executive Summary. The impacts of the proposed project on the groundwater elevations in the SVGB, and the area that is the MCWD Service Area, are presented as drawdown contour maps in the Draft EIR/EIS and are discussed in Section 4.4, Groundwater Resources. See also Master Response 14, *CEMEX Settlement Agreement*, regarding impacts on future water supply.
- PWN2-6 The Draft EIR/EIS concludes in Section 4.4.5 (Direct and Indirect Effects of the Proposed Project) that impacts on the groundwater basin would be less than significant and the water resources of the MCWD and the City of Marina would not be jeopardized. The Applicant Proposed Measure described at the end of Impact 4.4-3 recognizes the long-term nature of the proposed project and the need to provide continued verification that the project would not contribute to lower groundwater levels in nearby wells within the SVGB. So, as part of the project, CalAm proposes to work

with the Monterey County Water Resources Agency to expand the existing regional groundwater monitoring program to include the area where groundwater elevations are anticipated to decrease by 1 foot or more plus 1 mile, and to make whole any pumper who is affected by project pumping, including MCWD. This Applicant Proposed Measure is detailed in the Draft EIR/EIS at page 4.4-74.

PWN2-7 See response to comment PWN2-3.

PWN2-8 The Draft EIR/EIS explains in Section 5.3.1.1, SWRCB and the California Ocean Plan, that the SWRCB prefers subsurface intakes, but allows surface water intakes where subsurface intakes are not feasible or economically viable. A citation to the Ocean Plan, which defines terms, was provided in that section (Draft EIR/EIS page 5.3-2). However, for clarification, the definition of “feasible” from the Ocean Plan is provided as a revision in Final EIR/EIS Section 5.3.1.1, as follows:

Section 13142.5 of the California Water Code requires new or expanded coastal industrial facilities, including desalination plants, to use the “best available site, design, technology, and mitigation measures feasible” to minimize the intake and mortality of marine life. The SWRCB prefers subsurface intakes, but allows surface water intakes where subsurface intakes are not feasible or economically viable. For the purposes of Water Code Section 13142.5(b) and implementation of the Ocean Plan, “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” as defined in Appendix I of the Ocean Plan. (SWRCB, 2016)

Because this definition of “feasible” is the same as that used under CEQA, this revision causes no change in the consideration of which alternatives are feasible in the EIR/EIS. The Draft EIR/EIS presents the CEQA requirements for alternatives analyses and provides a citation to CEQA Guidelines Section 15126.6 and the corresponding definition of “feasible” in Section 5.1.1.1 (Draft EIR/EIS pages 5.1-2 and 5.1-3).

In Section 5.2, Alternatives Not Evaluated in Detail, “. . . projects were determined to be politically, legally, economically, or technically infeasible.” In Section 5.3, Alternatives Development, Screening and Evaluation Process, the Draft EIR/EIS explains in Footnote 6 that, “NEPA requires alternatives to be reasonable, or feasible, which could include consideration of whether the alternative is capable of complying with regulations governing desalination plants in order to receive the required regulatory approval.”

PWN2-9 See Master Response 5, which addresses two separate conflict of interest issues related to Geoscience and Dennis Williams, and clarifies the role of the HWG in relation to this EIR/EIS. See also response to comment PWN2-2.



PWN2-10 EIR/EIS Section 1.3.1.1 describes the three federal actions that may be taken by MBNMS on the proposed project, including authorization of a Coastal Development Permit to be issued by the City of Marina for CalAm to drill into the submerged lands of the Sanctuary to install a subsurface source water intake system. It does not address the approval process that was appealed to the CCC following the City of Marina's denial of the Coastal Development Permit (CDP) for the test slant well. See response to comment PWN2-4.

PWN2-11 Footnote 4 in the Draft EIR/EIS qualified the word "pipeline" in one of the federal proposed actions that MBNMS will take on the proposed MPWSP: "issuance of a special use permit to CalAm for the continued presence of a pipeline conveying seawater to a desalination facility." If the pipeline(s) did not extend seaward of the mean high water line, MBNMS would not require this permit. Regarding the location of slant well screens and the nature of source water for the MPWSP, see Master Response 2. As to the issue of water rights, please see Draft EIR/EIS Section 2.6, as well as Master Response 3, Water Rights.

PWN2-12 Footnote 5 on Draft EIR/EIS page 1-8 compares the North Marina Project, not the MPWSP, to the Coastal Water Project. For clarity, the footnote has been revised as follows:

"The key differences between ~~this~~ the North Marina Project alternative . . ."

PWN2-13 The project setting and background discussion in Draft EIR/EIS Section 1.4 provides context about a project that is no longer under consideration. For clarity, the sentence has been revised as follows: "It included vertical ~~seawater~~ intake wells on coastal dunes located south of the Salinas River and north of Reservation Road." Regarding definitions and composition of source water for the MPWSP, see Master Response 2.

PWN2-14 In addition to being available at the CPUC in San Francisco, the Draft EIR/EIS was available for review at these locations in the project area:

- MBNMS, 99 Pacific Avenue, Building 455a, Monterey
- Castroville Public Library, 11160 Speegle Street
- Marina Public Library, 188 Seaside Avenue
- CSU Monterey Bay Library, 100 Campus Center, Seaside
- Seaside Public Library, 550 Harcourt Avenue
- Carmel Valley Public Library, 65 W. Carmel Valley Road
- City of Marina Community Development Department, 209 Cypress Avenue
- City of Seaside Community Development Division, 440 Harcourt Avenue
- MCWRA, 890 Blanco Circle, Salinas
- MPWMD, 5 Harris Court, Monterey
- MRWPCA, 5 Harris Court, Monterey

The Draft EIR/EIS also was made available online at [http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/comms\\_n\\_docs.html](http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/comms_n_docs.html) and at [www.regulations.gov/#!docketDetail;D=NOAA-NOS-2016-0156](http://www.regulations.gov/#!docketDetail;D=NOAA-NOS-2016-0156). Information about the availability of the document to review in person or online was provided in public notices for the availability of the Draft EIR/EIS. All supporting documents referenced in the Draft EIR/EIS were made available online at <https://drive.google.com/drive/u/2/folders/0B63ty1hxcSNhV2JvMU15UW9VcHc>, also accessible via <https://tinyurl.com/MPWSPRefs>. This link was provided on the CPUC website for the project.

The Coastal Water Project (CWP) is no longer under consideration and the Final EIR for that project is relevant to the MPWSP only in the context of background on projects that preceded the current application. Therefore, print copies of the CWP Draft and Final EIR (2009) are available for public review at the CPUC in San Francisco, with prior arrangements. Additionally, the commenter requested a copy of the CWP Final EIR on September 20, 2016, and a CD was immediately provided to the commenter by US Mail.

PWN2-15 Draft EIR/EIS, Section 1.4.1 introduces the Coastal Water Project, while Section 1.4.2 introduces the MPWSP and explains how it is different from the Coastal Water Project. The commenter does not provide evidence to support the opinions and judgements expressed in the comment. Water rights are addressed in Master Response 3, and a significant and unavoidable impact with respect to inconsistency with the City of Marina's Local Coastal Land Use Plan was identified in Draft EIR/EIS Section 4.6, Terrestrial Biological Resources.

PWN2-16 See response to comment PWN2-4 and Master Response 11.

PWN2-17 Regarding the use of per capita demand to estimate overall service area demand, see the discussion "Other approaches to estimating future water demands" in Section 8.2.13.1 of Master Response 13, Demand (Project Need and Growth). The comment cited Draft EIR/EIS Section 2.3.3.2, Hospitality Industry Rebound, which addresses changes in demand at hospitality-related businesses that could occur under an improved economy, not residential or dwelling unit water use. An increase in demand at such businesses would result from increased occupancy rates at area businesses absent any physical expansion. Therefore, the approach taken in the Draft EIR/EIS to assess the effects of the recession – by reviewing changes in commercial sector water consumption before and since the recession started – was an appropriate and reasonable approach to gauge the effect of the recession and thereby the degree to which water consumption could increase under an improved economy. For clarification, the discussion of the comparisons of commercial sector water consumption presented in the Draft EIR/EIS has been expanded in this Final EIR/EIS (see Section 6.3.5.1 of Final EIR/EIS). In response to a comment by MPWMD, the analysis of commercial sector water consumption before and since the recession started was expanded to include the industrial and public authority

sectors. See the discussion in Section 8.2.13.1 of Master Response 13, associated with economic recovery, for more information.

PWN2-18 See response to comment LWMC-4 in section 8.6.13, which explains that CalAm's Monterey District includes more than the main distribution system and the Bishop, Hidden Hills, and Ryan Ranch satellite systems, resulting in the different descriptions of service population.

PWN2-19 Draft EIR/EIS Section 2.3.4 presents information from CalAm's Monterey District Urban Water Management Plan for informational purposes, as stated on Draft EIR/EIS page 2-15. The Management Plan, not the Draft EIR/EIS, assumed a rate of 115 gallons per capita per day for purposes of estimating future water demand while the Draft EIR/EIS used historical water use for the estimates of peak demand. The Management Plan estimate of per capita demand was provided as insight into CalAm's expectations regarding population growth and water demand in the Monterey District. Note also that Appendix K describes the residential per capita water usage in the area reported to the state during the drought emergency, not gross per capita usage presented in the Management Plan. Regarding the suggestion to use residential per capita water use to estimate the project's growth inducing impact, refer to the discussion of "Other approaches to estimating future water demands" in Section 8.2.13.1 of Master Response 13.

PWN2-20 The comment is unclear as to the source of the "theory that MPWSP wells will draw more groundwater toward the pumping locations." As described in the cited reference and explained in Draft EIR/EIS Section 2.5.1, the MPWSP wells would draw less groundwater over time, not more, as evidenced by the increase in salinity measured in the test slant well and reported in the publicly available Test Slant Well Monthly Monitoring Reports.

PWN2-21 CalAm would not be allowed to return water to a customer of the MCWD service area because MCWD has exclusive rights to water service within this area. Although CalAm could deliver return water directly to MCWD, as described in the Draft EIR/EIS in Section 2.5.1, the decision to provide the return water to the CCSD was a result of a June 2016 Settlement Agreement by several parties to the proceeding. CEQA Guideline Section 15126.6(f)(3) states that an "EIR need not consider an alternative . . . whose implementation is remote and speculative."

PWN2-22 Water districts and facilities that provide drinking water to residents and businesses in the project area are presented in Draft EIR/EIS Section 4.13.1.4 and include MCWD, CalAm, Seaside Municipal Water System, and the CCSD. While the slant wells and some pipelines would be located in the City of Marina, Draft EIR/EIS Section 3.1 explains the project area extends from Castroville in the north to the City of Carmel in the south, the desalination plant would be located in unincorporated Monterey County, and pipelines would be located in Marina, Seaside, Sand City, Monterey, and Carmel. The SWRCB and the water rights discussion in the Draft

EIR/EIS Section 2.6 focuses on what “harm” may be caused by proposed project pumping regardless of jurisdiction. To that end, known active supply wells within the vicinity of the proposed MPWSP slant wells are identified in Table 4.4-10 (including the MCWD wells), their impacts on groundwater are discussed in Section 4.4.5.2, and their location relative to project-induced drawdown is shown on Figure 4.4-15, Figure 4.4-15, and Figure 4.4-16.

Regarding water rights and related questions of project feasibility, see Master Response 3. The issue of ratepayer liability is outside the scope of CEQA and NEPA requirements; however, as described in Draft EIR/EIS Section 1.5.4.1, the CPUC decision to grant or deny a Certificate of Public Convenience and Necessity for the project (i.e., project approval) would follow a process after certification of the EIR during which the Commission will consider any other issues that have been established in the record of the proceeding, including but not limited to economic issues, social impacts, specific routing and alignments, and the need for the project. Therefore, comments regarding ratepayer liability are relevant to and will be considered as part of that proceeding.

PWN2-23 The Draft EIR/EIS evaluated returning water to CCSD as well as returning water to the CSIP. Consistent with CEQA Guidelines Section 15126.6(a), an EIR “need not consider every conceivable alternative”, as explained in Draft EIR/EIS Section 5.1.1. See also response to comment PWN2-21 and Master Response 4 regarding the Agency Act and return water.

PWN2-24 As explained in the Draft EIR/EIS Appendix A (Notice of Preparation and Notice of Intent Scoping Report) introduction, the CPUC formally began the process of determining the scope of issues and alternatives to be evaluated in the Draft EIR (a process called “scoping”) when it issued a Notice of Preparation (NOP) of an EIR for the proposed project on October 10, 2012. In accordance with Section 102(2)(C) of NEPA, the NOAA Office of National Marine Sanctuaries published a Notice of Intent (NOI) to prepare an EIS for the proposed project on August 26, 2015 (80 Fed. Reg. 51787). MCWD submitted comments on the NOP/NOI on October 10, 2015, as detailed in Appendix A at page A-28. The Lead Agencies subsequently contacted MCWD during the preparation of the Draft EIR/EIS in December 2015 and again in March 2016, seeking information about MCWD’s proposed plans for desalination or another water supply project, as well as groundwater data from their monitoring wells near Reservation Road. Information from that response is included in EIR/EIS Table 4.1-2 at Project No. 31, Regional Urban Water Augmentation Project (RUWAP) Desalination Element, and is referenced in the table as MCWD, 2016. The MCWD did not have a representative on the HWG because they were not a signatory to the Settlement Agreement that established it.

PWN2-25 See Master Response 11 regarding the test slant well and further modeling; specifically, see Section 8.2.11.5 regarding results of the long-term pump test and Section 8.2.11.6 regarding the use of test results in further modeling. See Master

Response 5 regarding the HWG. The Lead Agencies do not have jurisdiction over this group or the duration of its work.

PWN2-26 The quoted text refers to evidence evolving “throughout” the proceeding; the decision completes the proceeding. See Master Response 11 regarding the use of test slant well data and Master Response 3 regarding water rights. Regarding ratepayer liability, see response to comment PWN2-22.

PWN2-27 The cited text refers to Draft EIR/EIS Section 4.4. As described on Draft EIR/EIS page 4.4-50, the exact quantity of water to be returned annually would vary and would be determined each year using a mathematical formula. For groundwater modeling and impact analysis purposes in the EIR/EIS, it is estimated that somewhere between 0 and 12 percent of the source water withdrawn for the project would comprise water originating from the inland aquifers, and thus would be returned to the basin. However, the model cannot predict the return water percentage of a given future year, because the model uses historic hydrology, and predicts what would happen if history repeated itself. See also Master Response 4 regarding the Agency Act and return water.

The discussion of causing “no harm” to SVGB water users was provided in Draft EIR/EIS Section 2.6.2, and clarification is provided in Master Response 3, regarding water rights.

PWN2-28 See Master Response 5, Sections 8.2.5.2 and 8.2.5.3, as well as response to comment PWN2-27.

PWN2-29 See Master Response 3 regarding water rights, which explains that the feasibility studies related to establishing water rights are separate from the CEQA/NEPA evaluation process.

PWN2-30 See response to comment PWN2-21 and Master Response 4 regarding the Agency Act and return water.

PWN2-31 See response to comment PWN2-3 regarding Draft EIR/EIS information on well locations and Master Response 2 regarding source water components and definitions, including discussion of the placement of well screens relative to the seafloor and groundwater aquifers. See also Master Response 3 regarding water rights.

PWN2-32 The Draft EIR/EIS Section 3.2.1.1 explains that, “Each well would be screened for approximately 400 to 800 linear feet at depths corresponding to both the Dune Sand Aquifer and the underlying 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin.” Table 3-2 provides the length of permanent slant wells seaward of the 2020 Mean High Water line, and that is illustratively shown in Figure 3-3b. The portion of each well that is not seaward of MHW is therefore, landward of the sea. Nothing in this response triggers a need for recirculation per CEQA Guidelines Section 15088.5. See also Master Response 2.

- PWN2-33 See response to comment PWN2-32.
- PWN2-34 Draft EIR/EIS Figure 3-3a shows both the City of Marina boundary and the Mean High Water (MHW) line at 2020. They are, in fact, different lines. All of the wells would be located within the City of Marina, and their authority over the MPWSP is described in Draft EIR/EIS Section 1.5.4.3. Because some portion of the wells would extend beyond MHW, MBNMS also has authority over the MPWSP, which is described in Draft EIR/EIS Section 1.3.2.
- PWN2-35 See response to comment PWN2-4.
- PWN2-36 Table 3-2 presents the uncertainty of the effects of coastal retreat relative to the proposed slant wells in 2020, depending on what factors may (or may not) occur. Figure 3-3b is an illustrative cross sectional view of the subsurface slant wells, and also includes a table of well lengths, but only presents the Table 3-2 offshore lengths labeled as 2020 MHW. The comment does not explain what does not line up between the table and figure, and why they do not represent the facts. See also the analysis of historic and future coastal erosion with sea level rise in Appendix C2 of the Draft EIR/EIS.
- PWN2-37 See Master Response 11 regarding the test slant well; specifically, see Section 8.2.11.8, New Technology, which discusses the use of slant wells, and Section 8.2.11.9, Slant Well Angle, which discusses the proposed change in drilling angle. Regarding ratepayer liability, see response to comment PWN2-22.
- PWN2-38 This response addresses two separate issues mentioned in the comment: CEQA and NEPA baseline, and baseline conditions related to the test slant well and its results. There was no specific report on the CEQA and NEPA baseline; it is integrated into the EIR/EIS. See Master Response 10, Environmental Baseline under CEQA and NEPA.
- The HWG prepared a separate baseline report for the test slant well, as described in Master Response 11. It was referenced in the Draft EIR/EIS Section 4.4 as Geoscience, 2015b and continues to be publicly available at:  
[https://docs.wixstatic.com/ugd/28b094\\_bd1db648e7b44f32a9676dfc7bf71989.pdf](https://docs.wixstatic.com/ugd/28b094_bd1db648e7b44f32a9676dfc7bf71989.pdf)
- PWN2-39 See Section 8.2.11.9 of Master Response 11.
- PWN2-40 Section 4.4.6 includes consideration of the RUWAP Desalination Element (No. 31) in the analysis of cumulative groundwater impacts (see Draft EIR/EIS page 4.4-89).
- PWN2-41 See Master Response 11 regarding the test slant well. Specifically, Section 8.2.11.5 describes the long-term pump test. The text cited in the comment does not, nor is it intended to suggest that pumping of the test slant well has been continuous since April 2015.

PWN2-42 The cited statement is true and is provided in the context of Coastal Act policies related to public works facilities (in the Draft EIR/EIS section titled “Public Services and Utilities”). The California Coastal Act Section 30260 encourages coastal-dependent industrial uses to locate within existing sites, as the proposed slant wells would be located within the existing CEMEX site and the Alternative 1 slant wells would be located within an existing parking lot. The Draft EIR/EIS explains consistency with the Marina Local Coastal Land Use Plan (LCLUP) in Section 4.6.2. Specifically, in Table 4.6-4 on page 4.6-105, this issue is summarized as follows: “Installation of the subsurface slant wells, Source Water Pipeline, new Desalinated Water Pipeline, and new Transmission Main, and maintenance of the subsurface slant wells would occur within special status species habitats (including wetlands and including those defined as primary and secondary habitat in the City of Marina LCLUP). This issue is addressed further in Impacts 4.6-1, 4.6-2, 4.6-3 4.6-4, 4.6-6, 4.6-7, and 4.6-8. Mitigation measures are provided to reduce or avoid impacts on special-status species habitats. However, as described in Impact 4.6-4 at page 4.6-223 and -224, construction of these facilities, and maintenance of the subsurface slant wells, would be inconsistent with the City of Marina LCLUP, a significant and unavoidable impact.”

PWN2-43 Draft EIR/EIS Section 4.13 evaluates the potential impacts on public services and utilities resulting from implementation of the MPWSP. The Marina LCLUP does not contain policies specific to the topic of public services and utilities. Consistency with the City of Marina LCLUP is discussed in Section 4.6, Terrestrial Biological Resources, and in other sections as relevant to specific policies in the LCLUP. See also response to comment PWN2-42.

PWN2-44 See response to comment PWN2-8.

PWN2-45 The MBNMS Desalination Guidelines indeed recommend that “desalination plant proponents should pursue collaborations with other water suppliers and agencies currently considering water supply options in the area to evaluate the potential for an integrated regional water supply project. This should include an evaluation of other potential desalination locations and alternatives, as well as other forms of water supply.” (NOAA, 2010, Section D.1) The Desalination Guidelines explain that the regional desalination approach “would include consideration of alternative water supply strategies, adjacent jurisdictions, potential for co-locating desalination discharges with discharges from other facilities to minimize impacts, as well as a comprehensive analysis of both site-specific impacts of each proposed plant, and the cumulative impacts associated with having multiple facilities in a region. These impacts would include both potential direct environmental impacts, as well as indirect impacts, such as increased population growth that would be facilitated by providing additional water supplies to a region.”

This EIS/EIS describes how the process leading to the proposed MPWSP has been consistent with the spirit of this guideline. As explained in EIR/EIS Section 5.2.1,



CalAm proposed the MPWSP as the result of a multi-year planning effort, during which various entities have proposed several options intended to meet the water supply needs of the Monterey Peninsula. Since the SWRCB issued Order 95-10, CalAm and the MPWMD collaborated to develop ASR Phases 1 and 2; CalAm is working with the City of Sand City in the operation of the Sand City Desalination Plant; and CalAm, the Monterey Peninsula Regional Water Authority (MPRWA, which includes the cities within the Monterey District), and MRWPCA and MPWMD (the partners in the Pure Water Monterey GWR Project), have been working together to promote and support the GWR Project.

CalAm and MCWD were partners on the Regional Project, a CPUC-approved alternative to the Coastal Water Project, described in EIR/EIS Section 1.4.1. EIR/EIS Section 5.2, Alternatives not Evaluated in Detail, describes attempts to develop alternative water supply projects based on greater collaboration with other water suppliers and agencies that have not been successful; Section 5.2.4 explains how the CalAm-MCWD public-private partnership resulted in continuing and ongoing litigation, and how CalAm ultimately withdrew its support for the Regional Project and reapplied to the CPUC for a CPCN for the MPWSP. EIR/EIS Section 5.3 screened and evaluated 13 intake options, seven outfall options, and three desalination plant options for the MPWSP. Sections 5.4. describes two desalination plant alternatives (Alternative 3, the DeepWater Desal Project, and Alternative 4, the People's Project) that would rely on different owners/operators, as well as Alternatives 5a and 5b, that would rely on collaboration between CalAm, and MRWPCA, and MPWMD in order to collectively meet the project objectives. See also response to comment MCWD-188 in Section 8.5.2.

Throughout the current proceeding at the CPUC (Proceeding A.12-04-019), CalAm and several dozen other parties to the proceeding have collaborated over the years on issues such as project sizing, project financing, and alternatives, including the relationship between desalination and the use of recycled water (see EIR/EIS Sections 1.1, 2.1, 2.4, and Project No. 59 in EIR/EIS Table 4.1-2 and EIR/EIS Section 2.5.3.1). CalAm has entered into at least three draft settlement agreements over the years with various parties to the proceeding, including MPWMD, MRWPCA, MCWRA, MPRWA, and CCSD, that address among other things: effects of the proposed project on groundwater resources (see Master Response 5), Salinas Valley Return Water (see EIR/EIS Sections 2.5.1 and 4.20.2.3), and brine discharge monitoring (see EIR/EIS Section 4.3.5.2).

MBNMS continues to recommend that CalAm pursue collaborations with other water suppliers, agencies, and communities regarding regional water supply solutions and will consider past and ongoing collaboration in its decision-making for this project.

PWN2-46 Per capita water use is one, but not the only, or necessarily the optimal, method of estimating future water demands in an area. See response to comment PWN2-19 and the discussion of "Other approaches to estimating future water demands" in Master

Response 13, Section 8.2.13.1. The comment is unclear regarding what data support the claim that one acre-foot per year would support five families; however, the assumptions used in EIR/EIS Section 6.3 are supported by substantial evidence, as cited and explained therein.

- PWN2-47 See Master Response 11 regarding the test slant well. Specifically, Section 8.2.11.5 describes the long-term pump test and provides a definition of “long-term” for the purposes of this test.
- PWN2-48 See Master Response 11 regarding the test slant well. Specifically, Section 8.2.11.4 describes how the HWG established baseline water and Total Dissolved Solids (TDS) levels in the monitoring wells per Special Condition 11 of the CDP prior to commencement of the long-term pump test.
- PWN2-49 See response to comment PWN2-2 and Master Response 5 (Section 8.2.5.5).
- PWN2-50 See response to comment PWN2-2 and Master Response 5 (Section 8.2.5.5).
- PWN2-51 The conflict of interest issues are addressed in response to comment PWN2-2 and in Master Response 5, Section 8.2.5.5. The HWG members are presented in Master Response 5, Section 8.2.5.2.
- PWN2-52 The document cited in the comment, Draft EIR/EIS Appendix C3 at page 50, reports the average salinity for the central California coastal region was calculated at 33.6 psu based on historical salinity measurements. The difference in near-shore salinity was compared for the period 1950-1976 and 1977-1999 and very little variation was found, demonstrating that the estimated salinity is representative of baseline.
- As explained in Draft EIR/EIS Section 4.3.1.3, near-shore surface salinities vary from 33.2 psu to 34.0 psu. Streams and rivers can locally affect salinity, but even during flood conditions, when freshwater inputs to Monterey Bay peak (e.g., from the Salinas River), the salinity of Monterey Bay surface waters does not fall below 31 psu.
- As reported in Draft EIR/EIS Appendix D1, monthly measurement of conductivity-temperature-depth were made over the MRWPCA outfall, as well as north, south, and west of the outfall, over a two-year period and are displayed in Table 1 of Appendix D1. The denominator, like ocean salinity, changes with the seasons and could range from 33.34 psu to 33.89 psu.
- PWN2-53 This comment addresses Special Condition 11 of the test slant well CDP, which in and of itself is not the subject of the MPWSP Draft EIR/EIS. The baseline report is cited in Draft EIR/EIS Section 4.4 as Geosciences, 2015b. See also response to comment PWN2-38 and Master Response 11.
- PWN2-54 See response to comment PWN2-21.

- PWN2-55 See Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), which describes ERT and its application to this EIR/EIS.
- PWN2-56 See Master Response 9, which describes the relationship of available ERT data to modeling.
- PWN2-57 See Master Response 9.
- PWN2-58 The comment is based on language from Appendix I2, Component Screening Results – Component Options Not Carried Forward, specifically from Intake Option #12 – Subsurface Slant Wells at Reservation Road on p. I2-11. This intake option was eliminated, and is therefore not part of the proposed project. Regarding potential impacts related to MCWD’s provision of water service and the location of the proposed project’s slant wells, see response to comment PWN2-5.
- PWN2-59 Appendix J1 presents an analysis of the consistency of the MPWMD’s 2006 estimate of future water needs within CalAm’s service area, with growth projections anticipated in the general plans of the jurisdictions within CalAm’s service area. MCWD is not in CalAm’s service area and therefore, not included in either the future water forecast, or the analysis of growth policies. The comment provides no evidence that the MPWSP may interfere with MCWD plans; see response to comment PWN2-6. The MCWD plans are not considered irrelevant to the EIR/EIS; the RUWAP Desalination Element (No. 31) is listed as a potential cumulative project in Draft EIR/EIS Table 4.1-2, and potential cumulative impacts on groundwater resources are described in Draft EIR/EIS Section 4.4.6 at page 4.4-89.
- PWN2-60 Draft EIR/EIS Appendix G2 is an analysis of CO<sub>2</sub> off-gassing from the subsurface intakes and not a discussion of a targeted percentage of seawater in the slant well. The discussion represents the position that water from the test slant well would be a worst case bookend to the analysis, as described on page 5 of Appendix G2; conversely, all seawater would be the “best case” in the context of CO<sub>2</sub> off-gassing. The support for the 96 percent used in the analysis is cited on page 5 as GeoScience, 2014b. However, ocean water percentage was not relevant to the analysis. Appendix G2 relied on the average of five water quality sampling events from the test slant well during September 2016, as shown on Table 1 on page 6 of Appendix G2.
- PWN2-61 To estimate the concentration of carbon dioxide in the reverse osmosis (RO) concentrate, Appendix G2 modeled the RO process using sampled water quality of the two source waters: the “worst-case” test slant well water, and the “best-case” seawater (see response to comment PWN2-60). It did not use ocean water percentages. ERT data would not be relevant to this analysis since it would not provide any evidence of what is being extracted at the wells. See Master Response 9.

### 8.6.17.3 Responses to Comments from Public Water Now – Letter 3

- PWN3-1 Regarding the feasibility of slant well technology see Master Response 11. As explained in Draft EIR/EIS Section 1.5.4, if the CPUC certifies the Final EIR/EIS, it will then decide whether or not to grant the Certificate of Public Convenience and Necessity (CPCN) for the MPWSP, as proposed or modified. In addition to environmental impacts addressed during the CEQA process, the CPCN process will consider any other issues that have been established in the record of the proceeding, including but not limited to economic issues, social impacts, specific routing and alignments, and the need for the project.
- PWN3-2 The baseline report prepared by the HWG is addressed in the response to Comment PWN2-38. The conflict of interest is addressed in response to comment PWN2-2 and Master Response 5.
- PWN3-3 This comment is addressed in Master Response 5 and in Master Response 11,
- PWN3-4 This comment is addressed in Master Response 5.
- PWN3-5 CalAm’s March 14, 2016, amended application to the CPUC and MBNMS (Exhibit H to the amended application, cited in the Draft EIR/EIS Section 5.4 as CalAm, 2016), describes the permanent slant wells as being screened for “approximately 400 to 800 linear feet at depths corresponding to both the Dune Sand Aquifer and the underlying 180-Foot Equivalent Aquifer of the Salinas Valley Groundwater Basin.” See also response to PWN2-32. As described in Draft EIR/EIS Section 4.4.1.2 on page 4.4-6, the Dune Sands Aquifer is not a fresh water aquifer; it is directly influenced and controlled by seawater and most of the water has been intruded by seawater and is considered saline to brackish. Increased seawater intrusion or loss of source water would cause harm, but the Draft EIR/EIS found neither condition would occur as a result of the proposed project. See response to comment PWN2-6 and Master Response 3 regarding water rights.
- PWN3-6 See response to comment PWN3-5.
- PWN3-7 The conflict of interest is addressed in response to comment PWN2-2 and Master Response 5.
- PWN3-8 For a discussion of the definition of feasible, see response to comment PWN2-8. For a discussion of the feasibility of slant well technology, see Master Response 11, CalAm Test Slant Well.

Installation and long-term maintenance cost estimates for the proposed slant wells are based on both the test slant well at CEMEX and the well at Dana Point. Regarding ratepayer liability, see response to comment PWN2-22. Regarding the Sustainable Groundwater Management Act (SGMA), see Master Response 6.

The SWRCB drives the CDO deadlines with input from the community. That process is not under the control of the Lead Agencies.

The history of water supply projects in response to SWRCB Order 95-10 and the Seaside Groundwater Basin adjudication are described in EIR/EIS Section 1.4 as well as Section 5.2.

EIR/EIS Chapter 5 includes an extensive alternatives analysis that considered Ranney wells (see EIR/EIS Sections 5.3.3.5, 5.3.3.11, and 5.3.3.13). Section 5.3.6.1 concludes on page 5.3-30 that Ranney wells do offer an opportunity to replace slant well technology at either the CEMEX or the Potrero Road site if necessary. The DeepWater Desal project and the People's Project were both evaluated as alternatives to the MPWSP in EIR/EIS Section 5.5. See also Master Response 15, Alternative Desalination Projects – Status, Information Sources, and Cumulative Scenarios.

Regarding the operation of the test slant well, MCWD has no permit authority over the slant well tests; regardless, the environmental review of the operation of the test slant well pursuant to its existing permits is outside the scope of this EIR/EIS; see Master Response 11, Sections 8.2.11.2 and 8.2.11.3.

The lead agencies' purpose in a CEQA and/or NEPA analysis is to assess the environmental impacts of a proposed project and to consider alternatives to the project. An EIR/EIS does not assess the "leadership" of the project proponent. Further, the cited statement from the Settlement Agreement about CalAm's position on the feasibility of the proposed project is not relevant to the analysis in the EIR/EIS, in which the Lead Agencies address both the feasibility of and the full range of environmental impacts of the project as proposed using independent judgment. As noted in EIR/EIS Section 1.5.4.1, in addition to the environmental impacts addressed during the CEQA/NEPA process, the CPUC will consider any other issues that have been established in the record of the proceeding, including but not limited to economic issues, social impacts, specific routing and alignments, and the need for the project.

## 8.6.18 Responses to Comments from Salinas Valley Water Coalition and Monterey County Farm Bureau

- SVWC/MCFB-1 The comments regarding the Return Water Settlement Agreement are acknowledged. The Draft EIR/EIS analyzes impacts of the proposed project based in part on the implementation of this settlement agreement.
- SVWC/MCFB-2 This comment describes the presence of seawater intrusion and various efforts to date to address this issue, but does not comment on the Draft EIR/EIS. The information presented in the EIR/EIS is consistent with this comment.
- SVWC/MCFB-3 See EIR/EIS Section 2.6, Water Rights, and Master Response 3, Water Rights. With respect to localized water quality changes, see Master Response 8, Project Source Water and Seawater Intrusion.
- SVWC/MCFB-4 As explained in EIR/EIS Section 2.6, Water Rights, and Master Response 3 Water Rights, the EIR/EIS employs the criteria set forth in the SWRCB Report to reach the determination of whether it appears feasible that CalAm would possess water rights for the project. The commenter opines that the return water component of the project is required in order for CalAm to have such water rights. As noted in Master Response 3, the return water element of the project is proposed by CalAm; thus, consideration as to whether CalAm would have water rights without that project component is unnecessary.
- SVWC/MCFB-5 The comment in support of the approval of the Return Water Settlement Agreement is acknowledged.
- SVWC/MCFB-6 The EIR/EIS correctly concludes in Impact 4.4-4 that the seawater intrusion front would migrate back toward the ocean, a less-than-significant impact. The increase in salinity would only occur in the capture zone near the coast at the CEMEX site; areas outside the capture zone would not be affected. See Master Response 8, Section 8.2.8.2, which discussed this issue further. In addition, implementation of the Return Water Settlement Agreement is part of the proposed project, not a mitigation measure. See Section 2.5.1 of the EIR/EIS for further discussion of the Return Water Settlement Agreement.
- SVWC/MCFB-7 This comment does not relate to the EIR/EIS, but will be considered by the Lead Agencies during their decision-making processes for this project.

## 8.6.19 Responses to Comments from Surfrider Foundation

- Surfrider-1 Responses to specific comments regarding compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), and the adequacy of the Draft EIR/EIS, are provided below, where the commenter provides enough specificity to allow a substantive response. With respect to compliance with MBNMS policies and regulations, the Draft EIR/EIS described compliance with MBNMS policies and regulations where applicable in resource-specific discussions and in the discussion of compliance with MBNMS Desalination Guidelines in Section 6.4. Footnote 2 of the comment states that the EIR/EIS contains an incomplete discussion of the requirements necessary for a national marine sanctuary to authorize prohibited activities, such as the discharge of brine concentrate. The EIR/EIS explains the process for making decisions on prohibited activities in detail in Section 1.3.2, and MBNMS is ensuring that National Marine Sanctuaries Act requirements are being closely followed. Regarding the comment on 15 CFR 922.49(a)(1) which requires the project applicant to notify the Director of the Office of Ocean and Coastal Resource Management, or a designee, within 15 days of the date of filing of the application for an authorization, the Applicant filed a permit application with MBNMS in 2015 and has continued to keep both agencies apprised on application processing. The authorizations relevant to the MPWSP are described in EIR/EIS Section 1.3.2 and include authorizations of a Coastal Development Permit and a National Pollutant Discharge Elimination System (NPDES) permit or other discharge authorization. This section of 15 CFR 922.49 does not pertain to CalAm's application to the CPUC.
- Surfrider-2 See response to comment USEPA-4, in Section 8.3.5, which describes the revised mitigation measure for greenhouse gas emissions, and see Final EIR/EIS Section 4.11.5 for the revised significance conclusions of less than significant with mitigation with respect to the proposed project's GHG emissions impacts. Revised Mitigation Measure 4.11-1 meets the CEQA criteria for mitigation as outlined in the comment. Subpart b specifies a performance standard that governs implementation of this measure: that CalAm must achieve net zero operational GHG emissions. With respect to practical considerations that preclude the development of specific measures at the time of project approval, Subpart a requires that CalAm retain a qualified professional to prepare and submit a GHG Emissions Reduction Plan to the Lead Agencies that quantifies GHG emissions and identifies feasible energy recovery and conservation technologies. Although the EIR/EIS has quantitatively estimated GHG emissions from the proposed project, further project design would refine these estimates, necessitating this quantification step prior to construction. Additionally, Subpart b requires that CalAm achieve the net zero operational GHG performance standard by implementing offsetting procedures in a specified loading order. The exact use of these procedures cannot be known at this time due to the uncertainty of the total availability of the various



sources specified in the measure, such as energy from the adjacent landfill-gas-to-energy (LFGTE) project. Finally, substantial evidence supports the conclusion in the Final EIR/EIS that the mitigation, as carried out based on the performance standards and loading order specified, will be feasible and will be effective in achieving the net zero operational GHG emissions standard, which will ensure that total project GHG emissions are below identified thresholds of significance. Based on the Final EIR/EIS GHG emissions estimate, the project would need to reduce or offset approximately 6,885 metric tons of CO<sub>2</sub>-equivalent GHGs per year, and this would be feasible based on a combination of on-site or adjacent renewable energy sources, renewable energy sources that are procured from PG&E or another provider, Renewable Energy Certificates, and Carbon Offsets. As stated in Table 4.1-2 (see Project No. 58), about half of the MPWSP Desalination Plant operational energy requirements could be met with renewable electricity generated at the LFGTE facility, leaving approximately half of the annual operational emissions to be offset by other means. There are many different types and adequate numbers of carbon offsets currently available that can be purchased for the project (CARB, 2017).

Surfrider's suggested list of measures that could reduce the project's GHG emissions includes several measures relating to building and landscape efficiency. Although all of these measures will be considered and several of these measures are likely to be incorporated into project design as required by Subpart a of Mitigation Measure 4.11-1. Building and landscape-related energy consumption accounts for a relatively small portion of the operational energy demands of the proposed project – the operational energy associated with pumping, desalinating, and delivering water and disposing of brine accounts for the majority of operational electricity demands, which in turn account for the majority of operational GHG emissions. The recommendation to require installation of solar photovoltaic (PV) panels on-site has been incorporated into revised Mitigation Measure 4.11-1. The recommendations related to construction vehicle efficiency are addressed in Mitigation Measures 4.18-1 (Construction Equipment and Vehicle Efficiency Plan).

- Surfrider-3 See response to comment USEPA-4, in Section 8.3.5, and Surfrider-2, which address the issue of requiring CalAm to purchase offsets as one part of a strategy to achieve net zero GHG emissions from operational electricity use. The strategy outlined in revised Mitigation Measure 4.11-1 would reduce or offset emissions regardless of whether operational electricity is sourced from in-state or out-of-state generation. Note that Assembly Bill 398, signed into law on July 25, 2017, extends the California Cap and Trade program to 2030.
- Surfrider-4 The commenter is correct that Draft EIR/EIS page 4.2-45 states that an analysis of the effects of the existing environment on the project “is provided for information purposes.” However, in both the project-level and cumulative analyses, the EIR/EIS provides a thorough and complete analysis of coastal hazards related to

sea level rise and coastal erosion and the effects of such changes on the project facilities. EIR/EIS Section 4.2.4.5 explains the approach to the coastal retreat analysis, the extensive coastal retreat study conducted, and the fact that CalAm had already responded to that study by moving the proposed location of 9 out of 10 of the proposed slant wells (all but the one that is to be converted from the existing test slant well) to a location further from the coast so as not to become exposed during the project life. Impact 4.2-10 examines the effects of the projected long-term coastal retreat and sea level rise *on the project* and how that effect on the project could exacerbate or accelerate coastal erosion. Thus, the EIR/EIS does in fact comprehensively evaluate the impacts of the existing and projected environmental conditions on the project. (We note, however, that the legal cases cited by the commenter deal with a requirement to address the impacts of coastal erosion on residents and users, not on utility infrastructure). The analysis concludes that the well casings and concrete wellhead vault of the converted test slant well could become exposed during the life of the project, possibly accelerating or exacerbating natural processes. This is classified as a significant impact of the project (and therefore, is not treated as merely informational). Mitigation Measure 4.2-10 is included to ameliorate this impact. Furthermore, though the analysis forecasts that only the converted test slant well could likely be affected by coastal erosion and retreat, the mitigation measure is proposed for all 10 of the project slant wells. Similarly, Impact 4.2-C finds that the project would result in a cumulative impact on increased scour and erosion resulting from projected sea level rise. Mitigation Measure 4.2-10 is proposed to reduce the project's contribution to that cumulative effect to a less than significant level. Also, see response to comment Marina-36, in Section 8.5.1.

As to the project's contribution to sea level rise based upon greenhouse gas emissions, see responses to comments USEPA-4, in Section 8.3.5, and Surfrider-2. With the revisions described therein, the proposed project's contribution to the primary and secondary adverse effects of global climate change would be negligible and likely well within the sea level rise projections employed in the coastal retreat study upon which the impact analysis of the EIR/EIS was based.

Surfrider-5 EIR/EIS Section 4.2.4.5 describes the Coastal Retreat Study (Appendix C2), which examined coastal processes and the likelihood for the slant wells and their wellheads to become exposed on the beach. The study estimated coastal retreat both laterally (using coastal erosion hazard zones) and vertically (using coastal profiles). Because of the anticipated rate of coastal retreat, the originally proposed locations of the slant wells were relocated further inland specifically to avoid being exposed and accelerating or exacerbating erosion (see Draft EIR/EIS page 4.2-69, not page 4.2-60).

EIR/EIS Figures 4.2-7 and 4.2-8 present the erosion profiles and envelopes for the test slant well and the production wells, respectively. The wellhead of the test slant well is shown to be at 30 feet (NAVD) above mean sea level and just behind

(inland of) the “2060, 100-Year Storm Event” line; the other nine wells would be located further inland of the “2060, 100-Year Storm Event” line.

To ensure that the slant wells would not accelerate or exacerbate coastal erosion and dune retreat, Mitigation Measure 4.2-10, Slant Well Abandonment Plan, requires CalAm to monitor the rate of coastal retreat and to remove the sections of well casing and pipelines prior to potential exposure, to a depth of 5 feet below the 2060, 100-year lower profile envelope as determined by the Coastal Retreat Study or as directed by any permit condition. Based on projections of sea level rise and coastal retreat, abandonment procedures are anticipated to begin sometime after 2040 for the converted test slant well and after 2060 for the other nine slant wells, but would occur as needed based on monitoring required under Mitigation Measure 4.2-10. The implementation of this mitigation measure would eliminate, not merely reduce any erosion impact, by ensuring the slant well(s) would be removed prior to exposure. Mitigation Measure 4.2-10 has been revised to include how a timeframe for well abandonment should be established.

EIR/EIS Section 4.2.4.5 explains that the most important variables in the coastal erosion model are the historic erosion trend, backshore toe elevation, and the total water level. In this region, where beaches have historically been controlled in part by sand mining, the study assumed there would be no changes to existing sand mining practices. Consistent with the Federal Emergency Management Agency (FEMA) Pacific Coast Flood Guidelines, the potential for shoreline retreat caused by sea level rise and the impact from a large storm event was estimated using a geometric model of dune erosion and applied with different slopes to make the model more applicable to sea level rise. Instead of predicting storm-specific characteristics and response, the method assumes that the coast would erode or retreat to a maximum storm wave event with unlimited duration and is a conservative approach to estimating the impact of a 100-year storm event.

As shown on Appendix C2 Figure 1 and Figure 3(d), the location of profile 4a (test slant well) and 4b (other wells) are just north and south of the CEMEX access road, respectively. Note 3 in EIR/EIS Figures 4.2-7 and 4.2-8 explains the “profile is located immediately south of the CEMEX Pacifica Lapis sand mining *plant*,” (emphasis added) and not south of the sand mining *area* as claimed in the comment. That same Note 3 acknowledges that data is not available to quantify the uncertainty in beach and dune erosion related to sand mining activities, and that “[t]he potential for fluctuations in beach width associated with sand mining were not considered in this analysis.” That is because the analysis included the historic sand mining practices in the historic rates of erosion and assumed there would be no changes to existing sand mining practices. As a result of using this and other conservative assumptions in the analysis,<sup>1</sup> the potential magnitude of erosion at

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<sup>1</sup> As noted by Sea Engineering in its peer review of the Coastal Retreat Study, “Based on our professional judgment, the ESA study (2014) represents a worst-case scenario developed by a very conservative approach” (Sea Engineering, 2014).

CEMEX was very likely over-estimated, not under-estimated as asserted by the comment, especially considering the anticipated closure of the sand mining operations in 2020, resulting from the July 2017 Settlement Agreement between CEMEX and the California Coastal Commission (see Master Response 14, CEMEX Settlement Agreement). Regardless, the commenter expressed concerns about extreme climate and storm events (discussed above), and provided suggested modifications to Mitigation Measure 4.2-10; the suggested text about 100-year storm events has been incorporated into Mitigation Measure 4.2-10.

The well abandonment required under Mitigation Measure 4.2-10, Well Abandonment Plan, would use standard procedures provided in Bulletin 74, California Well Standards, as required by the City of Marina Municipal Code Section 13.12.100. The secondary environmental impacts resulting from abandoning the well(s) have been added to the discussion of Mitigation Measure 4.2-10 and would be less than significant with implementation of the same mitigation measures relevant to the proposed project and discussed in the EIR/EIS. The time required for permitting of well abandonment is anticipated to be on the order of a few months at most, well within the proposed 5-year timeframe provided for in the mitigation measure, especially since the installation of replacement wells would not be part of that process. As discussed in response to comment Marina-37, replacement wells, if pursued, would be a new project that would be developed decades in the future and would be subject to a subsequent CEQA analysis.

Surfrider-6 As explained in CEQA Guidelines Section 15126.6, an EIR shall include alternatives that would avoid or substantially lessen any of the significant effects of the proposed project. With the revision to GHG Mitigation Measure 4.11-1 (see response to comment Surfrider-4), and the related revision to the conclusion of Impact 4.11-1 (incremental contribution to climate change from GHG emissions) to less than significant with mitigation, the EIR/EIS has not identified a significant unavoidable impact for any resource that would require a downsized alternative as mitigation. Specifically, Impact 4.3-4 (degrade ocean water quality from increased salinity), Impact 4.3-5 (degrade ocean water quality from brine discharges), and Impact 4.4-4 (degrade groundwater quality) were all determined to be less than significant with mitigation while Impact 4.4-3 (deplete groundwater supplies or interfere substantially with groundwater recharge) was determined to be less than significant.

Chapter 5, Alternatives Screening and Analysis, provides detailed descriptions of two reduced-sized alternatives (Alternatives 5a and 5b, see Sections 5.4.7 and 5.4.8, respectively) and Section 5.5 presents an analysis of the environmental impacts of Alternatives 5a and 5b. Under CEQA and NEPA, an alternative need not be analyzed unless it would meet most of the basic objectives of or the purpose and need for the project. See CEQA Guidelines Section 15126.6(a) and 40 CFR 1502.13 and 1508.9(b). The primary objective of the proposed project is to supply in a timely manner a certain quantity of water for CalAm customers, such that a

smaller desalination plant than those considered in the EIR/EIS (including Alternatives 5a and 5b, which pair a smaller desalination plant with a water purchase agreement from the approved GWR Project) would not meet the basic project objectives. However, see Master Response 13, Demand (Project Need) and Growth, concerning demand and supply assumptions and the possible consideration of alternate scenarios in which lessened demand would allow for a smaller desalination plant. The Lead Agencies will consider all evidence in the record concerning demand and supply prior to acting upon the project, and may conclude that a smaller desalination plant (or some other alternative) would indeed satisfy the basic objectives of the project.

- Surfrider-7 See Master Response 13, Demand (Project Need) and Growth, in particular, the discussion of demand assumptions in Section 8.2.13.1 and the discussion of Water Available for Growth in Section 8.2.13.3. Also see response to comment Surfrider-6.
- Surfrider-8 The EIR/EIS did not identify a significant unavoidable impact for any resource that required a downsized alternative as mitigation, and as described in response to comment Surfrider-6, any alternative considered must meet the basic project objective with respect to water supply. The discussion of Revised CDO Stage 3 Conservation Measures and Stage 4 Rationing under the No Project Alternative in Section 5.4.2.1 represents a worst-case scenario of severe water rationing, and not a reasonable alternative to the proposed project. The EIR/EIS does consider the potential for the Pacific Grove Local Water Project to provide up to 125 afy of non-potable supply that would offset the need for project supply in Section 2.5.3.1. As stated therein, “In 2013, CalAm and several other parties asked the CPUC to approve a settlement agreement on plant sizing and operations. The Settling Parties agreed that the Pacific Grove project would be a valuable part of a comprehensive solution to water issues in CalAm’s Monterey District when integrated with the MPWSP, the GWR Project, and ASR.” The EIR/EIS does also consider the potential for the Pebble Beach Recycled Water Project Phase II to offset the need for project supply in Section 2.5.3.2. See also Master Response 13, Demand (Project Need) and Growth, and response to comment MCWD-168, in Section 8.5.2.
- Surfrider-9 As noted in the comment, impacts related to water quality from operational discharges have been determined to be less than significant based on the comprehensive and detailed model analyses performed and presented in EIR/EIS Section 4.3, Surface Water Hydrology and Water Quality, and Appendix D. Mitigation Measure 4.3-4 includes a provision requiring CalAm to monitor impacts on marine biological resources even if the discharge meets established salinity and effluent standards.
- Surfrider-10 Mitigation Measure 4.3-4 would ensure that monitoring would be conducted for salinity levels, benthic community health, aquatic life toxicity, and hypoxia, and that the monitoring program would be consistent with the requirements detailed in

Appendix III of the Ocean Plan. The performance standards required by Mitigation Measure 4.3-4 for benthic community health incorporate by reference those defined in the Ocean Plan, and represent, in part, a narrative-based standard. The standards are defined in Chapter III of the Ocean Plan (Part 4 (a)) and in Appendix III (Part 8), with definitions of terms provided in Appendix II. In this context, a statistically significant change also is defined in the Ocean Plan. Degradation occurs if there are significant differences (defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level) in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected. See EIR/EIS Section 4.3.2.2 for a discussion of the Ocean Plan Monitoring Requirements.

Surfrider-11 See Master Response 15, Alternative Desalination Projects – Status, Information Sources, and Cumulative Scenario.

Surfrider-12 New information that has been added to the Draft EIR/EIS in response to comment Surfrider-5, as well as comments by others, has been added to amplify or clarify the data within the Draft EIR/EIS. The new information does not change the environmental impacts than were shown in the Draft EIR/EIS, nor indicate that there are feasible alternatives or mitigation measures available that the project proponent declines to implement that would minimize significant effects.

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## References

California Air Resources Board (CARB), 2017. Compliance Offset Program webpage (<https://www.arb.ca.gov/cc/capandtrade/offsets/offsets.htm>), accessed October 20, 2017.

CCLEAN, 2017. Central Coast Long-term Environmental Assessment Network Regional Monitoring Program Annual Report 2015–2016. January 31. <http://www.cclean.org/wp-content/uploads/2014/07/CCLEAN-Final-2015-2016-report.pdf>

Sea Engineering, 2014. Review of Coastal Erosion Analysis by ESA PWA (2014) for the California American Water Temporary Slant Test Well Environmental Impact Evaluation. Appendix E2 of City of Marina Draft Initial Study and Mitigated Negative Declaration, May 2014.

## 8.6.20 Responses to Comments from Water Ratepayers Association of the Monterey Peninsula

### 8.6.20.1 Responses to Comments from Water Ratepayers Association of the Monterey Peninsula – Letter 1

- WRAMP1-1 See Master Response 3, Water Rights.
- WRAMP1-2 See Master Response 8, Source Water and Seawater Intrusion, Sections 8.2.8.1, 8.2.8.2, and 8.2.8.3 for clarification of the source water for the proposed MPWSP slant wells and Master Response 11, CalAm Test Slant Well, for additional information on water quality in the test slant well.
- WRAMP1-3 See Master Response 4, Agency Act and Return Water, and Master Response 3, Water Rights.
- WRAMP1-4 See Master Response 4, Agency Act and Return Water, and Master Response 8, Source Water and Seawater Intrusion.
- WRAMP1-5 The elevated sodium chloride concentrations in the groundwater extracted from the test slant well over the period of pumping are undeniably a result of seawater intrusion from the Monterey Bay. See Master Response 11, Test Slant Well for additional information on test slant well water quality, and Master Response 8, Source Water and Seawater Intrusion, Section 8.2.8.2, for water quality data within the MPWSP slant well capture zone.
- WRAMP1-6 See response to comments MCWD-HGC-3 and -5 in Section 8.5.2.2 for a response regarding water quality conditions, specifically related to TDS and sodium chloride concentrations, in the MPWSP area and the purported “freshwater” flows that are interpreted as protection against seawater intrusion. Master Response 4, Agency Act and Return Water, Sections 8.2.4.1 and 8.2.4.2, provide additional explanation on return water.
- WRAMP1-7 See Master Response 4, Agency Act and Return Water, which provides a detailed description of the Agency Act, return water, and the ocean water percentage calculation. No field data are reported in Appendix E2 of the 2017 MPWSP Draft EIR/EIS relevant to the percentage of groundwater extracted from the Dune Sand Aquifer (represented by part of Model Layer 2) and the 180-Foot Aquifer (represented by part of Model Layer 4). Page 28 of Appendix E2 describes three different assumed percentages of the groundwater extracted from Model Layer 2 and Model Layer 4. The assumed percentages are based on (1) well construction and model geometry; (2) well construction, model geometry, and modeled hydraulic conductivity; and (3) Geoscience calibration of a different model to test slant well pumping data.



- WRAMP1-8 Master Response 4, Agency Act and Return Water, provides a detailed description of the Agency Act, return water, and the ocean water percentage calculation.
- WRAMP1-9 Receipt of the attached petition for writ of mandate is acknowledged. The respondents to the petition objected to the petition and, in March 2017, the Superior Court of Monterey County dismissed the action without leave to amend. The Superior Court's order was not appealed.
- WRAMP1-10 See Master Response 4, Agency Act and Return Water.
- WRAMP1-11 The purchase of water from the DeepWater Desal Project or the People's Project is analyzed as Alternatives 3 and 4, respectively, in Chapter 5 of the EIR/EIS.

### **8.6.20.2 Responses to Comments from Water Ratepayers Association of the Monterey Peninsula – Letter 2**

- WRAMP2-1 Three independent runs using different MODFLOW executables produced the same output (model-calculated water levels) and confirm that the model-calculated water levels were not modified. Neither HydroFocus nor LBNL conducted post-processing of model output after running MODFLOW other than plotting the results using Excel software. The model-calculated water levels from three independent MODFLOW runs all agreed. See Master Response 12, The North Marina Groundwater Model (v. 2016), for more information.

### **8.6.20.3 Responses to Comments from Water Ratepayers Association of the Monterey Peninsula – Letter 3**

- WRAMP3-1 See response to comment WRAMP2-1.

### **8.6.20.4 Responses to Comments from Water Ratepayers Association of the Monterey Peninsula – Letter 4**

- WRAMP4-1 See Master Response 4, Agency Act and Return Water, which provides a detailed description of the return water and the calculations necessary to determine the ocean water percentage.
- WRAMP4-2 See Master Response 2, Source Water Components and Definitions, for clarification of the terms used to describe source water (e.g., “groundwater”). See also Master Response 3, Water Rights; Master Response 4, Agency Act and Return Water; and Master Response 8, Source Water and Seawater Intrusion, for a comprehensive explanation of the water rights associated with the MPWSP, return water, and the source water quality in the capture zone of the proposed MPWSP slant wells.

- WRAMP4-3 See Master Response 8, Source Water and Seawater Intrusion, and Master Response 12, The North Marina Groundwater Model (v.2016), and response to comment WRAMP1-7.
- WRAMP4-4 See responses to comment WRAMP1-6 and Master Response 8, Source Water and Seawater Intrusion, Section 8.2.8.1 and 8.2.8.2.
- WRAMP4-5 The issue of ratepayer liability is outside the scope of CEQA and NEPA requirements; however, as described in Draft EIR/EIS Section 1.5.4.1, the CPUC decision to grant or deny a Certificate of Public Convenience and Necessity for the project (i.e., project approval) would follow a process after certification of the EIR during which the Commission will consider any other issues that have been established in the record of the proceeding, including but not limited to economic issues, social impacts, specific routing and alignments, and the need for the project. Therefore, comments regarding ratepayer liability are relevant to and will be considered as part of that proceeding.

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