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Permit Filed:	October 3, 2014
Appeal Filed:	September 24, 2014
49th Day:	November 12, 2014
Hearing Opened:	November 12, 2014
Substantial Issue Found:	November 12, 2014
Staff:	T. Luster-SF
Staff Report:	October 31, 2014
Hearing Date:	November 12, 2014
Approved 11-0	

FINAL ADOPTED FINDINGS

Appeal No:	**A-3-MRA-14-0050**
Local Government:	City of Marina
Decision:	Denial
Application No.:	**9-14-1735**
Applicant/Appellant:	**California American Water Company**
Substantial Issue:	On November 12, 2014, the Commission found that the appeal of the local government action on this project raised substantial issue.
Project Location:	At the site of the CEMEX, Incorporated sand mining facility, Lapis Road, City of Marina, Monterey County. (APN #203-011-001 and #203-011-019)
Project Description:	Construct and operate a test slant well and associated monitoring wells to develop data necessary to assess the feasibility of the project site as a potential long-term water source for a desalination facility.

SUMMARY

Project Description
California-American Water Company ("Cal-Am") proposes to construct, operate, and decommission a temporary test slant well, including up to four monitoring well clusters and related infrastructure, at the CEMEX sand mining facility along Monterey Bay within an extensive coastal dune complex in the City of Marina. The project will be completed during a twenty-four to twenty-eight month period. The test wellhead will be located approximately 650 feet inland of mean sea level at an elevation of about 25 feet. No development will occur directly on the beach or seafloor or in ocean waters. The main project activities include staging and site preparation, well drilling and placement of monitoring wells and electrical cables, ongoing monitoring during the test period, and well decommissioning.

Project Purpose
The project will allow Cal-Am to gather technical data related to the potential hydrogeologic and water quality effects that would result from using similar wells at or near this site to provide water for the proposed Monterey Peninsula Water Supply Project. If the data collected from this proposed test well demonstrates that this well design and location would provide the necessary amount of water and not cause unacceptable adverse effects, Cal-Am may choose to apply for additional coastal development permits to convert the test well to a production well and/or construct additional similar wells, subject to certification of an Environmental Impact Report ("EIR") by the California Public Utilities Commission, which is preparing the document for the above-referenced water supply project.

The Commission's approval of this proposed test well does not authorize any additional activities that may be associated with a larger or more permanent facility. Any such proposal will require additional review for conformity to the Coastal Act, which review and analysis will be conducted independently of the current decision, with the current decision exerting no influence over or causing any prejudice to the outcome of that separate decision.

Jurisdiction
The proposed project will be partially within the coastal development permit jurisdiction of the City of Marina and partially within the Commission's retained permit jurisdiction. Development within the City's jurisdiction includes all the project's land-based activities, which represent almost all of the project-related development. The only part of the project within the Commission's permit jurisdiction is the portion of the slant well that is below grade and extends beneath the beach and seafloor.

Appeal: On September 4, 2014, the City denied Cal-Am's CDP application for development of the subject temporary test slant well. Cal-Am then filed a timely appeal of the City's decision. The City's action is appealable to the Commission pursuant to Coastal Act Section 30603(a)(5), which allows appeals of any development that constitutes a major public works facility.

De Novo Review and CEQA: The Commission **conditionally approved** coastal development permits A-3-MRA-14-0817 and 9-14-0050 for the proposed project. The key concern is the project's unavoidable effects on environmentally sensitive habitat areas ("ESHA").

The project will be built on the site of a sand mining facility located within an extensive area of coastal dune habitat. Although the project footprint will be within dune habitat that has been extensively disturbed by mining activities, the area retains sufficient habitat characteristics to be considered sensitive habitat. Project activities will further disturb the sensitive habitat areas in a manner not consistent with provisions of the LCP. However, because the project is a coastal-dependent industrial facility and the LCP allows such facilities in this location, consistent with Coastal Act Section 30260, the Commission may approve a permit for this project if 1) alternative locations are infeasible or more environmentally damaging; 2) denial of the permit would not be in the public interest; and, 3) the project is mitigated to the maximum extent feasible.

1) **Alternative locations are infeasible or more environmentally damaging:** In recognition of the state's preference for subsurface intakes, Cal-Am has focused its efforts on identifying sites where those types of intakes are feasible. Several sites previously considered for water supply projects are either no longer available or have been subject to regulatory or legal changes that limit their feasibility. Several others are more distant from Cal-Am's service area and would result in greater environmental impacts due to an overall larger area of disturbance. Regarding on-site alternatives, the proposed test well is sited within an already disturbed area of the dune habitat that has been affected by mining activities for the past several decades. The current on-site location was selected after consultation by resource agency representatives showed that previously proposed locations on the north end of the CEMEX site would have greater adverse effects on sensitive species and coastal resources.

2) **To deny the project would not be in the public interest:** Since 1995, Cal-Am and other entities in the Monterey Peninsula area have been seeking a water supply to replace that obtained from the Carmel River. Cal-Am is under an Order from the State Water Resources Control Board to significantly reduce its withdrawals from the Carmel River within the next two years. Although significant public effort has gone into previous proposed water supply options, such as a proposed dam, desalination facilities, and others, those projects have either not been completed or are no longer under consideration. The currently proposed test well is meant to provide data for a possible desalination facility that is the subject of extensive environmental and public interest review by the California Public Utilities Commission and is the subject of a Settlement Agreement among more than a dozen local governments and public interest groups. Other potential water supply projects under consideration are not as far along in design, environmental review, or permitting, so are not likely to provide the necessary replacement water supply as quickly as Cal-Am's currently proposed facility, should the test well be successful.

3) **The project is mitigated to the maximum extent feasible:** The Commission's approval includes several Special Conditions meant to avoid and minimize effects to ESHA. Mitigation measures required by **Special Conditions 12 through 16** include biological survey requirements, training of project personnel, avoidance measures to be implemented, and restoration requirements. Additionally, **Special Condition 17** requires Cal-Am to post a bond that will provide for removal of project structures and for restoration should Cal-Am not implement those requirements. Other **Special Conditions** require Cal-Am to implement Best Management Practices during construction, prepare a spill prevention plan, avoid coastal hazard areas, and others, all of which will result in further avoidance and minimization of potential project impacts.

Commission Action

The Commission approved, as conditioned, coastal development permits A-3-MRA-14-0817 and 9-14-1735 as described herein.

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EXHIBITS

APPENDICES

I. RESOLUTIONS

On November 12, 2014, by a vote of 11-0, the Coastal Commission adopted the following resolutions:

Resolution to Find Substantial Issue

The Commission finds that Appeal Number A-3-MRA-14-0050 presents a substantial issue with respect to the grounds on which the appeal has been filed under Section 30603 of the Coastal Act regarding consistency with the Certified Local Coastal Plan and/or the public access and recreation policies of the Coastal Act.

Resolution to Approve CDP A-3-MRA-14-0817

The Commission hereby approves Coastal Development Permit Number A-3-MRA-014-0817 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the City of Marina Local Coastal Program policies and Coastal Act access and recreation policies. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

Resolution to Approve CDP 9-14-1735

The Commission hereby approves Coastal Development Permit 9-14-1735 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

This permit is subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration**. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation**. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment**. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land**. These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. **Proof of Legal Interest and Other Approvals.** The Permittee shall provide to the Executive Director a copy of each of the following approvals or documentation from the relevant agency that such approval is not required:
   a. PRIOR TO PERMIT ISSUANCE, proof of legal interest in the project site.
   b. PRIOR TO CONNECTING TO THE OUTFALL, the negotiated agreement or memorandum of understanding between the applicant and the Monterey Regional Water Pollution Control Agency ("MRWPCA") regarding connection and use of the ocean outfall for discharge of water produced from the test well.
   c. PRIOR TO ISSUANCE OF CDP 9-14-1735, a lease from the State Lands Commission.

   The Permittee shall inform the Executive Director of any changes to the project required by, or resulting from, these permits or approvals. Such changes shall not be incorporated into the project until the Permittee obtains a Commission amendment to this permit, unless the Executive Director determines that no amendment is legally required.

2. **Liability for Costs and Attorneys Fees.** The Permittee shall reimburse the Coastal Commission in full for all Coastal Commission costs and attorneys fees – including (a) those charged by the Office of the Attorney General; and (b) any court costs and attorneys fees that the Coastal Commission may be required by a court to pay – that the Coastal Commission incurs in connection with the defense of any action brought by a party other than the Permittee against the Coastal Commission, its officers, employees, agents, successors, and assigns challenging the approval or issuance of this permit, the interpretation and/or

enforcement of permit conditions, or any other matter related to this permit. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission.

3. **Project Construction.** The Permittee shall conduct project construction as described and conditioned herein, including the following measures:
   a. Project-related construction shall occur only in areas as described in the permit application.
   b. Project-related construction, including site preparation, equipment staging, and installation or removal of equipment or wells, occurring between February 28 and October 1 of any year is subject to the timing and species protection requirements of Special Condition 14.
   c. Construction equipment and materials, including project-related debris, shall be placed or stored where it cannot enter a storm drain or coastal waters. The Permittee shall ensure that all construction personnel keep all food-related trash items in sealed containers and remove them daily to discourage the concentration of potential predators in snowy plover habitat. All trash and construction debris shall be removed from work areas and properly disposed of at the end of each work day at an approved upland location. All vegetation removed from the construction site shall be taken to a certified landfill to prevent the spread of invasive species.
   d. To reduce construction noise, noise attenuation devices (e.g., noise blankets, sound baffles, etc.) shall be installed around all stationary construction equipment, including drill rigs.
   e. All project vehicles shall maintain speeds of 10 miles per hour or less when at the project site. Prior to moving any vehicle, project personnel shall visually inspect for special-status species under and around the vehicle, and shall notify the on-site biologist should any be detected.
   f. To avoid predation of special-status species, wire excluders or similar anti-perching devices shall be installed and maintained on the top of all aboveground structures (e.g., electrical panel) to deter perching by avian predators.

   No changes to these requirements shall occur without a Commission amendment to this permit unless the Executive Director determines that no amendment is legally required.

4. **Protection of Water Quality.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit an erosion control plan for Executive Director review and approval. The Plan shall include a schedule for the completion of erosion- and sediment-control structures, which ensures that all such erosion-control structures are in place by mid-November of the year that construction begins and maintained thereafter. The plan shall identify standard Best Management Practices to be implemented to address both temporary and permanent measures to control erosion and reduce sedimentation. Site monitoring by the applicant's erosion-control specialist shall be undertaken and a follow-up report shall be prepared that documents the progress and/or completion of required erosion-control measures both during and after construction and decommissioning activities. No synthetic plastic mesh products shall be used in any erosion control materials. All plans shall show that sedimentation and erosion control measures are installed prior to any other ground disturbing work.

5. **Hazardous Material Spill Prevention and Response.**
   (a) PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit for Executive Director review and approval a project-specific Hazardous Materials Spill Prevention and Response Plan that includes:
   - an estimate of a reasonable worst case release of fuel or other hazardous materials onto the project site or into adjacent sensitive habitat areas or coastal waters resulting from project operations;
   - all identified locations within the project footprint of known or suspected buried hazardous materials, including current or former underground storage tanks, septic systems, refuse disposal areas, and the like;
   - specific protocols for monitoring and minimizing the use of fuel and hazardous materials during project operations, including Best Management Practices that will be implemented to ensure minimal impacts to the environment;
   - a detailed response and clean-up plan in the event of a spill or accidental discharge or release of fuel or hazardous materials;
   - a list of all spill prevention and response equipment that will be maintained on-site;
   - the designation of the onsite person who will have responsibility for implementing the plan;
   - a telephone contact list of all regulatory and public trustee agencies, including Coastal Commission staff, having authority over the development and/or the project site and its resources to be notified in the event of a spill or material release; and,
   - a list of all fuels and hazardous materials that will be used or might be used during the proposed project, together with Material Safety Data Sheets for each of these materials.

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

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

   The Permittee shall implement the Plan as approved by the Executive Director.

6. **Monitoring and Removal of Temporary Structures, Well Head Burial & Well Closure/Destruction.** The Permittee shall monitor beach erosion at least once per week over the duration of the project to ensure the slant well and monitoring wells remain covered. If the wellheads, linings, casings, or other project components become exposed due to erosion, shifting sand or other factors, the Permittee shall immediately take action to reduce any danger to the public or to marine life and shall submit within one week of detecting the exposed components a complete application for a new or amended permit to remedy the exposure.

   Upon project completion, and no later than February 28, 2018, the Permittee shall cut off, cap, and bury the slant well head at least 40 feet below the ground surface, and shall completely remove all other temporary facilities approved by this coastal development permit. To ensure timely removal, the Permittee shall post the bond or other surety device as required by **Special Condition 17** to ensure future removal measures would be appropriately supported and timed to prevent any future resurfacing of the well casing or other project components.

7. **Assumption of Risk, Waiver of Liability and Indemnity.** By acceptance of this permit, the Permittee acknowledges and agrees:
   a. that the site may be subject to hazards from coastal erosion, storm conditions, wave uprush, and tsunami runup;
   b. to assume the risks to the Permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development;
   c. to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and
   d. to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

8. **No Future Shoreline Protective Device.** By acceptance of this permit, the Permittee agrees, on behalf of itself and all other successors and assigns, that no shoreline protective device(s) shall ever be constructed to protect the development approved pursuant to this permit, including the wells, supporting infrastructure, and any future improvements, in the event that the development is threatened with damage or destruction from waves, erosion, storm conditions or other natural hazards in the future. By acceptance of this permit, the Permittee hereby waives, on behalf of itself and all successors and assigns, any rights to construct such devices that may exist under Public Resources Code Section 30235.

   By acceptance of this permit, the Permittee further agrees, on behalf of itself and all successors and assigns, that the Permittee shall remove the development authorized by this permit, including the wells, supporting infrastructure, and any future improvements, if any government agency with the requisite jurisdiction and authority has ordered, and the Executive Director has concurred, that the development is not to be used due to any of the hazards identified in **Special Condition 7**. In the event that portions of the development fall to the beach before they are removed, the Permittee shall remove all recoverable debris

associated with the development from the beach and ocean and lawfully dispose of the material in an approved disposal site. Such removal shall require a coastal development permit.

9. **Geology/Hazards.** The project shall be designed to meet or exceed all applicable requirements of the California Building Code. Project design and construction shall meet or exceed all applicable feasible conclusions and recommendations in the *Geotechnical Investigation for the California American Water Temporary Slant Test Well Project, Marina, Monterey County*, California, dated April 3, 2014 (GeoSoils 2014). Project components shall be sited to avoid areas identified in the coastal erosion memorandum prepared by ESA-PWA (March 2014) as subject to coastal erosion during the duration of the project.

10. **Visual Resources.** PRIOR TO PERMIT ISSUANCE, the Permittee shall submit for Executive Director review and approval a Lighting Plan prepared by a qualified engineer that includes the following:
    a. Identifies all lighting and associated infrastructure proposed for use during the test well project, such as towers, poles, electrical lines, etc. The Lighting Plan shall identify the locations, heights, dimensions, and intensity of the lighting and associated lighting infrastructure.
    b. Evaluates the effects of project lighting and associated infrastructure on wildlife in the project area and describes proposed measures to avoid or minimize any adverse effects. These measures may include shielding project lighting from off-site locations, directing lighting downward, using the minimum amount of lighting necessary to ensure project safety, and other similar measures.
    c. Affirms that all lighting structures and fixtures installed for use during the project and visible from public areas, including shoreline areas of Monterey Bay, will be painted or finished in neutral tones that minimize their visibility from those public areas.

    The Permittee shall implement the Lighting Plan as approved by the Executive Director.

11. **Protection of Nearby Wells.** PRIOR TO STARTING PROJECT-RELATED PUMP TESTS, the Permittee shall install monitoring devices a minimum of four wells on the CEMEX site, within 2000 feet of the test well, and one or more offsite wells to record water and salinity levels within the wells and shall provide to the Executive Director the baseline water and Total Dissolved Solids ("TDS") levels in those wells prior to commencement of pumping from the test well. The Hydrogeology Working Group shall establish the baseline water and TDS levels for the monitoring wells. During the project pump tests, the Permittee shall, at least once per day, monitor water and TDS levels within those wells in person and/or with electronic logging devices. The Permittee shall post data collected from all monitoring wells on a publicly-available internet site at least once per week and shall provide all monitoring data to the Executive Director upon request. If water levels drop more than one-and-one-half foot, or if TDS levels increase more than two thousand parts per million from pre-pump test conditions, the Permittee shall immediately stop the pump test and inform the Executive Director. The Hydrogeology Working Group shall examine the data from Monitoring Well 4 if the test well is shut down due to either of these causes. The Hydrogeology Working Group shall determine whether the drop in water level or increase in

TDS is from a cause or causes other than the test well, and it will submit its determination to the Executive Director. If the Executive Director agrees with the Hydrogeology Working Group that the cause of the drop in water level or increase in TDS was a source or sources other than the test well, then the Executive Director may allow testing to resume. If, however, the Executive Director determines that the drop in water level was caused at least in part by the test well, then the Permittee shall not re-start the pump test until receiving an amendment to this permit.

12. **Protection of Biological Resources – Biological Monitor(s).** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall retain one or more qualified biologists approved by the Executive Director to ensure compliance with all relevant mitigation measures and Special Conditions. The approved biologist(s) shall conduct the required preconstruction surveys, implement ongoing monitoring and inspections, keep required records, and notify Commission staff and staff of other agencies as necessary regarding project conformity to these measures and Special Conditions.

    The approved biologist(s) shall be present during daylight hours for all project construction and decommissioning activities and on a periodic basis when the biologist determines operational activities may affect areas previously undisturbed by project activities. The biologist(s) shall monitor construction equipment access and shall have authority to halt work activities, if the potential for impacts to special-status species or habitat is identified, until the issue can be resolved. The qualified biologist(s) shall immediately report any observations of significant adverse effects on special-status species to the Executive Director.

13. **Protection of Biological Resources – Training of On-site Personnel.** Prior to starting construction and decommissioning activities, the approved biologist(s) shall conduct an environmental awareness training for all construction personnel that are on-site during activities. The training shall include, at a minimum, the following:
    - Descriptions of the special-status species with potential to occur in the project area;
    - Habitat requirements and life histories of those species as they relate to the project;
    - Avoidance, minimization, and mitigation measures that will be implemented to avoid impacts to the species and their habitats;
    - Identification of the regulatory agencies and regulations that manage their protection; and,
    - Consequences that may result from unauthorized impacts or take of special-status species and their habitats.

    The training shall include distribution of an environmental training brochure, and collection of signatures from all attendees acknowledging their participation in the training. Subsequent trainings shall be provided by the qualified biologist as needed for additional construction or operations workers through the life of the project.

14. **Protection of Biological Resources – Pre-Construction and Pre-Disturbance Surveys.** The approved biologist(s) shall conduct pre-construction surveys for special-status species as described below:
    a. No more than 14 days before the start of onsite activities or any activities planned for areas previously undisturbed by project activities, the biologist(s) shall conduct a field evaluation of the nature and extent of Western snowy plover activity in the project area and shall identify measures needed to ensure construction activities minimize potential effects to the species. Those measures shall, at a minimum, meet the standards and requirements of the mitigation measures included in Exhibit 5 as well as those included in subsection (d) of this special condition. Those measures shall also be submitted for Executive Director review and approval at least five days before the start of construction activities. The Permittee shall implement the measures as approved by the Executive Director.
    b. Prior to construction or activities planned for areas previously undisturbed by project activities, the approved biologist(s) shall coordinate with construction crews to identify and mark the boundaries of project disturbance, locations of special-status species and suitable habitat, avoidance areas, and access routes. GPS data collected during preconstruction surveys completed in 2012, 2013, and 2014 shall be used to flag the known locations of Monterey spineflower and buckwheat for avoidance during construction. Avoidance buffers shall be established and flagged or fenced as necessary to avoid surface disturbance or vegetation removal. The monitoring biologist shall fit the placement of flags and fencing to minimize impacts to any sensitive resources. At a minimum, the biologist shall direct the placement of highly visible exclusion fencing (snow fence or similar) at the following locations:
        - around sensitive snowy plover habitat areas that do not require regular access;
        - areas along the northern edge of the CEMEX accessway in the vicinity of the settling ponds; and
        - between the work area and any identified occurrence of Monterey spineflower or buckwheat within 10 feet of the existing accessway or work area.

        All delineated areas of temporary fencing shall be shown on grading plans and shall remain in place and functional throughout the duration of construction and decommissioning activities.
    c. The approved biologist(s) shall conduct surveys for Monterey spineflower and buckwheat (host plant for Smith's blue butterfly) within all project disturbance areas and within 20 feet of project boundaries during the blooming period for the spineflower (April-June) to identify and record the most current known locations of these species in the project vicinity. Surveys shall be conducted by a qualified botanist, and shall include collection of Global Positioning System (GPS) data points for use during flagging of sensitive plant species locations and avoidance buffers prior to construction.
    d. Starting no later than February 1 of each year of project construction, operation, and decommissioning, the approved biologist(s) shall conduct breeding and nesting surveys of sensitive avian species within 500 feet of the project footprint. The approved biologist(s) shall continue those surveys at least once per week during periods of project construction, well re-packing, and decommissioning that occur between February 1 and October 1 each year.

In the event that any sensitive species are present in the project area but do not exhibit reproductive behavior and are not within the estimated breeding/reproductive cycle of the subject species, the qualified biologist shall either: (1) initiate a salvage and relocation program prior to any excavation/maintenance activities to move sensitive species by hand to safe locations elsewhere along the project reach or (2) as appropriate, implement a resource avoidance program with sufficient buffer areas to ensure adverse impacts to such resources are avoided. The Permittee shall also immediately notify the Executive Director of the presence of such species and which of the above actions are being taken. If the presence of any such sensitive species requires review by the United States Fish and Wildlife Service and/or the California Department of Fish and Game, then no development activities shall be allowed or continue until any such review and authorizations to proceed are received and also authorizes construction to proceed.

If an active nest of a federally or state-listed threatened or endangered species, species of special concern, or any species of raptor or heron is found, the Permittee shall notify the appropriate State and Federal wildlife agencies within 24 hours, and shall develop an appropriate action specific to each incident. The Permittee shall notify the California Coastal Commission in writing by facsimile or e-mail within 24 hours and consult with the Commission regarding determinations of State and Federal agencies.

If the biologist(s) identify an active nest of any federally- or state-listed threatened or endangered species, species of special concern, or any species of raptor or heron within 300 feet of construction activities (500 feet for raptors), the biologist(s) shall monitor bird behavior and construction noise levels. The biologist(s) shall be present at all relevant construction meetings and during all significant construction activities (those with potential noise impacts) to ensure that nesting birds are not disturbed by construction-related noise. The biologist(s) shall monitor birds and noise every day at the beginning of the project and during all periods of significant construction activities. Construction activities may occur only if construction noise levels are at or below a peak of 65 dB at the nest(s) site. If construction noise exceeds a peak level of 65 dB at the nest(s) site, sound mitigation measures such as sound shields, blankets around smaller equipment, mixing concrete batches off-site, use of mufflers, and minimizing the use of back-up alarms shall be employed. If these sound mitigation measures do not reduce noise levels, construction within 300 ft. (500 ft. for raptors) of the nesting areas shall cease and shall not re-start until either new sound mitigation can be employed or nesting is complete.

If active plover nests are located within 300 feet of the project or access routes, avoidance buffers shall be established to minimize potential disturbance of nesting activity, and the biologist shall coordinate with and accompany the Permittee's operational staff as necessary during the nesting season to guide access and activities to avoid impacts to nesting plovers. The biologist shall contact the USFWS and CDFW immediately if a nest is found in areas near the wellhead that could be affected by project operations. Operations shall be immediately suspended until the Permittee submits to the Executive Director written authorization to proceed from the USFWS.

If, after starting project activities, the Permittee must stop construction due to the presence of sensitive species or due to the lack of necessary approvals or permits (e.g., a lease from the State Lands Commission), the Permittee shall remove and properly store all project-related equipment and vehicles away from the project site in a manner that does not adversely affect sensitive species.

15. **Project Area Restoration.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall prepare a Restoration Plan for review and approval by the Executive Director that is consistent with the City of Marina restoration requirements as codified in Municipal Code Section 17.41.100. The Plan shall include, at a minimum:
    a. a description of the habitat characteristics and extent of the area to be restored, which shall include, at a minimum, all areas of temporary disturbance in the project footprint other than those areas actively in use by CEMEX for mining purposes;
    b. performance standards and success criteria to be used;
    c. a minimum 3:1 ratio of native plants to be replaced within the affected area;
    d. an invasive species control program to be implemented for the duration of the project;
    e. the timing of proposed restoration activities;
    f. proposed methods to monitor restoration performance and success for at least five years following initiation of the Plan; and
    g. identification of all relevant conditions, requirements, and approvals by regulatory agencies needed to implement the Plan.

    The Permittee shall implement the Plan: (1) during and immediately following construction and prior to operation of the test well, and (2) during and immediately following decommissioning activities.

    Success criteria will include plant cover and species composition/diversity, which shall meet or exceed adjacent undisturbed dune habitat on the CEMEX parcel as determined by the biological monitor. Success criteria shall, at a minimum, be consistent with the requirements of the existing Lapis Revegetation Plan prepared for the RMC Lonestar Lapis Sand Plant (25 percent average vegetative cover and species diversity of all species listed in Group A of the Plan present and providing at least 1 percent cover).

16. **Invasive Species Control.** The Permittee shall remove and properly dispose of at a certified landfill all invasive or exotic plants disturbed or removed during project activities. The Permittee shall use existing on-site soils for fill material to the extent feasible. If the use of imported fill material is necessary, the imported material must be obtained from a source that is known to be free of invasive plant species, or the material must consist of purchased clean material.

17. **Posting of Bond.** To ensure timely removal, PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall provide to the Commission a surety bond or similar security device acceptable to the Executive Director for $1,000,000 (one million dollars), and naming the Coastal Commission as the assured, to guarantee the Permittee's compliance with Special Conditions 6 and 15. The surety bond or other security device shall be maintained in full force and effect at all times until Special Conditions 6 and 15 have been met.

IV. FINDINGS & DECLARATIONS

A. PROJECT LOCATION, DESCRIPTION, AND OBJECTIVES

The project site is within the CEMEX sand mining facility, which is located in an extensive area of coastal dunes along the shoreline of Monterey Bay in the northern portion of the City of Marina (see Exhibit 1 – Project Location). Parts of the site have been used for sand mining since 1906, though the site continues to provide significant areas of sensitive habitat along with areas disturbed due to mining activities.

The project applicant and appellant, California American Water ("Cal-Am") proposes to construct and operate a test slant well and associated monitoring wells at a previously disturbed area within the CEMEX site (see Exhibit 2 – Site Plan). Cal-Am will use the test slant well to conduct a pumping and testing program over an approximately 24-month period to obtain data regarding the geologic, hydrogeologic, and water quality characteristics in aquifers underlying the project area. Cal-Am will use the data to help determine whether a subsurface intake system at or near this location could provide source water for a potential seawater desalination facility. Cal-Am has proposed such a facility as part of its Monterey Peninsula Water Supply Project ("MPWSP"), which is the subject of an application before the California Public Utilities Commission ("CPUC"), and is described below in Section IV.B of these Findings.[1] Information derived from the well tests is necessary to assess the feasibility and the preferred design and location of the proposed full-scale project. The data produced from the tests will be analyzed as part of the CPUC's review for the MPWSP and will help inform the CPUC's decision as to whether to approve the MPWSP as part of Cal-Am's water supply system.

The proposed project evaluated herein is for construction and operation of a test slant well only. These Findings, and any coastal development permit issued pursuant to these Findings, apply only to the proposed test slant well and its associated monitoring wells and do not authorize development that may be associated with long-term use of the well, including converting the well to use as a water source for the separately proposed MPWSP. Any such proposal will require additional review and analysis for conformity to relevant Local Coastal Programs and the Coastal Act and will be conducted independent of any decision arising from these Findings. Further, the Commission's decision regarding these Findings exerts no influence over, and causes no prejudice to, the outcome of those separate future decisions.

Project components

All development associated with this test slant well will occur within an approximately 0.75-acre portion of a previously-disturbed area within the approximately 400-acre CEMEX site. The primary components of this proposed test slant well include:

Slant well: The test wellhead will be located about 650 feet from the current shoreline at an elevation of about 25 feet above mean sea level. The wellhead will be set within a concrete wellhead vault that will extend to about five feet below grade and will be covered with steel plates. The slant well will extend downward at about a 20 degree angle below horizontal to a

[1] The proposed project, including Cal-Am's CPUC Application A.12-04-019, is more fully described on the project website at: http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/index.html

length of up to about 1000 feet and a point about 290 feet below the Monterey Bay seafloor (see Exhibit 3 – Slant Test Well, Representative Illustration). The wellhead will include a radio telemetry alarm system that will communicate any malfunctions – e.g., power or pump failure, excess pressure within the system, unexpected drops in water levels, etc. – and will also allow for automatic shutdown.

Disposal piping: To discharge water pumped from the well during the tests, Cal-Am will construct an approximately 12-inch diameter disposal pipeline that will connect to an existing subsurface manhole located about 450 feet seaward from the wellhead and about three feet below grade. The manhole is part of an existing ocean outfall used by the Monterey Regional Water Pollution Control Agency ("MRWPCA") as a discharge from its wastewater treatment facility to about two miles offshore into Monterey Bay. The outfall is buried along the southern portion of the CEMEX site. The connection will require a total of about 150 cubic yards of excavation along the disposal pipeline and in the area of the manhole.

Electrical supply: Power will be provided to the well pumps through a buried 4-inch conduit that will extend eastward from the wellhead to a new transformer located on an existing power pole about 2000 feet east of the well.

Monitoring wells: Cal-Am will also construct up to four monitoring well clusters consisting of 2-inch diameter vertical wells that will extend to about 300 feet below the ground surface and will be used to measure changes in groundwater levels and water quality during the pump tests. Exhibit 4 provides the suite of water quality parameters that Cal-Am will monitor during the project's testing phase. One monitoring well will be adjacent to the slant wellhead and the other will be about 1,350 feet east adjacent to the CEMEX service road.

Other associated infrastructure: Cal-Am will also install temporary sedimentation tanks, a portable restroom and hand washing station, and a re-fueling area.

Project activities, timing, and work effort
Project activities will occur in phases over an approximately 28-month period. The project's first phase involves constructing the wells and associated infrastructure; the second phase involves pumping and testing the wells; and the final phase involves well decommissioning.

The construction phase includes:

- Site preparations, including mobilizing a drill rig and drilling the monitoring wells;
- Excavating and placing the pre-cast concrete wellhead vault structure;
- Installing water discharge piping, metering and sampling facilities;
- Connecting to the existing outfall and installing temporary sedimentation tanks;
- Mobilizing the drill rig and drilling the slant well through the vault;
- Developing the slant well and conducting initial pumping and aquifer tests;
- Installing electrical conduit, cable, electrical panel, and telemetry system;
- Completing the slant well by removing above-grade casing, installing submersible pump, and making final electrical and piping connections;
- Demobilizing all construction equipment; and,
- Re-grading the CEMEX accessway as needed.

These activities will occur primarily during daylight hours between Monday and Friday, although development of the test slant well will require continuous drilling operations for several weeks. Construction will occur primarily outside the Western snowy plover nesting season, which runs from February 28 to October 1 each year.

The second phase of the project includes continuous well operations for up to 24 months at volumes ranging from about 1,000 gallons per minute ("gpm") to 2,500 gpm. Operators will visit the site on a weekly basis to collect water samples and to check pumping operations. At one point during the 24 months of testing, operators will reposition the packer device within the well that isolates one aquifer from the other. This involves removing and replacing the pump and packer device, which will occur over about a three-day period.

At the end of testing, Cal-Am will decommission and remove the test well and related infrastructure. The wells will be sealed pursuant to requirements of the California Well Standards Bulletin 74-81 and the Monterey County Environmental Health Bureau. Monitoring well components will be removed to at least five feet below ground surface ("bgs") and the slant well components will be removed to at least 40 feet bgs. Decommissioning is expected to take about four weeks and will occur outside the Western snowy plover nesting season.

Project Objectives

The main project purpose is to develop the data needed to determine the overall feasibility, available yield, and hydrogeologic effects of extracting water from this site that might be used by Cal-Am's separately proposed desalination facility. The CEMEX site is at the western edge of the currently mapped extent of the Dune Sand Aquifer and the 180-Foot Aquifer, and the test well will intercept what is believed to be the seaward extension of two aquifers.

The aquifers extend some distance eastward and have been subject to seawater intrusion that has reduced the volume and quality of water from wells further inland. The known area of seawater intrusion extends along about ten miles of the Bay shoreline and up to about five miles inland, with all known existing wells within two miles of this test well site having already experienced seawater intrusion.[2] The rate of seawater intrusion in this area has been estimated at about 14,000 acre-feet per year.[3] The test well will be centrally located along this shoreline area and, at its maximum pumping rate of 2,500 gallons per minute, will pump about 4,000 acre-feet per year.

Water quality data collected from nearby areas over the past several years show that both aquifers exhibit relatively high salinity levels and that there is not an aquitard separating the two. More recently, Cal-Am drilled test boreholes at several locations between Marina and Moss Landing earlier this year, including six at the CEMEX site. Those data show that salinity and Total Dissolved Solid ("TDS") concentrations in nearby areas of the aquifers already exceed levels that are suitable for agricultural crop production. For example, the U.S. Department of

[2] See Monterey Bay National Marine Sanctuary, *Finding of No Significant Impact for the California American Water Slant Test Well Project*, Section 6.1.2 – Water Supply and Quality, October 2014.

[3] See Monterey County Water Resources Agency, *Monterey County Groundwater Management Plan*, Chapter 3 – Basin Description, pages 3.14 & 3.15, May 2006.

Agriculture considers water with TDS levels about 2,000 parts per million as representing a "severe" hazard to crops, and water samples taken at and near CEMEX show that TDS levels range from more than eight to seventeen times higher than this "severe" level.[4] Testing and modeling using data from those boreholes suggest that using wells at this location would be a feasible method to use the two aquifers as conduits to extract water through the seafloor beneath Monterey Bay.[5] Data from the proposed slant well tests will be used to confirm or correct this modeling and analysis.

Cal-Am plans to construct the well with screening that will allow it to pump from each aquifer separately, which will help identify the degree of connectivity between the aquifers, the available yield, and the potential effects on the aquifers. Without such tests, the hydrogeology near the site and in the area will not be adequately characterized for purposes of determining the feasibility of potential full-scale wells and the potential benefits and impacts that would result from operating those wells.

Site History: As noted above, the proposed project site has been used for sand mining for over a century, most recently by its current owner, CEMEX. The site includes sedimentation ponds, sand mining equipment and related infrastructure, accessways, and stockpile areas, some of which have remained in relatively the same location for several decades and some of which have moved within the site due to changing production levels, shifts in the surrounding dunes, changes in sand delivery to the site from the Bay, and other factors. The Commission's enforcement staff is investigating a potential violation regarding mining activities at the site. At this time, the investigation does not include activities within the proposed Cal-Am project footprint or involve matters pertaining to Cal-Am or the proposed Cal-Am project.

In the mid-1980s, the Monterey Peninsula Water Pollution Control Agency ("MRWPCA") constructed an outfall that is buried along the southern portion of the site in an area that had been occupied by sedimentation ponds used in the mining operation. The outfall discharges wastewater from the MRWPCA's treatment facility further inland to about two miles offshore.

Cal-Am's project footprint is largely within the accessway used for sand mining and outfall construction that appears to have been at or near the same location since at least the early 1980s. Much of the footprint consists of disturbed dune habitat, though some continues to provide habitat value (see Section IV. H – Sensitive Habitat below).

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[4] See, for example, the U.S. Department of Agriculture Irrigation Water Quality Guidelines at https://prod.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_068163.pdf. See also Table 5-3 of the Hydrogeology Working Group, *Monterey Peninsula Water Supply Project Hydrogeologic Investigation Technical Memorandum Summary of Results – Exploratory Boreholes*, July 2014, which shows TDS levels in surrounding areas of the two aquifers ranging from 16,122 to 35,600 parts per million.

[5] From Geoscience Support Services, Inc., *Monterey Peninsula Water Supply Project Hydrogeologic Investigation: Technical Memorandum (TM1) Summary of Results – Exploratory Boreholes*, prepared for California-American Water and RBF Consulting, July 8, 2014.

B. Project Background

Recent History of Water Issues in Monterey Area

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

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

In 1995, the State Water Resources Control Board issued Order No. WR 95-10, which found that Cal-Am had been diverting about 10,730 acre-feet per year[6] from the Carmel River Basin without adequate water rights. The State Board's Order required Cal-Am to take any of several steps to address this issue – either obtain the necessary appropriative rights, obtain water from other sources that would allow it to reduce its use of Carmel River water, and/or obtain water from other entities that have the rights to use Carmel River water. The Order also directed Cal-Am to reduce its Carmel River Basin water use in part by maximizing its use of water from the Seaside Basin.

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

In 1998, state legislation directed the California Public Utilities Commission ("CPUC") to develop a water supply plan for the Monterey Peninsula that did not include a dam.[7] In 2002, the CPUC completed its plan, known as "Plan B", which included a 9,400 AFY desalination facility at Moss Landing and an Aquifer Storage and Recharge (ASR) system that would store about 1,300 AFY of Carmel River water in the Seaside Basin. Plan B then served as the basis for Cal-Am's 2004 application to the CPUC for the proposed Coastal Water Project ("CWP"), which included a desalination facility at the Moss Landing Power Plant, transmission pipelines from Moss Landing to the Monterey Peninsula, a reservoir, pump stations, and ASR facilities. During the CPUC's review, the State Water Board's Division of Water Rights in 2009 issued a Cease-and-Desist Order to Cal-Am that required Cal-Am to significantly reduce its Carmel River withdrawals by 2016, thereby increasing the urgency of selecting and constructing a water

[6] An acre-foot is equal to approximately 326,000 gallons of water. In the Monterey Peninsula, which has a relatively per capita water use rate compared to most of California, this would provide water for about two to four households for a year.

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

supply project.[8] Nonetheless, several concerns were raised about the desalination facility's proposed use of a power plant open water intake and the resulting significant adverse effects on marine life, the distance of the facility from the service area and the associated increased transmission costs, and others. These concerns led to the development of alternative water supply proposals, including one developed by regional stakeholders known as the "Regional Water Project, Phase I." This alternative proposed moving the desalination facility closer to the Monterey Peninsula and using vertical and slant wells instead of an open water intake.

In December 2010, the CPUC certified an Environmental Impact Report for this Regional Water Project and approved several agreements among stakeholders that established project partner responsibilities regarding construction, ownership, operations, maintenance, and payments. In 2012, however, the CPUC determined it was no longer reasonable for Cal-Am to continue to pursue the Regional Water Project because, due to a significant change in circumstances since 2010, the project no longer had a reasonable prospect of achieving its goals.

The Monterey Peninsula Water Supply Project ("MPWSP")

In 2012, Cal-Am and other stakeholders proposed the Monterey Peninsula Water Supply Project ("MPWSP") as a replacement for the defunct Regional Water Project. In April 2012, Cal-Am filed an application with the CPUC for the MPWSP, which includes slant wells that would be located at the CEMEX site, a desalination facility to be located about two miles inland of the test well site adjacent to a regional wastewater treatment facility, pipelines, and the other related facilities needed to produce and deliver water to the Monterey Peninsula. The CPUC is preparing an EIR for the project, which is expected to be published in 2015.

Associated with the MPWSP is a Settlement Agreement among a number of stakeholders that establishes technical, financial, governance, and other conditions applicable to the project.[9] Included in those conditions is agreement of the need for one or more test wells, a statement that slant wells are the preferred intake method, "subject to confirmation of the feasibility of this option by the test well results and hydrogeologic studies," and a stated preference to locate the wells within the actively mined area of the CEMEX site.

The test slant well described in these findings is the product of Cal-Am's MPWSP application and the Settlement Agreement. It is a necessary precursor to determining whether slant wells are feasible at this site and determining whether the MPWSP will be constructed and operated as currently proposed. Should the slant well testing be successful, Cal-Am is expected to continue with its current proposal; however, failure or difficulties with the slant well could either preclude the MPWSP from being built or require substantial changes to its current design, location, or intake method.

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

[9] The parties to the Settlement Agreement include Citizens for Public Water, City of Pacific Grove, Coalition of Peninsula Businesses, County of Monterey, CPUC Division of Ratepayer Advocates, Landwatch Monterey County, Monterey County Farm Bureau, Monterey County Water Resources Agency, Monterey Peninsula Regional Water Authority, Monterey Peninsula Water Management District, Monterey Regional Water Pollution Control Agency, Planning and Conservation League Foundation, Salinas Valley Water Coalition, Sierra Club, and the Surfrider Foundation.

D. JURISDICTION

The project site is entirely within the coastal zone. Portions of the site landward of the mean high tide line are within the City of Marina's certified LCP permit jurisdiction. The standard of review for development in that part of the site is the City's certified LCP. Portions of the site seaward of the high tide line are within the Commission's retained jurisdiction where the standard of review is Chapter 3 of the Coastal Act. All project components within the Commission's retained jurisdiction will be located beneath the seafloor.

The City's certified LCP consists of its Local Coastal Land Use Plan (LCLUP) and its Local Coastal Program Implementation Plan (LCPIP). The relevant policies and measures of these documents are codified in the Chapter 17.41 of the City's Municipal Code under "Coastal Zoning" and are implemented through requirements and development standards identified in the Ordinance.

Other Agency Approvals & Consultations

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

- **Monterey Regional Water Pollution Control Agency (MRWPCA):** authorization for connection and use of MRWPCA's ocean outfall.
- **State Lands Commission:** lease of state tidelands.
- **Central Coast Regional Water Quality Control Board:** a new or modified National Pollution Discharge Elimination System ("NPDES") Permit.
- **Monterey Bay National Marine Sanctuary:** authorization to allow discharge into Sanctuary waters and drilling and disturbance of submerged lands within the Sanctuary.[10]

Landowner approval: The project will be subject to landowner approval from two entities – CEMEX for the land-based portion of the project, and the State Lands Commission, for the portion of the slant well that will extend beneath state tidelands.

Regarding CEMEX, Cal-Am has been negotiating terms of a lease of CEMEX lands for the past several months. On November 5, 2013, Cal-Am and CEMEX announced they had reached agreement on allowing access to the property. To ensure Cal-Am has the property interest necessary for its proposed test slant well project, **Special Condition 1** requires it to provide proof of legal interest prior to starting construction. In addition, and as authorized by Coastal Act Section 30620(c)(1),[11] **Special Condition 2** requires Cal-Am to reimburse the Commission for any costs or attorneys fees the Commission incurs in connection with the defense of any

[10] The Sanctuary is serving as lead agency under the National Environmental Policy Act ("NEPA") and has prepared an October 2014 Finding of No Significant Impact ("FONSI") as part of its NEPA obligations.

[11] Coastal Act section 30620(c)(1) states:

> *The commission may require a reasonable filing fee and the reimbursement of expenses for the processing by the commission of an application for a coastal development permit under this division and, except for local coastal program submittals, for any other filing, including, but not limited to, a request for revocation, categorical exclusion, or boundary adjustment, that is submitted for review by the commission.*

See also 14 C.C.R. Section 13055(e).

action brought by a party other than the Applicant/Permittee challenging the approval or issuance of this permit.

Regarding the lease from the State Lands Commission, Cal-Am is expecting its lease application to be heard at the State Lands Commission December 2014 hearing. Although Cal-Am has not yet obtained the approval needed to conduct the project beneath state tidelands, its test slant well drilling activities will not occur within State Lands jurisdiction for the first several weeks of the project – that is, it will take several weeks of site preparation, staging, and drilling before the well will reach areas beneath state tidelands. **Special Condition 1** therefore requires Cal-Am to provide proof of that approval before the slant well extends past the mean high tide line at the site and into State Lands jurisdiction. Cal-Am has acknowledged the risk of starting the project before obtaining this approval and recognizes that the approval might not be granted. However, should approval be granted, this approach will allow Cal-Am to start work and complete the well, presuming State Lands Commission approval, largely before the work limitations imposed due to the Western snowy plover nesting season, which runs from February 28 to October 1 of each year. These Findings discuss this issue in more detail below in Section IV. H – Protection of Sensitive Habitat Areas.

E. Substantial Issue

Appeal Jurisdiction and Procedures

Coastal Act Section 30603 provides for the appeal to the Coastal Commission of certain CDP decisions in jurisdictions with certified LCPs. Section 30625(b) of the Coastal Act requires the Commission to hear an appeal unless the Commission determines that no substantial issue is raised with respect to the grounds on which the appeal has been filed. Commission staff recommended substantial issue, and unless three Commissioners object, it is presumed that the appeal raises a substantial issue and the Commission may proceed to the *de novo* portion of the appeal hearing at the same or subsequent meeting, without taking public testimony regarding the substantial issue question. However, if three Commissioners object to the substantial issue recommendation, the Commission will hear arguments and vote on the substantial issue question. The only persons qualified to testify before the Commission on the substantial issue question are the applicant, local government, and persons (or their representatives) who opposed the application before the local government. Testimony from other persons regarding the substantial issue question must be submitted in writing. It takes a majority of Commissioners present to find that no substantial issue is raised.

Unless the Commission determines that the project raises no substantial issue, the Commission will conduct a full *de novo* public hearing on the merits of the project at the same or subsequent hearing. If the Commission conducts a *de novo* hearing on the appeal, the applicable test under Coastal Act Section 30604 is whether the development is in conformance with the certified Local Coastal Program. In addition, for projects located between the sea and the first public road paralleling the sea, Coastal Act Section 30604(c) requires that a finding that the development conforms to the public access and public recreation policies of Chapter 3.

Denial of a major public works facility: Coastal Act Section 30603(a)(5) provides that appeals may be filed for local government decisions to approve or deny proposed major public works projects. Coastal Act Section 30114(a) defines "public works" as including: "All production, storage, transmission, and recovery facilities for water, sewerage, telephone, and other similar utilities owned or operated by any public agency or by any utility subject to the jurisdiction of the Public Utilities Commission, except for energy facilities." The Commission's regulations, at 14 CCR Section 13012(a) define "major public works" as those facilities that cost more than $100,000, adjusted yearly based on the Construction Cost Index. As of 2012, a public works project must cost slightly less than $240,000 to be considered a "major public works."

Cal-Am is subject to the jurisdiction of the Public Utilities Commission, its proposed test slant well project involves the production, transmission, and recovery of water, and its stated project costs are greater than five million dollars. Pursuant to the above-reference provisions of the Coastal Act and the Commission's regulations, the City's action was therefore a denial of a major public works project and Cal-Am may appeal the City's decision to the Commission.

Section 30603(b)(2) provides that the grounds for appealing the denial of a permit for a major public works project are limited to an allegation that the proposed development conforms to the standards set forth in the certified LCP and the public access policies set forth in this division. Cal-Am's contentions regarding the grounds of its appeal are described below.

Local Action

On July 10, 2014, the City of Marina ("City") Planning Department declined to approve or disapprove a Coastal Development Permit ("CDP") for the proposed Cal-Am test well project, and declined to certify a Mitigated Negative Declaration prepared by the City for compliance with the California Environmental Quality Act ("CEQA"). Cal-Am appealed that decision to the City Council. On September 4, 2014, the City denied the CDP and declined to certify the Mitigated Negative Declaration. The City's Final Local Action Notice ("FLAN") is included as a Substantive File Document.

On Friday, September 12, 2014, the Commission received the Final Local Action Notice ("FLAN") from the City. The Commission's appeal period started on September 15, 2014, the first working day following the date of receipt of that FLAN. In accordance with Section 13110 of the Commission's regulations, the 10-working day appeal period ran from September 15, 2014 to September 26, 2014. On September 24, within the 10-working day appeal period, Cal-Am filed a valid appeal of the City's denial. In accordance with Section 13112 of Title 14 of the California Code of Regulations, staff requested that the City provide all relevant documents and materials regarding the local coastal development permit action. The documents and materials relating to the City's approval of the local coastal development permit are necessary to analyze whether a substantial issue exists with respect to conformity of the City's approval with the relevant policies of the certified LCP. Pursuant to Coastal Act Section 30261, the appeal must be heard within 49 days from the date that the appeal is filed unless the appellant waives that 49-day period. This appeal period runs until November 12, 2014.

Substantial Issue Standard of Review
Coastal Act Section 30625(b) states that the Commission shall hear an appeal unless it determines:

> *With respect to appeals to the Commission after certification of a local coastal program, that no substantial issue exists with respect to the grounds on which an appeal has been filed pursuant to Section 30603.*

The term "substantial issue" is not defined in the Coastal Act or its implementing regulations. Section 13115(b) of the Commission's regulations simply indicates that the Commission will hear an appeal unless it "finds that the appeal raises no significant question." In previous decisions on appeals, the Commission has been guided by factors that include the following:

1. The degree of factual and legal support for the local government's decision that the development is consistent or inconsistent with the certified LCP and with public access policies of the Coastal Act;
2. The extent and scope of the development as approved or denied by the local government;
3. The significance of the coastal resources affected by the decision;
4. The precedential value of the local government's decision for future interpretation of its LCP; and,
5. Whether the appeal raises only local issues or those of regional or statewide significance.

If the Commission chooses not to hear an appeal, the appellant nevertheless may obtain judicial review of the local government's coastal permit decision by filing a petition for a writ of mandate pursuant to California Code of Civil Procedure Section 1094.5.

Substantial Issue Determination
Summary of Appellant's Contentions: In its appeal, Cal-Am asserts that its proposed project is consistent with relevant provisions of the City's certified LCP. It contends both that the City made no findings showing that the proposed project would be inconsistent with applicable LCP policies or would interfere with coastal access, and that its proposed project is fully consistent with the applicable policies. These contentions, and the Commission analysis of each, are described in more detail below.

1. **Cal-Am contends the City did not make findings of LCP inconsistency:** As noted above, the City held two hearings – one on July 10, 2014 with the City's Planning Department and one on September 3 and 4, 2014 with the City Council. In both, the City considered certifying the City's Initial Study/Mitigated Negative Declaration, which it had prepared pursuant to its lead CEQA agency requirements for the proposed project, and considered issuance of a CDP. At the Planning Department hearing, the City declined to certify the IS/MND, but it neither approved nor denied the CDP application. Cal-Am then appealed the Planning Commission's action to the City Council. At the City Council hearing, the City Council adopted a resolution to reject the IS/MND and to deny the CDP application (see Exhibit 7).

At the two hearings, neither the Planning Department nor the City Council adopted findings regarding the proposed project's conformity or non-conformity to the LCP or the Coastal Act's public access policies. The City's CEQA findings stated that it was unable to determine that the project would not have a significant adverse environmental effect and that the draft IS/MND did not reflect the independent decision of the City. The City's CDP findings stated that "based upon the above conclusions regarding CEQA, the City is unable to approve the Project…" In reviewing the City's record, the Commission determines that the City did not make findings that support its denial of the CDP due to any inconsistency of the project with relevant LCP and Coastal Act policies.

2. **Cal-Am contends that its project is fully consistent with relevant LCP and Coastal Act policies:** In its appeal, Cal-Am notes that the City's staff and outside expert consultants determined that, with conditions, the proposed project would meet relevant LCP requirements. The recommended conditions addressed a number of issue areas, including coastal erosion, sensitive habitat, visual impacts, and others (see Exhibit 8 – Cal-Am Mitigation Measures). In its staff report, City staff identified those conditions as allowing the proposed project to conform to relevant provisions of the LCP and recommended that the City conditionally approve the CDP. As noted above, however, the City did not adopt any of the conditions, nor did it make any determination that the project was in any way inconsistent with relevant LCP provisions or the Coastal Act's public access policies.

Substantial Issue Conclusion: With the lack of City findings showing that the project does not conform to relevant LCP and Coastal Act public access provisions, the Commission finds that there is insufficient factual and legal support for the City's denial of the proposed test well. The appeal raises significant regional concerns, as the data that will be produced by the test well are needed to assess the feasibility, location and design of a desalination facility that is intended to address regional water shortages. It is also a poor precedent for the City to deny a CDP without making any findings as to why the proposed project does not conform to the City's LCP. In addition, while the project is not expected to impact a significant portion of the CEMEX site, it will be constructed in areas that are within primary habitat, so significant coastal resources will be affected by the proposed project. Thus, these four factors all weigh strongly in favor of a finding of substantial issue. Conversely, the extent and scope of this project are fairly minor, as project construction is expected to adversely affect less than one acre and the test well is proposed to operate for only two years, so this one factor weighs more towards a finding of no substantial issue. However, four of the five substantial issue factors weigh heavily in favor of a finding of substantial issue, so when all five factors are taken together, the Commission finds that the appeal raises substantial issue regarding conformity to the LCP and to the Coastal Act's public access policies.

F. Coastal Development Permit Determination

The proposed test slant well will be located both within the City of Marina's LCP jurisdiction and within the Commission's original jurisdiction, as portions of the project will extend seaward of the Monterey Bay mean high tide line. Because the Commission found that the City's denial of the portion of the project within the City's jurisdiction raises a substantial issue, the Commission reviews that portion of the project *de novo*. In addition, Cal-Am has applied for a

CDP for the portion of its project within the Commission's retained jurisdiction. The findings below address both portions of the project, using the Coastal Act as the standard of review for those parts of the project within the Commission's retained jurisdiction and using the City's LCP and Coastal Act public access and recreation policies as the standard of review for the portions within the City's LCP jurisdiction.

G. PUBLIC ACCESS AND RECREATION

LCLUP Policy 1 is:

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

LCLUP Policy 2 is:

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

LCLUP Policy 3 is:

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

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

> *Retention of uninterrupted lateral access along the sandy beach frontage.*
>
> *Protect and continue to provide public access from the nearest public roadway to the ocean.*
>
> *Structures necessary for the functioning of any Coastal Conservation and Development use (e.g., dredgelines, sewer outfall lines) may cross the sandy beach designated Park and Open Space provided lateral beach access is not significantly blocked.*

Coastal Act Section 30211 states:

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

Coastal Act Section 30212(a) states:

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

Coastal Act Section 30214 states, in relevant part:

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

Coastal Act Section 30221 states:

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

LCP and Coastal Act policies require generally that development located adjacent to the shoreline in areas with public use not interfere with that use and provide access to the shoreline. The project site consists of an industrial facility with restricted access; however, it is adjacent to shoreline areas that provide lateral public access to the shoreline and recreational opportunities.

All project work will occur at some distance from the shoreline and is not expected to affect lateral beach access. The well drilling and support activities will be set back approximately 650 feet from the mean high tide line, with no activities or structures on the beach itself. Activities to connect the well discharge pipe to the existing outfall will be about 450 feet from the shoreline. Drilling beneath the beach will occur several dozen feet below the ground surface and is not expected to affect or limit ongoing beach access. Therefore, the project activities are expected to be consistent with, and not conflict with the above policies, as they will not require structures across the beach that would inhibit public access and will not impede beach users.[12] Additionally, the bulk of project-related activities will occur during non-peak recreational use in the area, which will further reduce any potential access effects. Further, the project need not provide additional access, as it will be temporary, it is not expected to cause adverse effects to access, it is located within an existing industrial area with restricted access, and it is in an area where suitable access exists, particularly given the highly valued nearby habitat where increased access may not be appropriate.

Conclusion

Based on the above, the Commission finds that the project, as conditioned, conforms to the relevant public access and recreation policies of the LCP and the Coastal Act.

[12] As described below in Section IV.J – Coastal and Geologic Hazards, an extreme erosion event during the slant test well's expected operating life could expose some of the subsurface well casing. **Special Condition 6**, which is meant to address this potential coastal hazard, would also alleviate any effects on public access.

H. Protection of Sensitive Habitat Areas

Relevant LCP Provisions

LCLUP Policy 19:

> *Promote reclamation and protection of native dune habitat and vegetation.*

LCLUP Policy 25:

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

LCLUP Policy 26:

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

LCLUP Policy 41:

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

LCLUP Exhibit A states:

> ***Primary habitat.*** *This term includes all of the environmentally sensitive habitat areas in Marina. These are as follows:*
> *1. Habitat for all identified plant and animal species which are rare, endangered, threatened, or are necessary for the survival of an endangered species. These species will be collectively referred to as "rare and endangered."*
> *2. Vernal ponds and their associated wetland vegetation. The Statewide Interpretive Guideline for Wetlands and Other Wet Environmentally Sensitive Habitat Areas (California Coastal Commission, February 14, 1981) contains technical criteria for establishing the inland boundary of wetland vegetation.*
> *3. All native dune vegetation, where such vegetation is extensive enough to perform the special role of stabilizing Marina's natural sand dune formations.*
> *4. Areas otherwise defined as secondary habitat that have an especially valuable role in an ecosystem for sensitive plant or animal life., as determined by a qualified biologist approved by the City. [Resolution No. 2001-118 (October 16, 2001); approved by CCC November 14, 2001]*
>
> ***Secondary habitat.*** *This term refers to areas adjacent to primary habitat areas within which development must be sited and designed to prevent impacts which would significantly degrade the primary habitat. The secondary habitat area will be presumed to include the following, subject to more precise determination upon individual site investigation:*
> 1. *The potential/known localities of rare and endangered plan species as shown on LUP p. 71 ("Disturbed Vegetation" map).*

2. The potential wildlife habitats as shown on LUP p. 75 ("Potential Wildlife" map).
3. Any area within 100 feet of the landward boundary of a wetland primary habitat area.

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

1. Smith's Blue Butterfly (Shijimiaeoides enoptes smithi)
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 Wallflower (Erysimum ammophilum)
9. Menzies' Wallflower (Erysimum menziesii)
10. Coastal Dunes Milk Vetch (Astragalus tener var. titi)
11. Dune Gilia (Gilia tenuiflora var. arenaria)
*12. Wild Buckwheat (Eriogonum latifolium)**
*13. Wild Buckwheat (Eriogonum parvifolium)**
14. Bush Lupine (Lupinus ssp.)+
** only within the range of Smith's Blue Butterfly.*
+ only within the range of the Black Legless Lizard.

LCLUP Habitat Protection Policies include:

- *Before any use or change in use, areas identified as potential habitat for rare and endangered plant or animal species shall be investigated by a qualified biologist to determine the physical extent of the primary habitat areas for the specific rare and endangered plants and animals on that site.*
- *Primary habitat areas shall be protected and preserved against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas. All development must be sited and designed so as not to interfere with the natural functions of such habitat areas. Management and enhancement opportunities should be incorporated into use or development proposals; potential impacts shall be fully mitigated, including the assurance of long term mitigation and maintenance of habitat through the use of appropriate acreage replacement/restoration ratios for any unavoidable direct impacts to habitat areas.*
- *Potential secondary or support habitat areas to the primary habitats identified on the site should also be defined. Secondary habitat investigation should include identification of the role and importance of the secondary area to the primary habitat area and should stress the impact of use or development in the secondary area on the primary habitat. All development in this area must be designed to prevent significant adverse impacts on the primary habitat areas. In concert with State law, City ordinances shall require environmental review and appropriate mitigation of*

identified impacts for all development in the Coastal Zone, including the assurance of long term mitigation and maintenance of habitat through the use of appropriate acreage replacement/restoration ratios for any unavoidable direct impacts to habitat areas.

- *Available evidence indicates that dune vegetation is more resilient than previously thought, and areas damaged by illegal use or negligence shall be considered restorable and eligible for restoration.*
- *Where habitats of rare and endangered species are located on any parcel, owners and/or operators shall, at such time that development is proposed, develop and execute a Management Plan which will protect identified rare and endangered plant and animal communities. Each plan shall be drawn up by a qualified biologist in co-operation with the property owner/developer.*

LCLIP Regulations for Coastal Conservation and Development District Policy (b)(2)

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

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

Analysis

City of Marina Sand Dunes: Coastal sand dunes constitute one of the most geographically constrained habitats in California. They only form in certain conditions of sand supply in tandem with wind energy and direction. Dunes are a dynamic habitat subject to extremes of physical disturbance, drying, and salt spray, and support a unique suite of plant and animal species adapted to such harsh conditions. Many characteristic dune species are becoming increasingly uncommon. Even where degraded, the Coastal Commission has typically found this important and vulnerable habitat to be ESHA due to the rarity of the physical habitat and its important ecosystem functions, including that of supporting sensitive species.

The sand dunes within the City of Marina include a number of plant and animal species of special concern that have evolved and adapted to the desiccating, salt-laden winds and nutrient poor soils of this area. The best known of these native dune plants are the Menzie's wallflower and the Monterey spineflower, both of which have been reduced to very low population levels through habitat loss. The native dune vegetation in the vicinity of the project also includes other dune species that play a special role in the ecosystem; for example, the coast buckwheat, which hosts the Federally-endangered Smith's blue butterfly.

Site Specific Resources: Consultants for the applicant have conducted several biological studies of the site. Biological investigations conducted in 2013 identified several special-status species present within or near the proposed project area.[13] These include:

- **Monterey spineflower** (*Chorizanthe pungens* var. *pungens*), an annual herb listed as federally threatened under the Endangered Species Act (ESA). At the time of the 2013 survey, individual plants were identified within the overall proposed project boundary, but not within the area expected to be disturbed during the project.

- **Smith's blue butterfly** (*Euphilotes enoptes smithi*), a federally endangered species dependent on two vegetation species – coast buckwheat (*Eriogonum latifolium*) and seacliff buckwheat (*E. parvifolium*) – that grow in these coastal dunes. The butterfly is active from mid-June to early September each year. The most recent surveys documenting the presence of the butterfly were done in the mid-1990s; however, the project area is still considered to support the butterfly as the more recent 2013 biological survey identified numerous coast buckwheat plants along the proposed project's general alignment, but not within the project's anticipated area of disturbance.

- **Western snowy plover** (*Charadrius nivosus*), listed as threatened under the federal ESA and is considered a Species of Special Concern by the CDFW. The shoreline along the project site is within designated critical habitat for the species. The CEMEX site provides nesting habitat for the plover, with recent evidence of successful nesting. Most nests have been located between the shoreline and the base of the foredunes, though some have been adjacent to the project area. Some of Cal-Am's proposed project construction activities would occur during the breeding and nesting period, which runs from February 28 to October 1 of each year.

- **California legless lizard** (*Anniella pulchra*), considered a Species of Special Concern by the CDFW. The species lives beneath the dune surface in the project area and forages beneath leaf litter and sand for insects and other invertebrates. No lizards were identified in the biological surveys, but this species is active in the overall dune complex, primarily in areas with some vegetative cover which provides a means for temperature regulation as well as insects for foraging. As noted in the biological reports done for the project, the lack of native vegetation and the relatively unvegetated project area is less likely to attract this species, the Black Legless Lizard, or the Coast horned lizard, which are also found in the area and are largely dependent on native vegetation. Although these reports demonstrate that it is unlikely for any of these species of special concern to be found at the site and therefore to be adversely affected by the project, mitigation measures are nevertheless imposed to ensure that the project will not adversely affect these species (See Special Conditions 13 and 14 and discussion of mitigation measures in Section P of this report).[14]

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[13] See, for example, Zander Associates, *Technical Memorandum, Biological Resources Assessment MPWSP Temporary Slant Test Well Project*, 2013, and Zander Associates, *Biological Assessment for the MPWSP Temporary Slant Test Well Project, Marina, California*, 2013.

[14] See, for example, Zander Associates, *Biological Resources Assessment MPWSP Temporary Slant Test Well Project*, October 2013.

Other special-status species are known to occupy nearby areas, though were not identified within the project footprint during these most recent surveys. As noted in the LCP, these include the Globose Dune Beetle *(Coelus globosus)*, Salinas Kangaroo Rat *(Dipodomys Heermanni Goldmani)*, Seaside Painted Cup *(Castilleja latifolia ssp. Latifolia)*, Eastwood's Ericameria *(Ericameria fasciculate)*, Coast Wallflower *(Erysimum ammophilum)*, Coastal Dunes Milk Vetch *(Astragalus tener var. titi)*, Dune Gilia *(Gilia tenuiflora var. arenaria)*, Wild Buckwheat *(Eriogonum latifolium)*, and Bush Lupine *(Lupinus ssp.)*.

Location of the Proposed Project: The project will be located in an area of coastal dunes that are part of the southern Monterey Dune complex that extends roughly unbroken some 20 miles from Monterey Harbor to the Pajaro River. The project area itself is located on the approximately 400-acre CEMEX dune property that is located about a mile north of the roughly 1,000 acre Fort Ord Dunes State Park. A portion of the CEMEX property has been the site of sand mining operations since 1906, with ongoing sand mining taking place in the area generally seaward of the proposed project site. The dune areas at this location are continually subject to naturally-occurring changes due to winds, shifting sands, changes in vegetation types and locations, and other similar events. These natural modifications help determine the presence or absence of particular species or habitat value at a particular location on a relatively short, and often shifting, timescale. There may be relatively higher resource values in any one area at any one time (e.g., certain plants and animals are found in a particular area), but natural processes and shifts can move such values around in the dune areas, so dune resource values tend to be best understood in terms of the overall complex of dunes of which they are a part.[15]

Approximately 104 acres of the CEMEX property have experienced some level of disturbance due to past sand mining activities, although current activities are now confined to a much smaller area. The test well project will involve about 0.75 acres of ground disturbance within the footprint of a compacted sand dune area that CEMEX intermittently uses to access its active mining area near the beach. The proposed test well area is also adjacent to the outfall from the Monterey Regional Water Pollution Control Agency's ("MRWPCA's") wastewater treatment facility, which is located several miles inland. The outfall, built in the mid-1980s pursuant to CDP #80-80, is buried along the southern boundary of CEMEX's remaining sand processing and operations area. That CDP required the outfall to be built in a previously disturbed portion of the dunes on the CEMEX site, and to avoid dune vegetation and more stabilized dune areas. Both that CDP and an associated easement anticipate that the dune area where the outfall line is located will be subject to disturbance should the outfall need to be repaired – for example, the easement states that entry will be allowed for "necessary repair, maintenance and replacement" of the outfall.

The location and intensity of some of CEMEX's activities have changed over the past several decades, though some areas appear to have been in relatively constant use during that period. This is illustrated in Exhibit 6, which provides aerial photographs of the site taken in 1972 and 2013. The disturbed and compacted sand dune area within the proposed test well footprint has remained relatively unvegetated, at least in part due to CEMEX using the area for access to and

[15] See, for example, the Commission's approach to dune protection in the Asilomar Dunes area of Monterey County in downcoast Pacific Grove and the Del Monte Forest.

from its dredge pond area near the beach. CEMEX (and previous mine operators), have used a number of different access routes across the dunes in response to shifting dunes, and/or due to the use or disuse of nearby areas for mining or stockpiling materials, but the bare sand access route in which the proposed project will be located can be seen in air photos extending back several decades. Ongoing sand mining and processing operations appear to have also contributed to invasive vegetative species dominating many parts of the CEMEX site, particularly iceplant (*Carpobrotus* spp.). In some areas, the thick cover of iceplant has helped prevent establishment or re-establishment of native species.

Definition and Designation of Habitat as Primary or Secondary: The LCP describes the levels of habitat protection expected in the City's coastal zone and the allowable uses within those areas. The LCP establishes two categories of sensitive habitat areas – primary habitat and secondary habitat. The LCLUP definition of primary habitat includes four types of habitat, and if the habitat meets any of these four descriptions it is classified as primary. As relevant to this project, habitat is primary if it provides habitat for rare, endangered or threatened plant and animal species or if such habitat is necessary for the survival of an endangered species.[16]

Secondary habitat is defined as areas adjacent to primary habitat within which development must be sited and designed to prevent impacts that would significantly degrade primary habitat. The LCP includes maps of areas presumed to be secondary habitat, subject to a more precise determination when a site-specific biological study is undertaken (see Exhibit 7 – LUP Least Disturbed Dune Habitat Map).[17] Although difficult to read, the LCP mapped potential secondary habitat areas appear to include a large area of dune within the City of Marina, including much of the CEMEX site and many of the areas identified therein as subject to past sand mining activities.

It is important to note that all of the cited LCP policies, as well as all that are included within the City of Marina's LCP, derive from the authority of the Coastal Act. The Coastal Act definition of Environmentally Sensitive Habitat (ESHA) is similar to the first description of primary habitat included in the LCLUP. Coastal Act Section 30107.5 defines environmentally sensitive habitat as: "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or

[16] Because the area of the proposed project essentially lacks dune vegetation, the primary habitat criteria linked to the presence of dune vegetation does not apply in this instance.

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

degraded by human activities and developments." The LCP definition of primary habitat must be read to be consistent with that in the Coastal Act.[18]

The majority of the grading and other disturbance proposed as part of this project will take place in an area that has historically been used as an access route for equipment accessing the CEMEX dredge pond area near the immediate shoreline. As noted above, this area consists of compacted and unvegetated sand dunes that have been disturbed by CEMEX's (and predecessor's) activities for many years. Adjacent dune areas support more vegetation, including the Monterey spineflower, a federally-threatened species, and other native species, as well as considerable areas dominated by non-native iceplant.

The most recent biological survey of the site was undertaken by the applicant's consultant in September of this year. The applicant's biologist mapped the subject site and nearby areas, including locations of then identified rare, threatened or endangered species and the proposed project footprint (See Exhibit 10 – LCP Primary and Secondary Habitat Delineation). The applicant's biologist determined that the area in which the project is proposed is adjacent to primary habitat that currently supports native vegetation, including the Monterey spineflower, a federally-endangered species. It concludes, however, that the area within the project footprint should be categorized as secondary, not primary, habitat. This conclusion was based on the applicant's biologist's determination that the project would lie within areas used by CEMEX in support of its mining activities, so the biologist determined the area was so disturbed as to no longer qualify as primary habitat.[19]

The Commission's senior staff ecologist, Dr. John Dixon, disagrees with this determination. While Dr. Dixon has not had an opportunity to visit this site himself, given the short 49-day period between the filing of this appeal and the required hearing on the appeal, he has reviewed the relevant reports and photos of the site and, in particular, photos of the compacted sand access area in which much of the development will take place.

Dr. Dixon based his opinion on the following considerations. While the degraded dune habitat that will be adversely impacted by this project is not currently supporting the growth of native dune plants, as with other degraded dune habitat in California, it is an extremely rare physical habitat type. The substrate is comprised of the same type of sand that makes up the adjacent dunes, is contiguous with more undisturbed dune fields, and is subject to the same physical forces. If left undisturbed the degraded habitat would soon begin to develop more typical dune morphology and would be colonized by dune biota, including as even bare dune areas are known to include native dune species seed stock that is buried and just waiting for the right combination of physical forces to germinate and express aboveground. That Monterey spineflowers and snowy plover nests have been identified within and adjacent to the proposed project area is also testimony to the fact that this degraded and historically manipulated habitat is still a sand dune; and it could support other rare or threatened species if not continuously disturbed.

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

[19] See Michael Baker International, *LCP Primary and Secondary Habitat Delineation*, received in Coastal Commission offices via email on October 10, 2014.

The City's LCP acknowledges that dune habitat is more resilient than was once thought, and it has been the Commission's experience that this statement has been borne out in other circumstances that show that even degraded dunes can provide habitat for rare and threatened dune species.[20] The LCP also requires that the reclamation and protection of native dune habitat be promoted, and that habitat for rare and endangered species, such as this dune habitat, must be protected (LCP Policies 19 and 25). As noted above, dune habitat is a particularly rare and valuable type of habitat in California's coastal zone. The Commission has in many past cases found degraded dune habitat to constitute ESHA.[21] Thus, interpreting the definition of primary habitat consistent with the Coastal Act, the Commission finds that the area in which the proposed project will be located constitutes ESHA and meets the first description of primary habitat under the LCP.

This interpretation of the LCP and the definition of primary habitat is further supported by the structure of the LCP and Coastal Act habitat policies. The Coastal Act ESHA protection policies in Section 30240 state:

> *(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*
>
> *(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

The LCP limits development in primary habitat to uses dependent on the resource, just as the Coastal Act limits development in ESHA to such uses.[22] The LCP definition of primary habitat must therefore be read consistent with the Coastal Act definition of ESHA, as the Commission had to certify the LCP to be consistent with the Coastal Act so that the habitat in which only resource dependent uses are allowed would be at least as restrictive in the City's LCP as it is in the Coastal Act.

This interpretation is also consistent with the LCP's definition of secondary habitat and uses allowed in secondary habitat, as development of secondary habitat includes protections that are similar to those required in Coastal Act Section 30240(b) for areas adjacent to ESHA. For example, LCLUP Habitat Protection Policy 3 requires that all development in secondary habitat must be designed to prevent significant adverse impacts on primary habitat, just as 30240(b) requires development adjacent to ESHA to be sited and designed to prevent impacts which would significantly degrade ESHA.

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[20] See the fourth paragraph of the LCLUP Habitat Protection Policies.

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

[22] LCLUP Habitat Protection Policy Paragraph 2.

As noted above, the LCP limits uses within primary habitat to those dependent on the resources. Any development within those areas is limited to that which is sited and designed to not interfere with the natural functions of the habitat. The LCP also requires that all adverse effects in primary habitat be fully mitigated. Although the project is proposed to be located in portions of the CEMEX site that have been subject to disturbance, the entire area in which the project will be located is primary habitat and ESHA under the LCP. The proposed project is not a resource-dependent use, so it cannot be approved consistent with the LCP's habitat protection policies.

Conclusion

Based on the discussion above, the Commission finds that the project, as proposed, does not conform to the Habitat Protection policies in the City's LCLUP. However, because the proposed project is considered a "coastal-dependent" industrial facility and the LCP designates coastal-dependent industrial uses as appropriate uses on this site, consistent with Coastal Act Section 30260, such uses may be approved despite inconsistencies with other LCP policies. The analysis and findings related to Section 30260 are provided below in Section IV. P of these Findings.

I. PROTECTION OF COASTAL WATERS AND MARINE RESOURCES

LCLUP Policy 16:

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

LCLUP Policy 17:

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

Coastal Act Section 30230 states:

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

Coastal Act Section 30231 states:

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

These LCP policies require generally that development protect marine resources, ocean water quality and biological productivity.

Effects on Coastal Water Quality

As noted previously, the purpose of the project is to identify whether the test slant well can provide a suitable source of water for a proposed desalination facility. Cal-Am specifically selected a subsurface slant well instead of an open ocean water intake to avoid the adverse entrainment and impingement effects on marine life caused by open water intakes.[23] Where feasible, the use of wells rather than open water intakes is the preferred method for obtaining desalination source water, as it eliminates these types of adverse effects on marine life. Any seawater pumped from the well will have been very slowly introduced into the underlying

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

aquifer through the seafloor, thus harmlessly filtering out any marine life. Given the depth of the well intake screen and the area from which the well will draw in water, any effects that may occur to the overlying ocean water column or benthic habitat are expected to be imperceptible. Cal-Am's modeling of the site shows that the expected area of drawdown during its pump test could extend up to about 2,500 feet from the well. With a relatively large area within which drawdown will occur and a maximum pumping rate of 2,500 gallons per minute, the infiltration rate through the seafloor will be essentially undetectable, even if all the water came from the overlying ocean water column rather than from within the aquifer.

Effects of Construction Activities

Most construction activities will occur about 650 feet from the beach at the location of the slant wellhead where the drilling rig will operate. The closest land-based activities to the shoreline will be the work needed to connect the test well discharge pipeline to the existing outfall, which will occur about 450 feet from the shoreline. As described in the previous section of these Findings, the project footprint will occur within a relatively limited area in previously disturbed portions of the site, which will reduce potential construction-related effects. Additionally, the drilling technique Cal-Am will use for the slant well does not require the use of drilling fluids, which represents a significant reduction in potential effects – for example, there are no concerns related to the unexpected release of these fluids, known as "frac-outs."

Drilling activity will also occur beneath the shoreline and ocean bottom, which could cause noise or vibration to propagate to the water column; however, noise and vibration levels are expected to be very low because of the intervening dozens to hundreds of feet of substrate between the drilling equipment and the water column. The potential for these levels to affect marine life is low, due in part to the relatively low sound levels resulting from drilling as compared to other sources known to cause marine life effects, such as those resulting from high-impact activities such as pile driving. Any project sounds within the water column are also expected to be at or below the levels of other ambient sounds caused by wave action, boat traffic, and other ongoing nearby sources.[24]

To help ensure that project construction activities will not cause adverse effects to coastal waters, **Special Condition 3** requires Cal-Am to implement a number of Best Management Practices meant to reduce the potential that project effects will reach any nearby waters. These include requirements to remove trash and debris on a regular basis, use noise attenuation devices to limit the levels of project-related noise at nearby beaches, and others. **Special Condition 4** requires Cal-Am to prepare and submit an erosion control plan that identifies measures it will implement to reduce the potential for project-related runoff from reaching coastal waters.

Spill Prevention and Response

The project involves use of heavy construction equipment near sensitive dune habitat and coastal waters that could be adversely affected by spills of fuel or other hazardous materials. Cal-Am has included several measures in its project to reduce the potential for spills. It has incorporated several spill prevention/response conditions developed by City staff into its project description,

[24] See Monterey Bay National Marine Sanctuary, *Finding of No Significant Impact for the California American Water Slant Test Well Project, Section 6.3 – Marine Biological Environment*, October 2014.

such as siting staging areas away from locations that have the potential to experience significant runoff during rains, maintaining cleanup materials at the project site should any spills occur, and providing training to on-site personnel regarding spill prevention and cleanup.

To further ensure the potential for spills is reduced and effective measures are implemented for any spills that do occur, **Special Condition 5** requires Cal-Am to produce a Hazardous Material Spill Prevention and Response Plan. That Plan is to identify the maximum potential spill that could occur during project activities and describe all measures that Cal-Am will implement to prevent spills and to respond to spills should they occur.

Discharge of produced well water: After testing, Cal-Am will discharge the pumped water into an outfall owned by the Monterey Regional Water Pollution Control Agency ("MRWPCA"). The outfall conveys treated wastewater from the MRWPCA's regional wastewater treatment facility in northern Monterey County. The rate of discharge through the outfall varies significantly over the year, as the MWRPCA produces recycled water for irrigation during the agricultural growing season from February through December. The outfall's flow rates vary from up to about 38 MGD to near zero during parts of the season. The pump test flow rates will vary between about 1,000 and 2,500 gallons per minute (gpm), or about 1.4 to 3.6 MGD. Discharge volumes from Cal-Am's testing will therefore represent anywhere from about four percent to nearly 100% of the wastewater volumes conveyed through the outfall.

The test water discharge will be subject to requirements of the MRWPCA's NPDES permit for the outfall. The well water is expected to be about 95-100% seawater and therefore similar to the receiving waters; however, concentrations of some constituents in subsurface seawater may be different than those contained in surface water – for example, subsurface water sometimes has higher concentrations of naturally-occurring iron or manganese. To ensure NPDES permit requirements are met, Cal-Am will install temporary sedimentation tanks at the test well site to allow solids to settle out and will test the water for several dozen constituents, such as pH, dissolved oxygen, metals, and others. The discharged water is expected to be in compliance with the NPDES permit requirements and is not expected to need further treatment to meet Ocean Plan standards. The project's discharge is therefore not expected to cause impacts to ocean water quality. To confirm the project's expected lack of impacts, **Special Condition 1** requires Cal-Am to submit proof of consistency with the NPDES permit and Ocean Plan from MRWPCA or the Regional Water Quality Control Board.

Conclusion

Based on the discussion above, the Commission finds that the project, as conditioned, will conform to the marine resources, water quality, and spill prevention provisions of the LCP and the Coastal Act.

J. COASTAL AND GEOLOGIC HAZARDS

The LCLUP states:

> *Before development is permitted in the Coastal Zone, a geotechnical report appropriate to the specific proposal shall be prepared for that development in the dunes or in the vicinity of any vernal pond. The report shall include at least geologic and seismic stability, liquefaction potential, identification of an appropriate hazard setback to protect the economic life of structures, and specific recommendations on drainage, irrigation and mitigation of identified problems. Report contents shall comply with guidelines of the California Division of Mines and Geology.*
>
> ...
>
> *No new development shall be permitted which will require the construction of shoreline protection structures unless such development is in accordance with the provisions of the "Small Boat Harbor" section of this Land Use Plan, or when such structures are necessary to serve coastal dependent uses (as defined in the Coastal Act) or to protect publicly owned beaches from erosion.*

The LCLUP states:

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

The LCLUP states:

> *Ground shaking and Liquefaction Hazard: All land in the Marina Coastal Zone is subject to potential ground shaking from earthquakes. The risk to structures is moderate and can be effectively reduced by application of the standards in the Uniform Building Code (required of all new construction). Risks to Coastal users from ground shaking are low and no special protection is needed.*
>
> *Liquefaction is a condition which accompanies ground shaking when sandy soils become saturated with water. The effect is that the soil loses some of its strength to support structures. The potential for liquefaction occurring in various areas of the Coastal Zone is uncertain. Since water is an important factor in causing liquefaction, areas where there is standing water or the water table is close to the surface are more susceptible. Key among these areas are the Vernal Ponds, particularly during the wet season. However, the potential for liquefaction is highly site specific and should be determined by geotechnical investigation prior to permitting development. If development is permitted, it should be designed to account for possible ground failure.*

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

> *Public safety and vulnerability to wave erosion.*
>
> *Tsunami and other coastal hazards.*

The LCLIP states:

> ***Standards for Coastal Protection Structures:*** *Except for a few facilities associated with sand mining, there currently is little capital investment to be threatened by erosion along Marina's shoreline. The face of the dunes is subject to wave erosion, so future development shall be placed beyond the area vulnerable both to wave erosion and tsunami hazard. This setback shall be great enough to protect the economic life of the proposed development (at least 50 years) and be east of the tsunami hazard zone. The exact extent of this setback shall be determined by a qualified geologist, selected from an approved list compiled and maintained by the City. Because of variation from site to site, the setback line shall be determined at the time development of a site or parcel is proposed.*
>
> *Protective structures are not recommended in Marina; however, if they should ever be necessary, standards shall be established to insure that the type of protection, location, design and other factors are considered. In determining if it is suitable to issue a coastal permit for a shoreline structure, the following shall be addressed: (1) alternatives to a protective structure shall be determined and evaluated by appropriate specialists first; and (2) an EIR/EIS shall be required on the proposed structure. The EIR/EIS shall address specific issues of Local Coastal Land Use Plan concern, construction and maintenance. The environmental evaluation and mitigations shall be prepared by qualified specialists and shall address at a minimum the following specific issues and design considerations.*

Coastal Act Section 30253 states, in relevant part:

> *New development shall do all of the following:*
> *(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
> *(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

The LCP generally requires that development be sited and designed to avoid and minimize risks associated with coastal and geologic hazards. The site is subject to several of these hazards, including coastal erosion and seismic-related events such as groundshaking, liquefaction, and tsunami, each of which is addressed below.

Coastal Erosion

The site is on and adjacent to the actively eroding shoreline of Monterey Bay. Parts of the Bay shoreline exhibit the highest annual erosion rates in the state, due in part to relatively high levels of wave energy and the easily erodible sand that makes up most of the Bay shoreline. In recognition of the area's high erosion potential, the LCP requires that development be located inland of areas near the shoreline that are vulnerable to erosion.

The CPUC prepared a technical memorandum as part of its environmental review for Cal-Am's full-scale proposal that estimates the coastal erosion expected at several sites along the southern Monterey Bay shoreline through the year 2060, including the CEMEX site.[25] The estimates were based on computed historic erosion rates, erosion expected from sea level rise, and erosion from infrequent extreme events. For this proposed test well, a consultant hired by the City prepared an additional analysis based on that provided in the CPUC technical memorandum to determine likely erosion hazards to the test slant well during its expected operating life.[26] This analysis described the erosion rates in the CPUC memorandum as "worst-case," based in part on its use of the upper range of expected sea level rise and "aggressive" events such as the 100-year storm, and because it did not consider possibly beneficial effects that might result from potential beach nourishment projects or reduction of sand mining. Using what it describes as the "very conservative" CPUC analysis, the City's consultant determined that the test slant wellhead location would not be subject to erosion until sometime around 2040. The report noted, however, that if a 100-year storm event occurred during the approximately two years of the test well study, the wellhead would be close to the erosion area and potentially at risk and that erosion could expose a subsurface section of the well casing down to about -15 feet NAVD88, or about 40 feet below the wellhead (see Exhibit 11 – Expected Erosion and Future Beach Profiles). It recommends that in the event of exposure or at project completion, whichever comes first, the wellhead and at least the top 40 feet of the casing be removed. This recommendation is reflected in **Special Condition 6**, which requires Cal-Am to remove all test well-related infrastructure to a depth of no less than 40 feet below the ground surface upon exposure due to erosion or within two years of completing the test well project, whichever occurs first. **Special Condition 17** also requires Cal-Am to post a bond that is sufficient to pay for necessary removal if Cal-Am does not complete the required removal. **Special Condition 6** further requires Cal-Am to conduct monitoring at least once per week to determine whether beach erosion is likely to expose any components of the well or associated infrastructure.

In recognition of the risks associated with the project site, **Special Condition 7** requires Cal-Am to acknowledge those risks and assume any liability that may result from constructing and operating the test well at this location. Additionally, **Special Condition 8** provides that Cal-Am will not construct a shoreline protective device to protect the project and will remove any structures threatened by coastal erosion.

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[25] ESA PWA, *Technical Memorandum – Analysis of Historic and Future Coastal Erosion with Sea Level Rise for Monterey Peninsula Water Supply Project (205335.01)*, March 19, 2014.

[26] See Sea Engineering, Inc., *Review of Coastal Erosion Analysis by ESA PWA (2014) for the California American Water Temporary Slant Test Well Environmental Impact Evaluation*, prepared for SWCA Environmental Consultants, April 18, 2014.

Groundshaking, Liquefaction, and Lateral Spread
The entire Monterey Bay area is seismically active. There are no known faults at the project site, though there are several nearby.[27] Seismic activity from these faults could damage the test well and its associated infrastructure due to groundshaking, liquefaction, or lateral spread at the site.[28]

As required by the LCP, Cal-Am produced a site-specific geotechnical investigation for the project.[29] It concludes that the site could expect a maximum 7.0 earthquake, with peak horizontal ground acceleration of up to 0.572 g, liquefaction-induced settlement of up to about three inches, and lateral spread of up to about one foot in the event of the design-level earthquake. Although these maximum expected events are unlikely to occur during the relatively short-term project life, **Special Condition 9** establishes the minimum design standards that Cal-Am must use in the design and construction of the project to ensure safety and minimize risks due to these geologic hazards.

Tsunami
Portions of the CEMEX site are subject to tsunami runup, and the LCP requires that development be located inland of areas subject to tsunami hazards. The most recent (2009) California Geological Society tsunami inundation map for the area shows the potential runup area extending about two hundred feet inland from the shoreline. As noted previously, the wellhead will be set back about 650 feet from mean sea level at an elevation of about 25 feet. At that location, it is not expected to be subject to tsunami hazards during the expected project life. Nonetheless, the above-noted **Special Conditions 6 & 8** requiring removal of the test well will act to reduce the potential for the development to be affected by current or future tsunami-related hazards.

Conclusion
Based on the discussion above, the Commission finds that the project, as conditioned, will conform to the geologic and coastal hazard provisions of the LCP.

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[27] Faults within about 20 miles of the site include the San Andreas, Reliz, Rinconada, Monterey Bay, Palo Colorado, Navy, Chupines, and Vergeles Faults.

[28] Liquefaction occurs when ground movement causes saturated or partially-saturated soils to lose strength and act as a liquid. It can cause settlement or displacement of overlying structures unless they are designed to resist the expected amount of liquefaction at a site. Lateral spread occurs when soils that are on flat to gently sloping surfaces above liquefiable soils and adjacent to an unsupported slope move in response to a seismic event – essentially, a landslide that occurs on nearly flat ground.

[29] See GeoSoils, Inc., *Geotechnical Investigation – California American Water Temporary Slant Test Well Project, Marina, Monterey County, California*, produced for SWCA Environmental Consultants, April 3, 2014.

K. Archaeological and Paleontological Resources

Overview
The City's LCP does not include provisions related to the protection of archaeological resources. However, the Coastal Act provides some guidance on protection of archeological resources in the coastal zone.

Coastal Act Section 30244 states:

> *Where development would adversely impact archaeological or paleontological resources by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

Analysis
Cal-Am's project footprint is within a previously disturbed area of the CEMEX sand mining facility and partially within and adjacent to an area that was excavated during construction of the MRWPCA outfall. The site is also within a dynamic dune habitat that has continually shifted due to wind and wave action along the Monterey Bay shoreline. Given the dynamic nature of the site and the previous disturbances, it is unlikely that it contains archaeological resources, and extensive surveys already conducted at the site have identified no such resources.[30] Nonetheless, the area is within an extensive reach of shoreline habitat known to have provided a rich bounty for the Ohlone-speaking Native Americans that lived in the Monterey Bay area. The City's General Plan has generally identified coastal beaches as areas of high archaeological sensitivity.

Additionally, parts of the sand mining facility are more than 50 years old and could be eligible to be considered a cultural resource. The City prepared a Cultural Resources Survey Report that identified features of the facility as part of a historic district eligible for listing in the state and national historic registers. These include several buildings and structures on site, some of which are close to the proposed Cal-Am activities.

As part of its project description, Cal-Am has included several mitigation measures to avoid and minimize potential effects to archaeological and cultural resources. Project activities will be located to avoid direct effects on known cultural resources, and all ground disturbance activities will be conducted in coordination with a qualified archaeologist. Cal-Am has also incorporated into its project description several proposed conditions that were developed by City staff during the City's project review. These include the following:

1) *The project shall be redesigned to avoid significant adverse effects to historic resources; in particular, direct impacts to the Lapis Siding that is identified as a contributor to the Lapis Sand Mining Plant Historic features shall be avoided. Because the Siding extends through the eastern portion of the construction footprint, the construction plans shall be redesigned to locate all project components and construction activities in adjacent areas*

[30] See City of Marina *Draft Initial Study/Mitigated Negative Declaration*, Section V – Cultural Resources, May 2014, and SWCA Environmental Consultants, *Cultural Resources Survey Report for the California American Slant Test Well Project, Marina, Monterey County, California*, prepared for the City of Marina, May 2014.

that do not contain structures associated with the Lapis Sand Mining Plant historic features. Avoidance of impacts to historic district contributors in close proximity to construction activities shall be accomplished by installing flagging or safety fencing around, or covering with plywood, any adjacent buildings or structures that are within 5 feet of mechanized equipment.

2) *A qualified archaeologist that meets the Secretary of the Interior's professional qualifications standards in archaeology (National Park Service 1983) shall be retained to provide archaeological services for the project. Archaeological services for the project shall at minimum include the following:*
   a. *Prior to initiation of ground-disturbing activities, an archaeological monitor working under the direction of the qualified archaeologist shall conduct a brief awareness training session for all construction workers and supervisory personnel. The training shall explain the importance of and legal basis for the protection of significant archaeological resources. Each worker should learn the proper procedures to follow in the event that cultural resources or human remains/burials are uncovered during ground-disturbing activities, including those that occur when an archaeological monitor is not present. These procedures include work curtailment or redirection and the immediate contact of the site supervisor and the archaeological monitor. It is recommended that this worker education session include visual images or samples of artifacts that might be found in the project vicinity, and that the session take place on-site immediately prior to the start of ground-disturbing activities.*
   b. *An archaeological monitor working under the direction of the qualified archaeologist shall monitor all ground disturbance in areas within 100 feet of the historic buildings within the eastern portion of the project area. These include the Superintendent's Residence, Bunkhouse, Garage/Office, Maintenance Shop, and Scale House. The timing and duration of the monitoring may be adjusted during project implementation by the qualified archaeologist, in consultation with the City, whose decision shall be informed by the apparent sensitivity of the sediments in the project area once they are exposed.*
   c. *The project applicant shall coordinate with representatives from the Ohlone/Coastanoan-Esselen Nation and Amah Mutsun Tribal Band of Mission San Juan Bautista to designate a Native American monitor to be present during ground disturbing activities associated with the project. Documentation of such coordination shall be provided to MBMNS prior to construction activities. The timing and duration of the monitoring may be adjusted during project implementation by the qualified archaeologist, in consultation with MBNMS, whose decision shall be informed by the apparent sensitivity of the sediments in the project area once they are exposed.*

3) *If archaeological resources (artifacts or features) are exposed during ground-disturbing activities, construction activities in the immediate vicinity (25 feet) of the discovery shall be halted while the resources are evaluated for significance by the qualified archaeologist. Construction activities may continue in other areas. If the discovery proves to be significant, additional work, such as archaeological data recovery or project redesign, may be warranted and would be discussed in consultation with the City.*

> *In the event of inadvertent discovery of human remains, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner shall be notified of the find immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification, and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. The California Health and Safety Code Section 7050.5 process shall be noted on project grading and construction plans and reviewed during the construction worker awareness training session.*

With these mitigation measures and conditions, Cal-Am is expected to avoid causing adverse effects to archaeological and cultural resources and will be able to respond appropriately should any such resources be found during project activities.

L. VISUAL RESOURCES

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

> *Views of the dunes from Highway 1 and the beach shall be protected by keeping development off of the primary ridgeline. Development below the ridgelines shall be limited in height and mass to blend into the face of the dunes: generally structures should be hidden from public view where physical and habitat constraints allow. Where this is not possible, structures shall be clustered and sited to be as inconspicuous as possible.*
>
> *In areas where mining activity or blowouts have removed sand dune landforms, new development shall not extend above the height of the nearest adjacent sand dunes and shall be clustered so as to preserve access views across its site from Highway One.*

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

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

Coastal Act Section 30251 states:

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

The LCP generally requires that permitted development protect views to and along the coast. The LCP specifically requires that views of the dune area from Highway 1 and the beach be protected by keeping development below the dune ridgelines, limiting its height, and clustering structures to the extent allowed by physical and habitat constraints.

Some project activities will occur near to the Monterey Bay shoreline and will be visible from other nearby publicly-accessible shoreline areas, including the highly scenic Marina Dune Complex. These areas are valued in part for their views of the Bay, for wildlife and bird watching, and for recreational activities.

The main project activities that will affect visual resources are staging and operating the equipment needed for drilling and other related activities. These activities will cause some visual impacts, though they will be temporary. Most of the activities – e.g., the use of large construction equipment – are similar to those related to the ongoing sand mining activities already occurring over a portion of the site and are expected to be visually subservient to the mining operations. Some of the project's activities – e.g., ingress and egress, and some

construction – may be viewed by passing motorists on Highway 1 or by beach users, though most are expected to be blocked by intervening dune formations and vegetation. The most visible activities will be lighting associated with the project, and construction of the discharge pipeline and connection to the existing outfall, which will be the closest activities to the beach; however, the area in which these activities will occur is also currently used and disturbed by CEMEX trucks and heavy equipment, so these activities are expected to blend in with CEMEX's industrial operations. Additionally, Cal-Am's construction activities will occur during the non-peak winter months when beach use is less.

To reduce the project's visual impacts, Cal-Am is not proposing to remove or alter landforms that will be visible from offsite, and it will restrict its activities to stay within the less than one-acre project footprint. To address potential lighting-related impacts, **Special Condition 10** requires Cal-Am to produce a lighting plan for Executive Director review and approval that identifies all lighting to be used during the project and describes all measures that will avoid or reduce effects of lighting on nearby public areas, such as using the minimum lighting necessary for safety purposes, directing all necessary lighting downward and inward to the extent feasible, ensuring light fixtures and poles are painted or colored to blend in with the area, and others.

Conclusion

For the reasons described above, the Commission finds that the proposed project, as conditioned, will be carried out in a manner that is protective of scenic and visual resources and is therefore consistent with the relevant LCP provisions and Coastal Act Section 30251.

M. COASTAL AGRICULTURE

LCP Policy 28 states:

> *To support agricultural use in the Coastal Zone.*

LCP Policy 29 states:

> *To provide incentives to retain agricultural activities within the Coastal Zone.*

The LCP requires that agricultural uses be supported in the coastal zone. There are no agricultural operations with the City, but other nearby coastal agricultural operations are heavily reliant on groundwater from the aquifers proposed to be used by the test well project. Thus, there is the potential that the project might not be consistent with agricultural uses in the coastal zone. However, as described below, water withdrawals during the test well project are not expected to result in diminished water supply or water quality for agricultural uses.

Background

The test slant well will remove up to about 3.6 million gallons per day of primarily seawater from a sub-seafloor extension of the 180-Foot Aquifer of the Salinas Valley Groundwater Basin. The Basin is a relatively long and narrow groundwater structure extending about 140 miles from the coast to the southeast along the Salinas River valley. Past groundwater pumping in nearby portions of the Basin for agriculture have exceeded 100,000 acre-feet per year, and have resulted in seawater intrusion that extends several miles inland. This has both reduced the quality of groundwater for agricultural use and reduced the amount of groundwater pumped from sites close to the CEMEX facility. Seawater intrusion has been estimated to occur at a baseline rate of about 10,000 acre-feet (equal to about three billion gallons) per year[31], though the Basin's groundwater management programs are attempting to significantly reduce this rate. The Basin is divided into eight sub-regions, with the project area within what is known as the 180/400-Foot Sub-Basin, which has an estimated groundwater storage capacity of about 6.8 million acre-feet. Due in part to the aquifer being seawater-intruded near the site, the closest active off-site wells in the Sub-Basin are about 5,000 feet from the proposed test well.[32]

Effects of test slant well groundwater withdrawal on coastal agriculture

For several reasons, the amount of water that will be withdrawn for the test project is expected to result in an insignificant effect on coastal agriculture. As noted above, total water withdrawal for the test well will be no more than just over 4,000 acre-feet per year over the two-year test period, most of which is expected to be seawater or seawater-intruded groundwater from the sub-seafloor. This represents only about 0.1 percent of the Sub-Basin's groundwater storage. Additionally, Cal-Am has modeled the expected "cone of depression" – that is, the area in which

[31] See 2001 *Salinas Valley Water Project Environmental Impact Report*, published by Monterey County Water Resources Agency.

[32] As shown in City of Marina, *Draft Initial Study/Mitigated Negative Declaration for the California American Water Slant Test Well Project, Figure 11 – Preliminary Modeled Drawdown Contours*, May 2014.

groundwater levels are lowered due to this water withdrawal – to extend to about 2,500 feet from the well, where the drawdown is expected to be about four inches. The closest active agricultural wells are about twice that distance from the test well, and are therefore not expected to be significantly affected by the well tests. Nonetheless, Cal-Am has incorporated into its project description the following mitigation measure:

> *A drawdown of 1 foot above natural fluctuations on groundwater levels shall be considered a significant adverse effect on water supply. If pumping activities reflect a drawdown of 1 foot or greater on any adjacent well, compensatory mitigation shall be required. Feasible mitigation shall include consultation with the affected water user and implementation of compensatory mitigation measures, including monetary compensation (i.e., for increased pumping costs or for upgraded wells), or provision of replacement water from alternative sources. If compensation or other remediation is found to be unfeasible, pumping activities shall be adjusted so that no more than 1 foot of drawdown on usable water sources would result.*

Given the relatively small amount of water to be pumped, the distance to other active wells, and the above mitigation measure, the project is not expected to adversely affect coastal agriculture. As a mitigation measure included in its project description, Cal-Am will stop pumping if water levels in nearby wells drop one-and-one-half feet due to the pump tests. Additionally, and in recognition of the uncertain hydrogeologic characteristics of the substrate and aquifers beneath and near the project site that the project's tests are meant to address, the Commission imposes **Special Condition 11**, which requires Cal-Am to conduct monitoring during all pumping activities and to record all drawdown levels and changes in Total Dissolve Solids ("TDS") in its onsite wells and at one or more inland wells. **Special Condition 11** also requires that Cal-Am cease its pump tests if monitoring at its most inland onsite well (MW4) shows a drawdown of one-and-one-half foot or more or shows an increase of more than two thousand parts per million of TDS.

Cal-Am's MW4 monitoring well will be on the CEMEX site and within about 1500 feet of the test well, which is closer to the test well than any off-site wells that could potentially be used for irrigation.[33] **Special Condition 11** requires that the test well be shut down if this monitoring well detects a 2000 parts per million increase in TDS from TDS levels established at this monitoring well prior to commencement of pumping.[34] Once the well is shut down due to this trigger, the Hydrogeology Working Group will independently determine whether the increase in TDS was caused by a source other than the test well. The Hydrogeology Working Group will submit its findings to the Executive Director, and if the Executive Director concurs that the increase in TDS

[33] As noted above, the nearby areas of the two aquifers Cal-Am will pump from already exhibit TDS significantly above levels considered to cause severe hazards to crops, so the closest off-site wells are not currently being used for irrigation.

[34] Seawater fluctuates from about 30,000 ppm TDS to 33,000 ppm TDS, representing a 3,000 ppm of TDS natural variability. The project is conditioned to require shut down of the test well when there is a change of 2,000 ppm of TDS, well below natural variability of ocean water. In addition, the proposed test well is accessing water that Cal-Am's preliminary tests show to be about 16,000 ppm TDS to 26,000 ppm TDS, so the 2,000 ppm of TDS shut down trigger is well below the existing variability of the water Cal-Am proposes to access and is therefore chosen as a conservative figure for when the monitoring wells may begin to detect an adverse effect.

was caused by a source or sources other than the test well, then the Executive Director may allow testing to resume. If, however, the Executive Director determines that the increase in TDS was caused at least in part by the test well, then Cal-Am may not resume testing until it obtains an amendment to this CDP.

This ensures that if there is a minor increase in TDS, excluding natural variability, at the inland-most monitoring well on the CEMEX site, then the test well will cease operating, thereby preventing the proposed project from adversely affecting wells further inland. So this minor allowable increase in TDS will not adversely affect agricultural water use or coastal agriculture but will provide an alert for possible increased seawater intrusion in the area.

As far as the drawdown in water levels, Special Condition 11 requires that if water levels drop one foot below a baseline established prior to the commencement of pumping, then the test well will be shut down. The baseline will be established by the Hydrogeology Working Group using established scientific protocols, laid out in a technical memo submitted by Cal-Am, that take into account factors such as changes in barometric pressure, tidal changes, offsite pumping, and rainfall events. Once the well is shut down due to the one-foot drop in water level, the Hydrogeology Working Group will determine whether the drop in water level was caused by a source or sources other than the test well, and it will submit its determination to the Executive Director. If the Executive Director agrees with the Hydrogeology Working Group that the cause of the drop in water level was a source or sources other than the test well, then the Executive Director may allow testing to resume. If, however, the Executive Director determines that the drop in water level was caused at least in part by the test well, then Cal-Am may not resume testing until it obtains an amendment to this CDP.

In order to further protect agricultural interests, Commission staff discussed with Cal-Am the potential for monitoring water levels and TDS at the site of the nearest wells currently used to support agriculture, as this would provide more direct data about the potential effects of the test well on agricultural interests. Cal-Am has informed Commission staff, however, that it does not have the permission to collect this data at the privately held wells closest to the project.

Conclusion

For the reasons described above, the Commission finds that the proposed project, as conditioned, will be carried out in a manner that is supportive of coastal agriculture and is therefore consistent with relevant provisions of the LCP.

N. Assessment of Alternatives

Overview
CEQA Guidelines Section 15126.6 provides direction for the discussion of alternatives to the proposed project. This section requires:

> *(1) a description of "...a range of reasonable alternatives to the project, or to the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." [15126.6(a)]*
> *(2) a setting forth of alternatives that "...shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the [CEQA document] need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project." [15126.6(f)]*
> *(3) a discussion of the "no project" alternative, and "...if the environmentally superior alternative is the "no project" alternative, the [CEQA document] shall also identify an environmentally superior alternative among the other alternatives." [15126.6(e)(2)]*
> *(4) a discussion and analysis of alternative locations "...that would substantially lessen any of the significant effects of the project need to be considered in the [CEQA document]." [15126.6(f)(2)(A)]*

In defining feasibility, the Coastal Act, Section 30108, states that:

> *"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.*

The CEQA Guidelines at Section 15126.6 also defines the feasibility of alternatives and states:

> *Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site.*

Alternative Methods, Alternative Locations, and "No Action" Alternative
As described above, Cal-Am has recognized the state's preference for using subsurface intakes, where feasible, to provide source water for its proposed desalination facility. Those types of intakes are generally less environmentally damaging than intakes that draw directly from the water column. Consideration of potential alternative locations for this project has therefore been focused on sites within the Monterey Bay region where geologic and hydrogeologic characteristics are likely to lend themselves to subsurface intake methods.

Some of the sites that had been formerly considered for water supply projects, such as the Moss Landing Power Plant and the Marina Coast Water District site, are either no longer available or have been the subject of regulatory changes that limit their feasibility. For example, the State Water Board's 2010 adoption of an Ocean Plan amendment that limits the use of once-through cooled power plant intakes reduces the potential that the Moss Landing Power Plant intake could provide source water for a desalination facility. Additionally, much of the Monterey Bay shoreline that might otherwise be suitable for subsurface intakes is protected as preserves, State Parks, or other designations that would limit or prohibit the proposed activities.

For this proposed project, Cal-Am identified a number of candidate sites between Marina and Moss Landing and conducted a hydrogeologic investigation to determine potential alternative locations for a subsurface intake.[35] This investigation was the product of the aforementioned Settlement Agreement prepared as part of Cal-Am's CPUC project review, and involved representatives from several involved parties and stakeholders.[36] The investigation included drilling test boreholes at several sites, including the CEMEX site, to determine the suitability of subsurface characteristics. The investigation concluded that slant wells would be feasible at the CEMEX site and identified a secondary site about eight miles further north near Moss Landing that might also be suitable for subsurface intakes. Cal-Am also prepared a biological assessment, consulted with state and federal wildlife agencies and other stakeholders, and considered other feasibility issues – e.g., availability of electrical service, proximity to acceptable discharge point for well water, effects on habitat, access, and other coastal resources – to narrow the set of potential sites. As noted above in Section IV.B – Project Background, a site in Moss Landing had been dismissed previously due in part to its distance to the Cal-Am service area on the Monterey Peninsula and its additional adverse impacts. The recent investigation included a single borehole at a site on Potrero Road, near Moss Landing. Data from that borehole identified the site as likely suitable for a slant well. Compared to the CEMEX site, the Potrero Road site presented higher hydraulic conductivity values but less available aquifer depth and a wider range of water quality in the underlying aquifer. The Potrero Road site is also within a parking lot used for public access to the Salinas River State Beach, and conducting test well construction and operation at this site would result in higher adverse effects on public access and recreation compared to the CEMEX site. The Potrero Road site is also closer to the Salinas River National Wildlife Refuge, which, along with the Salinas River State Beach, provides important habitat areas for the Western snowy plover and the Caspian tern, which could be adversely affected by well-related construction and operations. The Potrero Road site is also further from Cal-Am's separately proposed desalination facility, and if used as a site for permanent wells would require construction of several additional miles of pipeline that would adversely affect areas of sensitive habitat and coastal agriculture and would increase adverse impacts on public access to the shoreline.

[35] Geosciences Support Services, Inc., *Monterey Peninsula Water Supply Project Hydrogeologic Investigation – Technical Memorandum (TM1)*, prepared for California American Water / RBF Consulting, July 8, 2014.

[36] The investigation was led by a Hydrogeology Working Group that consisted of representatives from the CPUC's CEQA team, Salinas Valley Water Coalition, and Monterey County Farm Bureau.

Within the CEMEX site, Cal-Am initially considered a location at the northern end of the sand mining facility; however, consultation with state and federal wildlife agencies and others showed that locating the test well there would have more significant potential impacts to nearby nesting Western snowy plovers, which are listed as federally-endangered. That site was also closer to the shoreline than the current site, and would have involved more excavation, required shoreline protective devices, and been subject to more erosion and associated coastal hazards. The focus then shifted to the current site at the south end of the CEMEX facility, which is within an already disturbed area, is further from the shoreline, and involves fewer coastal resource impacts.

"No Action" Alternative: For at least two reasons, the "no action" alternative is also likely to result in greater adverse environmental impacts than the currently proposed project. First, if the test slant well is not completed or is delayed, Cal-Am would not have the information needed to inform the CPUC's review of the potential full-scale project. A delay in that review would likely delay final consideration of the full-scale MPWSP or require significant modifications to that proposed project. Either of these options could extend the period of Cal-Am's excessive withdrawals from the Carmel River, thereby exacerbating the ongoing adverse effects of those withdrawals on fish and habitat in that watershed.

Not completing or delaying this test slant well could also lead to a reconsideration of what project might serve as an expected water supply project for the Monterey Peninsula. At this point, the other potential desalination projects in the Monterey Bay area are proposing to use open intakes, which are expected to result in greater adverse effects to marine life and coastal waters than the MPWSP. Those other projects are also not as far along in the review and permitting process as the MPWSP. Similar to the above, delays or reconsideration due to this option would also extend the adverse effects occurring on the Carmel River.

Conclusion
Thus, the Commission finds that the test well is necessary to assess whether a subsurface intake is a feasible source of water for Cal-Am's proposed desalination facility and that the proposed location for the test well is the environmentally preferred alternative.

P. COASTAL-DEPENDENT FACILITY

The City's LCP includes numerous policies identifying coastal-dependent industrial uses as priority uses.

LCLUP Policy 41:

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

LCLUP Geotechnical Policies, Policy 1 (first bullet)

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

The project is proposed on property designated as "Coastal Conservation and Development," a designation that prioritizes coastal-dependent industrial uses.

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

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

Uses allowed in areas designated Coastal Conservation and Development include (LCLUP p. 41):

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

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

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

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

Coastal Act Section 30260 states:

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

Consistency Analysis
When it certified the City's LCP, the Coastal Commission acknowledged the importance of the City's dune ecosystem to provide habitat for rare and endangered species.[37] It nevertheless designated the area north of reservation road and west of Dunes Drive as Coastal Conservation and Development (CD), in which appropriate uses include "commercial activities dependent for economic survival on proximity to the ocean, salt water or other elements only available in this particular environment." LCLUP p. 15. The LCP states that this designation is consistent with section 30260. LCLUP p. 38, 44.

Coastal Act Section 30260 provides for special consideration of coastal-dependent industrial facilities that may otherwise be found inconsistent with coastal resource protection policies. Section 30260 provides for approval of such projects, notwithstanding the project's inconsistencies with those other policies, only if: alternative locations are infeasible or more environmentally damaging; to do otherwise would adversely affect the public welfare; and as long as adverse effects are mitigated to the maximum extent feasible.

Similarly, the LCP only allows approval of coastal-dependent industrial uses in dune habitat if they are appropriately sited in the most disturbed areas and the adverse impacts of the development are mitigated.[38] Thus, the Commission interprets these LCP provisions consistently with Section 30260 to determine if the proposed project is approvable, despite its inconsistency with the habitat protection policies of the LCP.[39]

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[37] See, for example, Natural Habitats map, LCLUP p. 72, Disturbed Vegetation map, LCLUP p. 71, Potential Wildlife Habitats map, LCLUP p. 75, Discussion of dune habitat north of Reservation Road, LCLUP pp. 74-76, Habitat Protection Policies, LCLUP pp. 9-10.

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

[39] *McAllister v. California Coastal Commission*, (2009) 169 Cal.App.4th 912, 931.

Coastal-Dependent Industrial Facility: The initial question is whether the proposed project is a coastal-dependent industrial facility, such that it is an allowed use in the CD district and subject to 30260 and LCP provisions for coastal-dependent industrial uses. The LCP does not define the term coastal-dependent development, but the Coastal Act does. Coastal Act Section 30101 states:

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

The proposed test slant well is dependent on accessing seawater from beneath the Monterey Bay seafloor. Because slant wells are limited to no more than a few hundred feet in length, the well must be located on or adjacent to the sea in order to function and is therefore coastal-dependent. The test well is also considered a type of industrial facility. It falls within the standard definition of "industry" and "primary industry" because it involves the processing of raw materials, in this case water.[40] The purpose of the test well is to provide data regarding the environmental effects of withdrawing water at this location and that will enable Cal-Am to determine whether this site can be used to produce water for a full scale desalination facility that would provide water to consumers. It will be built within an active industrial site using similar equipment and methods as are currently occurring at the site. It falls within at least one category of the North American Industry Classification System ("NAICS") – i.e., NAICS #237110: Water and Sewer Line and Related Structures Construction.[41] Further, it is being implemented by Cal-Am, an entity that, along with being a publicly-regulated utility, is considered part of the water and wastewater industry. In addition, the Commission has previously recognized that public utilities conduct industrial activities – for example, in its 2013 certification of Santa Barbara County Local Coastal Program Amendment No. LCP-4-STB-13-0215-2 allowing natural gas exploration and production only by public utilities.

Application of Tests for Approval of Coastal-Dependent Industrial Facilities: Because the test slant well is a coastal-dependent industrial facility, and the LCP finds that the designation of dune areas as appropriate for coastal-dependent industrial uses is consistent with section 30260, the Commission may apply the LCP policies consistently with section 30260 to approve a project despite an inconsistency with other LCP policies.

- **Test 1 – Alternative Locations are Infeasible or More Environmentally Damaging and Development is Limited to Already-Disturbed Areas:** Section 30260's first test and LIP CD policy (b)(2)(c) require an assessment of alternative locations.[42] Section N

[40] The Oxford American English Dictionary, for example, defines "industry" as "economic activity concerned with the processing of raw materials and manufacturing of goods in factories," and defines "primary industry" as "industry, such as mining, agriculture, or forestry, that is concerned with obtaining or providing natural raw materials for conversion into commodities and products for the consumer.

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

[42] By requiring findings that development in CD Districts is limited to already-disturbed areas, the LCP ensures that projects can only be allowed in environmentally preferable alternative locations.

of these Findings provides a more comprehensive assessment of alternatives, including an assessment of alternative locations. Applying those Findings to this first test of Section 30260 shows that other locations are infeasible or more environmentally damaging than the currently proposed location. The applicant has sited the project in areas that have been subject to continual disturbance by sand mining operations for at least several decades. Development associated with the proposed project is strictly limited to already-disturbed areas, consistent with the LIP and LCLUP Habitat Protection Policy 2. The Commission therefore finds that the proposed project meets the first test of Section 30260 and the applicable LCP policies.

- **Test 2 – To not permit the development would adversely affect public welfare:** Section 30260's second test provides that coastal-dependent industrial development may be permitted if to do otherwise would adversely affect the public welfare. Determining the public welfare considerations for the proposed project includes several benefits and concerns.

  As noted above, since 1995, Cal-Am and other entities in the Monterey Peninsula area have been seeking a water supply to replace that obtained from the Carmel River. Cal-Am is under an Order from the State Water Board that imposes a schedule for reducing its water withdrawals from the Carmel River by about two-thirds by 2016. The water to be replaced has represented up to about 75% of the water used on the Peninsula in Cal-Am's service area. The required reductions are meant to benefit the Carmel River watershed, particularly the federally-listed Central Coast steelhead.

  This proposed test well and its potential follow-up MPWSP represent the culmination of almost two decades of multiple public agencies and area stakeholders seeking alternative water sources to facilitate the required reductions. As noted above, the test well was identified within the Settlement Agreement negotiated as part of the CPUC's review process, in which area stakeholders recognized the need for the hydrogeologic data to be obtained from the test. Those stakeholders represent a wide range of public interests whose welfare relies on the Monterey Peninsula having a water supply to replace the Carmel River overdrafts. The pumping and water quality testing to be conducted during the slant well test is necessary to inform the design of a potential full-scale facility. Other actions, such as drilling additional boreholes or conducting additional modeling, would not be sufficient to characterize the site and its potential to provide source water.

  Based on the above, the Commission finds that not permitting the proposed project would adversely affect the public welfare, and that the project therefore meets the second test of Section 30260.

- **Test 3 – Adverse environmental effects are mitigated to the maximum extent feasible:** The third test of Section 30260 and LCLUP Habitat Protection Policy 1 require that the proposed project's adverse environmental effects be fully mitigated. With the exception of habitat protection, the special conditions required to ensure that the impacts of this project are fully mitigated are discussed and imposed in the section analyzing that resource. Because the proposed project was found to be inconsistent with the LCP's habitat

protection policies, mitigation for the impacts of the project on habitat was not discussed in that section of this report. As a result, in order to meet this final test and to determine whether this coastal-dependent industrial project can be approved, the Commission must find that the biological impacts of this project will be fully mitigated.

Based on site-specific biological studies, Cal-Am and City staff developed a number of mitigation measures meant to avoid and minimize potential impacts to these coastal resources. Cal-Am has incorporated several of these measures as part of its project (see Exhibit 5) and the Commission has additionally imposed a number of Special Conditions that will add to and modify these measures to ensure any adverse effects are avoided or minimized and to allow conformity to relevant LCP provisions to the extent feasible (see **Special Conditions 12 – 16**). These include:

- Requiring project construction, well pack replacement, and decommissioning to occur primarily outside of the Western snowy plover breeding and nesting season, the active season for the Smith's blue butterfly, and the blooming period of the Monterey spineflower. Any work that occurs during plover breeding and nesting season will be subject to surveys, monitoring, noise mitigation, and possible work shutdown should active nests be potentially affected by project activities. Specifically, Special Condition 14 requires an approved biologist(s) to identify any active nest of any federally or state-listed threatened or endangered species, species of special concern, or any species of raptor or heron within 300 feet of construction activities (500 feet for raptors). This condition empowers the approved biologist(s) to ensure that construction activities are conducted in such manner that nesting birds are not disturbed. At a minimum, construction noise levels at any of these protected nests must be at or below a peak level of 65 dB. If this noise threshold cannot be met, construction activities are prohibited.
- Requiring a pre-construction survey to identify protected species that may be present at or near project work areas, and requiring measures to avoid or minimize effects on those species. The surveys are intended to identify and avoid potential impacts to sensitive animal and plant species at and near the site, including the Monterey spineflower, Western snowy plover, Coast horned lizard, legless lizard, and others.[43]
- Requiring a number of Best Management Practices during construction activities, such as providing training to on-site personnel, controlling noise, trash, and lighting at the site, and others
- Requiring preparation and implementation of a Hazardous Spill Management Plan to minimize the risks of spills and to properly respond to spills should they occur.
- Requiring preparation and implementation of a site restoration plan that is consistent with the detailed provisions developed by the City for such plans (see Exhibit 13 – City of Marina Municipal Code Section 17.41.100, Requirements for Habitat Restoration).
- Requiring project activities avoid adverse impacts to sensitive species that exist in the project area at the time of project activities. For sensitive species present in the

[43] See Zander Associates, *Biological Resources Assessment MPWSP Temporary Slant Test Well Project*, October 2013.

project area that are not within the breeding and nesting season and that do not exhibit reproductive behavior, Special Condition 14 requires project activities to avoid adverse impacts to such resources. It requires the approved biologist(s) to either salvage and relocate such species by hand to safe locations elsewhere along the project reach or to implement a resource avoidance program that will ensure no adverse impacts to the resource.

- Requiring proper storage and removal of construction equipment if Cal-Am must cease construction activities either due to the requirements of Special Condition 14 to protect sensitive species or if Cal-Am does not obtain landowner approval from the State Lands Commission prior to the time that it must drill beneath state tidelands.
- Requiring training of construction personnel by a qualified biologist to ensure that they can identify species of special concern, such as western snowy plovers and the California legless lizard so that construction activities will avoid disturbance of these and other sensitive species.

With Cal-Am's mitigation measures and with the imposition of the Commission's **Special Conditions**, the Commission finds that the project meets the third test of Section 30260.

Conclusion

The Commission finds that the proposed project meets all of the tests of section 30260 and the parallel LCP policies. It therefore exercises its discretion to approve this coastal-dependent industrial project, despite its inconsistency with the LCP's habitat protection policy prohibiting non-resource dependent development in primary habitat.

O. CUMULATIVE IMPACTS

Applicable Policies

Based on the above analysis, the Commission finds that as conditioned herein the proposed project is consistent with the City's LCP and the relevant Coastal Act policies. It nevertheless considers whether the project could have a considerable cumulative adverse effect on the environment, after taking into account past and probable future projects in the area.

Coastal Act Section 30105.5 states:

> *"Cumulatively" or "cumulative effect" means the incremental effects of an individual project shall be reviewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.*

CEQA Guidelines Section 15355 states:

> *"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*

Analysis

The past and current projects in the project vicinity are the sand mining activities that have been ongoing at varying degrees of intensity since 1906 and the sewer outfall constructed just adjacent to and downcoast of the proposed test well project. The purpose of the proposed test well is to provide data that will allow Cal-Am and the California Public Utilities Commission (CPUC) to evaluate not only whether a well for a desalination facility is viable in the proposed location of the test well but to assess the potential adverse environmental effects of withdrawing water from this location for a full-scale desalination facility. A possible future project in the project vicinity is therefore a desalination facility.

Cal-Am has submitted an application for this desalination facility to the CPUC, which is in the process of preparing an EIR for that facility. Thus, at this stage, there is uncertainty about the potential adverse effects of the proposed desalination facility since some of the information needed to assess those impacts will only be available after the proposed test well project has operated for the planned two year test period. Nevertheless, the Commission must consider the interaction between the proposed project and the future desalination facility for potential impacts of which it is aware, which include additional adverse impacts to sand dune habitat, and potential coastal agricultural impacts.

Dune Habitat Impacts: If the proposed desalination facility withdraws water from the site of the test well, Cal-Am expects to construct several additional subsurface slant wells and pipelines to convey the source water from these wells to the facility, which is currently proposed to be several miles inland and outside of the coastal zone. It is likely that several wells would share a single wellhead and that all wells would share a single delivery pipeline to the facility. The precise location of these additional wells cannot be determined until the results of the test well are available, but the location of the test well could become permanent, rather than temporary, so the loss of dune habitat covered by the current test wellhead would be permanent. In a worst

case scenario, if the full desalination plant drew all of its source water from within the vicinity of this test well, then the permanent dune habitat impacts would likely be approximately several thousand square feet from the wells and pipelines, with up to about five acres of additional temporary construction impacts. This estimate is based on assuming that there would need to be three to four similar 0.75 acre project footprint areas similar to the current project footprint, and additional areas needed to install the pipeline, although these figures will be assessed more accurately in the CPUC EIR being prepared for the full desalination facility.

The potential "cumulative" effect of the test well on dune habitat in this scenario is therefore about five acres of temporary impacts plus the future permanent loss of about one acre of dune habitat, on top of the existing impacts to about 120 acres of dune habitat caused by the current CEMEX operations and the existing outfall. The expected cumulative habitat loss of all of these projects together is therefore about 121 acres, with five acres of temporary impacts, within the approximately 400 acre CEMEX site. Much of this site is not currently being used by CEMEX for its sand mining operations but it is significantly degraded due to previous sand mining operations. As a result, there are opportunities for on-site restoration or habitat creation that could provide appropriate mitigation for the one acre of permanent dune habitat impacts and five acres of temporary impacts estimated to be caused by the test well and the potential future facility combined. While these potential impacts and mitigation will be assessed in the EIR for the desalination facility, the information available to the Commission at this time suggests that any cumulative adverse habitat impacts caused by the test well and the desalination facility, in combination with past impacts, can be mitigated to be less than significant.

Coastal Agriculture Impacts: At least one of the opponents of the test well project raises concerns that the test well and any full scale desalination facility using the test well as a source water well will have significant adverse environmental impacts on coastal agriculture, particularly on the quantity and quality of water available to neighboring agricultural interests.[44] They assert that the aquifer underlying their property is already subject to seawater intrusion and that the test well will exacerbate this effect.

As described more completely in Section IV.A of the above findings, one of the purposes of the test well is to evaluate this exact issue. By operating the test well, Cal-Am will be able to test its models to better determine the degree to which drawing water from an offshore extension of the underlying aquifers will affect inland areas of aquifer. The data gathered through operation of the test well will provide data the CPUC will consider in its evaluation of the full desalination facility.

In order to address these concerns, **Special Condition 11** requires Cal-Am to monitor both the quantity and quality of water in areas that may be affected by operation of its test well. If these monitoring wells show a reduction in water quantity of one foot above natural fluctuations or a minor increase in salinity, Cal-Am is required to stop its test well operations. The test well is therefore designed and conditioned to ensure that it will have no significant adverse environmental effect on water quantity or quality in the area surrounding the test project.

[44] See, for example, the October 29, 2014 letter from William Parkin on behalf of AgLand Trust.

In addition, the data produced through operation of the test well will allow the CPUC in its EIR to evaluate the potential adverse effects of converting this test well into a source water well for the full desalination facility. If the data produced by the test well demonstrate that conversion of the test well to a permanent well will have an adverse effect on the environment, then the CPUC will evaluate these potential effects in its EIR. Should the CPUC, or any other entity that must provide a permit or approval for the full desalination facility, find that the test well is not an appropriate location for a source water well, then Cal-Am is required to remove the test well and restore the area. **Special Condition 17** ensures that the funds needed to remove and restore the test well are available prior to commencement of construction of the test well, so there are additional assurances in this CDP that the location of the test well will not prejudice the ability to fully evaluate the potential adverse environmental effects of a full-scale desalination facility.

Conclusion
When considered against past, current and potential future projects at the CEMEX sand mining site, the proposed test well is not anticipated to have a cumulative adverse impact. The temporary construction impacts on dune habitat as well as permanent estimated habitat loss caused by the test well, if it becomes permanent, and the future permanent losses due to the full desalination facility are anticipated to be able to be mitigated through on-site habitat restoration and creation so that their effects are less than significant.

The test well is conditioned to ensure that it is shut down if adverse effects to water quality and availability are detected at any of its monitoring wells, thereby ensuring that the well itself will not have adverse effects on coastal agriculture. The data produced by the test well is necessary to evaluate the potential adverse impacts of the full desalination facility, so the test well is expected to allow a more complete evaluation of that proposed project to ensure that it will not have adverse impacts on water available for coastal agriculture either. Thus, at this time there is no basis for determining that the test well, together with a future desalination facility, will cumulatively create adverse impacts to water quality or quantity available for coastal agriculture.

Finally, the test well is conditioned to require, prior to commencement of construction, that the funds estimated to remove and restore the test well are available through a bond or equivalent surety. This ensures that if the test well is not needed as a source water well for a future desalination facility for any reason, the funds are available for removal of the test well and restoration of the site. Accordingly, approval of this test well will not prejudice the ability of the CPUC or any other entity to fully evaluate alternative locations for potential source water wells for the proposed desalination facility, as the cost for removal of this facility will be guaranteed from the start of construction.

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096(a) of the Commission's administrative regulations requires Commission approval of coastal development permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which will substantially lessen any significant adverse effect which the activity may have on the environment.

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

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EXHIBITS

Figure 1. Project Vicinity Map

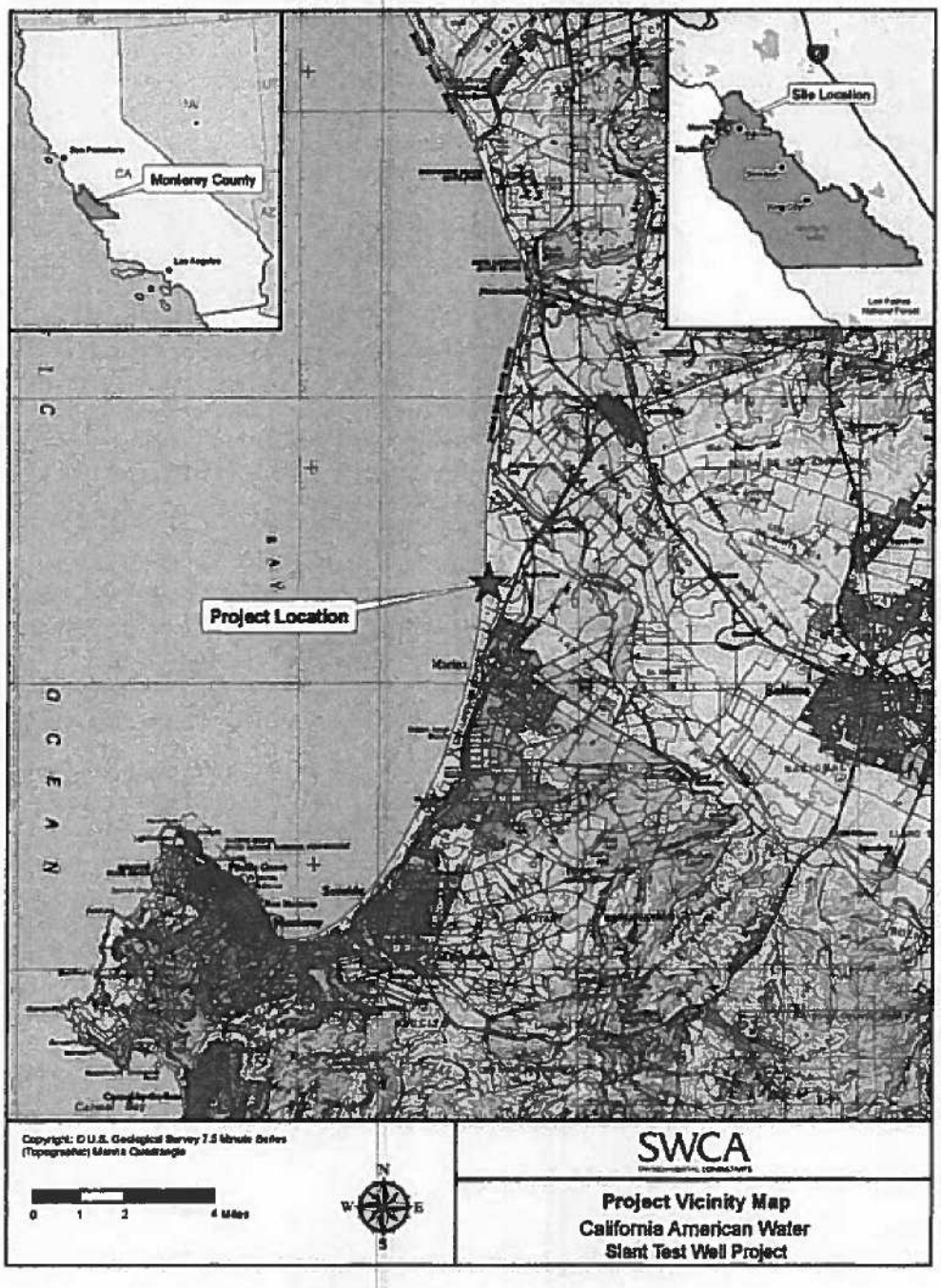

Figure 2. Project Location Map

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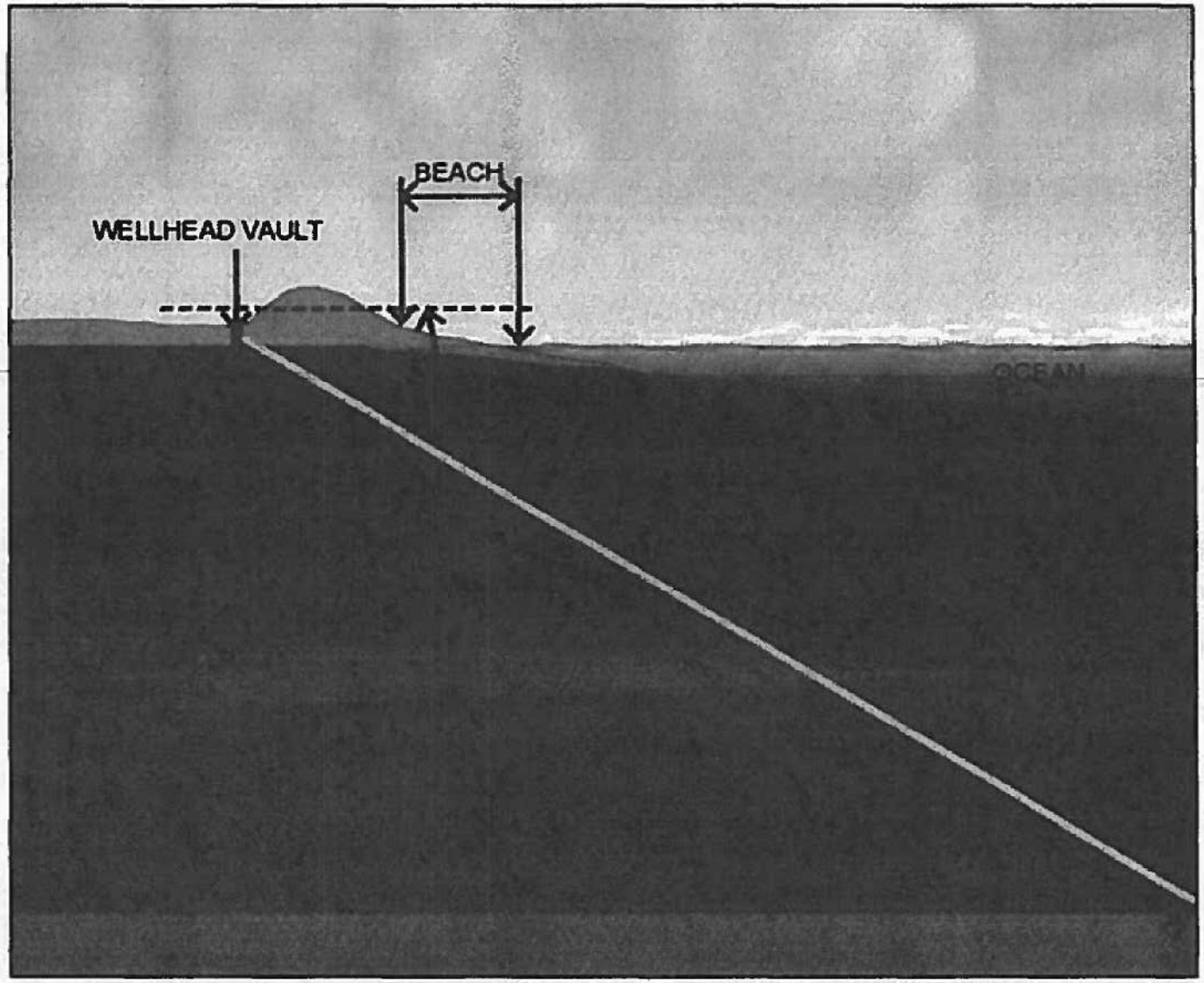
EXHIBIT 2

Figure 4. Slant Test Well – Representative Illustration (Not to Scale)



From MBNMS Cal-Am Slant Test Well Project, Draft Environmental Assessment, June 2014

Table 1. Proposed Water Quality Analytical Suite

Constituent	Units	Method Reporting Limit	Method
Physical Properties			
Color	Color Units	3.0	SM 2120B/EPA 110.2
Odor	T.O.N.		EPA 140.1
Oxidation-Reduction Potential (Field)	mV	-	Field Meter - Myron L 6PII
pH (Lab)	Units	0.10	SM 4500 H+B
pH (Field)	Units	-	Field Meter - YSI Pro Plus
Turbidity (Laboratory)	NTU	0.20	EPA 180.1/SM 2130B
Turbidity (Field)	NTU	-	Field Meter - Hach 2100P
Temperature (Field)	°C	-	Field Meter - YSI Pro Plus
Dissolved Oxygen (Field)	mg/L	-	Field Meter - YSI Pro Plus
Silt Density Index (Field)	-	-	ASTM D4189-07
Threshold Odor Number	T.O.N.	1.0	EPA 140.1/SM 2150
Total Dissolved Solids (Lab)	mg/L	10	SM 2540 C
Total Dissolved Solids (Field)	mg/L	-	Field Meter - YSI Pro Plus
Specific Conductance (Lab)	µmhos/cm	1	SM 2510 B
Specific Conductance (Field)	µS/cm	-	Field Meter - YSI Pro Plus
General Minerals			
Total Cations	meq/L	-	Calculation
Total Anions	meq/L	-	Calculation
Alkalinity as $CaCO_3$	mg/L	3	SM 2320 B
Bicarbonate Alkalinity as HCO_3	mg/L	3	SM 2320 B
Carbonate Alkalinity as $CaCO_3$	mg/L	3	SM 2320 B
Hydroxide Alkalinity as $CaCO_3$	mg/L	3	SM 2320 B
Total Hardness as $CaCO_3$	mg/L	3	Calculation
Aluminum	µg/L	1	EPA 200.7
Arsenic	µg/L	1	EPA 200.7 / EPA 200.8
Barium, Dissolved	µg/L	0.01	EPA 200.7
Boron, Dissolved	µg/L	0.5	EPA 200.8
Bromide, Dissolved	mg/L	0.1	EPA 826.0
Calcium, Dissolved	mg/L	1	EPA 200.7
Chloride, Dissolved	mg/L	1	EPA 300.0
Copper, Total	µg/L	50	EPA 200.7
Fluoride, Dissolved	mg/L	0.10	EPA 300.0 / SM 4500 FC
Iodide, Dissolved	mg/L	0.1	USGS I-2371 / EPA 9056A
Iron, Dissolved	µg/L	100	EPA 200.7 / EPA 200.8
Iron, Total	µg/L	100	EPA 200.7 / EPA 200.8
Lithium	µg/L	10	EPA 200.7 / EPA 6010B
Magnesium, Dissolved	mg/L	1	EPA 200.7
Manganese, Dissolved	µg/L	20	EPA 200.7 / EPA 200.8
Manganese, Total	µg/L	20	EPA 200.7 / EPA 200.8
MBAS	mg/L	0.050	SM 5540 C / EPA 200.8
Nitrogen, Nitrate as NO_3	mg/L	1	EPA 353.2 / EPA 300.0
Nitrogen, Nitrite, Dissolved	mg/L as N	1	SM 4500 NO_2 B
Nitrogen, NO_3+NO_2	mg/L as N	1	EPA 300.0
Nitrogen, Ammonia, Dissolved	mg/L as N	0.1	SM 4500 NH_3 H / EPA 350.1
Nitrogen, Ammonia + Organic, Diss. (TKN)	mg/L as N	0.1	EPA 351.2
Phosphorus, Dissolved	mg/L as P	0.01	EPA 365.3
Phosphorus, ortho, Dissolved	mg/L as P	0.01	EPA 365.3
Potassium, Dissolved	mg/L	1	EPA 200.7
Silica, Dissolved	mg/L	1	SM 4500 SiE
Sodium, Dissolved	mg/L	1	EPA 200.7
Strontium, Dissolved	mg/L	0.1	EPA 200.7 / EPA 200.8
Sulfate as SO_4, dissolved	mg/L	0.5	EPA 300.0
Zinc, Total	µg/L	50	EPA 200.7

Constituent	Units	Method Reporting Limit	Method
Radiology / Age Dating Methods			
Delta-Deuterium	δ^2H	-	TC/EA/IRMS
Delta Oxygen-18	$\delta^{18}O$	-	TC/EA/IRMS
Tritium	TU	-	-
Tritium, prec. est.	TU	-	-
Volatile Organic Compounds			
VOCs plus Oxygenates (MTBE)	µg/L	varies	EPA 524.2
EPA Organic Methods			
EDB and DBCP	µg/L	varies	EPA 504.1
Chlorinated Pesticides & PCB's as DCP	µg/L	varies	EPA 508
Chlorinated Acid Herbicides	µg/L	varies	EPA 515
Nitrogen & Phosphorus Pesticides DEHP, DEHA, Benzo(a)Pyrene	µg/L	varies	EPA 525
Carbamates	µg/L	varies	EPA 531.1
Glyphosate	µg/L	varies	EPA 547
Endothall	µg/L	varies	EPA 548.1
Diquat	µg/L	varies	EPA 549.1
Dioxin (2,3,7,8 TCDD)	µg/L	varies	EPA 1613

Each monitoring well cluster would include two or three individual monitoring wells, including two wells at different depths into the targeted Dune Sand and 180-FTE Aquifers. If a third monitoring well is included in a cluster, it would be drilled into the 400-Foot Aquifer, to evaluate the response of that aquifer to slant test well pumping. One of the monitoring well clusters would be located in the immediate vicinity of the slant test well insertion point and wellhead vault, and the others would be located further inland, either within the existing graded CEMEX access road or the disturbed area at the east end of the project area. As proposed, the monitoring well clusters would be decommissioned upon project completion consistent with DWR regulations.

Outfall Connection

The water pumped from the aquifers would be discharged into MBNMS waters via an existing ocean outfall pipeline used by the MRWPCA for treated wastewater disposal. The existing outfall pipeline is buried as it crosses the CEMEX property generally south of the access road (refer to Figure 3, which shows the 20-foot wide outfall easement). A 12-inch diameter discharge pipe would extend approximately 250 feet from the wellhead vault to an existing junction structure located on the MRWPCA outfall in the foredune area of the project site. The discharge pipe would be constructed approximately 3 feet below grade and would connect to the pressure lid on the junction structure, which is also currently below surface.

California American Water Slant Test Well Project

Mitigation Monitoring and Reporting Plan (includes Errata)

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
Aesthetic Resources				
AES/mm-1	Prior to issuance of a grading permit, a lighting plan shall be submitted to the City of Marina Planning Services Division for review and approval. The lighting plan shall be prepared by a qualified engineer and shall address any lighting proposed for the slant test well project. The lighting plan shall be prepared using guidance and best practices, as applicable and feasible. The lighting plan shall address all aspects of any new sources of lighting associated with the slant test well project, including but not limited to light towers, parking lots and pathway lighting, construction equipment, and safety lighting. The lighting plan shall also consider effects on wildlife in the surrounding area. The lighting plan shall include the following in conjunction with other measures as determined by the illumination engineer: a. The point source of all exterior lighting shall be shielded from off-site views towards ocean side or identified habitat. b. Light trespass from exterior lights shall be minimized by directing light downward and utilizing cut-off fixtures or shields. c. Lumination from exterior lights shall be the lowest level allowed by public safety standards. d. Any required lighting poles shall be colored dark to reduce reflectivity. The requirements of the lighting plan are not applicable to existing light sources at the project site associated with ongoing CEMEX mining activities and facilities.	Approval of Plan Periodic Site Inspections	Prior to Issuance of Permits Throughout Construction and Decommissioning Activities	City City

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
Air Quality				
AQ/mm-1	Prior to issuance of a grading permit, the following Best Management Practices and standard mitigation measures for reducing fugitive dust emissions shall be noted on project grading plans. All measures shall be adhered to during all project construction and decommissioning activities. a. Reduce the amount of disturbed area where possible. b. Water all sand/dirt stockpiles at least twice daily. Increased watering frequency may be required when wind speeds exceed 15 mph. c. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. d. All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard (minimum vertical distance between top of load and top of trailer). e. Plant appropriate vegetative ground cover in disturbed areas that are planned for habitat restoration as soon as possible. f. Cover inactive storage piles with methods approved in advance by U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. g. Not necessary due to nature of site and activity, i.e. sand only.Sweep streets if visible soil material is carried out from the construction site. h. [Not necessary. Project site is an active surface sand mining site with far more disturbance than project and in remote location.]	Review of Project Plans Periodic Site Inspections	Prior to Issuance of Permits Throughout Construction and Decommissioning Activities	City City

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
AQ/mm-2	Prior to issuance of a grading permit, the following Best Management Practices and standard mitigation measures for reducing nitrogen oxides (NO_x), reactive organic gases (ROG) and diesel particulate matter (DPM) emissions from construction equipment shall be noted on project grading plans. All measures shall be adhered to during all project construction and decommissioning activities. a. Maintain all construction equipment in proper tune according to manufacturer's specifications. b. Diesel powered equipment shall be replaced by electric equipment whenever feasible to reduce NO_x emissions. c. Diesel-powered equipment shall be replaced by gasoline-powered equipment whenever feasible. d. Diesel construction equipment meeting the California Air Resources Board (CARB) Tier 1 emission standards for off-road heavy-duty diesel engines shall be used. Equipment meeting CARB Tier 2 or higher emission standards shall be used to the maximum extent feasible. e. Catalytic converters shall be installed on gasoline-powered equipment, if feasible. f. All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job site to remind drivers and operators of the 5-minute idling limit. g. Diesel equipment idling shall not be permitted within 1,000 feet of sensitive receptors. h. The engine size of construction equipment shall be the minimum practical size when feasible. i. 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. j. Construction worker trips shall be minimized where practical by providing options for carpooling.. Onsite meals	Review of Project Plans Periodic Site Inspections	Prior to Issuance of Permits Throughout Construction and Decommissioning Activities	City City
Biological Resources				
BIO/mm-1	Prior to construction, the applicant shall retain a qualified biological monitor(s) through or as approved by Point Blue, to ensure compliance with all measures	Approval of Biological	Prior to Construction	Point Blue

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
	identified in the project environmental documents and permits. Monitoring shall occur throughout the duration of construction and decommissioning activities, or as directed by relevant regulatory agencies. Monitoring may be reduced during project operation, as determined through consultation with the CCC, USFWS, and CDFW.	Monitor	Activities	
BIO/mm-2	A qualified biologist(s) shall conduct preconstruction surveys for special-status species as described below. a. Because of the dynamic nature of sand dunes and the tendency for Monterey spineflower to establish in recently-disturbed areas, surveys for Monterey spineflower and buckwheat (host plant for Smith's blue butterfly) shall be conducted within all project disturbance areas and within 20 feet of project boundaries during the blooming period for the spineflower (April-June) in the year prior to construction to identify and record the most current known locations of these species in the project vicinity. Surveys shall be conducted by a qualified botanist, and shall include collection of Global Positioning System (GPS) data points for use during flagging of sensitive plant species locations and avoidance buffers prior to construction. b. A preconstruction survey shall be conducted for special-status species no more than 14 days prior to construction. If project construction takes place during the avian nesting season (February 15th through September 1st), the survey shall encompass all suitable nesting habitat within 500 feet of the project. Should active nests be identified, avoidance buffers shall be established (250 feet for passerines and up to 500 feet for raptors) until a qualified biologist can confirm that nesting activities are complete. Variance from the no disturbance buffers may be implemented when there is compelling biological or ecological reason to do so. Any variance requested by the applicant shall be supported with a written statement by a qualified biologist and subject to USFWS and CDFW approval. c. One to two weeks prior to initiation of construction and decommissioning activities, a qualified biologist from Point Blue or in consultation with Point Blue, shall field evaluate the nature and extent of wintering snowy plover activity in the project area and shall make	Documentation by Biological Monitor	Prior to Construction and Decommissioning Activities	Biological Monitor

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
	avoidance recommendations regarding construction activities to minimize disturbance to plovers. The applicant shall comply with all Point Blue avoidance recommendations. d. Preconstruction surveys shall be conducted by a qualified biologist(s) for California legless lizard and coast horned lizard prior to disturbance of any suitable habitat. Surveys shall utilize hand search methods in areas of disturbance where these species are expected to be found (i.e., under shrubs, other vegetation, or debris on sandy soils). Any individuals located during the survey shall be safely removed and relocated in suitable habitat outside of the proposed disturbance area.			
BIO/mm-3	Prior to construction and decommissioning activities, a qualified biologist shall conduct an environmental awareness training for the lead (e.g. foreman, supervisor, manager) construction personnel that are on-site during activities, which at a minimum shall include: descriptions of the special-status species that have potential to occur in the project area; their habitat requirements and life histories as they relate to the project; the avoidance, minimization, and mitigation measures that will be implemented to avoid impacts to the species and their habitats; the regulatory agencies and regulations that manage their protection; and, consequences that may result from unauthorized impacts or take of special-status species and their habitats. The training shall include distribution of an environmental training brochure, and collection of signatures from all attendees acknowledging their participation in the training. Subsequent trainings shall be provided by the qualified biologist as needed for additional construction or operations workers through the life of the project.	Documentation by Biological Monitor	Prior to Construction and Decommissioning Activities	Biological Monitor
BIO/mm-4	Prior to construction, a qualified biologist shall coordinate with construction crews to identify and mark the boundaries of project disturbance, locations of special-status species and suitable habitat, avoidance areas, and access routes. GPS data collected during preconstruction surveys completed in 2012, 2013, and 2014 shall be used to flag the known locations of Monterey spineflower and buckwheat for avoidance during construction. Avoidance buffers shall be established and flagged or fenced as necessary to avoid surface disturbance or vegetation removal. The monitoring biologist shall fit the placement of flags and fencing to minimize impacts to any sensitive resources. At a minimum, the biologist shall direct the placement of highly visible exclusion fencing (snow fence or similar) at the	Field Verification	Prior to Construction and Decommissioning Activities	Biological Monitor

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
	following locations: a. Around sensitive snowy plover habitat areas that do not require regular access; b. Areas along the northern edge of the CEMEX access road in the vicinity of the settling ponds; and c. In between the work area and any identified occurrence of Monterey spineflower or buckwheat within 10 feet of the existing access road or work area. All delineated areas of temporary fencing shall be shown on grading plans and shall remain in place and functional throughout the duration of construction and decommissioning activities.			
BIO/mm-5	A qualified biologist(s) shall be present during all project construction and decommissioning activities on a periodic basis as determined necessary by the biologist, and as needed during operational activities as determined in accordance with BIO/mm-1, to monitor for special-status species and to limit potential impacts to suitable habitat. The biologist(s) shall monitor construction equipment access and shall have authority to halt work activities, if the potential for impacts to special-status species or habitat is identified, until the issue can be resolved. The qualified biologist(s) shall immediately report any observations of special-status species to the project applicant, the Coastal Commission and any additional relevant regulatory agencies (CDFW, USFWS), as necessary.	Documentation by Biological Monitor	Throughout the Duration of the Project	Biological Monitor
BIO/mm-6	During the operational phase, a qualified biologist shall consult with Point Blue monitors on a weekly basis during the plover nesting season to stay current with nesting activity in the vicinity of the slant test well. If active plover nests are located within 250 feet of the project or access routes, avoidance buffers shall be established to minimize potential disturbance of nesting activity, and the biologist shall coordinate with and accompany Cal Am operational staff as necessary during the nesting season to guide access and activities to avoid impacts to nesting plovers. The biologist shall contact the USFWS and CDFW immediately if a nest is found in areas near the wellhead that could be affected by project operations. Operations shall be immediately suspended until written authorization to proceed is provided by USFWS.	Documentation by Biological Monitor	Throughout Operational Testing Phase	Biological Monitor

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
BIO/mm-7	To ensure Point Blue has adequate staff and funding to complete necessary monitoring and coordination throughout development and operation of the slant test well project, Cal Am shall provide any necessary funding to Point Blue in an amount agreed upon by Point Blue and the applicant.	Documentation by Point Blue	Prior to Construction	Point Blue
BIO/mm-8	All construction and decommissioning activities shall be conducted between October 1st and February 28th, unless otherwise authorized by Coastal Commission and USFW, in order to be outside of the blooming period for Monterey spineflower, the active flight season for adult Smith's blue butterflies and active larval stage of the species, and the nesting season for western snowy plover and other avian species protected by the Migratory Bird Treaty Act. Construction activities shall be restricted to the designated construction areas and CEMEX access road. No construction equipment, materials, or activity shall occur outside of the specified areas. This measure shall be included on all construction and grading plan sets.	Field Verification	Throughout Construction and Decommissioning Activities	Biological Monitor
BIO/mm-9	In order to minimize potential for vehicular collision with special-status species, all construction, decommissioning, and operational traffic shall maintain speeds of 10 miles per hour or less on access roads within the CEMEX parcel. All personnel shall conduct a visual inspection for special-status species around and under all vehicles prior to moving them. This measure shall be included on all construction and grading plan sets.	Field Verification	Throughout Construction and Decommissioning Activities	Biological Monitor
BIO/mm-10	Noise blankets shall be installed to provide visual and sound attenuation during all drilling operations to minimize potential disturbance of wintering western snowy plover. This measure shall be included on all construction and grading plan sets.	Field Verification	Prior to Construction	Biological Monitor
BIO/mm-11	Wire excluders or similar anti-perching devices shall be incorporated into the top of all aboveground structures (e.g., electrical panel) to deter perching by avian predators. This measure shall be included on all construction and grading plan sets.	Field Verification	Prior to Construction	Biological Monitor

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
BIO/mm-12	Construction personnel shall be required to keep all food-related trash items in sealed containers and remove them daily to discourage the concentration of potential predators in snowy plover habitat. Following construction, all trash and construction debris shall be removed from work areas and properly disposed of at a certified landfill. All vegetation removed from the construction site shall be taken to a certified landfill to prevent the spread of invasive species. This measure shall be included on all construction and grading plan sets.	Field Verification	Throughout Construction and Decommissioning Activities	Biological Monitor
BIO/mm-13	Prior to issuance of grading permits, the applicant shall develop a Restoration Management Plan (Plan) consistent with the requirements of the City of Marina LCP. At a minimum, the Plan shall include a description of the following methods and metrics: ratios of plants to be replaced based on a minimum replacement of 3:1, or as otherwise directed by regulatory agencies; areas of habitat to be restored, which shall at minimum include all areas of temporary disturbance in identified Primary or Secondary Habitat, except for areas actively used by CEMEX for mining purposes; timing of restoration activities; monitoring of restoration success; and any required reporting to relevant agencies. The Plan shall also include all relevant conditions of approval or requirements related to site restoration from permits issued by regulatory agencies for the project. The applicant shall seek input and/or review of the Plan from relevant regulatory agencies prior to finalization, including at a minimum the USFWS, CDFW, and CCC. The Plan shall be implemented: 1) during and immediately following construction and prior to operation of the test well, and 2) during and immediately following decommissioning activities.	Approval of Plan	Prior to Issuance of Permits	City and Biological Monitor
BIO/mm-14	After construction, all disturbed areas shall be restored and revegetated to preconstruction contours and conditions to the extent feasible, in accordance with the Restoration Management Plan. Following decommissioning of the test well, all disturbed areas shall be re-contoured and revegetated as determined necessary and in coordination with applicable agencies and representatives of Point Blue to ensure that the optimum ground configuration is obtained for potential nesting plovers and other special-status species that may occur in the area.	Field Verification and Documentation by Biological Monitor	After Construction and Decommissioning Activities	Biological Monitor

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
BIO/mm-15	To ensure that restoration efforts are successful and unanticipated events are expeditiously managed, restored areas shall be monitored following planting and during operation of the test well and for 5 years following planting and decommissioning of the test well. This applies only if actual replanting are performed. [Dunes are disturbed active surface mining area, restoring to a level of adjacent dunes undisturbed dunes is not practical and the revegetation in this area is not applicable until Cemex ceases operation in this area.]	Field Verification and Documentation by Biological Monitor	After Decommissioning Activities	Biological Monitor
BIO/mm-16	During construction and decommissioning activities, the biological monitor(s) shall ensure that the spread or introduction of invasive plant species is avoided to the maximum extent possible through the following measures, which shall be included in all construction and grading plan sets: a. When practicable, invasive exotic plants in the project area shall be removed and properly disposed of at a certified landfill. b. The use of imported soils for fill shall be limited to the greatest extent feasible. Soils currently existing on-site shall be used for fill material to the extent feasible. If the use of imported fill material is necessary, the imported material must be obtained from a source that is known to be free of invasive plant species, or the material must consist of purchased clean material. c. The Restoration Management Plan shall include an invasive species control program to be implemented throughout the duration of the project and shall emphasize the use of native species expected to occur in the area.	Field Verification	Throughout Duration of the Project	Biological Monitor
BIO/mm-17	Prior to operation of the test well and any discharge of pumped test water into the Pacific Ocean, the project applicant shall provide the Coastal Commission with a valid NPDES permit or other RWQCB approval for the proposed slant test well discharge. The NPDES permit or approval shall incorporate all relevant standards of the California Ocean Plan.	Review of RWQCB Permit or Approval	Prior to Operation of Project	CCC
BIO/mm-18	Prior to issuance of grading permits, the applicant shall submit a grading plan identifying all stockpile and staging areas. Stockpiles and staging areas shall not be placed in areas that have potential to experience significant runoff during the rainy season. All project-related spills of hazardous materials within or adjacent to	Approval of Plan	Prior to Issuance of Permits	City

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
	project sites shall be cleaned up immediately. Spill prevention and cleanup materials shall be on-site at all times during construction. Cleaning and refueling of equipment and vehicles shall occur only within designated staging areas. The staging areas shall conform to standard Best Management Practices (BMPs) applicable and feasible to attaining zero discharge of storm water runoff. No maintenance, cleaning or fueling of equipment shall occur within Primary or Secondary Habitat areas, or within 50 feet of such areas. At a minimum, all equipment and vehicles shall be checked and maintained on a daily basis to ensure proper operation and to avoid potential leaks or spills. The grading plan shall be subject to review and approval by the City of Marina.			
Cultural Resources				
CR/mm-1	The project shall be redesigned to avoid significant adverse effects to historic resources; in particular, direct impacts to the Lapis Siding that is identified as a contributor to the Lapis Sand Mining Plant Historic features shall be avoided. Because the Siding extends through the eastern portion of the construction footprint, the construction plans shall be redesigned to locate all project components and construction activities in adjacent areas that do not contain structures associated with the Lapis Sand Mining Plant historic features. Avoidance of impacts to historic district contributors in close proximity to construction activities shall be accomplished by installing flagging or safety fencing around, or covering with plywood, any adjacent buildings or structures that are within 5 feet of mechanized equipment.	Review of Revised Development Plans	Prior to Issuance of Permits	City and Qualified Archaeologist
CR/mm-2	A qualified archaeologist that meets the Secretary of the Interior's professional qualifications standards in archaeology (National Park Service 1983) shall be retained to provide archaeological services for the project. Archaeological services for the project shall at minimum include the following: a. Prior to initiation of ground-disturbing activities, an archaeological monitor working under the direction of the qualified archaeologist shall conduct a brief awareness training session for all construction workers and supervisory personnel. The training shall explain the importance of and legal basis for the protection of significant archaeological resources. Each worker should learn the proper procedures to follow in the event that cultural resources or human remains/burials are uncovered during	Approval of Qualified Archaeologist and Documentation by Qualified Archaeologist	Prior to and Throughout Construction and Decommissioning Activities	MBNMS and Qualified Archaeologist

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
	ground-disturbing activities, including those that occur when an archaeological monitor is not present. These procedures include work curtailment or redirection and the immediate contact of the site supervisor and the archaeological monitor. It is recommended that this worker education session include visual images or samples of artifacts that might be found in the project vicinity, and that the session take place on-site immediately prior to the start of ground-disturbing activities. b. An archaeological monitor working under the direction of the qualified archaeologist shall monitor all ground disturbance in areas within 100 feet of the historic buildings within the eastern portion of the project area. These include the Superintendent's Residence, Bunkhouse, Garage/Office, Maintenance Shop, and Scale House. The timing and duration of the monitoring may be adjusted during project implementation by the qualified archaeologist, in consultation with the City, whose decision shall be informed by the apparent sensitivity of the sediments in the project area once they are exposed. c. The project applicant shall coordinate with representatives from the Ohlone/Coastanoan-Esselen Nation and Amah Mutsun Tribal Band of Mission San Juan Bautista to designate a Native American monitor to be present during ground disturbing activities associated with the project. Documentation of such coordination shall be provided to MBMNS prior to construction activities. The timing and duration of the monitoring may be adjusted during project implementation by the qualified archaeologist, in consultation with MBNMS, whose decision shall be informed by the apparent sensitivity of the sediments in the project area once they are exposed.[1]			
CR/mm-3	In the event that archaeological resources (artifacts or features) are exposed during ground-disturbing activities, construction activities in the immediate vicinity (25 feet) of the discovery shall be halted while the resources are evaluated for significance by the qualified archaeologist. Construction activities could	Documentation by Qualified Archaeologist	Throughout Construction and Decommissioning Activities	Qualified Archaeologist

[1] Added from Environmental Assessment for the California American Water Slant Test Well Project

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
	continue in other areas. If the discovery proves to be significant, additional work, such as archaeological data recovery or project redesign, may be warranted and would be discussed in consultation with the City.			
CR-mm-4	In the event of inadvertent discovery of human remains, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner shall be notified of the find immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification, and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. The California Health and Safety Code Section 7050.5 process shall be noted on project grading and construction plans and reviewed during the construction worker awareness training session.	Documentation by Qualified Archaeologist	Throughout Construction and Decommissioning Activities	Qualified Archaeologist
Geology and Soils				
GEO/mm-1	The project shall be designed to meet or exceed all applicable requirements of the CBC. Design and construction of the project shall meet or exceed all applicable feasible conclusions and recommendations in the Geotechnical Investigation for the California American Water Temporary Slant Test Well Project, Marina, Monterey County, California, dated April 3, 2014 (GeoSoils 2014).	Review of Grading and Engineering Documents and Construction Inspections and Testing As Required	Prior to and Throughout Construction	City
Hazards and Hazardous Materials				
HAZ/mm-1	Prior to construction, the applicant shall prepare a Hazardous Material Spill Prevention, Control and Countermeasure Plan to minimize the potential for, and effects of, spills of hazardous or toxic substances or the inadvertent discovery of buried hazardous materials during construction or decommissioning of the project. The plan shall be submitted for review and approval by the City, and shall	Approval of Plan	Prior to Construction	City

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
	include, at minimum, the following: a. A description of hazardous materials to be used, storage procedures and construction and decommissioning site maintenance and upkeep practices; b. Identification of a person or persons responsible for monitoring implementation of the plan and spill response; c. Identification of BMPs to be implemented to ensure minimal impacts to the environment occur, including but not limited to the use of containment devices for hazardous materials, training of construction staff regarding safety practices to reduce the chance for spills or accidents, and use of non-toxic substances where feasible; d. A description of proper procedures for containing, diverting, isolating, and cleaning up spills, hazardous substances and/or soils, in a manner that minimizes impacts on sensitive biological resources; e. Positive location of any past or current septic systems on the CEMEX parcel in the vicinity of construction activities, and a plan for avoiding impacts to any known or unknown buried refuse disposal locations;[2] f. A description of the actions required if a spill or inadvertent discovery occurs, including which authorities to contact and proper clean-up procedures; and g. A requirement that all construction personnel participate in an awareness training program conducted by qualified personnel approved by the City. The training must include a description of the Hazardous Materials Spill Prevention, Control and Countermeasure Plan, the plan's requirements for spill prevention, information regarding the importance of preventing spills, the appropriate measures to take should a spill or inadvertent discovery occur, and identification of the location of all clean-up materials and equipment.			
HAZ/mm-2	Prior to commencement of construction or decommissioning activities, the applicant shall consult with the property owner (CEMEX) regarding construction/	Documentation by Applicant	Prior to Construction and	CCC

[2] Added from Environmental Assessment for the California American Water Slant Test Well Project

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
	decommissioning operations and schedule. In coordination, the project applicant shall provide advance notice of construction activities and construction shall be scheduled to avoid disruption of existing mining activities to the extent feasible. Coordination shall include construction and decommissioning phase parking needs and the number of on-site construction crewmember vehicles shall not be more than can be accommodated within the CEMEX parking area, as determined by the property owner. If the on-site parking area is insufficient to accommodate project crewmembers, the applicant shall implement carpooling, off-site parking, shuttle service to the site, or other similar measures to reduce the number of vehicles at the site consistent with property owner approval. If construction activities within the CEMEX access road would conflict with CEMEX operations, such construction shall be conducted during non-operational mining periods (i.e., nighttime or weekends). Construction activities shall be conducted to avoid any need for the grading of any new access roads for use by CEMEX.		Decommissioning Activities	
Hydrology and Water Quality				
HYD/mm-1	Prior to construction, the applicant shall prepare a groundwater monitoring plan for City review and approval. The plan shall determine, through preliminary monitoring and sampling prior to pumping activities, a baseline condition of groundwater levels and quality, including the reasonable range of natural fluctuations, in the Dune Sand, 180-FTE, and 400-Foot Aquifers. The effects of pumping activities on groundwater levels and quality in the Dune Sand, 180-FTE, and 400-Foot Aquifers shall be monitored throughout the duration of pumping activities. Monitoring activities shall be conducted through regular assessment of the proposed on-site monitoring wells, as well as through additional coordination with surrounding well owners, including CEMEX and adjacent agricultural water users, to identify changes in off-site water levels to the maximum extent feasible. A drawdown of 1 foot above natural fluctuations on groundwater levels shall be considered a significant adverse effect on water supply. If pumping activities reflect a drawdown of 1 foot or greater on any adjacent well, compensatory mitigation shall be required. Feasible mitigation shall include consultation with the affected water user and implementation of compensatory mitigation measures, including monetary compensation (i.e., for increased pumping costs or for upgraded wells), or provision of replacement water from	Approval of Plan	Prior to Construction	Monterey County Water Resources Agency

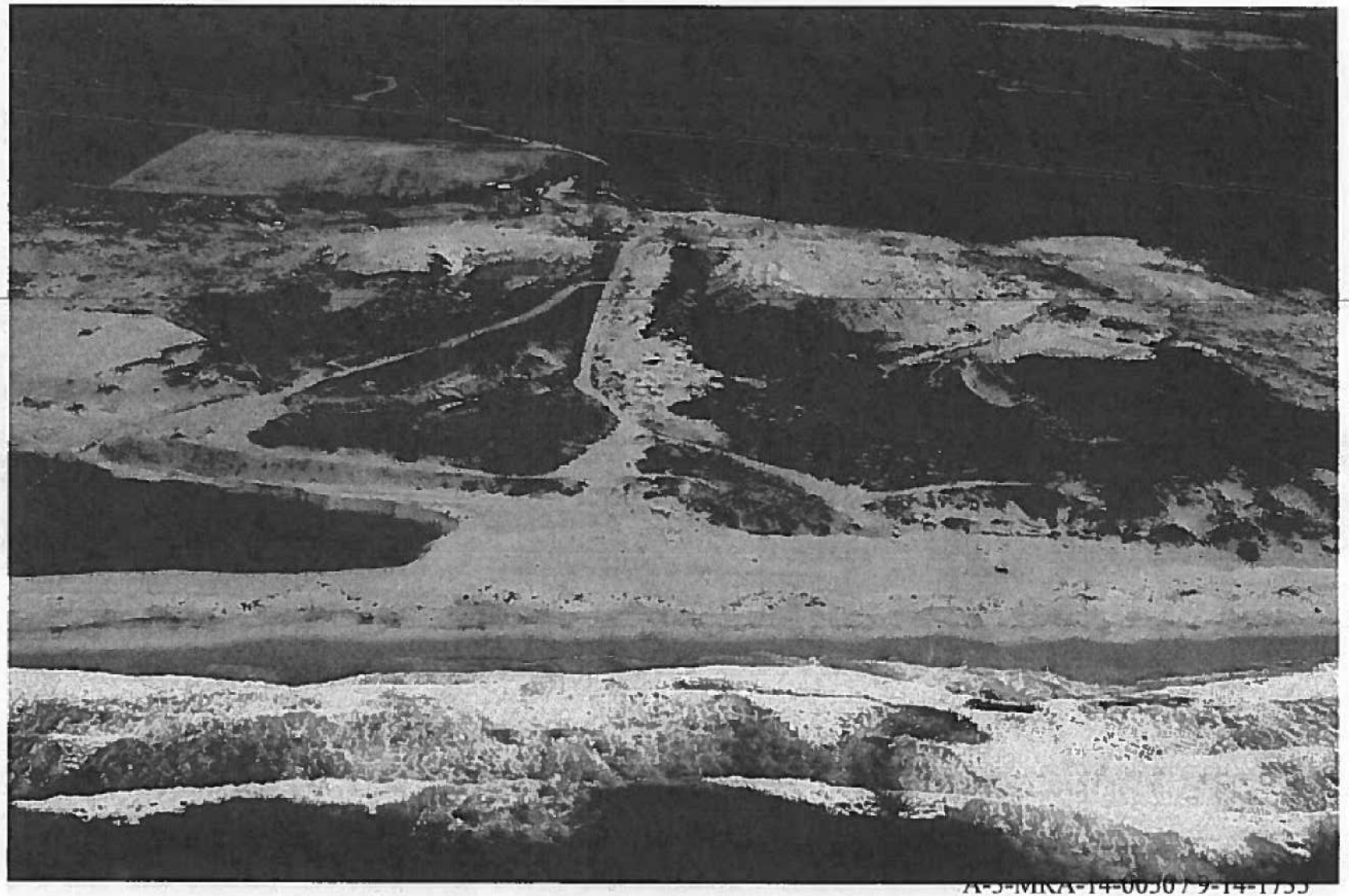
Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
	alternative sources. If compensation or other remediation is found to be unfeasible, pumping activities shall be adjusted so that no more than 1 foot of drawdown on usable water sources would result. The plan shall designate a person or persons to monitor implementation of the monitoring plan and to order implementation of mitigation if necessary. The name and telephone number of the person(s) shall be listed in the monitoring plan and provided to the Monterey County Water Resources Agency (MCWRA) prior to the start of construction. The plan shall include a requirement for regular reporting (no less than annually) on the results of the monitoring activities, and the reports shall be submitted to the MCWRAand other relevant regulatory agencies.			
HYD/mm-2	Prior to issuance of grading permits, the applicant shall submit an erosion control plan for approval by the City Public Works Director. The plan shall be prepared by an appropriately certified professional and shall include a schedule for the completion of erosion- and sediment-control structures, which ensures that all such erosion-control structures are in place by mid-November of the year that construction begins. The plan shall identify standard Best Management Practices to be implemented to address both temporary and permanent measures to control erosion and reduce sedimentation. Site monitoring by the applicant's erosion-control specialist shall be undertaken and a follow-up report shall be prepared that documents the progress and/or completion of required erosion-control measures both during and after construction and decommissioning activities. No synthetic plastic mesh products shall be used in any erosion control materials. All plans shall show that sedimentation and erosion control measures are installed prior to any other ground disturbing work.	Approval of Plan	Prior to Construction	City
HYD/mm-3	The slant test well and wellhead vault shall be sited to avoid areas identified in the coastal erosion memorandum prepared by ESA-PWA (March 2014) as subject to coastal erosion during the duration of the project. The alternative slant test well location shall avoid all identified sensitive plant species and shall be limited to the graded area of the CEMEX access road to the maximum extent feasible. The slant test well location shall not encroach north of the graded roadway in closer proximity to the CEMEX settling ponds or Canal Flume. If test well is designated to be decommissioned because test well is determined to have no future use, the slant test well and all related infrastructure shall be removed to a depth of no less	Review of Revised Development Plans and Field Verification	Prior to Issuance of Permits and After Decommissioning	MCWRA

Mitigation Measure	Requirements of Measure	Compliance Method	Verification Timing	Responsible Party
	than 40 feet below 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 decommissioning and/or in segments over time as mutually agreed upon by the MRWPCA, Cal Am, the California State Lands Commission, CEMEX, 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 decommissioning, 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.			
Utilities and Service Systems				
UTIL/mm-1	Prior to commencement of construction activities, the applicant shall provide the CCC with a copy of a negotiated agreement or memorandum of understanding between the applicant and the Monterey Regional Water Pollution Control Agency regarding connection and use of the ocean outfall. At minimum, the agreement shall include MRWPCA engineering design review, USA North 811 positive location of the outfall, construction trestle, and any related infrastructure, RWQCB approval or permits for discharge of seawater through the MRWPCA outfall, and access to flow meter data and alarm system triggers and signals.	Review of Agreement or Memorandum	Prior to ~~Issuance of Permits~~ Construction	CCC and RWQCB

1972 coastal records project

A-3-MRA-14-0050 / 9-14-1735
EXHIBIT 6

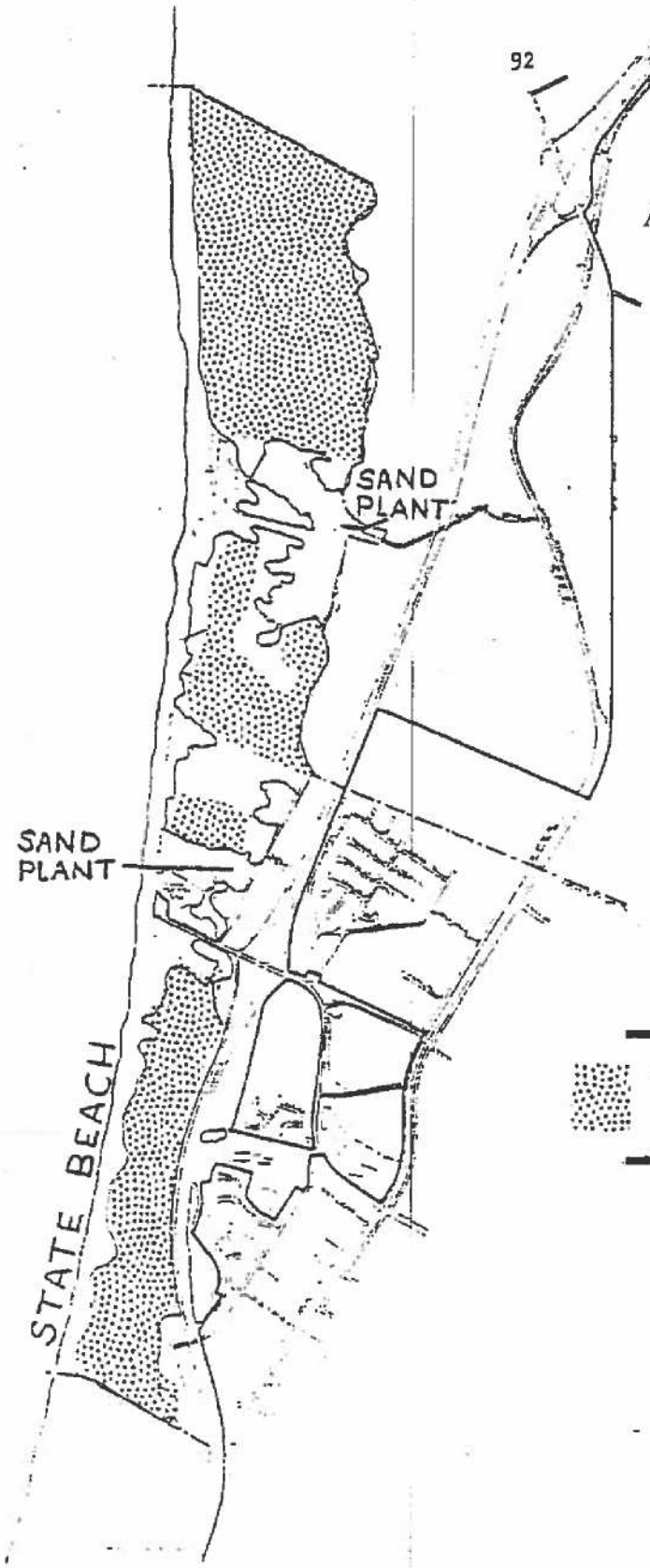
2013



A-3-MRA-14-0050 / 9-14-1755
EXHIBIT 6

EXHIBIT O, PAGE 90

A-3-MRS-14-0050 / 9-14-1735
EXHIBIT 7



LEAST-DISTURBED DUNE HABITAT AREAS
(Air Photo Interpretation By Coastal Commission Staff, October, 1981)

The Precise location and edges of these Least Disturbed Dune Habitat Areas shall be determined by ground investigation by a qualified biologist and mapped at the time use is proposed.

LEAST - DISTURBED DUNE HABITAT AREAS

MARINA LOCAL COASTAL PROGRAM

EXHIBIT B

LCP Primary and Secondary Habitat Delineation

The purpose of this Memorandum is to discuss the delineation of Primary and Secondary Habitat for the Snowy Plover within the area examined by the Habitat Assessment. This delineation supersedes that of the habitat delineation in referenced in the Restoration Management Plan prepared by Zander Associates, dated July 2014. This delineation of Primary and Secondary Habitat stems from a finer grained evaluation of habitat quality in the project area.

The City of Marina LCP (1982) requires protection and preservation of "primary habitat areas," which includes "habitat for all identified plant and animal species which are rare, endangered, threatened, or are necessary for survival of an endangered species...", "vernal ponds and their associated wetland vegetation...", "all native dune vegetation, where such vegetation is extensive enough to perform the special role of stabilizing Marina's natural sand dune formations...", and "areas otherwise defined as secondary habitat that have an especially valuable role in an ecosystem for sensitive plant or animal life, as determined by a qualified biologist approved by the City." The secondary habitat referred to in the LCP is defined as "areas adjacent to primary habitat areas within which development must be sited and designed to prevent impacts which would significantly degrade the primary habitat" and includes "potential/known localities of rare and endangered plant species, potential wildlife habitats, and any areas within 100 feet of the landward boundary of a wetland primary habitat area."

The temporary project footprint lies wholly within the active mining area with much of the area being disturbed. The Draft Initial Study and Mitigated Negative Declaration for the project defined Primary Habitat as coastal dunes and sandy beach. Upon reexamination, it was noted that areas originally classified as Primary Habitat within the project area were in fact disturbed to a degree that would preclude them as Primary Habitat, altering the classification to Secondary Habitat. For instance areas south of the Mitigated Well Location previously classified as coastal dunes is in fact a stock pile for sand, is periodically graded by Cemex and is largely devoid suitable vegetation. The disturbance of habitat area stems from the operations of the Cemex mining area. The habitat within the Mitigated Well Location footprint is within the approved Cemex Restoration Plan.

Habitat was reevaluated using a combination of site photos from field reconnaissance and from satellite imagery. Areas with significant disturbance such as dirt roads, graded surfaces, areas disturbed by mining activities, and soils/sand stock piles were reclassified as Secondary Habitat. The reclassified habitat is shown in the attached Exhibit. As seen in the Exhibit, the area of the Mitigated test well footprint is within Secondary Habitat. Total Primary Habitat area within the Project Area is approximately .68 acres and is located on the western most end of the project area. Secondary Habitat accounts for the majority of the project area at 2.01 acres.

Habitat reclassifications were reviewed by Zander Associated and RBF biologists for concurrence.

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EXHIBIT 8

Attachments:

Attachment A: Primary and Secondary Habitat Map

Attachment B: Historic Aerials of Project Site

Attachment C: Project Site Photos

Attachment D: Existing Biological Conditions Map

Image Date: 2006 (Source: Google Earth)

Image Date: 2007 (Source: Google Earth)

Image Date: 2012 (Source: Google Earth)

Image Date: 2013 (Source: Google Earth)

RBF CONSULTING A Company JN 136410

Cemex Test Slant Well

Historic Site Aerials

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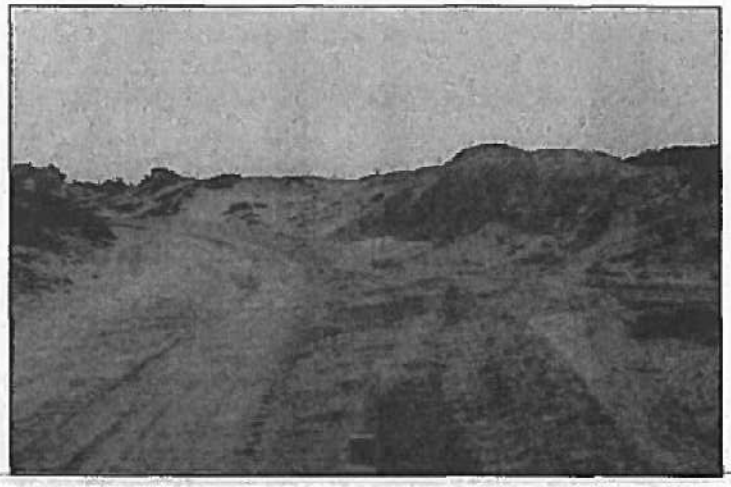
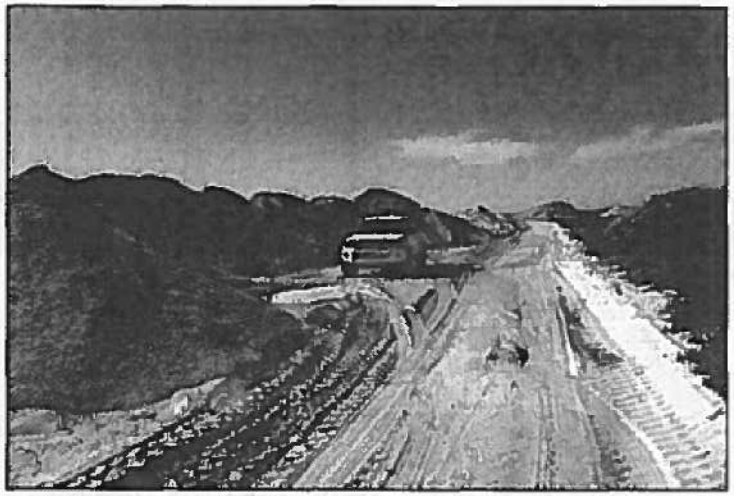
View of Cemex Access Road and Stockpiles Facing East. (Image Date: 10/30/2013)



View of Stockpiling and Cemex Access Road Facing East. (Image Date:10/22/2013)



View of Cemex Access Road and Stockpiling facing West. (Image Date: 10/30/2013)

View of Cemex Access Road and Stockpiling facing East.(Image Date: 10/30/2013)

RBF CONSULTING
A [redacted] Company
JN [redacted]

Cemex Test Slant Well

Site Photos

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Figure 6. Existing Biological Setting

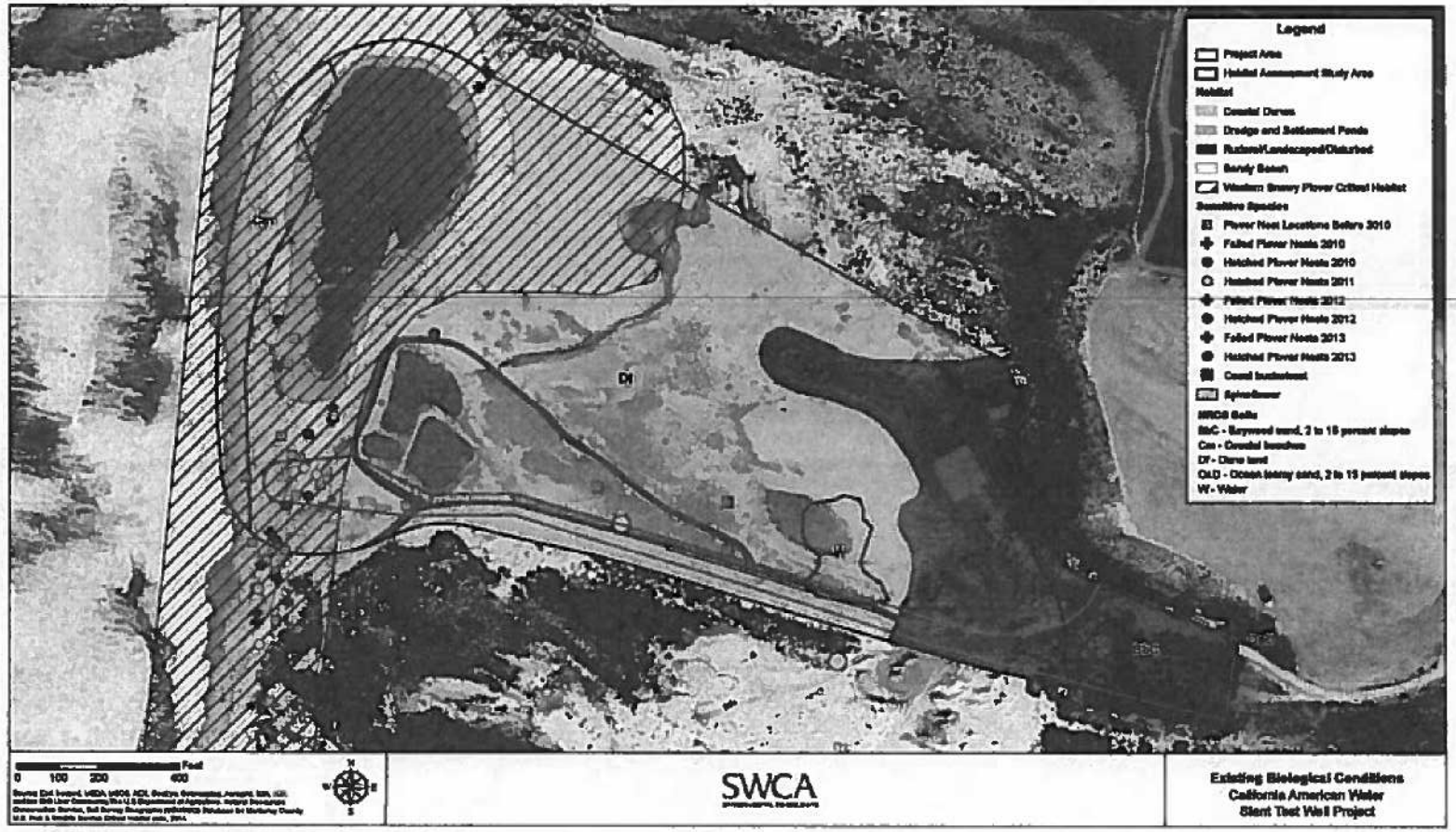

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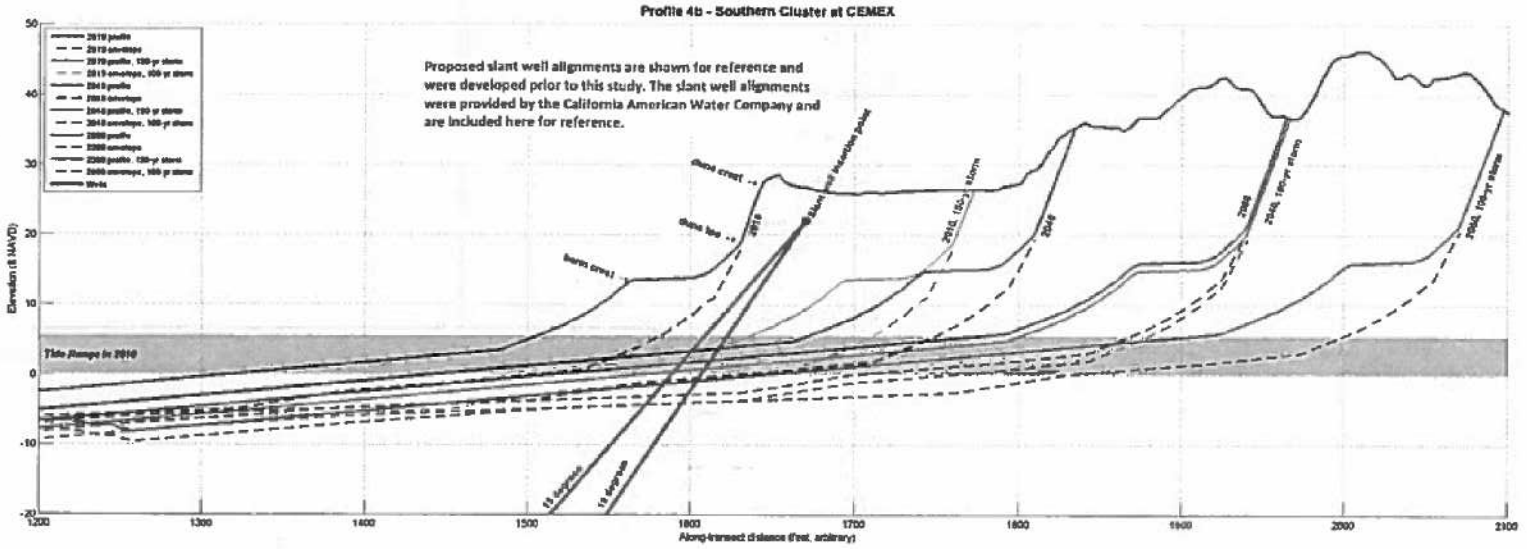
EXHIBIT 8



Notes.

1. These envelopes of erosion consider seasonal changes in beach width, localized erosion (rip currents), long-term erosion, and accelerated erosion caused by sea level rise.
2. The profile shape is linearly interpolated between the bathymetry data and the topography data (between x = 820 ft and x = 1480).
3. This profile is located immediately south of the CEMEX Pacifica Lapis sand mining plant. No data is available to quantify the uncertainty in adjacent beach and dune erosion related to sand mining activities. The potential for fluctuations in beach width associated with sand mining were not considered in this analysis.
4. Slant well location and angle are based on the "Well 3 Alignment" and "Well 3 Cross-Section" drawings provided by Geoscience on July 30, 2013.
5. The well input parameters in the table to the right were developed prior to this study and were provided by the California American Water.

Southern Cluster Parameters			Notes
type of well	Production Well	Production Well	
inputs			
angle (degrees from horizontal)	15	19	
length (feet)	800	800	
insertion pt elevation (feet NAVD)	22.0	22.0	AMSL to NAVD 88 conversion: 2.97 ft
insertion point loc (feet, arbitrary)	1670	1670	
calculations			
intake elevation (feet NAVD)	-185	-238	
intake loc (feet, arbitrary)	897	914	
Bed elevation at intake (ft NAVD)	-9	-9	*linearly interpolated btwn bathy and topo data*
Depth of sediment above intake (ft)	176	230	*difference between bed and intake elevation*

Monterey Peninsula Water Supply Project. 205335.01

Figure 9. Representative Profile #4b at CEMEX

Exhibit 10 – City of Marina Municipal Code Section 17.41.100, Requirements for Habitat Restoration

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.

A. Habitat Restoration Plan Requirement.

1. 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 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.

2. The elements of such a plan shall include, at a minimum:

a. A detailed site plan of the entire habitat and buffer area with a topographic base map;

b. A baseline ecological assessment of the habitat 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 plantings 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 are 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 of 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 be used to ensure the mitigation site achieves the defined goals, objectives and performance standards;

e. Provisions for the full restoration of any impacts that are identifiable as temporary necessary to install the restoration or enhancement elements;

f. Provisions for submittal, within thirty 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. Provisions for a detailed monitoring program to include, at a minimum, provisions 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. Provisions to ensure that the site will be promptly remediated if monitoring results indicate that the site does not meet the goals, objectives and performance standards identified in the approved mitigation programs and provisions for such remediation. If the final report indicates 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 that did not meet the approved performance standards;

i. Provisions for submission of annual reports of monitoring results to the city of 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 the first year after submission of the "as-built" assessment. Each report shall 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. (Ord. 2007-11 § 3 (Exh. A (part)), 2007)

~~ATTACHMENT 2~~

STATEMENT OF REASONS SUPPORTING THE APPEAL

Appeal by California-American Water Company from the City of Marina Denial of Coastal Development Permit 2012-05 for Construction, Temporary Operation, and Decommissioning of a Slant Test Well Project

I. Introduction and Summary

California-American Water Company ("California American Water") appeals the September 4, 2014 decision of the City Council of the City of Marina, CA ("City"), denying Coastal Development Permit Application 2012-05 ("CDP") for development of a temporary slant test well to determine the feasibility of using subsurface slant wells for production of seawater to a proposed desalination facility. Prior to the City Council's decision, the City Planning Commission declined to issue or deny the CDP after conducting a public hearing on July 10, 2014.

This appeal is filed pursuant to Public Resources Code Section 30603(a)(5), which provides that the California Coastal Commission ("Commission") may hear an appeal of a local agency denial of a major public works project. The California American Water Slant Test Well Project ("Project") is a "public works project" because it is a facility for the production of water to be owned and operated by a public utility subject to the jurisdiction of the California Public Utilities Commission ("CPUC"). Cal. Pub. Res. Code § 30114. The proposed Project is a "major" public works project because, if approved, it would cost more than $100,000 to complete. 14 Cal. Code Regs. § 13012. The City notified the Commission of its action on the CDP on September 11, 2014 (see Attachment 3), so this appeal is timely filed. 14 Cal. Code Regs. § 13111(c), Cal. Pub. Res. Code § 30603(c)(setting ten working day appeal period).

Pursuant to Section 30603(b)(2), the grounds for an appeal of a denial of a permit for a major public works project "shall be limited to an allegation that the development conforms to the standards set forth in the certified local coastal program and the public access policies set forth in this division." As described in more detail below, the proposed Project fully conforms to the standards set forth in the City's certified local coastal program ("LCP") and the public access policies of the California Coastal Act (Cal. Pub. Res. Code §§ 30000, *et seq.*, "Coastal Act"). In denying the CDP, the City did not make any finding that the proposed Project fails to conform to the standards of the LCP or interferes with coastal access. In fact, the City's Planning Department Staff ("City Staff") and outside expert consultants found that the proposed Project is entirely consistent with the LCP and in no way restricts coastal access. Because the proposed Project conforms to the standards of the LCP and the public access policies in the Coastal Act, the Commission should grant this appeal and issue the CDP.

II. Background

a. Carmel River and the Monterey Peninsula Water Supply Project

In April 2013, California American Water filed an application with the CPUC for approval of the Monterey Peninsula Water Supply Project ("MPWSP"). If approved, the MPWSP would replace a significant portion of the existing public water supply from the Carmel River. Through two separate Orders (issued in 1995 and 2009), the State Water Resources Control Board ("SWRCB") directed California American Water to develop and implement a plan to replace more than 70% of the water it historically diverted each year from the Carmel River to serve drinking water to customers in its Monterey County service area. One of the primary purposes of reducing diversions from the Carmel River is to protect species that are listed as threatened under state and federal law, such as the South-Central California Coast Steelhead and the California Red-Legged Frog. If approved and constructed, the MPWSP will consist of slant intake wells, brackish water pipelines, a desalination plant, product water pipelines, brine disposal facilities, and related appurtenant facilities. Detailed background information on the MPWSP is included in Attachment 4 at 5-6. The overall MPWSP will be subject to a separate coastal development permit application that California American Water plans to submit to the Commission in 2015 after the CPUC completes and certifies an Environmental Impact Report and its own project approval.

b. Subsurface Intake Slant Wells

In connection with California American Water's application for approval of the MPWSP, a diverse set of parties filed a proposed settlement in July 2013 that sets certain technical, financial, governance, and other conditions for its completion. A copy of the parties' joint motion to approve the settlement agreement and the agreement itself are included together as Attachment 4. In addition to California American Water, the parties to the settlement agreement are:

- Citizens for Public Water;
- City of Pacific Grove;
- Coalition of Peninsula Businesses;
- County of Monterey;
- CPUC Division of Ratepayer Advocates;
- Landwatch Monterey County;
- Monterey County Farm Bureau;
- Monterey County Water Resources Agency;
- Monterey Peninsula Regional Water Authority;
- Monterey Peninsula Water Management District;
- Monterey Regional Water Pollution Control Agency;
- Planning and Conservation League Foundation;
- Salinas Valley Water Coalition;
- Sierra Club; and
- Surfrider Foundation.

Among other things, the settlement identifies the use of subsurface slant wells at the site where the proposed Project would be completed as the preferred alternative for intake of seawater, "subject to confirmation of the feasibility of this option by the test well results and hydro-geologic studies." Attachment 4 at 41-42[1]. California American Water and the settling parties are unified in their goal to complete the proposed slant test well Project to provide information that will inform whether it is feasible to use subsurface slant wells as intake sources for the MPWSP.

Subsurface intake wells, including slant wells, are also the preferred desalination intake methodology for multiple state and federal agencies with permitting and/or other regulatory authority over the MPWSP. These include the Commission (see Attachment 5 at 13, 70-72, 74), SWRCB (see Attachment 6 at 4, 6-10, 15, 28), and the National Oceanic and Atmospheric Administration, Monterey Bay National Marine Sanctuary ("MBNMS")(see Attachment 7 at 9, 11). In fact, the MBNMS's *GUIDELINES FOR DESALINATION PLANTS IN THE MONTEREY BAY NATIONAL MARINE SANCTUARY* state clearly and unconditionally that desalination project proponents "should investigate the feasibility of using subsurface intakes [including slant wells] as an alternative to traditional [i.e., open ocean] intake methods," and that is precisely the purpose of the proposed Project. Attachment 7 at 9. The Commission participated in the NOAA Desalination Working Group that was convened to develop an action plan to guide MBNMS's approach to desalination facility review and approval. Attachment 7 at 4, 19. Additionally, the Department of Water Resources recently awarded California American Water a $1,000,000 grant to partially fund the proposed Project, indicating that it "look[s] forward to working with [California American Water] to achieve a successful [slant test well] project in furtherance of water desalination as a viable water supply to meet California's needs." See Attachment 8 at 1.

c. Proposed Project Site

The parties to the settlement described above also agreed that California American Water should, if feasible, locate the slant test well within the active surface mining area of CEMEX, Inc.'s ("CEMEX's") Lapis Road Facility, which is the location of the proposed Project. Attachment 4 at 9. The CEMEX Lapis Road Facility has been used as an active surface mine for more than a century. Attachment 11 at 13, 83, 408. Based on input from the settling parties and numerous state and federal agencies, this location was deemed suitable for a number of reasons, including: geologic conditions; proximity to an existing outfall; and proximity to a potential alternative energy source (a landfill). Attachment 4 at 42.

The site was also selected to reduce the potential for impacts to environmentally sensitive habitat by locating the proposed Project entirely within an active surface mining area. Attachment 4 at 42. The proposed Project has been specifically located within areas of the parcel that already experience heavy levels of disturbance associated with ongoing mining activities and truck traffic. The majority of proposed development would occur within and directly adjacent to an existing access road that is used by heavy equipment and trucks on a daily basis. The access road is unpaved and regularly graded. *See* Attachment 11 at 13, 19-24 (Figures 3 – 3e), 26-27, 30-33, 52-72 for detailed discussion of proposed Project site, identified environmentally sensitive habitat, and how the proposed Project is designed to avoid significant impact to such habitat.

[1] All citations to Attachment page numbers refer to the overlay numbers found at the bottom left of each corresponding Attachment in red text.

CEMEX has agreed to allow California American Water to file applications for the coastal development permits needed to complete the proposed Project. Attachment 9 at 4-5.

III. Application for Coastal Development Permit to City of Marina

On August 23, 2012, California American Water filed an application for the CDP with the City, seeking authorization to construct, temporarily operate, then decommission a slant test well and related monitoring wells and infrastructure. The purpose of the proposed Project is to gather technical data related to the potential hydro-geologic and water quality effects of the proposed MPWSP, and ultimately to determine whether subsurface slant wells are feasible for use as production intake wells at the site. California American Water also filed a coastal development permit application (No. E-11-019) with the Commission for the portions of the slant test well that would be constructed in the Commission's original jurisdiction. If approved, the Project would be completed in a twenty-four to twenty-eight month period, with a maximum of twenty-four months of actual well operation. The slant test well would be constructed in approximately a four month period, and seawater would then be circulated through the well until sufficient data could be gathered. The well would then be shut down and decommissioned.[2] While the current plan is to fully abandon the slant test well in compliance with applicable laws and regulations once data collection is complete, if the results show that use of slant intake wells is feasible and additional approvals are obtained, it is possible that components of the slant test well could be converted into a production well to save expense and reduce environmental impacts of the MPWSP.

a. City of Marina Evaluation of Coastal Development Permit Application

A copy of the City Staff's Report regarding the proposed Project is included as Attachment 10.

In its analysis of the CDP application, the City Staff and outside expert consultants found that the proposed Project was consistent with the City's certified LCP, which is comprised of the Local Coastal Land Use Plan ("LCLUP") and Local Coastal Plan Implementation Plan ("LCPIP"), the latter of which is codified as Marina Zoning Ordinance Chapter 17.41. Attachment 10 at 4. City Staff found that the proposed Project is "both a coastal research and educational use and a coastal-dependent industrial use" for purposes of the LCLUP and the LCPIP. Attachment 10 at 4-5. In keeping with these designations and the requirements of the LCLUP and the LCPIP, the City Staff proposed that the City Planning Commission adopt a series of detailed findings demonstrating how the proposed Project conforms to the standards set forth in the certified LCP. Attachment 10 at 9-14 (Findings 2-5). The City Staff considered and specifically analyzed, among others, the following applicable factors:

- Protection of public access (lateral and from roadway to coastline);
- Restriction of development to disturbed area;

[2] As discussed in detail in Attachment 11 (see. e.g., pages 31, 54), construction and decommissioning activities would be limited to approximately October through February due to the potential presence of protected western snowy plover (*Charadrius nivosus*) during March through September. Should construction or decommissioning not be completed before the western snowy plover return in approximately March 2015, the applicant would like the ability to complete drilling once the plover vacate the site in approximately October 2015.

- Identification and protection of rare and endangered plants and animals and habitat;
- Preservation of views, visibility of project infrastructure from Highway 1 and coastline;
- Protection of public safety and vulnerability to wave erosion;
- Protection of project infrastructure against tsunami and other coastal hazards;
- Identification and mitigation of any significant environmental effects; and
- Minimization of grading and roadway construction.

Attachment 10 at 9-14 (Findings 2-5).

With respect to the public access policies set forth in the Coastal Act, the City Staff found that:

> *The proposed project will be located on private property. No activity will take place on the beach and lateral beach access will not be restricted. The slant test well insertion point and wellhead vault would be situated approximately 450 feet inland of mean sea level. During construction and decommissioning of the project there will be 7 to 15 construction crew onsite with drilling rigs, trucks, cranes, forklift, excavators and other equipment. During the operational testing phase of the project the slant test well, wellhead vault and almost all other project infrastructure would be located below surface, with disturbed surface areas re-contoured and restored to as close to their original condition as possible.*

Attachment 10 at 10 (Finding 3(a)).

As Lead Agency for purposes of the California Environmental Quality Act ("CEQA"), the City Staff and outside CEQA experts prepared an Initial Study and Mitigated Negative Declaration ("IS/MND"), a copy of which is included (together with its own Appendices A-E) as Attachment 11. As part of the CEQA process, the City Staff consulted the following Responsible Agencies: the Commission; MBNMS; Central Coast Regional Water Quality Control Board; Monterey Bay Unified Air Pollution Control District; Monterey County Environmental Health Bureau, Drinking Water Protection Services Unit; California State Lands Commission; Monterey Regional Water Pollution Control Agency; and the United States Fish and Wildlife Service. Attachment 11 at 34. The City Staff and outside CEQA experts, the Sierra Club, and each of the Responsible Agencies, agreed that the proposed Project "had the potential to result in significant adverse effects on the environment, but that any such effects could be avoided or reduced to a less than significant level through project design modifications and development and implementation of feasible mitigation." Attachment 11 at 10. The City also circulated a draft of the IS/MND for public review and comment, and responded to each of the eight written comments it received. Copies of the eight "agency comment" and one "non-agency comment" letters that the City received, as well as the City Staff's responses to those comments, can be found at pages 42-114 of Attachment 10.

The City Staff prepared and recommended that the City Planning Commission adopt a resolution certifying the IS/MND and approving the CDP. Attachment 10 at 7-14.

b. Actions by the City of Marina Planning Commission and City Council

The City Planning Commission held a public hearing July 10, 2014. After consideration, the City Planning Commission declined to certify the IS/MND and neither approved nor denied the CDP. California American Water appealed the City Planning Commission's action to the City Council.

The City Council held a public hearing to consider the appeal on September 3, 2014 and a continued public hearing on September 4, 2014. At the conclusion of the hearing, the City Council declined to follow City Staff's recommendation, and approved (on a 3-2 vote) a resolution: (1) rejecting the IS/MND; and (2) denying the CDP. Attachment 12 at 2.

Neither the City Planning Commission nor the City Council made any findings regarding the proposed Project's consistency with the certified LCP or the public access policies set forth in the Coastal Act.

IV. Conclusion

Because the proposed Project conforms to the standards set forth in the City's certified LCP and the public access policies set forth in the Coastal Act, the Commission should grant California American Water's request for the CDP. Issuing the CDP would allow completion of a critical test well program that will further the policies and interests of numerous State and Federal agencies, and will help ensure protection of the critical Carmel River ecosystem while addressing the significant water supply crisis that the Monterey Peninsula is facing. As described above, the proposed Project has broad support among State agencies and environmental organizations, and would help inform decision-making on critical statewide water supply questions.

APPENDIX A

Substantive File Documents

California American Water, Appeal of City of Marina Denial of CDP, September 2014.

California American Water, Application for Coastal Development Permit 9-14-1735.

California American Water, Application to California Public Utilities Commission for Approval of the Monterey Peninsula Water Supply Project and Authorization to Recover All Present and Future Costs in Rates, April 2012.

City of Marina, Final Local Action Notice and accompanying documentation, September 2014.

City of Marina, Draft Initial Study/Mitigated Negative Declaration, May 2014.

Geoscience Support Services, Inc., *Monterey Peninsula Water Supply Project Hydrogeologic Investigation: Technical Memorandum (TM1) Summary of Results – Exploratory Boreholes*, prepared for California-American Water and RBF Consulting, July 8, 2014.

Monterey Bay National Marine Sanctuary, *Draft Environmental Assessment*, June 2014.

Monterey Bay National Marine Sanctuary, *Finding of No Significant Impact*, October 2014.

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