

**Final Environmental Assessment and Finding of No Significant Impact  
Monterey Bay Regional Water Project – Aquifer Storage and Recovery**

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# **FINDING OF NO SIGNIFICANT IMPACT MONTEREY BAY REGIONAL WATER PROJECT – AQUIFER STORAGE AND RECOVERY**

**September 2010**

The finding of no significant impact (FONSI) has been prepared pursuant to Council on the Environmental Quality Regulations (40 CFR Parts 1500-1508) for implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.) and Army Regulation 200-2 (*Environmental Effects of Army Actions*). The FONSI is based on the Attached Environmental Assessment (EA) for the Coastal Water Project – Aquifer Storage and Recovery (ASR) project (Proposed Action).

## **DESCRIPTION OF PROPOSED ACTION**

The Proposed Action includes an ASR System, which is a component of the larger Monterey Bay Regional Water Project being developed by the California American Water Company (CAW) which would utilize and augment Monterey Peninsula Water Management District's (MPWMD's) existing ASR system of two wells. As part of the Monterey Bay Regional Water Project, CAW will construct two new ASR wells to provide storage capacity in the winter and peak water supply in the summer. The Proposed Action would be located on the former Fort Ord that is currently under federal ownership. The U.S. Army will issue a Right-of-Entry and an Easement to Construct and Operate the Proposed Action with the condition that the applicable measures included in the Mitigation Monitoring and Reporting Plan are implemented. The EA serves as the U.S. Army's NEPA compliance document for the federal action of issuing the Easement and Right-of-Entry.

## **DESCRIPTION OF NO ACTION**

The No Action Alternative would not allow CAW to construct and operate a monitoring well and two ASR injection/extraction wells on the two parcels located in Fitch Park owned by the Army, and no action would take place. CAW and MPWMD would continue conducting the ASR program at the Santa Margarita wells site. Under the No Action Alternative, the Fitch Park parcels would not be used to allow CAW to meet its objectives of injecting an additional 4.3 mgd (3,000 gpm) of excess available water into the Seaside Basin and later extracting the stored water to meet peak demands. None of the effects of the Proposed Action would occur on the Fitch Park parcels.

The No Action Alternative does not preclude implementation of the desalination and conveyance components of the Monterey Bay Regional Water Project. The EA does not address the effects of actions that CAW may pursue as a consequence of the No Action Alternative because at this time they are speculative and would not require federal agency approval.

## **ALTERNATIVES CONSIDERED**

The construction and operation of the two ASR wells, monitoring wells, and onsite backflush facilities identified in the Monterey Bay Regional Water Project is the Proposed Action in the EA.

In addition to the Proposed Action and No Action Alternative, an additional alternative to the Proposed Action was the Test Phase Only Alternative. Prior to drilling and equipping the ASR wells, a methodical series of site investigations and aquifer tests will be undertaken with the Proposed Action to confirm that the proposed sites are suitable locations for the ASR wells and to obtain data necessary to properly design the ASR wells. This alternative would not achieve the intended purpose of the project or CAW needs. Although testing at the Fitch Park site (with the Proposed Action) may determine that the site would not yield a successful ASR project (unknown at this time), the Test Phase Only Alternative was rejected from further consideration and analysis in the EA.

In addition, in April of 2009, CAW requested a Right-of-Entry and 50-year land lease with option for renewals on two parcels located within Fitch Park. Fitch Park is located east of General Jim Moore Boulevard, across from the Bayonet Site. CAW identified these two parcels as the preferred location for a monitoring well and two ASR test/production wells (Proposed Action).<sup>1</sup> However, in November 2009, the U.S. Army Installation Management Command (IMCOM) determined that before the U.S. Army could grant CAW's request for a Right of Entry and lease, additional documentation was required to comply with NEPA. Under this condition, the EA for the ASR wells project has been prepared with the U.S. Army as the lead agency.

## **POTENTIAL ENVIRONMENTAL IMPACTS**

The Proposed Action, located on property under the regulatory authority of the U.S. Army, was determined to have no adverse impacts on the natural environment and human health through the implementation of avoidance, minimization, and mitigation measures provided in the Mitigation Monitoring and Reporting Plan adopted for the project. However, under the No Action Alternative, impacts to water supply and water quality degradation resulting from seawater intrusion may result.

## **NEPA CONSIDERATIONS**

The Environmental Assessment prepared for the Proposed Action determined that significant impacts would not result from implementation of the Proposed Action; therefore, an Environmental Impact Statement will not be required.

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<sup>1</sup> CAW identified but rejected from further consideration parcels located in Fitch Park near the intersection of General Jim Moore Boulevard and Normandy Road. The site was not considered a viable site because of its proximity to a school path to Marshall School.

## PUBLIC REVIEW AND COMMENT

The public was provided the opportunity to review and comment on the Environmental Assessment and findings. The following places were provided a copy of the Environmental Assessment for public review: City of Seaside Library, Marina Library, and the US Army Garrison, Presidio of Monterey. The following newspapers published a Notice of Availability: the Monterey County Herald, the Carmel Pine Cone, and the Monterey County Weekly. The comment period was July 22, 2010 through August 26, 2010. The public was directed to send comments to Lenore, Grover-Bullington, POM Environmental Chief, US Army Garrison, Presidio of Monterey at 4463 Gigling Road, Monterey, CA 93944, or via electronic mail to [asrea@rbf.com](mailto:asrea@rbf.com). During the review period, only one comment was received; refer to Appendix A, Responses to Comments. The comment received was provided by the Monterey Peninsula Water Management District and was in support of the determination made in the EA.



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Darcy A. Brewer  
Colonel, US Army  
Garrison Commander  
Presidio of Monterey



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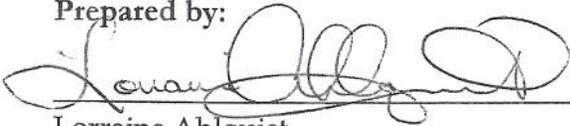
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September 2010

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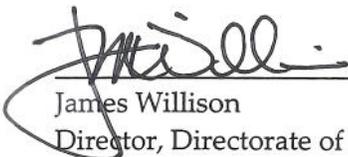
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10 November 2010

Date



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# Executive Summary

In accordance with the National Environment Policy Act (NEPA) of 1969, as amended, the U.S. Army, has determined that an environmental impact statement (EIS) is not required for the approval of the leasing of U.S. Army lands to be utilized for the Monterey Bay Regional Water Project – Aquifer Storage and Recovery (ASR) Project, which would result in the construction of two (permanent) wells that would allow for the injection of water into the underlying aquifer (or by surface spreading and infiltration) and then pumping it out when needed. This Finding of No Significant Impact (FONSI) is supported by the subsequent U.S. Army’s Environmental Assessment (EA) for the Monterey Bay Regional Water Project – Aquifer Storage and Recovery Project.

The aquifer would essentially function as a water bank. Deposits would be made in times when excess supplies are available, typically during the rainy season, and withdrawals would occur during the summer or peak demand periods. The proposed ASR system would provide additional water storage capacity for California American Water Company’s (CAW), receiving both desalinated water and water from the Carmel River as needed, depending on relative demand and supply from customers, the Carmel River, and desalination operations. Water would be stored in the Seaside Groundwater Basin, and stored water would then be pumped from the Basin during periods of peak demand.

## Background

The Monterey Bay Regional Water Project is a new water supply project for the Monterey Peninsula. The Monterey Bay Regional Water Project will replace existing supplies that are constrained by recent legal decisions affecting the Carmel River and Seaside Groundwater Basin water resources: SWRCB Order No. WR 95-10 (Order 95-10) and the Monterey County Superior Court adjudication of water rights in the Seaside Groundwater Basin. Both rulings restrict CAW use of its two primary sources of water supply for the Monterey District and provide the most immediate impetus for the Monterey Bay Regional Water Project.

The Monterey Bay Regional Water Project would produce desalinated water, convey it to the existing CAW distribution system, and increase the system’s use of storage capacity in the Seaside Groundwater Basin. The Monterey Bay Regional Water Project would consist of several distinct components: a seawater desalination plant; product water conveyance pipelines and storage facilities; and, an aquifer storage and recovery system.

As a component of the Monterey Bay Regional Water Project, the proposed Aquifer Storage and Recovery System project (proposed project analyzed herein) would result in the construction of two (permanent) wells that would allow for the injection of water into the underlying aquifer (or by surface spreading and infiltration) and then pumping it out when needed. As the wells would be constructed on federally-owned property, this EA is being prepared consistent with the requirements of NEPA.

CAW’s Monterey District service area is entirely dependent on local rainfall and local groundwater for its water supply; imported water is not a viable option. By reason of its

geography and rainfall patterns, the area is prone to severe droughts. Wells located along the Carmel River that draw water from the Carmel River Aquifer are the primary source of water for CAW. An additional source of water for CAW is a network of eight wells located in the Seaside Basin, which CAW shares with a number of users and purveyors.

The water supply challenges facing CAW and the Monterey Peninsula are long-term, significant, and have been well documented in a number of venues including the State Water Resources Control Board (SWRCB), the Monterey County Superior Court, the California Public Utilities Commission (CPUC), and the California Legislature. During CAW's previous attempt to propose a dam and storage reservoir on the Carmel River (the Carmel River Dam and Reservoir Project), the legislature passed Assembly Bill 1182 which mandated that the CPUC conduct a study to review water supply alternatives for the Monterey Peninsula. This study was completed in 2002 and became known as "Plan B." Plan B provided the technical foundation and point of departure for the analysis of the Monterey Bay Regional Water Project. In 2003, the CPUC issued a decision that dismissed CAW's Carmel River Dam and Reservoir Project application without prejudice, ordered CAW to file a new application for the Monterey Bay Regional Water Project, and determined that the CPUC should be the Lead Agency for the Monterey Bay Regional Water Project Environmental Impact Report (EIR). CAW responded to the CPUC's decision by filing an application for a Certificate of Public Convenience and Necessity (A.04-09-019 CPCN) and proposing the Coastal Water Project. The CPUC prepared the *Draft EIR for the Coastal Water Project* pursuant to the California Environmental Quality Act (CEQA), and it was released in January 2009. The CPUC certified the Final EIR for the CWP in December 2009 and is scheduled to issue its decision to issue a CPCN for the project in May 2010.<sup>2</sup>

SWRCB Order 95-10 substantially reduces diversion of all supplies along the Carmel River. The Order states that CAW has been diverting approximately 10,730 acre-feet per year (AFY) from the Carmel River, or its underflow, without a valid basis of right and directs CAW to diligently undertake the following actions: obtain appropriate rights to the Carmel River water that was being unlawfully diverted; obtain water from other sources and make one-for-one reductions of the unlawful diversions; and/or, contract with other agencies having appropriate rights to divert and use water from the Carmel River. In the interim, Order 95-10 directs CAW to implement conservation measures to offset 20 percent of demand and restricts CAW to an annual diversion from Carmel Valley sources, representing a 20 percent reduction from CAW's historic usage. The Order also prohibits water from being diverted from the San Clemente Dam when stream flows reach a predetermined low flow. The Order directs CAW to maximize use of the Seaside Basin for the purpose of serving existing connections – while honoring existing allocations – to reduce diversions from the Carmel River to the greatest extent practicable. Development of the replacement supply required in Order 95-10 is part of the Monterey Bay Regional Water Project.

The Monterey Bay Regional Water Project is intended to reduce CAW's reliance on the Seaside Basin, currently CAW's other principal source of supply for the Monterey District. The Monterey County Superior Court recently issued a final decision in the case, *California American Water v. City of Seaside, et al.*, Case No. 66343 (Monterey County Superior Court,

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<sup>2</sup> The Final EIR for the Monterey Bay Regional Water Project can be accessed at <http://www.cwp-eir.com/docs.html>.

2006) (Decision) for the adjudication of water rights of the various parties who produce groundwater from the Seaside Basin. The establishment of adjudicated water rights of all the users of the Basin is intended to avoid long-term damage to the basin, including potential seawater intrusion, subsidence, and other adverse impacts of over-pumping.

The Decision establishes a physical solution to Basin management that is “intended to ultimately reduce the drawdown of the aquifer to the level of the Natural Safe Yield; to maximize potential beneficial use of the Basin; and, to provide a means to augment water supply for the Monterey Peninsula.” Prior to the adjudication, CAW had pumped approximately 4,000 AFY from the Seaside Basin. Following the adjudication, CAW expects its Seaside Basin allocation to be reduced to 1,474 AFY and, therefore, has proposed to replace a portion of its Seaside Basin groundwater supply.

The U.S. Army’s finding that the implementation of the Proposed Action will result in no significant impact to the quality of the human environment is supported by the following findings:

## **Findings:**

### **Aesthetics**

Under the Proposed Action, construction and operational activities may result in visual impacts. As such, potential adverse visual impacts resulting from implementation of the Proposed Action will be mitigated through the implementation of environmental commitments such as locating construction equipment staging areas onsite as shown on final plans. In addition, appropriate screening of construction equipment shall be implemented to buffer views of construction equipment and material when feasible. For areas that are visible from adjacent existing or proposed residential areas, exterior mechanical equipment shall be screened and/or landscaped. Equipment to be screened and/or landscaped includes, but is not limited to, heating, air conditioning, and refrigeration equipment; plumbing lines and ductwork; and, transformers.

Potential adverse impacts related to operation activities associated with the Proposed Action will be mitigated by ensuring that CAW will coordinate with the U.S. Army and Clark Realty to implement complementary architectural and landscaping features into the facility design to be consistent and/or compatible with the future development plans of Fitch Park. The U.S. Army and/or its representative, Clark Realty, shall approve architectural landscaping and fencing plans of the permanent ASR facilities prior to construction of buildings or permanent fences.

### **Air Quality**

Construction activities associated with the Proposed Action may result in potential adverse impacts to air quality. These potential impacts will be mitigated through implementation of environmental commitments to reduce particulate matter emissions below the Monterey Bay Unified Air Pollution Control District (MBUAPD) thresholds, including watering the construction site twice daily, covering stockpiles and trucks carrying loose soils, and limit traffic speeds on unpaved roads to 15 miles per hour (mph). In addition, measures to reduce or

eliminate diesel exhaust, such as reduced hours of operation of equipment or the use of oxidation catalysts, may also be implemented.

### **Biological Resources**

Implementation of the Proposed Action may result in adverse impacts to sensitive biological wildlife resources including the Monterey dusky-footed woodrat, coast horned lizard, and California legless lizard, as well as raptors and their nests and other migratory bird species. Therefore, mitigation measures will be implemented to reduce potential adverse impacts. The mitigation measures include requiring that a qualified biologist conduct preconstruction surveys for the above-mentioned special-status wildlife to determine presence of these species. The biologist shall prepare a report that provides the results of the survey. Coast live oak trees may be removed as a result of construction activities. Consistent with the Presidio of Monterey's Integrated Natural Resource Management Plan, any native tree species removed shall be replaced at a two-to-one ratio. In addition, prior to construction activities, an Employee Education Program for Construction Crews will be required.

### **Cultural Resources**

Construction activities associated with the Proposed Action have the potential to uncover unknown cultural resources, including human remains. As such, if cultural resources are discovered, work shall be halted within 50 meters of the find until it can be evaluated by a qualified professional archaeologist, the County Coroner, and U.S. Army point of contact.

### **Indian Trust Assets**

There are no tribes possessing legal property interests held in trust by the United States in the land involved with the Proposed Action. Therefore, there would be no affect to Indian Trust Assets.

### **Socioeconomic Resources**

The Proposed Action is expected to have minimal influence on the economies of the communities within which the Proposed Action facilities are proposed; therefore, there will be no long term effects to socioeconomic resources.

### **Energy**

The Proposed Action will result in a small increase in demand for energy sources. However, the increase is expected to be negligible. Therefore no adverse impacts were identified.

### **Environmental Justice**

The Proposed Action will not disproportionately impact economically disadvantaged or minority populations. Therefore, no adverse impacts were identified.

## **Geology and Soils**

The Proposed Action has adopted minimization measures such as requiring that a site-specific geotechnical analysis be completed for the Proposed Action and requiring that the engineer utilize the recommendation within the analysis to develop project-level plans.

## **Hazards and Hazardous Materials**

CAW has adopted environmental commitments for reducing impacts to the environment from hazards or hazardous materials, such as consulting with the Fort Ord U.S. Army Base - Base Realignment and Closure Office to ensure that construction activities occur within areas cleared of Military Munitions, using an Army-approved munitions monitor in areas where excavation exceeds two feet, and providing safety training for all pipeline construction workers, including what to do if munitions are discovered.

## **Hydrology and Water Quality**

The proposed action will require that potential adverse impacts to water quality be reduced by requiring that CAW monitor the injected and extracted water for disinfections system by-products tests.

## **Land Use**

The Proposed Action is consistent with applicable land use plans. Therefore, no adverse land use impacts were identified.

## **Noise**

During construction of the Proposed Action facilities, nearby residences may be temporarily impacted by construction noise. The project will adhere to restrictions to reduce the construction noise impact to adjacent sensitive uses as set forth in the environmental commitments, such as limiting construction activities to hours consistent with local noise ordinances, limiting nighttime construction activities to areas away from sensitive receptors (residences), locating stationary noise-generating equipment away from sensitive receptors, use of sound control devices, and providing notification to residences within 500 feet of construction areas in writing prior to construction. In addition, temporary hotel accommodations shall be provided by CAW to all residents located within 50 feet of a designated construction area where construction activities would occur on a 24-hour continuous basis.

## **Public Utilities and Service Systems**

The Proposed Action would not require the use of or the construction of additional public utilities and service systems. Therefore, no adverse impacts related to this issue were identified.

## **Water Supply**

The Proposed Action will provide additional water supplies needed to serve the Monterey Peninsula, which will alleviate the need for groundwater pumping and reduce the potential impacts to wells by seawater intrusion.

## **Cumulative Impacts**

The Proposed Action could contribute to cumulative construction-related effects on air quality, biological resources, cultural resources, and noise. However, the construction-related effects of the Proposed Action are short-term and therefore have a relatively narrow window of construction time relative to other planned projects. Operational impacts of the Proposed Action are less-than-significant or avoided by adoption and implementation of the Environmental Commitments of the Proposed Action, such as pre-construction and post-construction surveys and coordination with local agencies to reduce potential impacts.

## **Irreversible and Irretrievable Commitment of Resources**

Although the Proposed Action will use minor amounts of both renewable and nonrenewable natural resources for project construction, this use will not increase the overall rate of use of any natural resource or result in the substantial depletion of any nonrenewable natural resource.

Because the Proposed Action is not proposing the development of or creating access to previously inaccessible areas, the project will not commit future generations to adverse, irreversible changes. Though the Proposed Action has the potential to allow additional growth by providing additional water supplies, this growth is already planned by the local jurisdictions and CAW has no jurisdiction over growth-related planning.

The demand for electricity by the Proposed Action is not expected to present an adverse effect on the load for the electrical grid.

The Proposed Action has some effects due to the indirect emission of greenhouse gases from the production of new electricity demand needed to operate the pumps; however, it is not considered substantial.

<b>Environmental Resource Area</b>	<b>No Impact</b>	<b>Less than Significant Impact</b>	<b>Less than Significant Impact with Mitigation</b>	<b>Potentially Significant Impact</b>
Aesthetics			X	
Agricultural	X			
Air Quality			X	
Air Space	X			
Biological Resources			X	
Biological – Marine Resources	X			
Cultural Resources			X	
Energy		X		
Environmental Justice	X			
Geology and Soils			X	
Hazards and Hazardous Materials			X	
Hydrology and Water Quality			X	
Indian Trust Assets	X			
Land Use	X			
Noise			X	
Socioeconomic Resources		X		
Public Utilities and Service Systems		X		
Water Supply and Demand	X			
Wetlands	X			



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## **Appendix A Responses to Comments**

# List of Acronyms and Abbreviations

AB	Assembly Bill
AFY	Acre-foot per year
AMBAG	Association of Monterey Bay Area Governments
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
ASR	Aquifer Storage and Recovery
BACT	Best Available Control Technology
BLM	Bureau of Land Management
BMP	Best Management Practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CAW	California American Water Company
CCAA	California Clean Air Act
CCRWQCB	Central Coast Regional Water Quality Control Board
CDFG	California Department of Fish and Game
Central Coast Basin Plan	Water Quality Control Plan for the Central Coast Region
CEQA	California Environmental Quality Act
CGS	California Geologic Survey
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CPCN	Certificate of Public Convenience and Necessity

CPUC	California Public Utilities Commission
CRHP	California Register of Historic Places
CRTP	Cultural Resources Treatment Plan
CSA	County Service Area
CSD	County Sanitation District
CSU	California State University
CSUMB	California State University at Monterey Bay
CWP	Coastal Water Project
dB	Decibel
dBA	A-weighted decibel scale
Decision	California American Water v. City of Seaside, et al., Case No. 66343 (Monterey County Superior Court, 2006)
DFG	Department of Fish and Game
DHS	Department of Health Services
EA	Environmental Assessment
EIR	Environmental Impact Report
EO	Executive Order
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCAA	Federal Clean Air Act
FONSI	Finding of No Significant Impact
GHG	Greenhouse Gases
gpm	Gallons per minute
HAA	Halogenic Acetic Acids
Habitat Management Plan	Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord

ICRMP	Integrated Cultural Resources Management Plan
IMCOM	Installation Management Command
IPCC	Intergovernmental Panel on Climate Change
ITA	Indian Trust Asset
Ldn	Day/Night Average Sound Level
Leq	Equivalent Sound Level
Lmax	Maximum Noise Level
MBTA	Migratory Bird Treaty Act
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCC	Motor Control Center
MCWD	Marina Coast Water District
mgd	Million gallons per day
MOA	Memorandum of Agreement
Monterey Air District	Monterey Bay Unified Air Pollution Control District
MOU	Memorandum of Understanding
MPWMD	Monterey Peninsula Water Management District
MRF	Materials Recovery Facility
MRS	Munitions Response Sites
MRWMD	Monterey Regional Waste Management District
MSL	Mean Sea Level
MTCO <sub>2</sub> eq/year	Metric Tons of CO <sub>2</sub> equivalent per year
MW	Monitoring Well
NAAQS	National Ambient Air Quality Standards
NCCAB	North Central Coast Air Basin
NEPA	National Environmental Policy Act

NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	Nitrogen Dioxide
NOI	Notice of Intent
NO <sub>x</sub>	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O <sub>3</sub>	Ozone
OMC	Ord Military Community
Pb	Lead
PEA	Proponent's Environmental Assessment
PG&E	Pacific Gas and Electric
PM <sub>10</sub>	Particulate matter less than 10 microns in diameter
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in diameter
POM	Presidio of Monterey
ppm	Parts per million by volume (or micromoles of pollutant per mole of gas)
PVC	Poly Vinyl Chloride
REC	Recognized Environmental Concern
ROG	Reactive Organic Gases
SB	Senate Bill
SCS	Sustainable Community Strategy
SDR	Standard Dimension Ratio
Secretary	Secretary of the California Environmental Protection Agency
SHPO	State Historic Preservation Office

SIP	State Implementation Plan
SMTIW	Santa Margarita Test Injection Well
SO <sub>2</sub>	Sulfur Dioxide
SO <sub>x</sub>	Sulfur Oxides
SR	State Route
SS	Stainless Steel
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
THM	Trihalomethanes
U.S.	United States
UNFCCC	United Nations Framework Convention on Climate Change
USFWS	United States Fish and Wildlife Service
WDR	Waste Discharge Requirements
µg/m <sup>3</sup>	Micrograms per cubic meter

# Section 1 Purpose and Need for Action

## 1.1 Background

As a component of the Monterey Bay Regional Water Project, California American Water (CAW) has prepared this Environmental Assessment (EA) to allow for construction of the proposed Aquifer Storage and Recovery System (ASR) project (proposed project analyzed herein). As the ASR project would be constructed on Federally-owned property, this EA is being prepared consistent with the requirements of the National Environmental Protection Act (NEPA). Although the ASR project is being proposed by and will be implemented by CAW, the Army will serve as the Lead Agency with regard to NEPA requirements.

The Monterey Bay Regional Water Project is a new water supply project for the Monterey Peninsula. The Monterey Bay Regional Water Project will replace existing supplies that are constrained by recent legal decisions affecting the Carmel River and Seaside Groundwater Basin water resources: SWRCB Order No. WR 95-10 (Order 95-10) and the Monterey County Superior Court adjudication of water rights in the Seaside Groundwater Basin. Both rulings reduce CAW's use of its two primary sources of supply for the Monterey District and provide the most immediate impetus for the Monterey Bay Regional Water Project.

The Monterey Bay Regional Water Project would produce desalinated water, convey it to the existing CAW distribution system, and increase the system's use of storage capacity in the Seaside Groundwater Basin. The Monterey Bay Regional Water Project would consist of several distinct components: a seawater desalination plant; product water conveyance pipelines and storage facilities; and, an aquifer storage and recovery system.

As part of the Monterey Bay Regional Water Project, the proposed ASR project would result in the construction of two (permanent) wells that would allow for the injection of water into the underlying Seaside Groundwater basin for storage, then pump it out when needed during periods of peak demand. The proposed ASR System would provide additional water storage capacity for CAW, receiving both desalinated water and water from the Carmel River as needed, depending on relative demand and supply from customers, the Carmel River, and desalination operations.

CAW's Monterey District service area is entirely dependent on local rainfall and local groundwater for its water supply; imported water is not a viable option. By reason of its geography and rainfall patterns, the area is prone to severe droughts. Wells located along the Carmel River that draw water from the Carmel River Aquifer are the primary source of water for CAW. An additional source of water for CAW is a network of eight wells located in the Seaside Basin, which CAW shares with a number of users and purveyors.

The water supply challenges facing CAW and the Monterey Peninsula are long-term, significant, and have been well-documented in a number of venues including the State Water Resources Control Board (SWRCB), the Monterey County Superior Court, the California Public Utilities Commission (CPUC), and the California Legislature. During CAW's previous attempt to propose a dam and storage reservoir on the Carmel River (the Carmel River Dam and Reservoir Project), the legislature passed Assembly Bill 1182 which mandated that the CPUC conduct a

study to review water supply alternatives for the Monterey Peninsula. This study was completed in 2002 and became known as “Plan B.” Plan B provided the technical foundation and point of departure for the analysis of the Monterey Bay Regional Water Project. In 2003, the CPUC issued a decision that dismissed CAW’s Carmel River Dam and Reservoir Project application without prejudice, ordered CAW to file a new application for the Monterey Bay Regional Water Project, and determined that the CPUC should be the Lead Agency for the Monterey Bay Regional Water Project Environmental Impact Report (EIR). CAW responded to the CPUC’s decision by filing an application for a Certificate of Public Convenience and Necessity (A.04-09-019 CPCN) and proposing the Coastal Water Project. The CPUC prepared the *Draft EIR for the Coastal Water Project* pursuant to the California Environmental Quality Act (CEQA), and it was released in January 2009. The CPUC certified the Final EIR for the CWP in December 2009 and is scheduled to issue its decision to issue a CPCN for the project in May 2010.<sup>3</sup>

SWRCB Order 95-10 substantially reduces diversion of all supplies along the Carmel River. The Order states that CAW has been diverting approximately 10,730 acre-feet per year (AFY) from the Carmel River or its underflow without a valid basis of right and directs CAW to diligently undertake the following actions: obtain appropriative rights to the Carmel River water that was being unlawfully diverted; obtain water from other sources and make one-for-one reductions of the unlawful diversions; and/or, contract with other agencies having appropriative rights to divert and use water from the Carmel River. In the interim, Order 95-10 directs CAW to implement conservation measures to offset 20 percent of demand and restricts CAW to an annual diversion from Carmel Valley sources, representing a 20 percent reduction from CAW’s historic usage. The Order also prohibits water from being diverted from the San Clemente Dam when stream flows reach a predetermined low flow. The Order directs CAW to maximize use of the Seaside Basin for the purpose of serving existing connections – while honoring existing allocations – to reduce diversions from the Carmel River to the greatest extent practicable. Development of the replacement supply required in Order 95-10 is part of the Monterey Bay Regional Water Project.

The Monterey Bay Regional Water Project is intended to reduce CAW’s reliance on the Seaside Basin, currently CAW’s other principal source of supply for the Monterey District. The Monterey County Superior Court recently issued a final decision in the case, *California American Water v. City of Seaside, et al.*, Case No. 66343 (Monterey County Superior Court, 2006) (Decision) for the adjudication of water rights of the various parties who produce groundwater from the Seaside Basin. The establishment of adjudicated water rights of all the users of the Basin is intended to avoid long-term damage to the basin, including potential seawater intrusion, subsidence, and other adverse impacts of over-pumping.

The Decision establishes a physical solution to Basin management that is “intended to ultimately reduce the drawdown of the aquifer to the level of the Natural Safe Yield; to maximize potential beneficial use of the Basin; and, to provide a means to augment water supply for the Monterey Peninsula.” Prior to the adjudication, CAW pumped approximately 4,000 AFY from the Seaside Basin. Following the Adjudication, CAW expects its Seaside Basin allocation to be reduced to

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<sup>3</sup> The Final EIR for the Monterey Bay Regional Water Project can be accessed at <http://www.cwp-eir.com/docs.html>.

1,474 AFY and, therefore, has proposed to replace a portion of its Seaside Basin groundwater supply.

### **1.1.1 Aquifer Storage and Recovery Component of the Monterey Bay Regional Water Project**

Aquifer Storage and Recovery (ASR) involves injecting water into an aquifer through wells or by surface spreading and infiltration and then pumping it out when needed. The aquifer essentially functions as a water bank. Deposits are made in times when excess supplies are available, typically during the rainy season, and withdrawals occur during the summer or peak demand periods.

In the face of the concern about groundwater reserve depletion, thousands of aquifer recharge wells and ASR wells have been constructed to replenish water in aquifers. The ASR wells are specifically intended to augment drinking water supplies. Most ASR wells being used today recharge drinking water.<sup>4</sup>

Some recognized benefits of Aquifer Storage and Recovery are:

- Substantial amounts of water can be stored deep underground. This may reduce the need to construct large and expensive surface reservoirs.
- ASR systems are considered to be more environmentally friendly than surface reservoirs. They also offer more protection from tampering.
- ASR may restore and expand the function of an aquifer that has experienced long-term declines in water levels due to heavy pumping necessary to meet growing urban and agricultural water needs.<sup>5</sup>

#### **1.1.1.1 Existing ASR System**

The Monterey Peninsula Water Management District (MPWMD) and CAW are currently conducting an ASR program in the Seaside Groundwater Basin. MPWMD has been evaluating the feasibility of ASR since 1996. Efforts have included hydrogeologic test and construction of full-scale test ASR wells in the coastal subarea of the Seaside Basin. This testing has found that the Basin can be successfully used to store water for future use in the CAW system.

Water from the Carmel River is conveyed north through existing pipelines to ASR wells located on General Jim Moore Boulevard. The existing ASR program includes 2 wells, known as ASR Wells 1 and 2. The combined injection capacity of these two wells is approximately 4.3 million gallons per day (mgd) (3,000 gallons per minute [gpm]) into the sandstone aquifer. Only one well will be used for extraction at approximately the same rate. The Phase 1 ASR project began permanent operating status beginning in Water Year 2008. Operation of the ASR project began in 2009.

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<sup>4</sup> National Groundwater Association. [http://www.ngwa.org/public/gw\\_issues/iaaquifer.aspx](http://www.ngwa.org/public/gw_issues/iaaquifer.aspx). Accessed 12/17/09

<sup>5</sup> Department of Ecology, State of Washington. <http://www.ecy.wa.gov/programs/wr/asr/asr-home.html>. Accessed 12/17/09

### **1.1.1.2 Monterey Bay Regional Water Project ASR System**

The ASR system proposed as part of the Monterey Bay Regional Water Project would utilize and augment MPWMD's existing ASR system of the two existing wells. It would also include the construction of:

- Monitoring well and two ASR injection/extraction wells: As part of the proposed Monterey Bay Regional Water Project ASR System, two wells would be constructed at two different parcels of land owned and managed by the U.S. Army on the former Fort Ord military base. The sites are immediately east of General Jim Moore Boulevard in a residential neighborhood known as Fitch Park. The wells would first be used for test purposes to determine the feasibility of operating two full-scale wells on these two sites. If the test well program is successful, a decision may be made to convert the wells to permanent ASR injection/extraction wells. The wells serve both for injection of water for storage and extraction of water for use, and each well would be designed for injection capability of approximately 2.1 mgd and an extraction capacity of approximately 4.3 mgd. These wells would be used in conjunction with the existing MPWMD wells, so that water could be injected into any one of the four ASR wells.
- ASR Pump Station: The proposed ASR Pump Station would be located at the Terminal Reservoir site and would pump water from the Terminal Reservoir to the ASR wells during the wet season.
- ASR Pipelines: The ASR Pipeline and ASR Recirculation Pipeline would allow conveyance of water between Terminal Reservoir and the ASR wells. The proposed pipelines would extend north along General Jim Moore Boulevard for approximately 5,000 feet, from a connection near the existing MPWMD wells near Coe Avenue to the ASR well sites situated in Fitch Park. These pipelines would be located parallel to an existing 20-inch pipeline owned by the Marina Coast Water District (MCWD).
- ASR Pump-to-Waste System: The proposed ASR Pump-to-Waste System would be required to flush sediment and reduce turbidity from the two proposed ASR wells. A new pipeline, up to approximately 5,800 feet in length, and a 2,500-square-foot, 12-foot-deep settling basin would be constructed. Sediment in the settling basin would need to be periodically removed and disposed of at an appropriate disposal site. The proposed disposal option for the settled water is to provide this water to a beneficial use (e.g., irrigation water at the nearby golf course or percolation into the ground using an unlined settling basin). Though the ultimate location of the settling basin is to be determined, this Environmental Assessment (EA) will analyze an onsite settling basin located at one of the ASR well sites.

### **Operation of the ASR System**

#### ***Wet Season Water Conveyance and Storage***

During the wet season, water would be conveyed from the Carmel River north and northwest to CAW customers in the Seaside area and north to the ASR System, and water would be conveyed

from the Terminal Reservoir west and southwest to CAW customers in the Seaside area and north to ASR.

Water from the Carmel River would be pumped north through existing pipelines to the Segunda Reservoir, and through existing pipelines to Crest Tank. From there it would either flow via gravity through existing pipelines to the ASR System and Terminal Reservoir, or it would flow, also via gravity, through existing pipelines to the Seaside area for use by CAW customers. Water from Terminal Reservoir would either be pumped by the ASR Pump Station through the ASR Pipeline to the ASR Injection/Extraction Wells for storage, or it would flow via gravity through existing pipelines to the Seaside area for use by CAW customers.

There will be periods during the wet season when excess Carmel River water will not be available for CAW to divert and store in the ASR for later extraction to meet its summer season demand. In this event, CAW will produce the necessary amount desalinated water in the wet season when demand for desalinated water is low. The desalinated water would be delivered to the Terminal Reservoir, where it would be pumped by the ASR Pump Station through the ASR Pipeline to the ASR Injection/Extraction wells for storage.

### ***Dry Season Water Conveyance and Storage***

During the dry season, when no flow is being diverted from the Carmel River, water would be conveyed from the desalination plant, via the Desalination Plant Pump Station, to Terminal Reservoir and Forest Lake Reservoir, and to CAW customers on the Monterey Peninsula and in Carmel Valley. Refer to Exhibit 2A, *Monterey Bay Regional Water Project – Project Components*.

Water from the ASR System would be retrieved via the ASR Injection/Extraction Wells and be pumped through the ASR Pipeline to Terminal Reservoir. From that point it would either flow via gravity through existing pipelines to the Seaside area for use by CAW customers or it would flow via gravity through existing pipelines and the proposed Monterey Pipeline to Forest Lake Reservoir and CAW customers on the Monterey Peninsula and in Carmel Valley.

Note that the desalination plant would operate every day in both wet and dry seasons.

## **1.2 Alternatives to the Proposed Action Alternative**

The construction and operation of the two ASR wells, monitoring wells, and onsite backflush facilities identified in the Monterey Bay Regional Water Project is the Proposed Action in this Environmental Assessment. The other components of the Monterey Bay Regional Water Project, including the desalination plant, conveyance and storage facilities, and ASR pipelines, are briefly described in this EA only to the extent that they are facilities that CAW will ultimately operate in conjunction with the proposed ASR wells as part of its Monterey Bay Regional Water Project.

In developing the Proposed Action Alternative, CAW considered several other locations for the ASR wells along the General Jim Moore Boulevard corridor from Coe Avenue on the south to Normandy Avenue on the north. CAW previously identified a location for the Monterey Bay Regional Water Project ASR wells on land owned and managed by the U.S. Army. The site,

known as the Bayonet Site, was located west of General Jim Moore Boulevard, adjacent to the Black Horse and Bayonet Golf Course. CAW received a temporary Right of Entry (DACA05-2-07-546) from the U.S. Army in June 2007 to install, operate, and maintain two monitoring wells and one test well. However, CAW ultimately did not pursue development of the ASR wells at that time, due to the City of Seaside's desire to acquire the site at a future date. As such, further consideration of the Bayonet Site as a potential location for the ASR wells did not occur.

In addition, another alternative to the Proposed Action was considered: the Test Phase Only Alternative. Prior to drilling and equipping the ASR wells, a methodical series of site investigations and aquifer tests will be undertaken with the Proposed Action to confirm that the proposed sites are suitable locations for the ASR wells and to obtain data necessary to properly design the ASR wells. The investigation will commence with drilling a 6-inch monitoring well (MW-1) at the ASR-3 site to about 1,050 feet deep. Information learned about subsurface geology, aquifer depth and thickness, aquifer chemistry, water quantity, and water quality will allow CAW to determine if it is feasible to proceed with a larger test well. If the information obtained from the monitoring well is unclear or insufficient to determine if this is a good location for an ASR well, a small diameter core well will be drilled at the ASR-3 site to retrieve undisturbed core samples at depth. The information will be used as a basis of design for a test well (ASR-3) to be constructed at the same site. For the purposes of the Test Phase Only Alternative, it is assumed that the coring results will indicate that the sites would not yield a successful ASR operation and that CAW would abandon the ASR project at Fitch Park. This alternative would not achieve the intended purpose of the project or CAW needs. Although testing at the Fitch Park site (with the Proposed Action) may determine that the site would not yield a successful ASR project (unknown at this time), the Test Phase Only Alternative was rejected from further consideration and analysis in this EA.

In addition, in April of 2009, CAW requested a Right of Entry and 50-year land lease with option for renewals on two parcels located within Fitch Park. Fitch Park is located east of General Jim Moore Boulevard, across from the Bayonet Site. CAW identified these two parcels as the preferred location for a monitoring well and two ASR test/production wells (Proposed Action).<sup>6</sup> However, in November 2009, the U.S. Army Installation Management Command (IMCOM) determined that before the U.S. Army could grant CAW's request for a Right of Entry and lease, additional documentation was required to comply with the National Environmental Policy Act (NEPA). Under this condition, the EA for the ASR Wells project has been prepared with the U.S. Army as the lead agency.

### **1.3 Purpose and Need**

The purpose and need of this EA is to allow the U.S. Army to:

- Grant a Right of Entry and 50-year lease, with option for renewal for an additional 50 years, to CAW for the construction and operation of a proposed monitoring well and two ASR test/production wells on property currently under federal ownership.

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<sup>6</sup> CAW identified but rejected from further consideration parcels located in Fitch Park near the intersection of General Jim Moore Boulevard and Normandy Road. The site was not considered a viable site because of its proximity to a school path to Marshall School.

- Permit CAW to dispose of water from well drilling, testing, and long-term operations into the U.S. Army's existing storm drain located at the north corner of the southernmost parcel.
- Permit CAW to construct and maintain an access driveway approximately 20-feet wide from each parcel connection to General Jim Moore Boulevard.
- Permit CAW to construct pipe connections from the parcels to existing and/or new pipelines within the General Jim Moore Boulevard right-of-way.
- Issue CAW a temporary 24-month construction easement over an area adjacent to each parcel as shown in the site plan prepared by CAW.

## 1.4 Related Monterey Bay Regional Water Project NEPA Documents

Several laws and policy requirements have directed, limited, or guided the decision-making process for this EA and include the following documents, which are incorporated by reference and summarized below. The documents are available for review at (location to be disclosed upon commencement of public review period).

**CAW's (Proponent's) Environmental Assessment for the Coastal Water Project. July 14, 2005.** The Proponent's Environmental Assessment (PEA) was prepared by RBF Consulting for the Coastal Water Project. The PEA was prepared by California American Water Company for submission to the CPUC as part of CAW's application for a Certificate of Public Convenience and Necessity (CPCN) to build, own, and operate the Coastal Water Project. The PEA was intended to facilitate the CPUC's CEQA process and the CPUC's corresponding public involvement proceedings during preparation of an EIR, pursuant to CEQA. The PEA contains an evaluation of the environmental effects of the components of the CWP.

Information from the PEA was incorporated herein in preparing the analysis of potential environmental effects resulting from construction of the ASR wells and associated infrastructure, as applicable. Background information and technical data included in the PEA is cited in several sections of this EA.

**California American Water Company – Coastal Water Project. Final Environmental Impact Report – Volumes 1 through 5. Certified December 2009.** The Final Environmental Impact Report was prepared subsequent to the PEA to provide analysis of the potentially significant effects of the CWP on the human and natural environment that may occur with implementation of the proposed project. The implementation program for the Final EIR includes incorporation of mitigation measures to reduce project impacts to less than significant. The CPUC is scheduled to issue its decision to issue a CPCN for the project in May 2010.

Technical reports prepared to support the analysis within the Final EIR were utilized in preparation of this EA; however, as the Final EIR addressed the CWP as a whole, data from the technical reports was excerpted as applicable to the project considered herein (ASR wells and associated infrastructure) to allow for the technical analysis. Additional information pertaining to

the technical reports prepared in support of the Final EIR is provided in Section 8, References, of this document.

## **1.5 Potential Issues**

The following key issues have been identified and are addressed in detail in Sections 3 and 4 of this EA:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Environmental Justice
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Indian Trust Assets
- Land Use
- Noise
- Socioeconomic Resources
- Water Supply

## **Section 2 Alternatives Including the Proposed Action**

### **2.1 No Action Alternative**

The No Action Alternative would not allow CAW to construct and operate a monitoring well and 2 ASR injection/extraction wells on the two parcels located in Fitch Park owned by the Army, and no action would take place. CAW and MPWMD would continue conducting the ASR program at the Santa Margarita wells site. Under the No Action Alternative, the Fitch Park parcels would not be used to allow CAW to meet its objectives of injecting an additional 4.3 mgd (3,000 gpm) of excess available water into the Seaside Basin and later extracting the stored water to meet peak demands. None of the effects of the Proposed Action would result on the Fitch Park parcels.

The No Action Alternative does not preclude implementation of the desalination and conveyance components of the Monterey Bay Regional Water Project. This EA does not address the effects of actions that CAW may pursue as a consequence of the No Action Alternative because at this time they are speculative and would not require federal agency approval.

### **2.2 Proposed Action**

#### **2.2.1 The ASR System**

The ASR System is a component of the larger Monterey Bay Regional Water Project being developed by the California American Water Company which would utilize and augment MPWMD's existing ASR system of two wells. As part of the Monterey Bay Regional Water Project, CAW will construct two new ASR wells to provide storage capacity in the winter and peak water supply in the summer. During injection periods, a combination of Carmel River water and desalinated water would be delivered to ASR for storage in the Seaside Groundwater Basin. Water would be conveyed to a new Terminal Reservoir and then pumped by a new ASR Pump Station through an existing pipeline to MPWMD's existing two wells and through a new ASR pipeline to CAW's two new ASR wells. During recovery periods, water pumped from the ASR wells would be disinfected at the MPWMD ASR wells site and delivered through the same pipelines back to the Terminal Reservoir. A dedicated recirculation pipeline connected and installed parallel the new ASR injection/extraction pipeline would allow continuous flow through the ASR System to minimize stagnation in the ASR piping during periods when injection or extraction is not occurring. Provisions for backflushing the wells will be provided. A backflush basin (infiltration pit) will be constructed onsite. Any overflow from the infiltration pit will be directed to the adjacent 36-inch storm drain.

#### **2.2.2 The ASR Wells**

The Proposed Action analyzed in this EA includes construction, operation and maintenance of the two new ASR wells, monitoring well, and onsite backflush facilities. Refer to Exhibit 1, *Vicinity Map*, and Exhibit 2B, *Location Map – ASR Wells*. Each proposed ASR well would be designed for an injection capacity of approximately 2.1 mgd and an extraction capacity of

approximately 4.3 mgd, for a combined total injection/extraction capacity of 4.2 mgd and 8.6 mgd, respectively. These wells would be used in conjunction with the existing MPWMD wells, so that water could be injected into any of the four ASR wells. As the combined injection capacity of the MPWMD wells is approximately 4.3 mgd, the combined total injection/extraction capacity of the two new Monterey Bay Regional Water Project ASR wells and the existing MPWMD ASR wells would be 8.5 mgd and 12.9 mgd, respectively.

Prior to drilling and equipping the ASR wells, a methodical series of site investigations and aquifer tests will be undertaken to confirm that these are a suitable location for the ASR wells and to obtain data necessary to properly design the ASR wells. This process is described below.

### **2.2.2.1 ASR Wells / Project Components**

#### **Monitoring Well (MW-1)**

The Proposed Action includes construction of an initial 6-inch diameter monitor well (MW-1) at the ASR-3 site; estimated at 1,050 feet depth: poly vinyl chloride (PVC) cased to about 750 feet and with a 6-inch PVC slotted screen to about 1,050 feet, located on the Fitch Park parcel at Well Site M as shown on Exhibit 3, *Site Plan*. The PVC casing will be SDR-17 (Standard Dimension Ratio), providing adequate collapse resistance during cementing operations that will need to be conducted carefully, in stages.

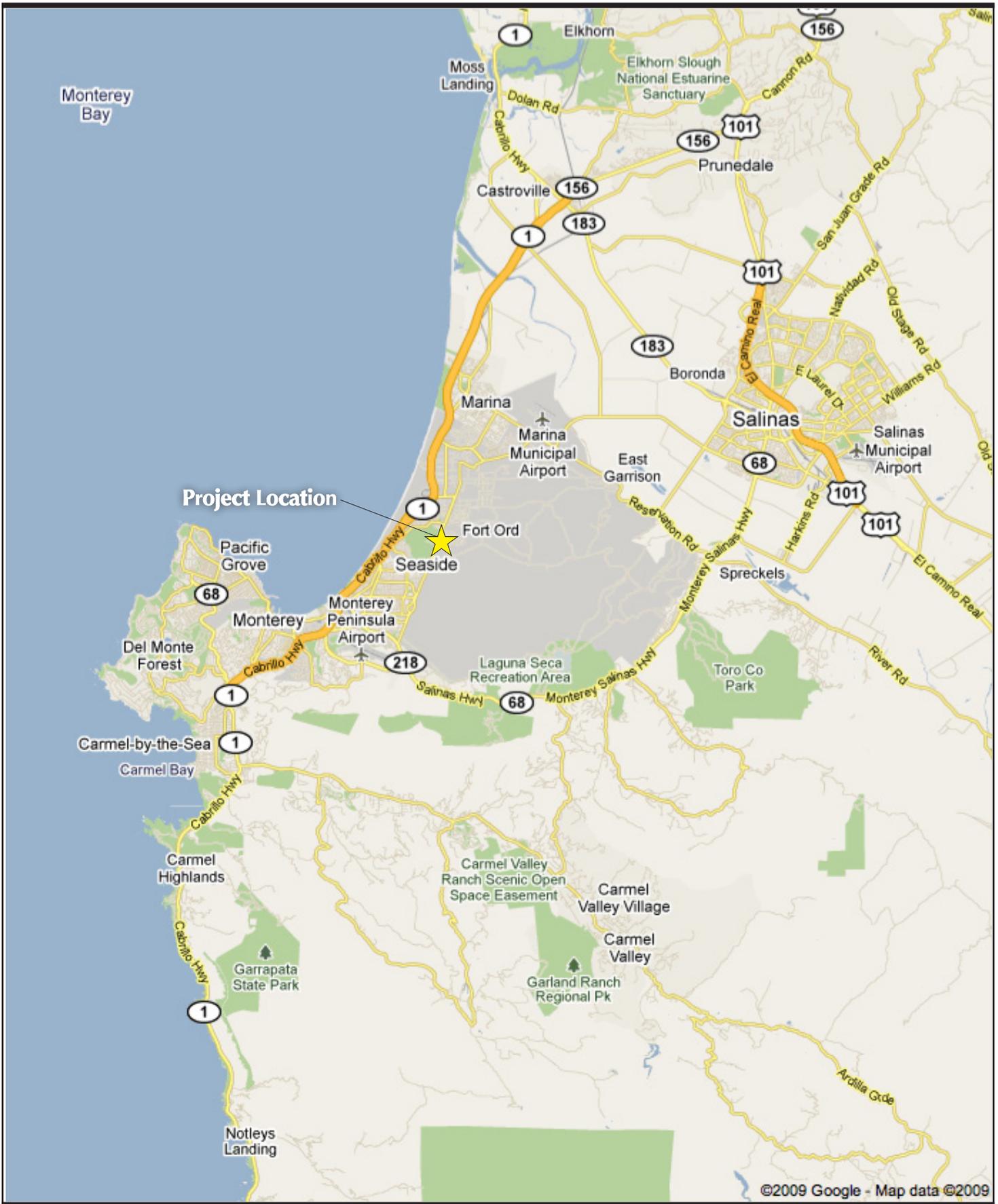
The primary objectives of this well will be to determine the lateral extent and thickness of the Santa Margarita aquifer at this site; to obtain a full suite of geophysical logs; and, to help define aquifer lithology based upon analysis of drill cuttings. This information may then be compared with similar data from the Santa Margarita Test Injection Well (SMTIW-1, now ASR-1) and other wells within the Seaside Groundwater Basin. Estimated well depth is 950 to 1,150 feet; however, it may be as deep as 1,500 feet in order to reach the top of the Monterey Shale at this site.

It will not be possible to obtain reliable information on aquifer hydraulic characteristics from this well since it will not be possible to conduct a pumping test at any significant production rate.

This information can only be obtained following construction of a larger diameter well that can accommodate a high capacity pump, enabling injection and pump testing at rates sufficient to stress the aquifer.

#### **Coring at the ASR-3 Site**

Based upon data from the initial 6-inch monitor well, a decision will be made as to whether cores are needed at the ASR-3 site. The primary value of obtaining cores is to achieve a solid understanding of potential geochemical reactions due to mixing between the recharge water, the ambient groundwater in the storage zone, and minerals in the aquifer. Coring may be advisable to support decisions regarding well design or for ASR operational measures that will ensure recovery of high quality water.



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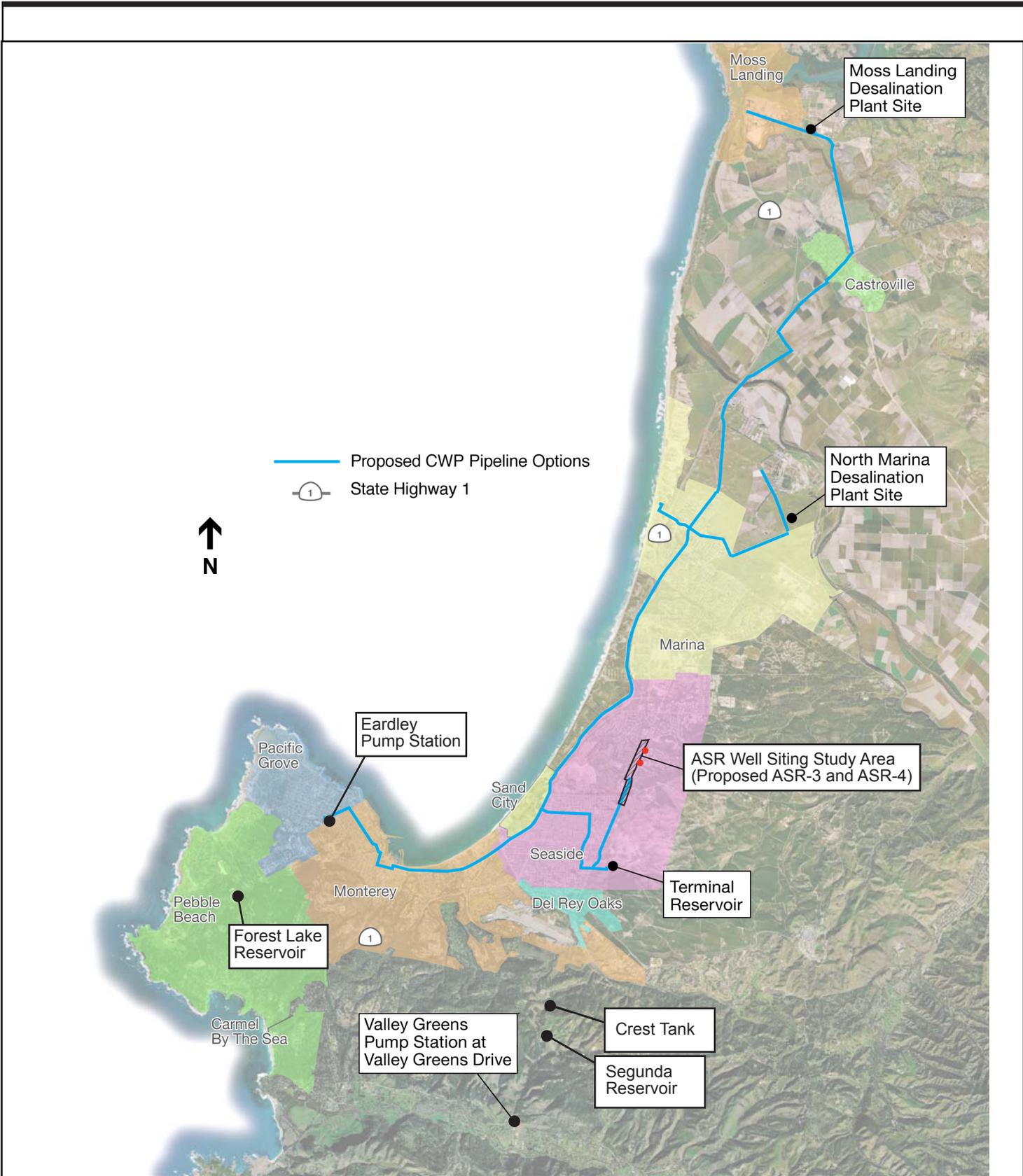
Not to Scale

## VICINITY MAP

Coastal Water Project - Aquifer Storage and Recovery (ASR)

Exhibit 1

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Source: CalAm and RBF Consulting, 2005



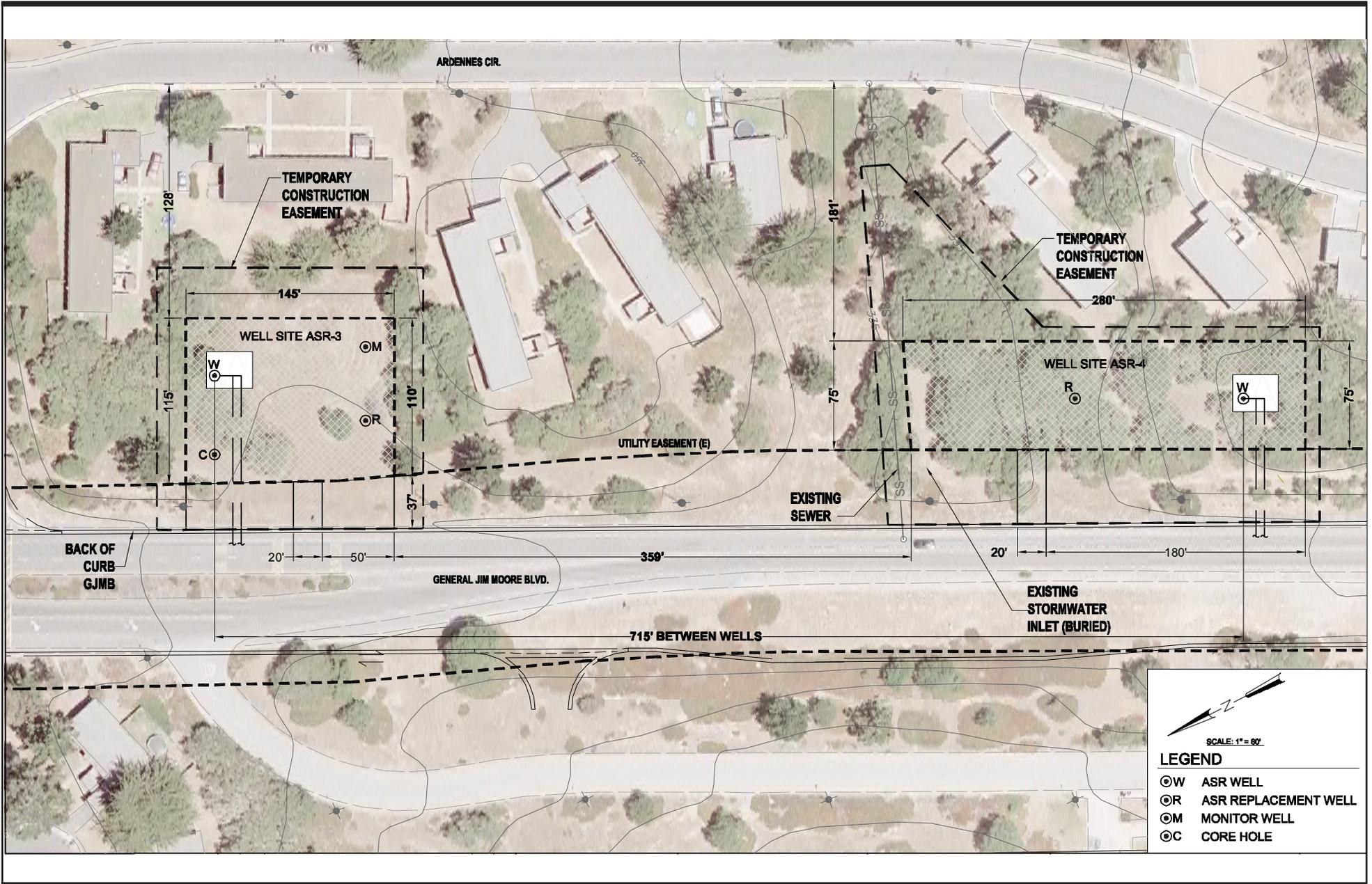
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## LOCATION MAP - ASR WELLS

Coastal Water Project - Aquifer Storage and Recovery (ASR)

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# SITE PLAN

Coastal Water Project - Aquifer Storage and Recovery (ASR)

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- If monitor well results indicate that coring is needed in order to better define geochemical characteristics of the Santa Margarita formation at this site, intervals within this formation will be selected for coring. Due to the lead time of about 2 to 3 months that is typically required for arranging for continuous wireline coring, the core hole would be constructed up to about three months after the monitor well. Coring operations would take up to one month.

If coring is needed, continuous wireline coring is preferred since it offers a higher assurance of achieving recovery of core material from the more productive portions of the aquifer that are of greatest interest. Successful coring will provide a firm basis for assessment of anticipated aquifer water quality, response during ASR operations, and for implementation of measures that will ensure high quality of the recovered water. The corehole, if required, would probably be constructed adjacent to monitor well MW-1 at the ASR-3 site.

### **Test Wells at Fitch Park**

Assuming positive results are obtained from the initial monitor well MW-1 and (possible) core hole, the ASR-3 test well would be drilled, developed and tested on the Fitch Park parcel. If results are favorable, the ASR-4 test well would then be drilled, developed and tested. The test wells will be designed as permanent ASR wells. Casings will be 24-inch OD, 304L stainless steel, 0.375-inch wall thickness. This is an appropriate casing diameter to accommodate a deep well vertical turbine pump with associated pump column, water level measurement tubing, downhole control valve tubing and other downhole facilities. Current design assumptions are for each of the wells to have for a total depth of 1050 ft, with casing depth of 750 ft and 300 ft of stainless steel (SS304) continuous slot, wire wrapped well screen.

Test facilities would include connection to the MCWD 20-inch transmission main, wellhead piping, valves and fittings; electrical power, local controls, discharges to waste and site access. Permanent wellhead facilities will be designed to facilitate a future intertie to the CAW system for both injection supplies and production of potable water into the CAW distribution system.

Upon completion of construction of Test Well ASR-3 at Fitch Park, pumping and recharge tests would be conducted, measuring water level response in the 6-inch monitor well (MW-1). This will provide critical information regarding aquifer hydraulic characteristics. Initial operations would utilize water obtained from MCWD from their adjacent 20-inch transmission pipeline. Initial operations will include recharge testing at design flow rates (2.1 mgd), or as close to design flow rates as MCWD can provide. Recharge during winter months may be necessary to avoid causing low distribution system pressure problems during summer months when peak demands occur. Development pumping and recovery test pumping will be to waste, discharging to an onsite percolation pit with any potential overflow to the storm drain that underlies General Jim Moore Boulevard near the ASR-4 site.

Upon completion of the pumping tests of the ASR-3 test well, CAW may elect to proceed with drilling, developing and testing of the ASR-4 test well located on the southern parcel. Similar to the tests conducted at ASR-3, initial operations at ASR-4 would utilize water obtained from MCWD from their adjacent 20-inch transmission pipeline. Initial operations will include

recharge testing at design flow rates (2.1 mgd), or as close to design flow rates as MCWD can provide. Development and recovery pumping will be to waste, discharging to the onsite percolation pit with any potential overflow to the storm drain that underlies General Jim Moore Boulevard.

### **Permanent ASR Wells at Fitch Park**

If CAW determines the ASR tests are successful, it would proceed with final design of later facilities that would be constructed to support permanent operations of the ASR wells. Permanent facilities would include piping to connect to pipelines in General Jim Moore Boulevard, 500 horsepower permanent multi-stage vertical turbine recovery pump (size to be determined during final design), SCADA (supervisory control and data acquisition) controls and other facilities to place these wells into permanent service. The pump motor and controls would be housed in a 900 square foot pump house. Electrical power for each site's pump and motor operated valves will be provided via additional electrical equipment to be installed in a motor control center (MCC) to be located in the pump house for each site. Power to the MCC will be from low voltage, 480-volt, 3-phase transformer to be provided by Pacific Gas and Electric (PG&E), the local electric utility; however, depending on the ultimate size of the pump motor, PG&E may be required to provide medium voltage power to the sites.

Provisions for backflushing the wells will be provided. Well backflushing is an important (and regular) operational mode used to pump the well to waste to flush accumulated sediments and turbidity from the well. The duration of backflushing is usually from a few minutes to about two hours. The frequency of backflushing will need to be determined from operational experience; however, a typical frequency is every few days to every few weeks. A backflush basin will be constructed onsite, north of ASR-4, to percolate the backflush water. The backflush water in the basin would normally percolate into the soil. As a precaution, the backflush basin will be connected to the adjacent 36" storm drain to allow discharge of backflush water during emergency situations. CAW would manage the backflush schedule so that the integrity of the percolation pit and storm drain would not be comprised during peak storm events.

If a beneficial reuse of the backflush water can be identified, the backflush basin would serve instead as a settling basin to remove sediments from the water. The settled backwash water would then be pumped offsite for reuse.

### **2.2.3 Environmental Commitments (Mitigation) for the Proposed Action**

Environmental Commitments (Mitigation) for the Proposed Action are identified in Section 6, List of Environmental Commitments, of this document. A brief summary of such commitments follows:

- Aesthetic features (e.g. paints, exterior finishes, architectural styles) to visibly blend perimeter walls and/or structures into the surrounding landscape. All architectural features would be finished in accordance with design guidelines given in the POM Real Property Master Plan and compatible with the adjacent RCI/U.S. Army residential housing units.

- Measures to reduce potential emissions from operation of equipment and vehicles during the construction phase.
- Requirements for conduction of pre-construction surveys for sensitive biological resources.
- Employee education for construction workers provided by a qualified biologist familiar with plant and wildlife resources at former Fort Ord, in compliance with the requirements of all applicable agencies and regulations, including but not limited to, the U.S. Army, Occupational Safety and Health Administration (OSHA), and Base Realignment and Closure (BRAC) unexploded ordnance (UXO). As the project proceeds, all new personnel must attend an environmental training session before working on the project site.
- Monitoring activities for unidentified cultural resources and implementation of consultation procedures and planning requirements of Section 3 and Section 5 of the Native American Graves Protection and Repatriation Act (NAGPRA) prior to issuing approval to proceed with the project upon inadvertent discovery of cultural items from Federally-owned or Army controlled lands, in compliance with Army Regulation (AR) 200-1.
- Project-specific geotechnical analysis prior to the development of project-level plans.
- Review of pipeline construction plans/monitoring for Military Munitions during grading and safety briefings for construction workers. Ensure UXO orientation session for construction workers to minimize and/or avoid risks.
- Monitoring of test and full-scale wells for water quality within stored and recovered water of the ASR wells.
- Management of backflush schedule so to avoid potential of backflush water causing exceedances in storm drain capacity when combined with storm water during peak wet weather events.
- Construction of temporary noise attenuators (sound walls) for test wells drilling.
- Community informational/notification program.
- Provide alternative housing/hotel accommodations for residents within 50 feet of locations where 24-hour construction operations would occur.

#### **2.2.4 Construction Activities**

Construction activities for the installation of monitoring well, core and two ASR wells would include grading and site work; installation and removal of temporary noise attenuators (sound walls); well drilling; final site work; well equipping; installation of connecting piping to

pipelines in General Jim Moore Boulevard, installation of electrical, instrumentation, and controls; and, constructing shelters, fencing, and pump houses.

#### **2.2.4.1 Types of Construction Equipment**

Standard construction equipment is anticipated to be used to prepare the sites, drill the wells, and perform final site work and well equipping. Typically, the following equipment is used for a project of this size and scope: drill rig, backhoe, crane, water tanker, grader, generators, flatbed trucks, excavator, dozer, off highway trucks, compactors, hauling, concrete truck, front end loaders, and paving equipment.

#### **2.2.4.2 Area of Disturbance/Area of Potential Effect**

The Area of Disturbance/Area of Potential Effect (APE) for the purpose of the EA analysis includes the parcels where the two new ASR wells would be located in the Fitch Park section of the Fort Ord Military Community. The cumulative area of the sites is approximately 1.2 acres. During construction, an additional 2.7 acres would be used temporarily, resulting in an APE of 3.9 acres. The APE includes areas affected by project construction.

Staging areas for stockpiling soil and/or storing materials and equipment temporarily during construction would be within the APE described above.

#### **2.2.4.3 Schedule / Phasing**

Design of well and wellhead facilities is already underway. For the Proposed Action, it is anticipated that construction of the described project components would commence in Spring 2010; however, such scheduling represents anticipated dates for commencement and completion of construction, and may therefore require adjustment over time. The anticipated schedule for the Proposed Action assumes that land acquisition arrangements have been completed in sufficient time to provide for a smooth transition from design to permitting to construction.

Construction is planned to occur in two phases. During Phase 1, construction would be associated with drilling of the monitoring, core and test wells. Phase 1 would be complete in approximately one year and would be accomplished during normal working hours (Monday through Friday 8:00 a.m. to 5:00 p.m.) during the week, except for test well drilling operations. Continuous (i.e., around the clock) drilling would occur for each of the two ASR test/production wells (four weeks duration for each of the two wells). Anticipated activities during Phase 1 of the Proposed Action include:

- Installation of access driveways from General Jim Moore Boulevard to each of the parcels;
- Installing pipe connections from the ASR-3 parcel to MCWD pipeline located in General Jim Moore Boulevard for test water, including: removing pavement, trenching, installing the pipe, backfilling the trench, compacting the fill material, and re-paving the surface where pavement has been disturbed;
- Performing site grading to allow mobilization of drill rig onto the ASR-3 parcel;

- Installation of temporary noise attenuators (sound walls) prior to each monitoring well and test well drilling;
- Drilling of monitoring well, potential core hole, and drilling and development of ASR-3 test well, in sequential order at the ASR-3 parcel.
- While drilling ASR-3, concurrent site work of ASR-4 parcel to allow access and mobilization of drill rig. Grading for installation of gravel bed percolation basin and rehabilitation of the abandoned storm drain inlet to allow for overflow site drainage and disposal of test and operations water;
- Performing extraction and injection testing of ASR-3 test well.
- Installation of access driveway and noise attenuators (sound walls) at ASR-4 site. Install injection test water connection to MWCD pipeline located in General Jim Moore Boulevard
- Drilling, developing ASR-4 test well
- Performing extraction and injection testing of ASR-4 test well.
- Removal of temporary noise attenuators (sound walls) after testing is complete; and,
- Placing temporary caps on the wells once testing is complete.

Phase 2 of construction would occur if favorable results are obtained from the test program and CAW determines the Fitch Park parcels are suitable for full-scale ASR operations. Final design of the ASR well head facilities would then be completed, and final project approvals and permits would be obtained approximately eight months after completion of Phase 1 construction and testing. Phase 2 construction would then commence and would be complete in approximately eight months. Phase 2 construction activities would include:

- Performing final site work, including grading, installing yard piping and remaining pipe connections to the pipelines in General Jim Moore Boulevard; and,
- Installing wellhead equipment, electrical, instrumentation and controls, and pump housing (building).

A construction crew of five to ten workers would be onsite during the day. Construction activity would be regulated by each local jurisdiction through their relevant encroachment / easement permit processes. The majority of the construction will occur within the ASR sites. Construction of permanent access from General Jim Moore Boulevard will occur. Crews would perform pipeline installation work from the two ASR wells to pipelines in General Jim Moore Boulevard. During construction in General Jim Moore Boulevard, crews would maintain one lane of traffic in each direction, or one lane for two-way traffic with a flagger. No fencing is present between General Jim Moore and existing residences and therefore, would not represent a security issue for the Army.

It should be noted that CAW would be responsible for all maintenance, repair, and new construction on their facility. Any damages caused to U.S. Army facilities pre/during/post-construction would be the responsibility of the lessor.

## **Section 3 Affected Environment**

### **3.1 Factors Eliminated from Further Analysis**

The following resource issues have been eliminated from further consideration because the Proposed Action would not result in impacts to the resources:

- **Agricultural Resources** – The Proposed Action would not result in impacts to agricultural resources because it would not convert any agricultural land to urban uses.
- **Airspace Resources** – The Proposed Action would not result in impacts to airspace resources because it would not involve any flight-related activities. The nearest airfield facilities include Marina Municipal Airport (4 miles to the northeast), which is the former Fritzsche Army Airfield, a military facility that was converted to a general aviation airport in 1995 following the closure of Fort Ord, and the Monterey Peninsula Airport (3.5 miles to the southwest), also a general aviation airport, which serves both commercial and private flights from its facility. No impacts to either of these facilities' airspace would occur.
- **Biological Resources: Marine** – The Proposed Action would not result in impacts to marine resources due to the lack of proximity to marine resources.
- **Traffic and Transportation Systems** – The Proposed Action would not result in impacts to traffic or transportation systems because it is a water resources project and would not generate significant vehicle trips on area roadways over the long-term. Vehicle trips generated by maintenance would be minimal, and would not contribute to a significant increase in traffic or the need for increased capacity on areas roads. In addition, vehicle trips generated by construction-related activities would be temporary and would cease when construction is completed. A traffic management plan would be prepared and implemented to minimize the potential for project-related construction to interfere with traffic flow or affect the safety of the general public.
- **Wetlands Resources** – The Proposed Action would not result in impacts to wetland resources because there are no existing wetlands within the project area.

### **3.2 Aesthetics**

The Proposed Action would result in construction of visible elements within the existing landscape; however, many of the ASR facilities would not be visible as they would be located underground. The portions of the project that would be visible, such as perimeter fencing and structures to house the equipment, would be constructed in areas where development and/or other public facilities presently exist, and therefore, would not introduce new elements into an undeveloped or undisturbed landscape.

### **3.2.1 Aesthetic Resource**

An aesthetic resource consists of the topography, landforms, vegetation, water features, and cultural modifications that contribute to an overall visual impression of an area's landscape. Visual quality, visual sensitivity, and landscape visibility contribute to the value of an aesthetic resource. These factors together influence an area's aesthetic appeal and communicate the value placed on a landscape or scene by the general public.

### **3.2.2 Visual Quality**

Visual quality involves the aesthetic appeal of a landscape or scene due to a combination of characteristics such as landform, water, and vegetation, as well as cultural modifications, such as physical change to a landscape caused by human activity. Different landscape attributes including color contrasts, landform prominence, repetition of geometric forms, uniqueness of textures, and/or visual variety, among other features influence visual character. Cultural modifications are often considered to detract from visual quality, particularly where they result in visual disharmony, reduce variety, or introduce visually chaotic collections of shapes and forms within the visual landscape. Typically, the visual quality of a particular setting is generally determined using a reference point and classifying elements within the setting into low, moderate, or high ratings, based on landscape attributes.

### **3.2.3 Visual Sensitivity**

Visual sensitivity considers the level of interest that the general public has for a particular aesthetic resource. Tourist attractions, parks, trails, or scenic highways where expectations for aesthetically pleasing views are higher generally have high visual sensitivity. As such, a change to an existing view would likely be noticed in these settings. Such community expectations are often reflected in general plan documents, where scenic vistas or corridors are identified with the intent of providing protective or preservation measures for an existing aesthetic resource. Designated scenic corridors, vistas, and sensitive viewsheds have high visual sensitivity. Other areas have either low or moderate visual sensitivity, depending on public expectations and experience in the area.

### **3.2.4 Landscape Visibility**

Landscape visibility is a measure of the magnitude and frequency with which a particular landscape is observed. Landscape visibility generally describes where people are, what part of the landscape is visible, and with what degree of clarity. The extent of visibility considers the duration a particular landscape can be seen by a particular viewer; the frequency refers to the number of observers that would view the landscape over a defined period of time. A rural landscape may be seen by only several residents, but for very long durations; however, an uninhabited landscape crossed by a heavily-traveled roadway may be visible by high numbers of travelers, but only for a limited time period due to travel speed. Also considered is the distance from which the observer views a particular landscape. If a site is in the foreground of an observer's view, it is more visible than if it occurs in the background. Distance zones are typically divided into "foreground," "middleground," and "background" zones.

### 3.2.5 Aesthetic Resource Value

The aesthetic resource value of a site or area considers the three factors described above: visual quality, visual sensitivity, and landscape visibility. These three factors provide a qualitative measure of the overall value for the aesthetic resources of a study area. The categories used to describe Aesthetic Resource Value are “low,” “moderate,” and “high.” Table 3.2-1 is used to assign a rating for aesthetic resource value for project sites.

**Table 3.2-1  
Aesthetic Resource Value Rating Matrix**

Visual Sensitivity	Visual Quality								
	Low			Moderate			High		
Low	L	L	M	L	M	M	M	M	M
Moderate	L	M	M	M	M	M	M	M	H
High	M	M	M	M	M	H	M	H	H
	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Landscape Visibility								

L = Low, M = Moderate, H = High

Source: Coastal Water Project Final EIR. Certified December 2009.

#### 3.2.5.1 ASR Injection/Extraction Wells

The ASR facilities will be located in an area that presently supports urban type uses, coastal scrub, and/or oak woodland. Areas adjacent to General Jim Moore Boulevard are generally characterized by moderate traffic and a variety of land uses, mostly suburban, recreational, and open space. The area is highly influenced by traffic along General Jim Moore Boulevard, which generally detracts from the overall visual quality. Visual quality of the two well sites is considered to be moderate. The sites do not support elements of significant aesthetic appeal with regard to characteristics such as landforms or water features. No landforms of significant prominence, or elements with unique texture, visual variety, or repetition of geometric forms, contribute to the overall visual quality; however, the sites are generally surrounded by mature oak trees and tall shrubs that contribute to the overall visual appeal of the landscape.

A number of residential uses are located in the surrounding area. Potential views to the ASR well sites may occur from several surrounding residences; however, such views would be limited due to existing vegetation that would largely screen views of the well sites; refer also to Exhibit 3, *Site Plan*. In addition, the two ASR wells sites are slightly elevated above General Jim Moore Boulevard, allowing views to occur from vehicles traveling along the corridor. As such, the visual exposure of the sites is considered to be moderate, due to travel speeds, volume of traffic, and the length of time that views from such vehicles would occur. Additionally, the sites are not within view from any major scenic vistas or corridors, and would not for other reasons have high expectations as visual resources by the general public. Therefore, the visual sensitivity of the sites is considered to be low.

Current land uses at the ASR well sites do not create light and glare, given that the sites are minimally developed. Potential light and glare would be generated by sources such as

automobile headlights along General Jim Moore Boulevard, the golf course facilities, and from nearby residential uses.

Based on the above factors, the aesthetic resource value for the ASR Injection/Extraction Well site is moderate, as per Table 3.2-1.

### 3.3 Air Quality

The Federal Clean Air Act and the California Clean Air Act mandate the control and reduction of certain air pollutants. Under these Acts, the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for certain "criteria" pollutants. These pollutants are carbon monoxide (CO), ozone (O<sub>3</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), lead (Pb), particulate matter less than 10 microns in diameter (PM<sub>10</sub>), and particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>). The ambient air quality standards are designed to protect public health and welfare. The Federal and State Ambient Air Quality Standards are stated below in Table 3.3-1.

Data utilized in preparing the following discussion for the ASR wells is provided in Appendix F, Air Quality Data, and Appendix G, Air Quality Health Risk Assessment, of the Final EIR prepared for the Coastal Water Project. See also Section 8, References, of this EA for additional references.

**Table 3.3-1  
Federal and State Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standard <sup>a,c</sup>	Federal Standard <sup>b</sup>	
			Primary <sup>c,d</sup>	Secondary <sup>c,e</sup>
Ozone (O <sub>3</sub> )	1-Hour	0.09 ppm (180 µg/m <sup>3</sup> )	--	--
	8-Hour	0.07 ppm (137 µg/m <sup>3</sup> )	0.075 ppm (147 µg/m <sup>3</sup> )	0.075 ppm (147 µg/m <sup>3</sup> )
Carbon Monoxide (CO)	1-Hour	20 ppm (23 µg/m <sup>3</sup> )	35.0 ppm (40 µg/m <sup>3</sup> )	--
	8-Hour	9.0 ppm (10 µg/m <sup>3</sup> )	9.0 ppm (10 µg/m <sup>3</sup> )	--
Nitrogen Dioxide (NO <sub>2</sub> )	1-Hour	0.18 ppm (339 µg/m <sup>3</sup> )	--	--
	Annual <sup>f</sup>	0.030 ppm (57 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )
Sulfur Dioxide (SO <sub>2</sub> )	1-Hour	0.25 ppm (655 µg/m <sup>3</sup> )	--	--
	3-Hour	--	--	0.5 ppm (1,300 µg/m <sup>3</sup> )
	24-Hour	0.04 ppm (105 µg/m <sup>3</sup> )	0.14 ppm (365 µg/m <sup>3</sup> )	--
	Annual <sup>f</sup>	--	0.030 ppm (80 µg/m <sup>3</sup> )	--
PM <sub>10</sub>	24-Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
	Annual <sup>f</sup>	20 µg/m <sup>3</sup>	--	--
PM <sub>2.5</sub>	24-Hour	no separate State standard	35 µg/m <sup>3</sup>	35 µg/m <sup>3</sup>
	Annual <sup>f</sup>	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>
Lead <sup>f</sup>	Calendar quarter	--	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>
	30-day	1.5 µg/m <sup>3</sup>	--	--
	3-Month <sup>h</sup>	--	0.15 µg/m <sup>3</sup>	0.15 µg/m <sup>3</sup>

**Table 3.3-1, continued**

Pollutant	Averaging Time	California Standard <sup>a,c</sup>	Federal Standard <sup>b</sup>	
			Primary <sup>c,d</sup>	Secondary <sup>c,e</sup>
Sulfate	24-Hour	25 µg/m <sup>3</sup>	--	--
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m <sup>3</sup> )	--	--
Vinyl Chloride <sup>g</sup>	24-Hour	0.010 ppm (26 µg/m <sup>3</sup> )	--	--
Visibility Reducing Particles	8-hours (10 am - 6 pm)	In sufficient amounts to reduce prevailing visibility to < 10 miles when relative humidity is < 70% w/ equivalent instrument method	--	--

ppm = Parts per Million by volume (or micromoles of pollutant per mole of gas)  
µg/m<sup>3</sup> = Micrograms per Cubic Meter

(a) Standards for ozone, carbon monoxide, sulfur dioxide (1 and 24-hour), nitrogen dioxide, suspended particulate matter – PM<sub>10</sub> and PM<sub>2.5</sub>, and visibility reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

(b) National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than one. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98% of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. Environmental Protection Agency for further clarification and current federal policies.

(c) Concentrations expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to match reference temperature and pressure.

(d) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

(e) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

(f) Annual Arithmetic Mean

(g) The California Air Resources Board has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

(h) National lead standard, rolling 3-month average: final rule signed October 15, 2008.

Source: California Air Resources Board. 2008. Ambient Air Quality Standards. Nov. 11.  
<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.

The Proposed Action is located within the North Central Coast Air Basin (NCCAB) under the jurisdiction of the Monterey Bay Unified Air Pollution Control District (Monterey Air District). The Monterey Air District monitors air quality at ten monitoring stations: Salinas, Hollister, Carmel Valley, Santa Cruz, Monterey, Moss Landing, King City, Scotts Valley, Davenport, and Watsonville. The National Park Service also operates a station at Pinnacles National Monument. The closest monitoring station to the Proposed Action is the Salinas station (#3), which monitors O<sub>3</sub>, PM<sub>10</sub>, CO, PM<sub>2.5</sub>, and nitrogen dioxide (NO<sub>2</sub>).

For the past three complete monitoring years (2006, 2007, and 2008), there were no exceedances of a State or National Ambient Air Quality Standard (NAAQS) for CO, PM<sub>2.5</sub> and NO<sub>2</sub> at the Salinas station. The exceedances of the California PM<sub>10</sub> standard throughout the NCCAB and at the Salinas monitoring station are shown in Table 3.3-2. Table 3.3-3 provides the current attainment status of the NCCAB.

**Table 3.3-2  
Exceedances of Ambient Air Quality Standards**

Year	Number of Days (Highest Concentration)	
	Air Basin	Monitoring Station
<b>State PM<sub>10</sub> Standard</b>		
2006	3 days (65.0 µg/m <sup>3</sup> )	1 day (51.0 µg/m <sup>3</sup> )
2007	1 day (51.0 µg/m <sup>3</sup> )	0 days (39.0 µg/m <sup>3</sup> )
2008	7 days (120.0 µg/m <sup>3</sup> )	2 days (52.0 µg/m <sup>3</sup> )
<b>State Hourly Ozone Standard</b>		
2006	2 (0.09 ppm)	0 (0.066 ppm)
2007	1 (0.10 ppm)	0 (0.067 ppm)
2008	4 (0.10 ppm)	0 (0.078 ppm)
<b>State/Federal 8-Hour Ozone Standards</b>		
2006	20 (0.085 ppm) / 6 (0.075 ppm)	0 (0.057 ppm) / 0 (0.057 ppm)
2007	17 (0.085 ppm) / 3 (0.074 ppm)	0 (0.059 ppm) / 0 (0.058 ppm)
2008	26 (0.089 ppm) / 12 (0.079 ppm)	(0 (0.068 ppm) / 0 (0.067 ppm)

Notes: micrograms per cubic meter (µg/m<sup>3</sup>); parts per million (ppm)

**Table 3.3-3  
Current Attainment Status of Air Basin**

Pollutant	Federal	State
Ozone (O <sub>3</sub> ) - 1 hour	Attainment	Nonattainment
Inhalable Particulates (PM <sub>10</sub> )	Attainment	Nonattainment
Fine Particulates (PM <sub>2.5</sub> )	Unclassified/Attainment	Attainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO <sub>2</sub> )	Attainment	Attainment
Sulfur Dioxide (SO <sub>2</sub> )	Attainment	Attainment

Source: <http://www.mbuapcd.org/index.cfm?Doc=386> (January 2009)

### 3.3.1 Toxic Air Contaminants

Toxic air contaminants are another group of pollutants of concern in California. Sources of toxic air contaminants include industrial processes, such as petroleum refining and chrome plating operations; commercial operations, such as gasoline stations and dry cleaners; and, motor vehicle engine exhaust. Public exposure to toxic air contaminants can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset spill conditions. Health effects of toxic air contaminants include cancer, birth defects, neurological damage, and death.

California regulates toxic air contaminants through its air toxics program, mandated in Chapter 3.5 (Toxic Air Contaminants) of the Health and Safety Code (Health and Safety Code Section 39660 et seq.) and Part 6 (Air Toxics “Hot Spots” Information and Assessment) (Health and Safety Code Section 44300 et seq.). CARB, working in conjunction with the State Office of Environmental Health Hazard Assessment, identifies toxic air contaminants. Air toxic control

measures may then be adopted to reduce ambient concentrations of the identified toxic air contaminant to below a specific threshold, based on its effects on health, or to the lowest concentration achievable through use of best available control technology (BACT) for toxics. Air quality control agencies, including the NCCAB, must incorporate air toxic control measures into their regulatory programs or adopt equally stringent control measures as rules within six months of adoption by CARB.

### **3.3.2 Sensitive Receptors**

Sensitive populations (sensitive receptors) are more susceptible to the effects of air pollution than are the general population. Sensitive receptors that are in proximity to localized sources of toxics and CO are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, churches, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

The majority of land uses in the project vicinity that are sensitive to air pollution include residential uses. With regard to air quality, the major pollutant source affecting sensitive receptors in the project vicinity is the result of emissions from vehicular travel along General Jim Moore Boulevard.

### **3.3.3 Federal Clean Air Act**

The EPA is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for “criteria” pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>) (which is a form of nitrogen oxides [NO<sub>x</sub>]), sulfur dioxide (SO<sub>2</sub>) (which is a form of sulfur oxides [SO<sub>x</sub>]), particulate matter less than 10 and 2.5 microns in diameter (PM<sub>10</sub> and PM<sub>2.5</sub>, respectively) and lead (Pb); refer to Table 3.3-1, *Federal and State Ambient Air Quality Standards*. The 2007 Plan for maintaining the Federal O<sub>3</sub> standard in the NCCAB was adopted by the Monterey Air District Board on March 21, 2007, and by the Association of Monterey Bay Area Governments Board on May 9, 2007.

### **3.3.4 California Clean Air Act**

The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 3.3-1, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility-reducing particulates, hydrogen sulfide, and sulfates. The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air districts prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMPs also serve as the basis for preparation of the State Implementation Plan (SIP) for the State of California.

Similar to the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved.

Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment.

CARB approves local air quality management plans that address attainment and maintenance of State Ambient Air Quality Standards as mandated by the California Clean Air Act. Monterey Air District prepares a regional Air Quality Management Plan every three years to address attainment and maintenance of the State O<sub>3</sub> Ambient Air Quality Standard in accordance with the California Clean Air Act. The most recent Air Quality Management Plan is the 2004 Air Quality Management Plan adopted by the Monterey Air District in October 2004.

### **3.3.5 Climate Change/Greenhouse Gases**

Global climate change refers to the changes in the average global weather patterns and in the concentration of greenhouse gases (GHGs) over periods of time. Atmospheric GHGs and clouds within the Earth's atmosphere influence the Earth's temperature by absorbing most of the infrared radiation rising from the Earth's sun-warmed surface that would otherwise escape into space. This process is commonly known as the Greenhouse Effect. The GHGs and clouds, in turn, radiate some heat back to the Earth's surface and some out to space. The balance between incoming solar radiation and outgoing radiation from both the Earth's surface and atmosphere keeps the planet habitable. Anthropogenic (i.e., caused by humans) emissions of GHGs enhance the Greenhouse Effect by absorbing the radiation from other atmospheric GHGs that would otherwise escape to space, thereby trapping more radiation in the atmosphere and causing the temperature to increase.

#### **3.3.5.1 Regulatory Context**

##### **Federal Regulations**

The Federal government is extensively engaged in international climate change activities in areas such as science, mitigation, and environmental monitoring. The EPA is moving forward with two key climate change regulatory proposals: 1) establish a mandatory GHG reporting system, and 2) address the 2007 Supreme Court decision in *Massachusetts v. EPA* (Supreme Court Case 05-1120) regarding the EPA's obligation to make an endangerment finding under Section 202(a) of the Clean Air Act (CAA) with respect to GHGs. *Massachusetts v. EPA* was argued before the U.S. Supreme Court on November 29, 2006. A coalition of 12 U.S. states and cities (including New York and California), in conjunction with several environmental organizations, challenged the EPA's refusal to regulate GHGs as a pollutant under the CAA. The plaintiffs contended that the CAA gives the EPA the necessary authority, and the mandate, to address GHGs in light of the scientific evidence on global climate change. The EPA had concluded that it had no authority under existing law to regulate GHGs, and that, for a variety of policy reasons, it would not use that authority even if it possessed it. The U.S. Supreme Court held that the EPA has statutory authority to regulate GHG emissions from new motor vehicles. Under the Clean Air Act, the EPA is now obligated to issue rules regulating global warming pollution from all major

sources. In April 2009, the EPA concluded that GHGs are a danger to public health and welfare, establishing the basis for GHG regulation.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA: the Endangerment Finding and the Cause or Contribute Finding. The EPA finds that the current and projected concentrations of the six key well-mixed GHGs in the atmosphere threaten the public health and welfare of current and future generations. The EPA also finds that the combined emissions of these well-mixed GHGs from new motor vehicles and engines contribute to the GHG pollution which threatens public health and welfare. These findings do not in and of themselves impose any emissions reduction requirements but rather allow the EPA to finalize the GHG standards proposed earlier in 2009 for new light-duty vehicles.

### **State of California**

Governor Schwarzenegger established the California Environmental Protection Agency as the lead for coordinating all State agency actions for reducing GHG emissions in 2005. A Climate Action Team was established with representatives from key State agencies responsible for implementing strategies and programs to reduce GHG emissions. The Climate Action Team subgroups, made up of agency staff grouped around sectors such as agriculture, forestry, and energy, have been formed to identify and analyze measures for reducing GHG emissions. The various climate change policies implemented by the State Legislature are described below.

Executive Order S-3-05. In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and, GHG emissions should be reduced to 80 percent below 1990 levels by 2050. The Secretary of the California Environmental Protection Agency (the Secretary) is required to coordinate efforts of various agencies in order to collectively and efficiently reduce GHGs. The Secretary is required to submit a biannual progress report to the Governor and State Legislature disclosing the progress made toward GHG emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, and the coastline and forestry, and reporting possible mitigation and adaptation plans to combat these impacts.

Executive Order S-1-07. On January 18, 2007, California further solidified its dedication to reducing GHGs by setting a new Low Carbon Fuel Standard for transportation fuels sold within the State. Executive Order S-1-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least ten percent by 2020. The Low Carbon Fuel Standard applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods. The Executive Order requires the Secretary of the California Environmental Protection Agency to coordinate with actions of the California Energy Commission, CARB, the University of California, and other agencies to develop a protocol to measure the "life cycle carbon intensity" of transportation fuels. CARB is anticipated to

complete its review of the Low Carbon Fuel Standard protocols, with a regulation to be adopted in 2010.

Assembly Bill 1493. In response to the transportation sector accounting for more than half of California's carbon dioxide (CO<sub>2</sub>) emissions, Assembly Bill (AB) 1493 (AB 1493, Pavley) was enacted on July 22, 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is noncommercial personal transportation in the State. The bill required that CARB set the GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. CARB adopted the standards in September 2004. These standards are intended to reduce emissions of carbon dioxide and other GHGs (e.g., nitrous oxide and methane). Some currently used technologies that achieve GHG reductions include small engines with superchargers, continuously variable transmissions, and hybrid electric drives.

Assembly Bill 32. The Legislature enacted AB 32 (AB 32, Nuñez), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006, to further the goals of Executive Order S-3-05. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries, with penalties for noncompliance. CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. The foremost objective of CARB is to adopt regulations that require the reporting and verification of statewide GHG emissions. This program would be used to monitor and enforce compliance with the established standards. The first GHG emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 allows CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted. In order to advise CARB, it must convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee. In December 2008, CARB adopted a scoping plan to achieve reductions in GHG emissions in California. The plan indicates how reductions in significant GHG sources would be achieved through regulations, market mechanisms, and other actions.

Senate Bill 97. Senate Bill (SB) 97 of 2007 requires the California Office of Planning and Research to develop CEQA guidelines for analysis and, if necessary, for the mitigation or effects of GHG emissions, and provide them to the Resources Agency. These guidelines for analysis and mitigation must address, but are not limited to, GHG emissions effects associated with transportation or energy demand. Following receipt of these guidelines, the Resources Agency must certify and adopt the guidelines prepared by the Office of Planning and Research.

The Office of Planning and Research has begun the process of formulating the guidelines called for in SB 97. Part of that effort includes a survey of existing climate change analyses performed by various lead agencies under CEQA.

Senate Bill 375. SB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans. The purpose of SB 375 is to reduce GHG emissions from automobiles and light trucks, require CARB to provide GHG emission reduction targets from the automobile and light truck sector for 2020 and 2035, and update the regional targets until 2050. SB 375 requires certain transportation planning and programming activities to be consistent with the sustainable communities strategies contained in the regional transportation plan. The bill also requires affected regional agencies to prepare an alternative planning strategy to the sustainable community strategies if it is unable to achieve the GHG emissions reduction targets. Governor Schwarzenegger signed and approved SB 375 on September 30, 2008.

Current efforts to clean up SB 375 include CEQA streamlining changes for projects that are consistent with the Sustainable Community Strategy (SCS). Currently, SB 375 applies those streamlining provisions to residential and mixed-use projects. The Governor and many interest groups are also lobbying to extend those provisions to Proposition 1B Transportation projects, state highway projects, and infrastructure, retail, and commercial development. Discussions with CARB are ongoing to coordinate AB 32 local land use implementation strategies with SB 375, including a new proposed CARB CEQA threshold of significance proposal to determine which projects will be subject to AB 32 requirements.

## **3.4 Biological Resources**

### **3.4.1 Introduction**

This section provides information from a variety of sources containing pertinent biological resource information. Results of biological surveys conducted for the project area are presented, including the *Final Memorandum of Results for the Presidio of Monterey/Ord Military Community Planning Level Surveys* (ICF Jones & Stokes, October 2009), and the *Biological Assessment for the Coastal Water Project Aquifer Storage Recovery (ASR) Wells 3 & 4* (Denise Duffy & Associates, Inc., July 2010); these include descriptions of the existing biotic resources, identification of the special-status plant and wildlife species and sensitive habitats that occur or may occur, and descriptions of the regulations and agency permits that may be required. Other biological data sources including the following:

- *Monterey County Coastal Water Project Terrestrial Biological Resources Phase II Report*, California American Water, April 2005
- *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California (HMP)*, U.S. Army Corps of Engineers, April 1997
- *Integrated Natural Resource Management Plan (INRMP) Presidio of Monterey and Ord Military Community, Monterey County, California*, U.S. Army, Presidio of Monterey, November 2008
- *CNPS Inventory of Rare and Endangered Vascular Plants of California*, CNPS, 2010
- *Flora and Fauna Baseline Study of Ford Ord*, U.S. Army Corps of Engineers, 1992
- U.S. Fish and Wildlife Service Biological Opinions (1999, 2002, and 2005)

- California Natural Diversity Database (CNDDDB) quadrangle review (Monterey, Moss Landing, Prunedale, Salinas, Seaside and Spreckels).

### **3.4.2 Vegetation, Wildlife, and Sensitive Species and Habitat**

#### **3.4.2.1 Vegetation**

The project site is located within a narrow band of natural vegetation between General Jim Moore Boulevard and Fitch Park, and is not contiguous with any of the large expanses of open space on the former Ford Ord. The area is historically and currently disturbed due to development of the area. Two habitat types are present within the project site: coast live oak (*Quercus agrifolia*) woodland and ruderal areas. ASR Well Site 4 is covered mostly by coast live oak woodland habitat with ruderal areas only in the maintained areas adjacent to General Jim Moore Boulevard, while ASR Well Site 3 is covered mostly by ruderal habitat, with coast live oak woodland only around the border of the area.

There are approximately 1.27 acres of coast live oak woodland habitat within the project site. The canopy is fairly dense with an understory dominated by iceplant (*Carpobrotus edulis*). Other plant species present within the oak woodland include hedge-nettle (*Stachys sp.*), ripgut brome (*Bromus diandrus*), slender oat (*Avena barbata*), sheep sorrel (*Rumex acetosella*), and scattered shrubs such as shaggy-bark manzanita (*Arctostaphylos tomentosa ssp. tomentosa*), poison oak (*Toxicodendron diversilobum*), and sticky monkey flower (*Mimulus aurantiacus*).

Oak woodlands are considered important natural communities because they provide a variety of ecological, aesthetic, and economical values. The extent of oak woodland in California has declined due to agricultural conversion, urban development, fuelwood harvesting, and grazing activities; however, coast live oak woodland is not considered sensitive habitat by the California Department of Fish and Game (CDFG, 2003). Oak woodland is an important habitat for many wildlife species, providing nesting sites for many avian species and cover for a variety of mammals. Two special-status species have the potential to occur within this habitat type: Monterey dusky-footed woodrat (*Neotoma macrotis luciana*) and California legless lizard (*Anniella pulchra*). Additionally, raptors and other migratory birds may nest within the trees and understory of this vegetation community.

Ruderal areas cover approximately 0.69 acre of the project site. Ruderal areas are those which have been developed and disturbed by human activities that are dominated by non-native annual grasses and other “weedy” species. Within the project site, this habitat includes open areas adjacent to General Jim Moore Boulevard and between the oak woodland areas, and is regularly mowed and maintained. This habitat type is considered to have low biological value, as it is generally dominated by non-native plant species and consists of relatively low quality habitat from a wildlife perspective. However, some special-status species may occur within this habitat type. Coast horned lizards (*Phrynosoma blainvillii*) often occupy open, sandy areas and may be present within this habitat type. California legless lizards may also burrow within the sandy soils of the ruderal areas.

### 3.4.2.2 Wildlife

#### Birds

Bird surveys conducted in 2008, 2009 and 2010 revealed mostly common bird species in and near the project site, and no special-status species were observed during these surveys. However, recent surveys at OMC found that the oak woodlands contained the highest diversity of bird species of the vegetation communities evaluated (US Army 2009b), and the proposed project contains a significant amount of coast live oak trees. These trees provide roosting and perching for native raptor species, including red-shouldered hawk (*Buteo lineatus*), sharp-shinned hawk (*Accipiter striatus*), and American kestrel (*Falco sparverius*). Associated native understory provides habitat for ground-nesting birds such as dark-eyed junco (*Junco hyemalis*), spotted towhee (*Pipilo maculatus*) and California towhee (*Pipilo crissalis*) (Madison 2010b). The acorn woodpecker (*Melanerpes formicivorus*) and California quail (*Callipepla californica*) can also be found in the coast live oak woodland. Additional birds likely to be found foraging in this environment include the plain titmouse (*Parus inornatus*), hermit thrush (*Catharus guttatus*), American robin (*Turdus migratorius*), and loggerhead shrike (*Lanius ludovicianus*) (US Army 2006). Non-native bird species that have been identified within this community at OMC include European starling (*Sturnus vulgaris*) and rock dove (*Columbia livia*) (US Army 2009b).

#### Bats

Anabat acoustic recording devices were used in 2008 and 2009 to detect bat species present within OMC. No bat species were detected during either the fall or spring seasons. Most bats forage for insects over open water areas (lakes, streams, wetlands), including flooded irrigated pasture or agricultural fields, and fewer bats forage by gleaning insects from shrubs, trees, or other vegetation. No open water features occur within the OMC survey communities. Therefore, the absence of bat detection was likely related to the absence of open water features in these areas. Another possible reason for the lack of bat detection is that although bats may use these areas for foraging, bats may not have foraged within a close enough proximity to the Anabat devices to be detected. Active bat surveys, including mist netting, were not conducted, and the absence of bat detections within OMC should not be interpreted to suggest that bats are not utilizing these areas. Night-roosting bats are likely present in this area though possibly utilizing other adjacent habitats for foraging.

#### Mammals, Reptiles, Amphibians and Invertebrates

Daytime surveys for mammals, reptiles, amphibians, and invertebrates were conducted at specific land plots within the OMC in 2008 and 2009. During the spring transect surveys, biologists walked through survey plots and surveyed and collected the coverboards that had been laid out during the fall surveys. The coverboards that were able to be located were overturned to observe species using the coverboards. Very few invertebrates were found to be utilizing the coverboards for cover. Terrestrial invertebrates were most commonly observed in forested areas under woody debris or rocks, whereas flying invertebrates (bees, wasps, and butterflies) were more prevalent in plots containing open grassland, shrub, or scrub communities. Invertebrate species observed at the OMC consisted of common species only.

In general, a fairly low diversity of amphibians and reptiles was observed. Two reptile species, Pacific gopher snake and western fence lizard, were observed within plots occurring at the OMC, and no amphibian species were observed at the OMC. Reptiles tend to be more prevalent in warm climates. The generally cool climatic conditions occurring at the OMC are not ideal for reptiles, so the scarcity of reptiles within survey plots is not surprising. Similarly, amphibians, such as frogs and toads, are typically found in close proximity to aquatic features, which are sparse within the study area. However, small amphibians, such as slender salamanders, are capable of living in areas where moist conditions persist under logs or other woody debris. Only common mammals were observed at the OMC. Common mammal species observed included California ground squirrel, black-tailed deer, and raccoon. Though not directly observed, the presence of numerous other mammal species was detected within survey plots based on the presence of animal prints or scat. As is expected of communities occurring in areas of development, the most prevalent mammal species were those adapted to living near humans, such as black-tailed deer and raccoon. Overall, mammal diversity was observed to be somewhat higher in larger natural and semi-natural communities, especially those that had connectivity to other natural areas.

Spotlight surveys for night-active animals were also conducted after dark. Many of the same animals observed during the day surveys were also observed during night surveys. Additional animals detected during night surveys included coyote, striped skunk, great horned owl, and common poorwill.

Small mammal trapping was conducted in 2008 at the OMC. Animals caught consisted of deer mice and brush mice.

### **3.4.2.3 Sensitive Species and Habitat**

Special-status species include those plants and animals that have been formally listed or proposed for listing as Endangered or Threatened, or are Candidates for such listing under the Federal ESA or the California ESA. Listed species are afforded protection under the Federal ESA and California ESA. Plants listed as rare under the California Native Plant Protection Act or on the CNPS lists are also treated as special-status species, as well as CDFG State Species of Special Concern and Fully Protected animals. Although they have no special legal status, these species are given management consideration.

#### **Special-Status Plants**

According to the *Integrated Natural Resource Management Plan (INRMP) Presidio of Monterey and Ord Military Community, Monterey County, California* (November 2008), data collected in 1992 for the Flora and Fauna Baseline Study of Fort Ord (US Army, 1992b) indicated that small populations of the following plant species may occur on OMC: Monterey spineflower (*Chorizanthe pungens* var. *pungens*), federally threatened and CNPS List 1B; sandmat manzanita (*Arctostaphylos pumila*), a federal species of concern and CNPS list 1B; Monterey ceanothus (*Ceanothus cuneatus* var. *rigidus*), a federal species of concern and CNPS List 4; and virgate eriastrum (*Eriastrum virgatum*), CNPS List 4.

The Federally threatened Monterey spineflower has been previously observed during surveys within areas of OMC, although none were identified within the project site during site-specific

biological surveys (Denise Duffy & Associates, Inc., 2010). Also, the following species are known to occur at the OMC, however, these also have not been documented within the project site during site-specific surveys (Denise Duffy & Associates, Inc., 2010): sandmat manzanita (*Arctostaphylos pumila*), a federal species of concern and CNPS list 1B; Monterey ceanothus (*Ceanothus cuneatus* var. *rigidus*), a federal species of concern and CNPS list 4; and seaside bird's-beak (*Cordylanthus rigidus* var. *littoralis*), a federal species of concern, state endangered species, and CNPS list 1B.

It was determined during surveys conducted in July 2010 that no special-status plant species are present within or adjacent to the project site, including the federally listed Monterey spineflower, the federal and state listed sand gilia (*Gilia tenuiflora* ssp. *arenaria*), and the state listed seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*). These three species are known to occur on the former Ford Ord within the habitat types on the project site, however, were not identified within the project site.

### **Special-Status Wildlife**

According to the INRMP, special-status wildlife species that have the potential to occur on the OMC land cover types include the following: California tiger salamander (*Ambystoma californiense*), a federally threatened species; loggerhead shrike (*Lanius ludovicianus*), a federal and state species of concern and a federally designated Migratory Nongame Bird of Management Concern (MNBMC); coast horned lizard, a federal species of concern and a state fully-protected species; California horned lark (*Eremophila alpestris actia*), a state species of concern; California legless lizard, a state protected species; burrowing owl (*Speotyto [Athene] cunicularia hypugea*), a federal and state species of concern and a federal designated MNBMC; Monterey dusk-footed woodrat, a state species of special concern; and Monterey ornate shrew (*Sorex ornatus salarii*), a state species of special concern.

In December 2006, one isolated observation of a California tiger salamander was reported. The individual was discovered in a concrete maintenance bay in a structure located in a remote location on OMC adjacent to Fort Ord lands that were disposed. The salamander was approximately 1.9 kilometers from the nearest water source and known breeding pond, Henneken's Ranch Wetland. It was relocated off-site by a qualified Army biologist to this breeding pond.

California tiger salamander breeding ponds with corresponding 2-kilometer buffer zones for these areas are identified in the *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California* (HMP). The project site lies outside of these buffer zones; therefore, California tiger salamander is unlikely to occur, and is therefore, not anticipated to be impacted by the Proposed Action. Also, the project site is also located outside of the travel range of vernal breeding pond areas.

Raptors such as red-shouldered hawk, red-tailed hawk, sharp-shinned hawk, American kestrels and great horned owls have been noted near and within the proposed project location. Raptors and migratory bird species may occur within the site. While the life histories of these species vary, overlapping nesting and foraging similarities (approximately February through August) allow for their concurrent discussion below.

Based on the CNDDDB occurrence data for special-status wildlife species in the vicinity of the project site, it was determined that three additional special-status wildlife species have the potential to occur within the project site: Monterey dusky-footed woodrat, California legless lizard, and coast horned lizard. Their life histories are discussed individually below.

*Monterey Dusky-footed Woodrat (Moderate Potential to Occur)*

The Monterey dusky-footed woodrat is a DFG species of special concern. This is a subspecies of the dusky-footed woodrat (*Neotoma macrotis*), which is common to oak woodlands throughout California. Dusky-footed woodrats are frequently found in forest habitats with moderate canopy cover and a moderate to dense understory; however, they may also be found in chaparral communities. Relatively large nests are constructed of grass, leaves, sticks, and feathers and are built in protected spots, such as rocky outcrops or dense brambles of blackberry (*Rubus* sp.) and/or poison oak. Typical food sources for this species include leaves, flowers, nuts, berries, and truffles. Dusky-footed woodrats may be a significant food source for small- to medium-sized predators. Populations of this species may be limited by the availability of nest material. Within suitable habitat, nests are often found in close proximity to each other.

Although the CNDDDB does not report any occurrences of this species within the seven quadrangles analyzed, this species is known to occur throughout the former Fort Ord in various forest habitats. No woodrat nests were observed within the project site during field surveys; however, suitable habitat is present within the coast live oak woodland and this species may occur within and adjacent to the project site and be impacted by construction activities.

*California Legless Lizard (Low Potential to Occur)*

The DFG has recognized two subspecies of the California legless lizard as species of special concern, the black-legless lizard (*Anniella pulchra* ssp. *nigra*) and silvery-legless lizard (*A. p.* ssp. *pulchra*). Additionally, black-legless lizard is listed as a HMP species, although silvery-legless lizard is not. These subspecies are based primarily on phenotypic differences (black-legless lizards being much darker, having fewer scales on the back, and a relatively shorter tail) and very limited genetic work. Further, the range of the black-legless lizard has historically been classified as “restricted to coastal and interior dune sand other areas of sandy soils in the vicinity of Monterey Bay and the Monterey Peninsula” (Service, 1998), while the range of silvery-legless lizard has been classified as widespread throughout central California (Parham and Papenfuss, 2008). However, recent genetic studies have revealed five lineages of this species which correspond with different geographic areas of California (Parham and Papenfuss, 2008). These studies do not, however, identify the legless lizards occurring on the coast of Monterey Bay (i.e. the currently designated black-legless lizard) as a separate lineage. As such, for the purposes of this report the California legless lizard will be discussed on a species level and not at the DFG-recognized subspecies level. Additionally, both subspecies and all lineages will be considered species of special concern as designated by DFG as well as HMP species.

The California legless lizard is a fossorial (burrowing) species that typically inhabits sandy or loose (friable) soils. Habitats known to support this species include (but are not limited to) coastal dunes, valley and foothill grasslands, chaparral, and coastal scrub at elevations from near sea level to approximately 1800 meters (6000 feet). The California legless lizard forages on

invertebrates beneath the leaf litter or duff layer at the base of bushes and trees or under wood, rocks, and slash in appropriate habitats. Little is known about the specific habitat requirements for courtship and breeding; however, the mating season for this species is believed to begin late spring or early summer, with one to four live young born between September and November. The diet of this species likely overlaps to some extent with that of juvenile alligator lizards and perhaps some other salamanders. California legless lizards eat insect larvae, small adult insects, and spiders. This species may be preyed upon by alligator lizards, snakes, birds, and small mammals.

The CNDDDB reports 33 occurrences of California legless lizard within the seven quadrangles reviewed, the nearest of which is located approximately 3.5 miles north of the Project site. The California legless lizard may use both of the habitats present within project boundaries; however, these areas represent only low quality habitat for this species. Therefore, there is a low potential for the California legless lizard to occur at the project site.

#### *Coast Horned Lizard (Low Potential to Occur)*

The coast horned lizard is a DFG species of special concern. Horned lizards occur in valley-foothill hardwood, conifer, and riparian habitats, as well as in pine-cypress, juniper, chaparral, and annual grass habitats. This species generally inhabits open country, especially sandy areas, washes, flood plains, and wind-blown deposits in a wide variety of habitats. Coast horned lizards rely on camouflage for protection and will often lay motionless when approached. Horned lizards often bask in the early morning on the ground or on elevated objects such as low boulders or rocks. Predators and extreme heat are avoided by burrowing into loose soil. Periods of inactivity and winter hibernation are spent burrowed into the soil or under surface objects. Little is known about the habitat requirements for breeding and egg-laying of this species. Prey species include ants, beetles, wasps, grasshoppers, flies, and caterpillars.

The CNDDDB reports five occurrences of the coast horned lizard within the seven quadrangles reviewed, the nearest of which is approximately three miles north of the project site, and this species is known to occur throughout the former Fort Ord. Low quality habitat for this species is present in ruderal areas of the project site. Therefore, the coast horned lizard has a low potential to occur within the project site.

#### *Nesting Raptors and Migratory Bird Species*

Raptors and other migratory bird species and their nests are protected under Fish and Game Code and the MBTA. While the life histories of these species vary, overlapping nesting and foraging similarities (approximately February through August) allow for their concurrent discussion. Many raptors and migratory birds are breeding residents throughout most of the wooded portions of the state. Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting. Breeding occurs February through August, with peak activity May through July. Prey for these species includes small birds, small mammals, and some reptiles and amphibians. Many raptor species hunt in open woodland and habitat edges.

Various species of raptors and migratory birds (such as red-tailed hawk, red-shouldered hawk, great horned owl, American kestrel, and turkey vulture [*Cathartes aura*]) have a potential to nest

within the coast live oak woodland habitat on the project site and may forage within the ruderal areas.

### **Sensitive Habitat**

No sensitive habitats, including wetland and riparian habitat, were identified within or adjacent to the project site.

### **CNDDDB Special Status Species**

California Natural Diversity Database (CNDDDB) search was conducted in July 2010, and included the Marina quadrangle and the six surrounding quadrangles (Monterey, Moss Landing, Prunedale, Seaside, Salinas, and Spreckels). The results on this search are provided in Table 3.4-1, *CNDDDB Special-Status Species*, below.

Species	Status (USFWS/ CDFG/ CNPS)	General Habitat	Potential Occurrence within Project Site
<b>MAMMALS</b>			
<i>Lasiurus cinereus</i> Hoary bat	-- / CNDDDB / --	Prefers open habitats or habitat mosaics with access to trees for cover and open areas or edge for feeding. Generally roost in dense foliage of trees.	<b>Unlikely:</b> Although suitable habitat is present within the Project site, this species is unlikely to give birth and rear young within California.
<i>Neotoma macrotis luciana</i> Monterey dusky-footed woodrat	-- / CSC / --	Forest and oak woodland habitats of moderate canopy with moderate to dense understory. Also occurs in chaparral habitats.	<b>Moderate:</b> Marginal habitat is present within the coast live oak woodland habitat on the Project site. Although the CNDDDB does not report any occurrences of this species within the quads analyzed, this species is known to occur throughout the former Fort Ord.
<i>Reithrodontomys megalotis distichlis</i> Salinas harvest mouse	-- / CNDDDB / --	Known only to occur from the Monterey Bay region. Occurs in fresh and brackish water wetlands, and probably in the adjacent uplands around the mouth of the Salinas River.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Sorex ornatus salarius*</i> <b>Monterey ornate shrew</b>	-- / SSC / --	Mostly moist or riparian woodland habitats, and within chaparral, grassland, and emergent wetland habitats where there is a thick duff or downed logs.	<b>Unlikely:</b> Although the HMP identifies oak woodland as potential habitat for this species, the Project site does not support suitable habitat conditions for this species.
<i>Taxidea taxus</i> American badger	-- / SSC / --	Dry, open grasslands, fields, pastures savannas, and mountain meadows near timberline are preferred. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated grounds.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<b>BIRDS</b>			
<i>Agelaius tricolor</i> Tricolored blackbird	-- / SSC / --	Nest in colonies in dense riparian vegetation, along rivers, lagoons, lakes, and ponds. Forages over grassland or aquatic habitats.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Asio flammeus</i> Short-eared owl	-- / SSC / --	Usually found in open areas with few trees, such as annual and perennial grasslands, prairies, meadows, dunes, irrigated lands, and saline and freshwater emergent marshes. Dense vegetation is required for roosting and nesting cover. This includes tall grasses, brush, ditches, and wetlands. Open, treeless areas containing elevated sites for perching, such as fence posts or small mounds, are also needed. Some individuals breed in northern California.	<b>Unlikely:</b> No suitable habitat present within the Project site.

Species	Status (USFWS/ CDFG/ CNPS)	General Habitat	Potential Occurrence within Project Site
<i>Athene cunicularia</i> Burrowing owl	-- / SSC / --	Year round resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Frequent open grasslands and shrublands with perches and burrows. Use rodent burrows (often California ground squirrel) for roosting and nesting cover. Pipes, culverts, and nest boxes may be substituted for burrows in areas where burrows are not available.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Buteo regalis</i> Ferruginous hawk	-- / CNDDDB / --	An uncommon winter resident and migrant at lower elevations and open grasslands in the Modoc Plateau, Central Valley, and Coast Ranges and a fairly common winter resident of grassland and agricultural areas in southwestern California. Frequent open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. Does not breed in California.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Charadrius alexandrinus nivosus</i> Western snowy plover	FT / SSC / --	Sandy beaches on marine and estuarine shores, also salt pond levees and the shores of large alkali lakes. Requires sandy, gravelly or friable soil substrate for nesting.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Cypseloides niger</i> Black swift	-- / SSC / --	Regularly nests in moist crevices or caves on sea cliffs above the surf, or on cliffs behind or adjacent to waterfalls in deep canyons. Forages widely over many habitats.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Elanus leucurus</i> White-tailed kite	-- / CFP / --	Open groves, river valleys, marshes, and grasslands. Prefer such area with low roosts (fences etc.). Nest in shrubs and trees adjacent to grasslands.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Eremophila alpestris actia</i> California horned lark	-- / CNDDDB / --	Variety of open habitats, usually where large trees and/or shrubs are absent. Found from grasslands along the coast to deserts at sea-level and alpine dwarf-shrub habitats are higher elevations. Builds open cup-like nests on the ground.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Falco mexicanus</i> Prairie falcon	-- / CNDDDB / --	Associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. Uses open terrain for foraging; nests in open terrain with canyons, cliffs, escarpments, and rock outcrops.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Pelecanus occidentalis californicus</i> California brown pelican	FE / -- / --	Found in estuarine, marine subtidal, and marine pelagic waters along the California coast. Usually rests on water or inaccessible rocks, but also uses mudflats, sandy beaches, wharfs, and jetties.	<b>Unlikely:</b> No suitable habitat present within the Project site.

Species	Status (USFWS/ CDFG/ CNPS)	General Habitat	Potential Occurrence within Project Site
<i>Rallus longirostris obsoletus</i> California clapper rail	FE / SE-CFP / --	Occur within a range of salt and brackish marshes.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Riparia riparia</i> Bank swallow	-- / ST / --	Nest colonially in sand banks. Found near water; fields, marshes, streams, and lakes.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<b>REPTILES AND AMPHIBIANS</b>			
<i>Actinemys marmorata</i> Western pond turtle  (includes <i>A. m. pallida</i> and <i>A. m. marmorata</i> as recognized by the DFG)	-- / CSC / --	Associated with permanent or nearly permanent water in a wide variety of habitats including streams, lakes, ponds, irrigation ditches, etc. Require basking sites such as partially submerged logs, rocks, mats of vegetation, or open banks.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Ambystoma californiense</i> <b>California tiger salamander</b>	FT / ST / --	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Need underground refuges and vernal pools or other seasonal water sources.	<b>Unlikely:</b> No suitable habitat present within the Project site. The nearest CNDDDB occurrence of CTS is approximately 1.8 mile from the Project site, outside of the known dispersal range for this species.
<i>Ambystoma macrodactylum croceum</i> Santa Cruz long-toed salamander	FE / SE-SFP / --	Preferred habitats include ponderosa pine, montane hardwood-conifer, mixed conifer, montane riparian, red fir, and wet meadows. This is an isolated subspecies which occurs in a small number of localities in Santa Cruz and Monterey Counties. Adults spend the majority of the time in underground burrows and beneath objects. Larvae prefer shallow water with clumps of vegetation.	<b>Unlikely:</b> No suitable habitat present within the Project site; species is not known to occur within the vicinity.
<i>Anniella pulchra</i> <b>California legless lizard</b>  (includes <i>A. p. nigra</i> and <i>A. p. pulchra</i> as recognized by the DFG)	-- / CSC / --	Requires moist, warm habitats with loose soil for burrowing and prostrate plant cover, often forages in leaf litter at plant bases; may be found on beaches, sandy washes, and in woodland, chaparral, and riparian areas.	<b>Low:</b> Low quality habitat is present within project boundaries. The nearest CNDDDB occurrence is approximately 3.5 miles north of the Project site.
<i>Phrynosoma blainvillii</i> Coast horned lizard	-- / SSC / --	Associated with open patches of sandy soils in washes, chaparral, scrub, and grasslands.	<b>Low:</b> Low quality habitat is present within project boundaries. The nearest CNDDDB occurrence is approximately 3.0 miles northeast of the Project site and this species is known to occur throughout Fort Ord.

Species	Status (USFWS/ CDFG/ CNPS)	General Habitat	Potential Occurrence within Project Site
<i>Rana draytonii</i> California red-legged frog	FT / SSC / --	Lowlands and foothills in or near permanent or late-season sources of deep water with dense, shrubby, or emergent riparian vegetation. During late summer or fall adults are known to utilize a variety of upland habitats with leaf litter or mammal burrows.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Taricha torosa torosa</i> Coast Range newt  (Monterey County south only)	-- / CSC / --	Occurs mainly in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, and mixed chaparral but is known to occur in grasslands and mixed conifer types. Seek cover under rocks and logs, in mammal burrows, rock fissures, or man-made structures such as wells. Breed in intermittent ponds, streams, lakes, and reservoir.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Thamnophis hammondi</i> Two-striped garter snake	-- / SSC / --	Associated with permanent or semi-permanent bodies of water bordered by dense vegetation in a variety of habitats from sea level to 2400m elevation.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<b>FISH</b>			
<i>Eucyclogobius newberryi</i> Tidewater goby	FE / SSC / --	Brackish water habitats, found in shallow lagoons and lower stream reaches.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Oncorhynchus mykiss irideus</i> South-central coast steelhead	FT / SSC / --	Coastal perennial and near perennial streams, with suitable spawning and rearing habitat and no major barriers.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<b>INVERTEBRATES</b>			
<i>Coelus globosus</i> Globose dune beetle	-- / CNDDDB / --	Coastal dunes. These beetles are primarily subterranean, tunneling through sand underneath dune vegetation.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Danaus plexippus</i> Monarch butterfly	-- / CNDDDB / --	Overwinters in coastal California using colonial roosts generally found in Eucalyptus, pine, and acacia trees. Overwintering habitat for this species within the Coastal Zone represents ESHA. Local ordinances often protect this species as well.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Euphilotes enoptes smithi</i> Smith's blue butterfly	FE / -- / --	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz Counties. Plant hosts are <i>Eriogonum latifolium</i> and <i>E. parvifolium</i> .	<b>Unlikely:</b> No suitable habitat present within the Project site. Host plant species for Smith's blue butterfly were not identified within the Project site.
<i>Linderiella occidentalis</i> California linderiella	-- / CNDDDB / --	Ephemeral ponds with no flow. Generally associated with hardpans.	<b>Unlikely:</b> No suitable habitat present within the Project site.
<i>Tryonia imitator</i> California brackishwater snail	-- / CNDDDB / --	Inhabits coastal lagoons, estuaries and salt marshes. Found only in permanently submerged areas in a variety of sediment types. Tolerant of a wide range of salinities.	<b>Unlikely:</b> No suitable habitat present within the Project site.

Species	Status (USFWS/ CDFG/ CNPS)	General Habitat	Potential Occurrence within Project Site
<b>PLANTS</b>			
<i>Allium hickmanii</i> Hickman's onion	-- / -- / 1B	Closed-cone coniferous forests, maritime chaparral, coastal prairie, coastal scrub, and valley and foothill grasslands at elevations of 5-200 meters. Bulbiferous herb in the Alliaceae family; blooms March-May.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i> Hooker's manzanita	-- / -- / 1B	Closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 85-536 meters. Evergreen shrub in the Ericaceae family; blooms January-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Arctostaphylos montereyensis</i> Toro manzanita	-- / -- / 1B	Maritime chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 30-730 meters. Evergreen shrub in the Ericaceae family; blooms February-March.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Arctostaphylos pajaroensis</i> Pajaro manzanita	-- / -- / 1B	Chaparral on sandy soils at elevations of 30-760 meters. Evergreen shrub in the Ericaceae family; blooms December-March.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Arctostaphylos pumila</i> Sandmat manzanita	-- / -- / 1B	Closed-cone coniferous forests, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 3-205 meters. Evergreen shrub in the Ericaceae family; blooms February-May.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Astragalus tener</i> var. <i>tener</i> Alkali milk-vetch	-- / -- / 1B	Playas, valley and foothill grassland on adobe clay, and vernal pools on alkaline soils at elevations of 1-60 meters. Annual herb in the Fabaceae family; blooms March-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Astragalus tener</i> var. <i>titi</i> Coastal dunes milk-vetch	FE / SE / 1B	Coastal bluff scrub on sandy soils, coastal dunes, and mesic areas of coastal prairie at elevations of 1-50 meters. Annual herb in the Fabaceae family; blooms March-May.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Callitropsis goveniana</i> ssp. <i>goveniana</i> Gowen cypress	FT / -- / 1B	Closed-cone coniferous forest and maritime chaparral at elevations of 30-300 meters. Evergreen tree in the Cupressaceae family. Natively occurring only at Point Lobos near Gibson Creek and the Huckleberry Hill Nature Preserve near Highway 68.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Callitropsis macrocarpa</i> Monterey cypress	-- / -- / 1B	Closed-cone coniferous forest at elevations of 10-30 meters. Evergreen tree in the Cupressaceae family. Natively occurring only at Cypress Point in Pebble Beach and Point Lobos State Park; widely planted and naturalized elsewhere.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Ceanothus cuneatus</i> ssp. <i>rigidus</i> Monterey ceanothus	-- / -- / List 4	Closed cone coniferous forest, chaparral, and coastal scrub on sandy soils at elevations of 3-200 meters. Evergreen shrub in the Rhamnaceae family, blooms February-April.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.

Species	Status (USFWS/ CDFG/ CNPS)	General Habitat	Potential Occurrence within Project Site
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	-- / -- / 1B	Valley and foothill grassland on alkaline soils at elevations of 1-230 meters. Annual herb in the Asteraceae family; blooms June-November.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<b><i>Chorizanthe pungens</i> var. <i>pungens</i></b> <b>Monterey spineflower</b>	FT / -- / 1B	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland on sandy soils at elevations of 3-450 meters. Annual herb in the Polygonaceae family; blooms April-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Chorizanthe robusta</i> var. <i>robusta</i> Robust spineflower	FE / -- / 1B	Openings in cismontane woodland, coastal dunes, and coastal scrub on sandy or gravelly soils at elevations of 3-300 meters. Annual herb in the Polygonaceae family; blooms April-September.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Clarkia jolonensis</i> Jolon clarkia	-- / -- / 1B	Cismontane woodland, chaparral, riparian woodland, and coastal scrub at elevations of 20-660 meters. Annual herb in the Onagraceae family; blooms April-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Collinsia multicolor</i> San Francisco collinsia	-- / -- / 1B	Closed-cone coniferous forest and coastal scrub, sometimes on serpentinite soils, at elevations of 30-250 meters. Annual herb in the Scrophulariaceae family; blooms March-May.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<b><i>Cordylanthus rigidus</i> ssp. <i>littoralis</i></b> <b>Seaside bird's-beak</b>	-- / SE / 1B	Closed-cone coniferous forests, chaparral, cismontane woodlands, coastal dunes, and coastal scrub on sandy soils, often on disturbed sites, at elevations of 0-425 meters. Hemi-parasitic, annual herb in the Scrophulariaceae family; blooms April-October.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Delphinium hutchinsoniae</i> Hutchinson's larkspur	-- / -- / 1B	Broadleaved upland forest, chaparral, coastal scrub, and coastal prairie at elevations of 0-427 meters. Perennial herb in the Ranunculaceae family; blooms March-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<b><i>Ericameria fasciculata</i></b> <b>Eastwood's goldenbush</b>	-- / -- / 1B	Closed-cone coniferous forest, maritime chaparral, coastal dunes, and openings in coastal scrub on sandy soils at elevations of 30-275 meters. Evergreen shrub in the Asteraceae family; blooms July-October.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<b><i>Erysimum ammophilum</i></b> <b>Sand-loving (coast) wallflower</b>	-- / -- / 1B	Maritime chaparral, coastal dunes, and openings in coastal scrub on sandy soils at elevations of 0-60 meters. Perennial herb in the Brassicaceae family; blooms February-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Erysimum menziesii</i> ssp. <i>menziesii</i> Menzies' wallflower	FE / SE / 1B	Coastal dunes at elevations of 0-35 meters. Perennial herb in the Brassicaceae family; blooms March-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Erysimum menziesii</i> ssp. <i>yadonii</i> Yadon's wallflower	FE / SE / 1B	Coastal dunes at elevations of 0-10 meters. Perennial herb in the Brassicaceae family; blooms May-September.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.

Species	Status (USFWS/ CDFG/ CNPS)	General Habitat	Potential Occurrence within Project Site
<i>Fritillaria liliacea</i> Fragrant fritillaria	-- / -- / 1B	Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland, often serpentinite, at elevations of 3-410 meters. Bulbiferous perennial herb in the Liliaceae family; blooms February-April.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i> Sand gilia	FE / ST / 1B	Maritime chaparral, cismontane woodland, coastal dunes, and openings in coastal scrub on sandy soils at elevations of 0-45 meters. Annual herb in the Polemoniaceae family; blooms April-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Holocarpha macradenia</i> Santa Cruz tarplant	FT / SE / 1B	Coastal prairies and valley foothill grasslands, often clay or sandy soils, at elevations of 10-220 meters. Annual herb in the Asteraceae family; blooms June-October.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Horkelia cuneata</i> ssp. <i>sericea</i> Kellogg's horkelia	-- / -- / 1B	Closed-cone coniferous forests, maritime chaparral, and openings in coastal scrub on sandy or gravelly soils at elevations of 10-200 meters. Perennial herb in the Rosaceae family; blooms April-September.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE / -- / 1B	Mesic areas of valley and foothill grassland, alkaline playas, cismontane woodland, and vernal pools at elevations of 0-470 meters. Annual herb in the Asteraceae family; blooms March-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Layia carnosa</i> Beach layia	FE / SE / 1B	Coastal dunes and coastal scrub on sandy soils at elevations of 0-60 meters. Annual herb in the Asteraceae family; blooms March-July.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Lupinus tidestromii</i> Tidestrom's lupine	FE / SE / 1B	Coastal dunes at elevations of 0-100 meters. Perennial rhizomatous herb in the Fabaceae family; blooms April-June. Only Monterey County plants are state-listed Endangered as var. <i>tidestromii</i> .	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Malacothamnus palmeri</i> var. <i>involutus</i> Carmel Valley bush-mallow	-- / -- / 1B	Chaparral, cismontane woodland, and coastal scrub at elevations of 30-1100 meters. Deciduous shrub in the Malvaceae family; blooms May-August.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Malacothamnus palmeri</i> var. <i>palmeri</i> Santa Lucia bush-mallow	-- / -- / 1B	Chaparral on rocky soils at elevations of 60-360 meters. Deciduous shrub in the Malvaceae family; blooms May-July.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i> Carmel Valley malacothrix	-- / -- / 1B	Chaparral and coastal scrub on rocky soils at elevations of 25-1036 meters. Perennial rhizomatous herb in the Asteraceae family; blooms June-December (uncommon in March).	<b>Not Present:</b> Species not identified during focused special-status plant surveys.

Species	Status (USFWS/ CDFG/ CNPS)	General Habitat	Potential Occurrence within Project Site
<i>Microseris paludosa</i> Marsh microseris	-- / -- / 1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grasslands at elevations of 3-300 meters. Perennial herb in the Asteraceae family; blooms April-June (July).	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Pinus radiata</i> Monterey pine	-- / -- / 1B	Closed-cone coniferous forest at elevations of 25-185 meters. Evergreen tree in the Pinaceae family. Only three native stands in CA, at Ano Nuevo, Cambria, and the Monterey Peninsula; introduced in many areas.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Piperia yadonii</i> <b>Yadon's rein orchid</b>	FE / -- / 1B	Sandy soils in coastal bluff scrub, closed-cone coniferous forest, and maritime chaparral at elevations of 10-510 meters. Annual herb in the Orchidaceae family; blooms May-August.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Potentilla hickmanii</i> Hickman's cinquefoil	FE / SE / 1B	Coastal bluff scrub, closed-cone coniferous forests, vernal mesic meadows, and freshwater marshes and swamps at elevations of 10-149 meters. Perennial herb in the Rosaceae family; blooms April-August.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Rosa pinetorum</i> Pine rose	-- / -- / 1B	Closed-cone coniferous forest at elevations of 2-300 meters. Shrub in the Rosaceae family; blooms May-July. Possible hybrid of <i>R. spithamea</i> , <i>R. gymnocarpa</i> , or others; further study needed.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Sidalcea malachroides</i> Maple-leaved checkerbloom	-- / -- / 4	Broadleaved upland forest, coastal prairie, coastal scrub, north coast coniferous forest, and riparian woodlands, often in disturbed areas, at elevations of 2-700 meters. Perennial herb in the Malvaceae family; blooms April-August.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	-- / -- / 1B	Broadleaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, and openings in valley and foothill grassland, sometimes on serpentinite, at elevations of 10-500 meters. Annual herb in the Asteraceae family; blooms April-May.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Trifolium buckwestiorum</i> Santa Cruz clover	-- / -- / 1B	Broadleaved upland forest, cismontane woodland, and margins of coastal prairie on gravelly soils at elevations of 105-610 meters. Annual herb in the Fabaceae family; blooms April-October.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Trifolium depauperatum</i> var. <i>hydrophilum</i> Saline clover	-- / -- / 1B	Marshes and swamps, valley and foothill grassland (mesic, alkaline), and vernal pools at elevations of 0-300 meters. Annual herb in the Fabaceae family; blooms April-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.

Species	Status (USFWS/ CDFG/ CNPS)	General Habitat	Potential Occurrence within Project Site
<i>Trifolium polyodon</i> Pacific Grove clover	-- / SR / 1B	Closed-cone coniferous forest, coastal prairie, meadows and seeps, and mesic areas in valley and foothill grassland at elevations of 5-120 meters. Annual herb in the Fabaceae family; blooms April-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.
<i>Trifolium trichocalyx</i> Monterey clover	FE / SE / 1B	Sandy openings and burned areas of closed-cone coniferous forest at elevations of 30-240 meters. Annual herb in the Fabaceae family; blooms April-June.	<b>Not Present:</b> Species not identified during focused special-status plant surveys.

**STATUS DEFINITIONS**

**U.S. Fish and Wildlife Service (USFWS)**

- FE = listed as Endangered under the federal Endangered Species Act
- FT = listed as Threatened under the federal Endangered Species Act
- FC = federal Candidate under the federal Endangered Species Act
- = no listing

**California Department of Fish and Game (CDFG)**

- SE = listed as Endangered under the California Endangered Species Act
- ST = listed as Threatened under the California Endangered Species Act
- SC = state Candidate under the California Endangered Species Act
- SR = listed as Rare under the California Endangered Species Act
- SSC = California Department of Fish and Game Species of Special Concern
- CFP = California Fully Protected Animal
- = no listing

CNDDDB = This designation is being assigned to animal species that are not assigned any of the other status designations defined in this table. These animal species are included in the DFG's CNDDDB "Special Animals" list (July 2009), which includes all taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special-status species." The CDFG considers the taxa on this list to be those of greatest conservation need.

**California Native Plant Society (CNPS)**

- 1B = List 1B species; Rare, Threatened or Endangered in California and elsewhere
- 2 = List 2 species; Rare, Threatened, or Endangered in California, but more common elsewhere
- 3 = List 3 species; plants about which more information is needed
- 4 = List 4 species; plants of limited distribution
- = no listing

**POTENTIAL TO OCCUR**

- Present = known occurrence of species within the site; presence of suitable habitat conditions; or observed during field surveys.
- High = known occurrence of species in the vicinity from the CNDDDB or other documentation; presence of suitable habitat conditions.
- Moderate = known occurrence of species in the vicinity from the CNDDDB or other documentation; presence of marginal habitat conditions within the site.
- Low = species known to occur in the vicinity from the CNDDDB or other documentation; lack of suitable habitat or poor quality.
- Unlikely = species not known to occur in the vicinity from the CNDDDB or other documentation, no suitable habitat is present within the site.
- Not Present = species not identified during focused surveys.

\* = **Bold** text indicates Fort Ord HMP species

### **3.4.3 Regulatory Setting**

#### **Federal**

##### **National Environmental Policy Act**

NEPA, signed into law in 1970, established an environmental review process that applies to Federal agencies. Under NEPA, Federal agencies are authorized and directed, to the fullest extent possible, to carry out their regulations, policies, and programs in accordance with NEPA's policies of environmental protection. NEPA applies to all Federal agencies and to most of the activities they manage, regulate, or fund that affect the environment.

##### **Federal Endangered Species Act**

Provisions of the Federal Endangered Species Act (ESA) of 1973 (16 USC 1532 et seq., as amended) protect Federally listed Threatened or Endangered species and their habitats from unlawful take. Listed species include those for which proposed and final rules have been published in the Federal Register by the USFWS or National Marine Fisheries Service (NMFS). The Federal ESA is administered by the USFWS and NMFS. In general, NMFS is responsible for the protection of Federal ESA-listed marine species and anadromous fish, whereas other listed species are under USFWS jurisdiction.

Section 9 of the Federal ESA prohibits the take of any fish or wildlife species that are Federally listed as endangered. Take, as defined by the Federal ESA, is "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Harm is defined as "any act that kills or injures the species, including significant habitat modification." In addition, Section 9 prohibits removing, digging up, and maliciously damaging or destroying Federally listed plants on sites under Federal jurisdiction. Section 9 does not prohibit take of Federally listed plants on sites not under Federal jurisdiction. If there is the potential for take of a Federally listed species, consultation through Section 7 (if there is a Federal nexus) or obtaining a Section 10(a)(1)(B) Incidental Take Permit (if there is no Federal nexus) would be needed to authorize the "incidental take" of that species. Federal agency actions include activities that are on Federal land, conducted by a Federal agency, funded by a Federal agency, or authorized by a Federal agency (including issuance of Federal permits).

##### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) of 1918 prohibits killing, possessing, or trading migratory birds except in accordance with regulation prescribed by the Secretary of the Interior. Most actions that result in taking or in permanent or temporary possession of a protected species constitute violations of the MBTA. The USFWS is responsible for overseeing compliance with the MBTA.

## **State**

### **California Environmental Quality Act**

The California Environmental Quality Act (CEQA), enacted in 1970, was modeled after NEPA. CEQA encourages the protection of all aspects of the environment, requiring State and local agencies to prepare multi-disciplinary environmental impact analyses and make decisions based on those studies' findings regarding the environmental effects of the Proposed Action. CEQA applies to all discretionary activities proposed to be carried out or approved by California public agencies, including State, regional, county, and local agencies, unless an exemption applies. CEQA applies to private activities that require discretionary government approvals. As previously stated, the CPUC certified the Final EIR for the CWP in December 2009 and is scheduled to issue its decision to issue a CPCN for the project in May 2010.

### **California Endangered Species Act**

The California Endangered Species Act (ESA) was enacted in 1984. The California Code of Regulations (Title 14, Section 670.5) lists animal species considered Endangered or Threatened by the State. Section 2090 of the California ESA requires State agencies to comply with endangered species protection and recovery, as well as to promote conservation of these species. Section 2080 of the Fish and Game Code prohibits "take" of any species that the CDFG Commission determines to be an Endangered species or a Threatened species. "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." It does not include habitat destruction in the definition of take. A Section 2081 Incidental Take Permit from the CDFG is required to "take" any State listed species.

### **California Fish and Game Code**

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both Federal and State laws and regulations. Section 3503 of the California Department of Fish and Game (CDFG) Code prohibits the killing, possession, or destruction of bird eggs or bird nests. Section 3503.5 and 3513 prohibit the killing, possession, or destruction of all nesting birds (including raptors and passerines). Section 3503.5 states that it is "unlawful to take, possess, or destroy the nest or eggs of any such bird except otherwise provided by this code or any regulation adopted pursuant thereto." Section 3513 prohibits the take or possession of any migratory nongame birds designated under the Federal MBTA. Section 3800 prohibits take of nongame birds.

The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish (Section 5515), mammals (Section 4700), amphibians and reptiles (Section 5050), and birds (Section 3511). Most Fully Protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. Fully Protected species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

The CDFG also maintains a list of animal “Species of Special Concern,” most of which are species whose breeding populations in California may face extirpation if current population trends continue. Although these species have no legal status, the CDFG recommends considering these species during analysis of proposed project impacts to protect declining populations and avoid the need to list them as endangered in the future.

### **Other State Conservation Programs**

The Natural Heritage Division of the CDFG administers the State Rare Species Program. The CDFG maintains lists of designated endangered, threatened, and rare plant and animal species. Listed species either were designated under the California Native Plant Protection Act or designated by the Fish and Game Commission. In addition to recognizing three levels of endangerment, the CDFG can afford interim protection to Candidate species while they are being reviewed by the CDFG Commission.

Under provisions of Section 15380(d) of CEQA, the project lead agency and CDFG, in making a determination of significance, must treat non-listed plant and animal species as equivalent to listed species if such species satisfy the minimum biological criteria for listing. In general, the CDFG considers plant species on List 1 or 2 of the CNPS Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001) as qualifying for legal protection under this CEQA provision. Species on CNPS List 3 or 4 may, but generally do not, qualify for protection under this provision.

### **Local**

The Proposed Action would be required to comply with policies of the General Plans for the following jurisdictions as well as other applicable codes or ordinances (i.e., tree ordinances): City of Marina, City of Seaside, Fort Ord Reuse Plan, the Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord (hereafter, “Habitat Management Plan” [U.S. Army Corps of Engineers 1997]), and the Biological and Conference Opinion on the Closure and Reuse of Fort Ord, Monterey County, California, dated March 30, 1999.

## **3.5 Cultural Resources**

### **3.5.1 Introduction**

This section is based upon the *Cultural Resources Assessment* prepared in March 2005 as part of the Proponent’s Environmental Assessment for the CWP. The ASR Project is a component of the CWP; therefore, cultural resource information for the ASR project was derived from this document.

### **3.5.2 Environmental Setting**

The ASR project, as part of the proposed facilities and alignments for the Monterey Bay Regional Water Project, falls within the APE boundaries for the Monterey Bay Regional Water Project and thus, analysis of cultural resource impacts will rely upon Monterey Bay Regional Water Project APE information. The proposed facilities and alignments for the Monterey Bay Regional Water Project are located between Moss Landing and Del Rey Oaks and include parts

of Castroville, California State University at Monterey Bay (CSUMB), Sand City, Marina, and Seaside, as well as the Fort Ord Reuse Authority (FORA) jurisdiction. Conveyance pipelines and facilities will be constructed within existing public rights-of-way and current/former Union Pacific Company railroad or other rights-of-way, agricultural roads, and public streets. Other public lands and some private land will be used for siting facilities and wells.

The ASR wells would be located on parcels owned by the U.S. Army, located north of the City of Seaside, in the Fitch Park section of the Fort Ord Military Community. Fitch Park is used for military and civilian housing. The area of disturbance would include these parcels, with a total cumulative area of 1.2 acres. During construction, an additional 2.7 acres would be used temporarily, resulting in a total area of disturbance of 3.9 acres. Staging areas for stockpiling soil and/or storing materials and equipment temporarily during construction would be within this area of disturbance.

### **3.5.3 Regional Cultural Setting/Ethnography**

The project area lies within an area of known prehistoric Native American occupation in the Monterey Bay area, extending over 5000-7000 years, due to its favorable environment. Available archaeological information suggests an increase in the prehistoric population over time with an increasing focus on permanent settlements with large populations in later periods. This change from hunter-collectors to an increased sedentary lifestyle is due to more efficient resource procurement but with a focus on staple food exploitation, the increased ability to store food at village locations, and the development of increasing complex social and political systems including long-distance trade networks. Village sites are often located slightly inland from the coastal gathering/processing sites. The Monterey Pattern in the “Monterey District” became widely established after ca. 500 B.C. and appears to correlate with the ethnographic group known as the Costanoans (Moratto 1984:247 after Breschini and Haversat 1980:14-15). General overviews and perspectives on the regional prehistory can be found in Monterey County Planning Department (MCoPD 1980), Moratto (1984), Dietz et al. (1988), and Jones (1993).

The historic era of the area was rooted in Spanish philosophy, directed at the founding of presidios, missions, and secular towns with the land held by the Crown (1769-1821), while the later Mexican period policy (1822-1848) stressed individual ownership of the land (Hart 1987:314-315, 489-490). Spanish explorers in late 1769 were the first Europeans to traverse inland from Monterey northward, and in 1770, the first Spanish outpost in the general study area was the Presidio of Monterey. Several missions were established within the Costanoan territory. A number of ranchos (lands granted to the City of Monterey) are traversed by the Monterey Bay Regional Water Project Alternatives, as well as a small portion of ungranted land. In the mid-19<sup>th</sup> century, the majority of the rancho and pueblo lands and some of the ungranted land in California were subdivided as a result of population growth (attributed to the Gold Rush, completion of the transcontinental railroad, and local railroads), the American takeover, and the confirmation of property titles.

### **3.5.4 Site Cultural Setting**

Prehistoric and historic site record and literature searches were completed by the California Historical Resources Information System, Northwest Information Center, California State

University (CSU) Sonoma, for the initial project alignment of the Monterey Bay Regional Water Project, as discussed in the Cultural Resources Assessment conducted in March 2005. Nine sites, two prehistoric archaeological sites and seven historic era sites, have been recorded in or immediately adjacent to the Monterey Bay Regional Water Project, six of which do not appear eligible for inclusion on the California Register of Historic Places (CRHP) or the National Register of Historic Places (NRHP), and two of which have been formally evaluated as appearing not eligible for inclusion on the CRHP or NRHP; refer to the Cultural Resources Assessment for a detailed list of recorded sites. The ASR project is a small component of the larger Monterey Bay Regional Water Project, and there are no recorded resources within the ASR project area; however, part of the area has not been surveyed for cultural resources. Pacific Legacy visited the site in November 2008 but was unable to access the property to conduct a survey. A visual inspection of the area from General Jim Moore Boulevard and the military reservation gate did not reveal any cultural resources; however, there is potential for surface or buried resources.

The Monterey County archaeological sensitivity map for areas outside of the urban zones (i.e., Marina, Sand City, Seaside, City of Monterey) has designated portions of the larger Monterey Bay Regional Water Project as having “high,” “moderate,” and “low” ratings based upon specific grids. With respect to the ASR facilities located in the Former Fort Ord within the City of Seaside, the alignment within Seaside appears to have a low sensitivity rating (Grids L1, M0, and M1).

A field survey of the Monterey Bay Regional Water Project was conducted in 2005, with portions of the Monterey Bay Regional Water Project that had been surveyed previously being omitted from the 2005 survey, generally consisting of linear alignments and large-scale inventories. The 2005 field survey consisted of a pedestrian survey with some minor “windshield” (vehicle) survey, with areas previously surveyed being omitted due to reasons of safety concerns, requirements of specific landowner permission, and posted “environmental sensitive areas” for nesting birds. The survey revisited four of the recorded sites and could not locate one site; refer to the Cultural Resources Assessment for a detailed list of surveyed sites. As mentioned above, there are no recorded resources within the ASR project area itself; however, part of the area has not been surveyed for cultural resources and there is potential for surface or buried resources.

### **3.5.5 Regulatory Setting**

Because of a Federal nexus for this Proposed Action, this undertaking is subject to Section 106 of the National Historic Preservation Act (NHPA) (16 USC 470f). Section 106 of the NHPA (1966, amended 2000) requires Federal agencies to evaluate the effects of Federal undertakings on historic properties and on cultural resources that are included in or eligible for inclusion in the National Register (16 USC 470f and 36 CFR Part 800). Agencies are required to identify historic properties within a project's APE and evaluate impacts. If the Federal project would have an adverse effect on historic properties (36 CFR Part 800), the agency is required to consult with the State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation, Indian tribes, and interested parties to develop alternatives or mitigation measures that would allow the project to proceed. The term "cultural resource" is used to describe archaeological sites that illustrate evidence of past human use of the landscape; the built environment that are

represented by structures, such as dams, roadways, and buildings; and, traditional resources, including but not limited to structures, objects, districts, and sites. A cultural resource that is greater than 50 years old qualifies for consideration as an historic property. The criteria used to determine whether a cultural resource is an historic property and, therefore, eligible for inclusion on the National Register are defined in 36 CFR Part 60, revised July 1, 2004. These are as follows:

*Sec. 60.4 Criteria for Evaluation. National Register criteria for evaluation. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and*

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or*
- (b) that are associated with the lives of persons significant in our past; or*
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
- (d) that have yielded, or may be likely to yield, information important in prehistory or history.*

Based on the background research and the field reconnaissance, the project APE contains no listed or otherwise known cultural resources; however, there is potential for surface or buried resources.

## **3.6 Energy**

Electrical service in Monterey County is provided by Pacific Gas and Electric (PG&E). PG&E is regulated by the CPUC and is required to supply electricity and extend infrastructure to all new developments. Power comes from a diverse mix of generating sources, both conventional and renewable, and both small and large. PG&E generates power from hydroelectric powerhouses, a nuclear power plant, and a few small fossil-fired power plants. PG&E also buys power from independent power producers. Their generation sources can range from large fossil power plants to smaller renewable and cogeneration plants. After the power is produced or bought, it goes into PG&E's electric transmission and distribution systems to get to the homes and businesses of customers.

## **3.7 Environmental Justice**

### **3.7.1 Introduction**

All projects involving a Federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations*

*and Low-Income Populations*, signed by President Clinton on February 11, 1994. This EO directs Federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of Federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2009, this was \$22,050 for a family of four.<sup>7</sup> All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project.

The *Final Guidance For Incorporating Environmental Justice Concerns in EPA’s NEPA Compliance Analyses* (April 1998) states a minority or low-income population is considered substantial when more than 50 percent of the affected population are minority and/or low-income, or when the affected population has a minority or low-income percentage that is meaningfully greater than the percentage of minority or low-income people in the general population, or other appropriate unit of geographic analysis. The two basic steps in an environmental justice analysis include the assessment of: (1) whether the potentially affected community has a substantial minority population, low-income population, or Indian tribe; and (2) whether the environmental impacts are likely to fall disproportionately on an identified minority population, low-income population, and/or Indian tribe.

Information for this environmental justice analysis was derived from the 2000 U.S. Census Bureau website and from the Association of Monterey Bay Area Governments (AMBAG). Research was conducted at the county, city and census tract levels to obtain data relative to racial/ethnic composition and poverty status. The study area includes the County of Monterey and the Cities of Marina and Seaside, in which the ASR facilities are located. Table 3.7-1 provides population percentages for the minority and poverty populations of the County of Monterey and the Cities of Marina and Seaside. As shown in Table 3.7-1, the County of Monterey has a 41.0 percent minority population, and the Cities of Marina and Seaside have higher minority populations at 72.9 and 47.0 percent, respectively. Of the three jurisdictions, only the City of Marina has a minority population higher than 50 percent. The County of Monterey’s percentage of population living in poverty is similar to that of the Cities of Marina and Seaside, with the County of Monterey at 12.0 percent, the City of Marina at 13.0 percent, and the City of Seaside at 11.1 percent. None of the three jurisdictions contain populations living in poverty in excess of 50 percent.

**Table 3.7-1  
Project Area Minority and Poverty Profile**

Place	Population	# of Minority	% of Minority	# of Poverty	% of Poverty
County of Monterey	431,892	177,080	41.0	51,692	12.0
City of Marina	19,365	14,122	72.9	2,518	13.0
City of Seaside	34,240	16,097	47.0	3,808	11.1

Source: Population data: Association of Monterey Bay Area Governments (AMBAG), <http://ambag.org/> accessed March 29, 2010  
 Minority and Poverty data: U.S. Census 2000, <http://factfinder.census.gov> accessed January 19, 2010

Note: Data from two different sources were used and combined in Table 3.7-1. The population figures from AMBAG were used because they are more current (2009) than those in the 2000 Census. Minority and poverty figures from the 2000 Census were used because they are the most current, standardized minority and poverty calculations available.

<sup>7</sup> <http://aspe.hhs.gov/POVERTY/09poverty.shtml>, accessed 1-19-10.

The study area census tract analysis provides a more focused picture of the area affected by the project than the city and county demographics can provide. Census tracts were used because they are the most complete data set for the level of detail required for this analysis. Census tracts are also used to incorporate populations that may not be directly impacted by this project, but may be indirectly affected by project construction and operation. Data boundaries with finer level of detail such as census blocks were not selected due to incomplete data in some of the required demographic categories necessary for the environmental justice analysis.

There are eight specific census tracts within or surrounding the Proposed Action area within the City of Seaside, covering portions of the City of Marina and the Fort Ord/East Garrison Community Area. As shown in Table 3.7-2, of those eight census tracts, three have over 50 percent minority populations. The three census tracts containing a minority population in excess of 50 percent are located within the City of Seaside. As further identified in Table 3.7-2, no census tracts contain populations living in poverty in excess of 50 percent.

**Table 3.7-2  
Study Area Census Tract Minority and Poverty Population**

Census Tract	Population	Minority %	Poverty %
135	5042	55.1	11.1
136	4524	40.8	18.1
137	5331	56.8	14.4
138	5889	69.7	11.7
139	2765	25.9	11.0
141.01	8358	49.5	26.8
141.02	2018	36.6	35.4
141.03	5890	N/A	4.7

Source: U.S. Census 2000, <http://factfinder.census.gov> accessed January 19, 2010  
 Note: According to the U.S. Census Bureau's website (<http://factfinder.census.gov/>), the population threshold on Summary File 4 is 100, and there must be at least 50 or more unweighted cases of the population group in order to obtain census tract data values. The fields marked "N/A" are not available for the corresponding geographic areas (census tracts) because the population of the selected race or ethnic group is less than the threshold.

## 3.8 Geology and Soils

### 3.8.1 Geology/Soils

The project area includes rolling hills extending inland from the coast comprised of windblown sand dunes. These areas include the urbanized developments of Monterey, Seaside, Marina, and the Fort Ord military base. The project area consists of coastal dune deposits that form a zone of moderately elevated, rolling hills extending several miles inland from the coastline and south from the Salinas River channel to Canyon del Rey on the Monterey Peninsula.

Fill materials within Fort Ord, and the project area, may include various waste materials associated with historic military operations. Alluvial deposits are present within the project area along drainage courses and are anticipated to be comprised of predominately loose sand derived from the dune sand deposits.

Surface soils tend to erode under the wearing action of flowing water, waves, wind, and gravity. Factors influencing erosion include topography, soil type, precipitation, and other environmental conditions. The project will include earthwork for the construction of the ASR system including grading, trenching, and miscellaneous excavations.

Elevations of the ASR well locations are approximately 340 to 360 feet above mean sea level (MSL). The well sites are underlain by older dune deposits that are anticipated to consist of dry, damp, moderately consolidated, silty sand, and sand. Groundwater is expected to be relatively deep.

### **3.8.2 Seismicity**

The project site is located in the Coast Ranges geomorphic province of California, an area considered seismically active, as are most areas of California. Several active and potentially active faults have been mapped by the California Geologic Survey (CGS) near the project site. Seismic hazards that could potentially affect the ASR system include surface fault rupture, ground shaking, and soil liquefaction and dynamic settlement.

## **3.9 Hazards and Hazardous Materials**

As stated in the Environmental Assessment prepared for the Marina Coast Water District, *Regional Urban Recycled Water Project*, “Fort Ord was listed on the National Priorities List in 1990. The former Fort Ord military base has been surveyed for presence of contaminated soils and groundwater. The entire former Fort Ord installation is included on a list of hazardous waste sites compiled pursuant to California Government Code Section 65962.5, although the entire former base is not contaminated.” Fort Ord contains unexploded ordnances and hazardous waste, which may impact the health and safety of users of the area at risk. This potential Recognized Environmental Concern (REC) is reported due to physical and economic limitations associated with the U.S. Army not finding all the ordnance and explosives that may have been buried at Fort Ord since inception. These sites are now referred to as Munitions Response Sites (MRS).

The U.S. Army is responsible for ordnance and explosives search and removal. Any construction areas associated with the project and located within the boundaries of the former Fort Ord should be conducted under the purview of the U.S. Army and Bureau of Land Management (BLM). Notification and communication shall identify the appropriate remediation and monitoring process. Based on the review of existing records and available information, the ASR wells sites are not known or suspected to contain MEC. The term MEC means military munitions that might pose unique explosives safety risks, including (a) unexploded ordnance (UXO), as defined in Title 10 of the United States Code, section 101(e)(5); (b) discarded military munitions (DMM), as defined in 10 U.S.C. § 2710(e)(5), munitions constituents (e.g. TNT, RDX), as defined in 10 U.S.C. § 2701(e)(3), present in concentrations high enough to pose an explosive hazard.

## 3.10 Hydrology and Water Quality

### 3.10.1 Local Groundwater Conditions

The Seaside Groundwater Basin underlies the southern portion of Fort Ord, where the project site is located, and consists of three aquifers that correspond with the sedimentary units within the Basin: the Aromas Sand/Older Dunes, Paso Robles Formation, and the underlying Santa Margarita sandstone. In general, water quality of the Basin is affected by the native groundwater, which contains high concentrations of naturally occurring dissolved hydrogen sulfide, radon, and arsenic. No longer used for the production of potable groundwater, the shallow Aromas Sand/Older Dunes aquifer has a high salinity from seawater intrusion. In addition, while seawater intrusion has not been observed in the Paso Robles or Santa Margarita aquifers, there is concern that groundwater is being overdrafted by CAW and other groundwater users in the Basin and is in danger of seawater intrusion.

In addition to seawater intrusion, other potential contaminants include nitrates and volatile organic compounds, pesticides, pesticide degradation products, nutrients, major and minor ions, trace elements, radioactivity, microbial indicators, and dissolved gases. In addition to hazards related to unexploded ordnance and military munitions, groundwater in the aquifers located beneath the former Fort Ord is contaminated by saltwater intrusion and the presence of organic compounds, mostly trichloroethylene (TCE), in the vicinity of the former Fritzsche Army Airfield Fire Drill Area and the former Fort Ord landfill. These two sites, or operable units, have undergone considerable investigation and remedial action, including continued operation of groundwater treatment systems. Another 41 sites of concern have been investigated and many of these cleanup actions have been completed. Other than those mentioned above, there are no other known contamination issues. Another purpose of the Monterey Bay Regional Water Project is to reduce CAW's reliance on the Seaside Basin, currently CAW's other principal source of supply for the Monterey District. The Monterey County Superior Court recently issued a final decision in the case, *California American Water v. City of Seaside, et al.*, Case No. 66343 (Monterey County Superior Court, 2006) for the adjudication of water rights of the various parties who produce groundwater from the Seaside Basin. The Court's decision (referred to herein as the Decision or adjudication) resulted from a complaint and cross complaints among the current users of the Seaside Basin. Among other points, the complaint requested a declaration of the parties' individual and collective rights to groundwater and coordination of groundwater management within the Seaside Basin. The establishment of adjudicated water rights of all the users of the Basin is intended to avoid long-term damage to the basin, including potential seawater intrusion, subsidence, and other adverse impacts of over-pumping. The Decision identifies the Natural Safe Yield for the basin as a whole and for the Coastal and Laguna Seca subareas, and found that production in each of the preceding five years had exceeded the Natural Safe Yield throughout the Seaside Basin and in each of its subareas. The Decision also found (and noted that all the parties agreed on this issue) that continued production in excess of the Natural Safe Yield would result in seawater intrusion, with deleterious effects.

The Decision establishes a physical solution to Basin management that is "intended to ultimately reduce the drawdown of the aquifer to the level of the Natural Safe Yield; to maximize potential beneficial use of the Basin; and to provide a means to augment water supply for the Monterey Peninsula." Among other provisions, the Decision allocates the groundwater rights of the various

users, establishes an initial Operating Safe Yield, and establishes a Watermaster to administer and enforce the provisions of the Decision. The Watermaster consists of representatives of the parties to the complaint as specified in the Decision. CAW's current allocation, under the initial Operating Safe Yield from the Coastal subarea as allocated by the Watermaster, is 3,504 AFY and 345 AFY from the Laguna Seca subarea. Since the Operating Safe Yield allocations will be decreased over time until they equal the Natural Safe Yield of the respective subareas, these initial allocations will be reduced. Eventually CAW's allocation from the Seaside Basin overall will be 1,474 AFY.

The Decision establishes storage rights in the Seaside Groundwater Basin for the purposes of artificial groundwater recharge, storage and recovery. The basic provisions of Seaside Groundwater Basin storage rights are further described in Section III.H of the Decision and are defined by the Watermaster.

### **3.10.2 Local Hydrology**

The Proposed Project site is within the jurisdiction of the Central Coast Regional Water Quality Control Board (CCRWQCB). The CCRWQCB has jurisdiction over a 300-mile long by 40-mile wide section of California's central coast and encompasses Santa Cruz, Monterey, San Benito, San Luis Obispo, and Santa Barbara Counties, as well as portions of San Mateo, Santa Clara, Kern, and Ventura Counties.

The CCRWQCB publishes and implements the Water Quality Control Plan for the Central Coast Region (also known as the Central Coast Basin Plan) that identifies beneficial uses of surface waters, establishes numeric and narrative objectives for protection of beneficial uses, and sets forth policies to guide the implementation of programs to attain the objectives. The CCRWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose discharges to waters of the State can affect water quality. These requirements can be either State Waste Discharge Requirements (WDR) or Federally delegated National Pollutant Discharge Elimination System (NPDES) permits for discharges to Waters of the U.S. The CCRWQCB has adopted a separate NPDES General Permit for storm water discharge associated with construction activity on sites greater than one acre in size. NPDES permit conformance requires that a project applicant file a Notice of Intent (NOI) to comply with the terms of the General Permit to Discharge Storm Water Associated with Construction Activity and submit a Storm Water Pollution Prevention Plan (SWPPP) to the CCRWQCB. A SWPPP contains a listing and implementation plan for use of storm water Best Management Practices (BMPs) that would be implemented during construction of the project to minimize erosion and sedimentation. The SWPPP also requires the implementation of monitoring programs, post-development BMPs, and water quality management strategies.

Trenching activities could encounter subsurface water, for which dewatering operations would be necessary. Dewatering nonstormwater cannot be discharged without notifying and receiving approval from the CCRWQCB. Appropriate BMPs must be implemented to ensure that discharge complies with all permit requirements and regional and watershed specific requirements.

### **3.11 Indian Trust Assets**

The U.S. Government's trust responsibility for Indian resources requires Federal agencies to take measures to protect and maintain trust resources. These responsibilities include taking reasonable actions to preserve and restore tribal resources. Indian Trust Assets are legal interests in property and rights held in trust by the United States for Indian tribes or individuals. Indian reservations, rancherias, and allotments are common Indian Trust Assets.

There are no tribes possessing legal property interests held in trust by the United States in the land involved with the Proposed Action.

### **3.12 Land Use**

The proposed ASR system would include multiple facilities (such as a monitoring well, injection/extraction wells, pump station, and backflush facilities) and pipelines that would extend throughout various land uses and areas contained within the larger Monterey Bay Regional Water Project. The ASR project, as a component of the Monterey Bay Regional Water Project, would provide additional water storage capacity in the Seaside Groundwater Basin, which serves the multiple jurisdictions within the MPWMD. The ASR monitoring well, injection/extraction wells and backflush facilities would be located on the former Fort Ord military base, in a military enclave owned by the U.S. Army. According to the Presidio of Monterey Real Property Master Plan, the Fitch Park land use is residential.

### **3.13 Noise**

Sound is technically described in terms of loudness (amplitude) and frequency (pitch). Noise is typically described as any unwanted or objectionable sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against sound frequencies in a manner approximating the sensitivity of the human ear.

The decibel scale is logarithmic. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range, similar to how the Richter scale measures earthquake magnitudes. In terms of human response to noise, a sound 10 dBA higher than another is perceived to be twice as loud; 20 dBA higher, four times as loud; and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud).

In most situations, a 3-dBA change in sound pressure level is considered a "just-detectable" difference. A 5-dBA change (either louder or quieter) is readily noticeable, and a 10-dBA change is a doubling (if louder) or a halving (if quieter) of the subjective loudness. Sound from a small localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates or drops off at a rate of 6 dBA for each doubling of the distance. This decrease, due to the geometric spreading of the energy over an ever-increasing area, is referred to as the inverse square law. However, highway traffic noise is not a single, stationary point source of sound. The movement of the vehicles makes the

source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. Since the change in surface area of a cylinder only increases by two times for each doubling of the radius instead of the four times associated with spheres, the change in sound level is 3 dBA per doubling of distance.

Numerous methods have been developed to measure sound over a period of time. These methods include (1) the community noise equivalent level (CNEL); (2) the equivalent sound level (Leq); and (3) the day/night average sound level (Ldn). These methods are described below.

### **3.13.1 Community Noise Equivalent Level (CNEL)**

The predominant community noise rating scale used in California for land use compatibility assessments is the community noise equivalent level (CNEL). The CNEL reading represents the average of 24 hourly readings of equivalent sound levels (Leq) based on an A-weighted decibel and adjusted upward to account for increased noise sensitivity in the evening and at night. These adjustments are +5 dBA for the evening (7:00 PM to 10:00 PM) and +10 dBA for the night (10:00 PM to 7:00 AM). CNEL may be indicated by “dBA CNEL” or just “CNEL.”

### **3.13.2 Average Noise Level (Leq)**

The Leq is the sound level containing the same total energy over a given sampling time period. The Leq is the steady sound level that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same period. Leq is typically computed over sampling periods of 1, 8, and 24 hours.

### **3.13.3 Day Night Average (Ldn)**

Another commonly used method is the day/night average level (Ldn). The Ldn measures the 24-hour average noise level at a given location, and it was adopted by the EPA for developing criteria for the evaluation of community noise exposure. It is based on a measure of the Leq (the average noise level over a given time period). The Ldn is calculated by averaging the Leqs for each hour of the day at a given location after penalizing the “sleeping hours” (defined as 10:00 PM to 7:00 AM), by adding 10 dBA to account for the increased sensitivity of people to noises that occur at night.

### **3.13.4 Other Noise Measures**

The maximum noise level recorded during a noise event is expressed as Lmax. The sound level exceeded over a specified time frame is expressed as Ln (i.e., L90, L50, L10, etc.). L50 is the level exceeded 50 percent of the time, L10 ten percent of the time, etc.

### **3.13.5 Ambient Noise Measurements**

To quantify existing ambient noise levels in the Project area, RBF Consulting conducted noise surveys from January 11 to January 14, 2005. The noise measurement sites were representative of existing noise exposure in a given time period (15 minutes) within the area of key project components. In addition, a long-term (24-hour) measurement was taken at a residential neighborhood located along General Jim Moore Boulevard and Ardennes Circle. The 24-hour

noise measurement was specifically chosen along General Jim Moore Boulevard and Ardennes Circle since this area is anticipated to be the most sensitive land use within the entire project area. This particular area includes several single-family residential units as well as the Cypress Public High School. Table 3.13-1, *Ambient Noise Measurements*, provides the results of the noise monitoring surveys; refer also to Appendix 12.7 (Noise Data) of the Final EIR prepared for the Coastal Water Project.

**Table 3.13-1  
Ambient Noise Measurements**

Site No.	Location	Leq (dBA)	Date	Time and Conditions
LT1	General Jim Moore Road/Ardennes Circle Residential Neighborhood	54.4	1/11/05 to 1/12/05	2:37 pm – 1:57 pm cloudy with light rain

Source: Noise Monitoring Survey conducted by RBF Consulting (January 11-14, 2005).  
 Note: Noise Measurement sheets are available in Appendix 12.7, Noise Data., of the Final EIR prepared for the Coastal Water Project. Leq = equivalent sound level; dBA = A-weighted decibel; LT = Long Term; ST = Short Term

### 3.13.6 Sensitive Receptors

Certain land uses are considered particularly sensitive to noise. Schools, hospitals, rest homes, long-term medical and mental care facilities, parks, and recreation areas are all considered sensitive receptors. Residential areas are also considered noise-sensitive, especially during the nighttime hours.

The ASR sites would be located in the Fitch Park section of the Fort Ord Military Community. Fitch Park presently supports military and civilian housing. The ASR sites would be located along the east side of General Jim Moore Boulevard, south of the intersection with Ardennes Circle. Residential and educational facilities are located within the Project area and represent sensitive resources that may be potentially affected by short-term (construction) activities associated with the Project. Potential noise impacts resulting from Project components on adjacent sensitive receptors are analyzed below in the Impacts Discussion.

### 3.13.7 Laws, Ordinances, Regulations, and Standards

It is difficult to specify noise levels that are generally acceptable to everyone; what is annoying to one person may be unnoticed by another. Standards may be based on documented complaints in response to documented noise levels, or based on studies of the ability of people to sleep, talk, or work under various noise conditions. All such studies, however, recognize that individual responses vary considerably. Standards usually address the needs of most of the general population.

This section describes the laws, ordinances, regulations, and standards that are applicable to the Project. Regulatory requirements related to environmental noise are typically promulgated at the local level. However, Federal and State agencies provide standards and guidelines to the local jurisdictions.

### 3.13.8 Significance of Changes in Ambient Noise Levels

A project is considered to have a significant noise impact where it causes an adopted noise standard to be exceeded for the project site or for adjacent sensitive receptors. In addition to concerns regarding the absolute noise level that might occur when a new source is introduced into an area, it is also important to consider the existing ambient noise environment. If the ambient noise environment is quiet and the new noise source greatly increases the noise exposure, even though a criterion level might not be exceeded, an impact may occur. Lacking adopted standards for evaluating such impacts, a general standard for community noise environments is that a change of over five dBA, regardless of the ambient noise level without the project, is readily noticeable and is, therefore, considered a significant impact; refer to Table 3.13-2, *Significance of Changes in Cumulative Noise Exposure*.

**Table 3.13-2  
Significance of Changes in Cumulative Noise Exposure**

Ambient Noise Level Without Project (Ldn or CNEL)	Significant Impact is Assumed to Occur if the Project Increases Ambient Noise Levels by:
<60 dBA	+ 5.0 dBA or more
60-65 dBA	+ 3.0 dBA or more
> 65 dBA	+ 1.5 dBA or more

Source: U.S. Environmental Protection Agency Office of Noise Abatement and Control, Noise Effects Handbook, A Desk Reference to Health and Welfare Effects of Noise, October 1979 (revised July 1981).  
dBA = A-weighted decibel; CNEL = community noise equivalent level; Ldn = day/night average noise level.

In areas where the ambient noise level without the project is 60 to 65 dBA, some individuals may notice an increase in the ambient noise level of greater than three dBA. A change in community noise levels by one dBA or more in areas where the ambient noise level is greater than 60 dBA is considered a significant impact because the increase would contribute to an existing noise deficiency.

## 3.14 Socioeconomic Resources

Social and economic effects must be included in NEPA analyses in compliance with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President Clinton on February 11, 1994, which directs Federal agencies to identify and analyze the potential socioeconomic impacts of proposed actions in accordance with health and environmental laws. For the purposes of this analysis, socioeconomic data collected from the U.S. Census 2000 has been compiled for the County of Monterey, and the Cities of Marina and Seaside, in order to evaluate the socioeconomic conditions in the area of the Proposed Action.

Population figures for the study area are shown in Table 3.14-1, *Population Summary*. Based on data from the Association of Monterey Bay Area Governments (AMBAG), Monterey County has a population of approximately 431,892 people. The County's population has grown at an overall rate of 1.2 percent annually since 1990. The total residential units and housing characteristics for the study area are shown in Table 3.13-2, *Characteristics of Study Area Housing*.

**Table 3.14-1  
Population Summary**

Place of Residence	Population
County of Monterey	431,892
City of Marina	19,365
City of Seaside	34,240

Source: Association of Monterey Bay Area Governments (AMBAG), <http://ambag.org/> accessed March 29, 2010

According to the November 2009 POM Real Property Master Plan, the total military population of the Presidio of Monterey including active duty, reserve, and National Guard is approximately 3,870 persons, with approximately 98 percent of that population currently enlisted. The civilian workforce is approximately 3,360. Approximately 6,100 family members of active duty personnel live on installation property, with approximately 28,000 military retirees and their families living in the area (POM 2008). The majority of the land use activities on the POM site are associated with educational activities of the Defense Language Institute, Foreign Language Center (DLIFLC), while the Ord Military Community site (OMC) is designated for housing with some community and support/administration functions.

**Table 3.14-2  
Characteristics of Study Area Housing**

Housing Statistics	County of Monterey	City of Marina	City of Seaside
Total Occupied Housing Units	121,236	6,745	9,833
Average Household Size	3.14	2.79	3.21
Owner Occupied	66,213	3,088	4,323
Renter Occupied	55,023	3,657	5,510

Source: U.S. Census 2000, <http://factfinder.census.gov> accessed January 19, 2010

Table 3.14-3, *Employment by Industry*, presents a breakdown of employment in different industry sectors in the County of Monterey and the Cities of Marina and Seaside in 2000. The categories with the largest number of jobs in the Proposed Action study area include retail, professional, education, and arts.

**Table 3.14-3  
Employment by Industry**

Employment Sector	Year 2000		
	County of Monterey	City of Marina	City of Seaside
Agriculture	20,298 (12.4%)	343 (3.6%)	332 (2.6%)
Construction	10,443 (6.4%)	636 (6.7%)	841 (6.6%)
Manufacturing	9,284 (5.7%)	495 (5.2%)	607 (4.7%)
Wholesale	9,781 (6.0%)	199 (2.1%)	249 (1.9%)
Retail	18,395 (11.2%)	1,212 (12.8%)	1,516 (11.8%)
Transportation	5,341 (3.3%)	287 (3.0%)	379 (3.0%)
Information	3,743 (2.3%)	339 (3.6%)	324 (2.5%)
Finance	8,116 (4.9%)	528 (5.6%)	476 (3.7%)

**Table 3.14-3, continued**

Employment Sector	Year 2000		
	County of Monterey	City of Marina	City of Seaside
Professional	14,674 (8.9%)	693 (7.3%)	1,459 (11.4%)
Education	29,891 (18.2%)	1,945 (20.6%)	1,920 (15.0%)
Arts	16,965 (10.3%)	1,405 (14.9%)	3,095 (24.1%)
Public Admin	8,998 (5.5%)	729 (7.7%)	548 (4.3%)
Other Services	8,058 (4.9%)	635 (6.7%)	1,076 (8.4%)
<b>TOTAL</b>	<b>163,987</b>	<b>9,446</b>	<b>12,822</b>

Source: U.S. Census 2000, <http://factfinder.census.gov> accessed January 19, 2010

Monterey County’s median household income in 1999 was \$48,305. The City of Marina was slightly lower than the County median at \$43,000, while the City of Seaside had the lowest median household income for the study area at \$41,393.

**Table 3.14-4  
Median Household Income**

Place of Residence	Median Household Income
County of Monterey	\$48,305
City of Marina	\$43,000
City of Seaside	\$41,393

Source: U.S. Census 2000, <http://factfinder.census.gov> accessed January 19, 2010

## 3.15 Public Utilities and Service Systems

### 3.15.1 Water

The majority of Monterey County relies upon groundwater aquifers for drinking water supply. Many of the County’s aquifers have had more water pumped out of them than is replaced through natural recharge processes. This process of overdrafting the aquifers has reduced water levels in some areas and causing salt water intrusion from the ocean in other areas. Problems with the aquifers will continue for water users unless the groundwater supply is supplemented and the overdrafting halted.

Marina Coast Water District (MCWD) provides water for residents in the City of Marina and former Fort Ord. MCWD’s water supply comes from three deep groundwater wells located in the 900-foot aquifer of the Salinas Valley Groundwater Basin. Water is treated at each well site for disinfection and to remove the naturally occurring hydrogen sulfide that can sometimes cause odor problems. MCWD also has a desalination plant that has a capacity of 300 acre-feet of water per year and is capable of providing up to 13 percent of the annual water demand; however, the plant has not operated in recent years (MCWD, 2008).

The actual use and distribution of MCWD’s water supply is limited pursuant to a 1996 agreement under which the Marina Coast Water District received separate allocations from the Monterey County Water Resources Agency of 3,020, 920 and 500 AFY, respectively, for the City of Marina (excluding former Fort Ord), Armstrong Ranch, and RMC Lonestar property. Under the Annexation Agreement, the MCWD is limited to using the 3,020 AFY within the

identified service area. The Agreement prohibits the use of any portion of this allocation to serve new development in other areas of the City of Marina such as former Fort Ord.

### **3.15.2 Wastewater**

Most Monterey County residents live in the incorporated cities and are served by regional or municipal wastewater facilities, public agencies that provide treatment and disposal services, or private providers. The majority of the unincorporated areas of the County are served by on-site wastewater systems (septic tanks). The County has a limited role in areas that have been managed through County Sanitation Districts (CSD) and County Service Areas (CSA). A number of County Sanitation Districts and County Service Areas have been difficult to operate in an efficient and cost-effective manner.

The wastewater systems in the former Fort Ord are maintained and operated by the MCWD. Wastewater is carried by the sanitary collection systems of MCWD to the Monterey Regional Water Pollution Control Agency pump stations. From local pump stations, the wastewater is pumped to the Pollution Control Agency regional wastewater treatment plant located two miles north of Marina. The Pollution Control Agency treats approximately 20 million gallons per day (mgd) of raw wastewater flow and currently produces approximately 13.6 mgd (15,000 AFY) of recycled water. The plant was constructed with a permitted capacity of 29.6 mgd. Several mgd of capacity are still available to meet future demand, and expansion of the treatment plant is not anticipated to be necessary in the near future.

The provision of sanitary sewer or wastewater service in the proposed project area is organized at two levels. Local cities and sanitation districts are responsible for maintenance and extension of sewer lines, and the Pollution Control Agency is responsible for development and operation of treatment facilities. The Pollution Control Agency operates the water recycling facility at the treatment plant and manages the distribution system under contract with the MCWRA. The wastewater system at the Pollution Control Agency regional treatment plant provides primary, secondary, and some tertiary treatment of wastewater.

### **3.15.3 Natural Gas**

Natural gas service for the County of Monterey is provided by Pacific Gas and Electric (PG&E). PG&E is regulated by the CPUC and is required to supply electricity and extend infrastructure to all new developments.

Natural gas consists mostly of a substance called methane. As there is a fairly plentiful supply of natural gas on the North American continent, it is cheaper than oil. Natural gas is generally found in conjunction with oil fields. The gas is brought to the surface at wells drilled into the gas field. The gas is then purified and odorized to allow easier detection of gas leaks. Surplus gas can be stored in underground reservoirs until needed.

PG&E's gas piping system delivers natural gas from three major sources (Canada, Southwestern United States, and California), to its residential, commercial, industrial and agricultural customers. While most customers purchase their gas from PG&E, large customers can purchase gas from other third-party suppliers.

### **3.15.4 Electricity**

Electrical service in Monterey County is provided by Pacific Gas and Electric (PG&E). PG&E is regulated by the CPUC and is required to supply electricity and extend infrastructure to all new developments.

Power comes from a diverse mix of generating sources, both conventional and renewable, and both small and large. PG&E generates power from hydroelectric powerhouses, a nuclear power plant and a few small fossil-fired power plants. PG&E also buys power from independent power producers. Their generation sources can range from large fossil power plants to smaller renewable and cogeneration plants. After the power is produced or bought, it goes into PG&E's electric transmission and distribution systems to get to the homes and businesses of customers.

### **3.15.5 Telephone**

Telephone service for the project site will be provided by the local provider. Telephone service will be extended to the site by CAW at the appropriate time during project implementation.

### **3.15.6 Solid Waste**

The Monterey Regional Waste Management District (MRWMD) manages the Monterey coastal area's solid waste collection/disposal and recycling system. It also receives most of Monterey County's sewage sludge and is currently in the pilot phase of a sludge composting program. The MRWMD covers a total of 853 square miles and currently serves a population of approximately 170,000 people (MRWMD, 2008). Any solid waste generated by project construction or operation would be deposited in the Monterey Regional Waste Management District landfill or diverted for recycling or reuse at the District's Materials Recovery Facility (MRF). The landfill, MRF, and a transfer station are located at a site in the City of Marina.

The landfill operates six days per week and is permitted to receive 3,500 tons of waste per day; it has a remaining capacity of approximately 48.6 million cubic yards and is expected to reach its permitted capacity in 2107 (CIWMB, 2009a). Materials targeted for recycling and reuse at the District's MRF include materials in self-haul loads, commercial wastes, construction and demolition debris, wood waste, and yard waste, in addition to more typical materials such as paper, cardboard, bottles, and cans.

## **3.16 Water Supply and Demand**

### **3.16.1 Water Supply on the Monterey Peninsula**

CAW's Monterey District, serves most of the Monterey Peninsula, including the cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Pacific Grove, Sand City, and Seaside, and the unincorporated areas of Carmel Highlands, Carmel Valley, Pebble Beach, and the Del Monte Forest. This part of CAW's service area is supplied by surface water and groundwater from the Carmel River system and the coastal subarea of the Seaside Groundwater Basin (Seaside Basin). CAW's service area boundaries generally correspond to those of the Monterey Peninsula Water Management District (MPWMD),<sup>1</sup> which manages surface water and groundwater resources in

the Carmel Valley and groundwater in the Seaside coastal area. Besides its main distribution system (i.e., the areas served by the Carmel River and Coastal subarea of the Seaside Basin), CAW also operates three small independent waters systems along the Highway 68 corridor east of Monterey (Ryan Ranch, Bishop, and Hidden Hills) that are within MPWMD's boundaries and draw water from the Laguna Seca subarea of the Seaside Basin.

The proposed Monterey Bay Regional Water Project is intended to provide replacement water supply to meet existing demands in light of State Water Resources Control Board (SWRCB) Order No. WR 95-10 (Order 95-10) and the Monterey County Superior Court adjudication of water rights in the Seaside Groundwater Basin. Both rulings reduce CAW's use of its two primary sources of supply for the Monterey District and provide the most immediate impetus for the Monterey Bay Regional Water Project. Information about these two decisions, with a brief overview of the water supply system for context, is presented in Section 1.1.

The San Clemente Dam was constructed on the Carmel River in 1921 and continues to be the major point of surface water diversion from the river. Diversion from the San Clemente reservoir was the sole water supply for the Monterey Peninsula until the 1940s when customer demand exceeded that source of supply. CAW's predecessor installed wells at the upper end of the Carmel Valley to produce water to meet summer demand. The Los Padres Dam was constructed about six miles upstream of the San Clemente Dam in 1951. The Los Padres reservoir is operated in conjunction with the San Clemente reservoir and controls inflow into it. Both dams have been owned and operated by CAW since 1966. Over the years, sedimentation reduced the usable storage at both the San Clemente and Los Padres reservoirs. By 1995, the primary source of water supply for CAW was multiple wells located along the lower Carmel River, which supplied approximately 70 percent of CAW's customer demand. The balance of the water supply was provided by storage at the Los Padres reservoir and diversions from San Clemente reservoir and water pumped from the Seaside Basin.

Water resources in the Carmel Valley and the greater Monterey Peninsula are regulated by the MPWMD. MPWMD has historically restricted CAW's annual allocation of Carmel Valley surface and groundwater to 16,683 acre-feet per year (afy) (approximately 14.9 million gallons per day [mgd]). CAW's use of its Carmel Valley wells is also restricted by an annual Memorandum of Agreement (MOA) between CAW, MPWMD and the California Department of Fish and Game (DFG). The MOA provides a guideline to minimize localized drawdown from the use of wells located along certain reaches of the river, limits surface water diversions from April to October, and requires releases to the river from San Clemente Reservoir.

In addition to the Carmel River sources, CAW's main distribution system includes eight wells in the Coastal subarea of the Seaside Basin. The Seaside Basin encompasses a 24-square mile area and is generally bounded by the Pacific Ocean on the west, the Salinas Valley on the north, the Toro Park area on the east, and Highways 68 and 218 on the south.

CAW also has nine wells in the Laguna Seca subarea. As noted above, wells from this subarea supply several small systems in the Highway 68 corridor east of CAW's main distribution system. CAW is able to provide Carmel River water for fire and emergencies to its Ryan Ranch system in the Laguna Seca subarea via an emergency connection from the Crest Tank. CAW

currently has a combined operating yield allocation for its Seaside Basin wells of 3,849 AFY from the Seaside Watermaster.

### **3.16.1.1 State Water Resources Control Board Order No. WR 95-10**

The State Water Resources Control Board (SWRCB) Order 95-10 (SWRCB, 1995), issued in July 1995, substantially reduces diversion of all supplies along the Carmel River. In the Order, the SWRCB establishes that CAW has a legal right to 3,376 acre-feet per year (afy) (equivalent to about 3 million gallons per day [mgd]) from the Carmel River system, including surface water diversions and water pumped from Carmel Valley wells, compared to the 14,106 AFY (12.6 mgd) that had been pumped historically. The Order states that CAW had been diverting approximately 10,730 AFY from the Carmel River or its underflow without a valid basis of right, and directs CAW to diligently undertake the following actions: obtain appropriate rights to the Carmel River water that was being unlawfully diverted; obtain water from other sources and make one-for-one reductions of the unlawful diversions; and/or contract with other agencies having appropriate rights to divert and use water from the Carmel River. In the interim, while CAW is pursuing the development of an alternative supply, Order 95-10 directs CAW to implement conservation measures to offset 20 percent of demand and restricts CAW to an annual diversion of 11,285 AFY (10.1 mgd) from Carmel Valley sources. (This amount represents a 20 percent reduction from CAW's historic usage of 14,106 AFY). The Order also prohibits water from being diverted from the San Clemente Dam when stream flows reach a predetermined low flow. The Order directs CAW to maximize use of the Seaside Basin for the purpose of serving existing connections – while honoring existing allocations – to reduce diversions from the Carmel River to the greatest practicable extent. Development of the replacement supply required in Order 95-10 is part of the proposed Monterey Bay Regional Water Project.

### **3.16.1.2 Seaside Basin Adjudication**

Another purpose of the Monterey Bay Regional Water Project is to reduce CAW's reliance on the Seaside Basin, currently CAW's other principal source of supply for the Monterey District. The Monterey County Superior Court recently issued a final decision in the case, *California American Water v. City of Seaside, et al.*, Case No. 66343 (Monterey County Superior Court, 2006) for the adjudication of water rights of the various parties who produce groundwater from the Seaside Basin. The Court's decision (referred to herein as the Decision or adjudication) resulted from a complaint and cross complaints among the current users of the Seaside Basin. Among other points, the complaint requested a declaration of the parties' individual and collective rights to groundwater and coordination of groundwater management within the Seaside Basin. The establishment of adjudicated water rights of all the users of the Basin is intended to avoid long-term damage to the basin, including potential seawater intrusion, subsidence, and other adverse impacts of over-pumping. The Decision identifies the Natural Safe Yield for the basin as a whole and for the Coastal and Laguna Seca subareas, and found that production in each of the preceding five years had exceeded the Natural Safe Yield throughout the Seaside Basin and in each of its subareas. The Decision also found (and noted that all the parties agreed on this issue) that continued production in excess of the Natural Safe Yield would result in seawater intrusion, with deleterious effects.

The Decision establishes a physical solution to Basin management that is “intended to ultimately reduce the drawdown of the aquifer to the level of the Natural Safe Yield; to maximize potential beneficial use of the Basin; and to provide a means to augment water supply for the Monterey Peninsula.” Among other provisions, the Decision allocates the groundwater rights of the various users, establishes an initial Operating Safe Yield, and establishes a Watermaster to administer and enforce the provisions of the Decision. The Watermaster consists of representatives of the parties to the complaint as specified in the Decision. CAW’s current allocation, under the initial Operating Safe Yield from the Coastal subarea as allocated by the Watermaster, is 3,504 AFY and 345 AFY from the Laguna Seca subarea. Since the Operating Safe Yield allocations will be decreased over time until they equal the Natural Safe Yield of the respective subareas, these initial allocations will be reduced. Eventually CAW’s allocation from the Seaside Basin overall will be 1,474 AFY.

The Decision establishes storage rights in the Seaside Groundwater Basin for the purposes of artificial groundwater recharge, storage and recovery. An entity which artificially recharges the groundwater basin with the intent to recapture that water maintains an exclusive right to recapture that quantity of water which is retrievable, so long as recharge and capture does not materially harm the groundwater basin. The Seaside Basin Watermaster has declared that the total usable storage space in the entire Seaside Groundwater Basin is 52,030 AF. The Watermaster allocated a total of 49,044 AFY of the total useable storage space to CAW. The basic provisions of Seaside Groundwater Basin storage rights are further described in Section III.H of the Decision and are defined by the Watermaster.

### **3.16.2 Existing Phase 1 ASR Project**

The MPWMD and CAW are currently conducting an ASR program in the Seaside Groundwater Basin. The program is known as the Phase 1 Aquifer Storage and Recovery Project. MPWMD has been evaluating the feasibility of ASR since 1996. Efforts have included hydrogeologic test and construction of full-scale test ASR wells in the coastal subarea of the Seaside Basin. This testing has found that the Basin can be successfully used to store water for future use in the CAW system. An EIR (Jones and Stokes, 2006) and EIR Addendum have been completed and certified for this project. The U.S. Army issued a finding of no significant impact (FONSI) for the project in 2006.

The MPWMD Phase 1 ASR Project includes diversion of treated excess flow, as defined by resource agencies, from the Carmel River Basin in wet periods for injection into the Seaside Groundwater Basin for later extraction during dry periods to meet peak demand. The primary objective of the Phase 1 ASR is to help reduce dry season diversions from the lower Carmel River, which adversely affect sensitive species and habitat. Diversions are permitted through SWRCB *Permit for Diversion and Use of Water, Amended Permit 20808A*. Permit 20808A permits CAW to divert up to 2,426 AFY of excess Carmel River water for storage in the Seaside Groundwater Basin, at a maximum instantaneous diversion of 6.7 cubic feet per second (4.3 mgd) from the period of December 1 to May 31 each year. Diversions are only permitted so long as daily minimum in-stream flow requirements are met, as defined in the permit.

Excess water from the Carmel River is conveyed north through CAW’s existing pipelines to the ASR wells located east of General Jim Moore Boulevard. The existing ASR program includes 2

wells, now known as Production Wells 1 and 2 (previously known as Santa Margarita Test Injection Wells 1 and 2). Well 1 is 18 inches in diameter, 7,720 feet deep, with a perforated well screen situated approximately 480 to 700 feet in depth. Well 2 is 22 inches in diameter, 790 feet deep, with a perforated well screen situated approximately 540 to 770 feet deep. The combined injection capacity of these two wells is approximately 4.3 mgd (3,000 gpm) into the sandstone aquifer. Only one well will be used for extraction at approximately the same rate. The Phase 1 ASR project began permanent operating status beginning in Water Year 2008. CAW and MPWMD cooperatively manage and operate the Phase 1 ASR project as defined in the *ASR Management and Operations Agreement between California American Water and Monterey Peninsula Water Management District*. Phase 1 ASR operations are also managed through a Memorandum of Understanding (MOU) between MPWMD, CAW, California Department of Fish and Game, and National Marine Fisheries Services.

The ASR Wells 1 and 2 are planned to provide a long term average of 920 AFY of stored Carmel River water during the summer to meet peak demands.

### **3.16.3 California American Water Service Area Replacement Supply Requirements**

Based on SWRCB Order WR 95-10 and the Seaside Basin adjudication, CAW must develop replacement water supply in the first instance to meet existing water demands within its service area. In addition, based on the level of growth envisioned to occur in the adopted general plans of jurisdictions within the service area, additional water supply will be needed to meet future service area demand. The information presented in this section is based primarily on MPWMD's analyses of existing demands for the area, which they have determined to be 12,500 AFY (rounded).

#### **3.16.3.1 Existing Demands**

##### **CAW's Main Distribution System**

As discussed above, when Order WR 95-10 was issued, existing demand from the Carmel River system (as indicated in the Order) was estimated to be 14,106 AFY. This estimate represented the average, non-drought use for the years 1979 to 1988, based on information submitted to the SWRCB by CAW. Based on the estimate of 14,106 AFY total production, of which CAW was found to have a legal water right to use 3,376 AFY, the SWRCB estimated that CAW would need to develop 10,730 AFY in replacement supplies. According to Order 95-10, CAW provided service to about 105,000 persons and supplied a total of approximately 17,000 acre feet (af) in an average normal year. Of this, approximately 2,700 AFY came from the Seaside Basin (i.e., 2,700 AFY was from the Seaside Basin and 14,106 AFY was from the Carmel River, for a total of 16,806, or approximately 17,000 AFY). CAW's application to the CPUC and the PEA for the proposed project specify that 10,730 AFY would be needed to replace supply from the Carmel River system in compliance with Order 95-10 and that approximately 1,000 AFY would be needed to replace supply currently drawn from the Seaside Basin (in anticipation of the Seaside Basin adjudication, which was not final at the time).

MPWMD recently prepared a technical memorandum updating estimates of existing demand within the District and CAW service area (MPWMD, 2006a). As part of its analysis of existing

demand, MPWMD reviewed actual monthly water use for water years 1996 to 2006, based on CAW monthly production reports for its Carmel River and Seaside Basin Coastal Subarea sources, to determine the annual average quantity of water currently used by CAW customers within MPWMD boundaries. Given the regular occurrence of drought periods on the Monterey Peninsula and the effect of weather on water demand, MPWMD also evaluated weather conditions during the years reviewed, which on average were wetter than normal, and developed demand estimates adjusted to reflect normal, dry, and critically dry conditions. The average annual unadjusted demand and weather-adjusted demand for the years reviewed are as follows (MPWMD, 2006a):

- Unadjusted Demand: 14,710 AF
- Normal-year demand: 15,095 AF
- Dry-year demand: 15,474 AF
- Critically-dry-year demand: 15,858 AF

MPWMD considers the critically-dry year values to provide a worst-case basis for assessing the effect of weather on water production during the analysis period and that the demand values adjusted to reflect critically dry conditions – rather than the unadjusted values, which do not account for the wetter-than-normal conditions during the period of analysis – should be used for water supply planning (MPWMD, 2006a). Table 3.16-1 shows the breakdown adjusted (by 7.8 percent) critically-dry year demand for the Carmel River system and Seaside Basin Coastal subarea. As shown, adjusted critically dry year demand is 15,858. From these totals, MPWMD deducted the quantity of Seaside Basin and Carmel River water to which CAW has an existing legal right based on the Seaside Basin adjudication and Order 95-10 to determine the replacement water supply needed to meet demand under the conditions reflected in the critically dry year scenarios. According to Order 95-10's determination of CAW's legal right to Carmel River system water and MPWMD's calculation of CAW's eventual legal right to Seaside Basin groundwater, CAW's combined rights from these sources would be 4,850 AFY.

Assuming critically-dry year demand for the two areas minus this estimate of CAW's combined recognized water rights, MPWMD calculated that approximately 11,008 AF of replacement water would be needed to meet current demand in the areas served by these sources. More recently, the Seaside Basin Watermaster calculated CAW's rights to Seaside Basin groundwater for the basin as a whole (rather than by subbasin, as MPWMD had done) and determined that CAW's eventual right to basin groundwater was 1,474 AFY, a slight decrease from MPWMD's estimate of 1,494 AFY. Based on this revised calculation, replacement water supply needed to meet critically dry year demand for the Carmel River System and Seaside Basin Coastal Subarea is 11,008 AFY, as shown in Table 3.16-1.

**Table 3.16-1  
Summary of Weather Adjusted Critically Dry-Year Replacement Supply Requirements for the Monterey Bay Regional Water Project (AFY)**

	<b>Critically Dry Year Demand</b>
Carmel River System Demand	11,874
Seaside Basin Coastal Subarea Demand	3,983
Subtotal of CAW Main System Demands	15,858
Minus Legal Water Rights to Carmel River and Seaside Basin Water	(4,850)
Subtotal CAW Main System Replacement Supply Requirement	11,008
CAW's Laguna Seca Subarea Demand	466
Los Padre Reservoir Capacity Loss	762
Non-CAW Producers in the Seaside Basin Demand	272
Total Replacement Water Needed	12,508

### **Other Existing Demands**

#### ***CAW's Laguna Seca Subarea Demands***

The average annual unadjusted demand for the same period (1996-2006) from the Laguna Seca subarea of the Seaside Basin was 432 AFY. MPWMD applied the same adjustment factor used for the Carmel River and Seaside Coastal subarea (7.8 percent) to calculate the critically-dry-year demand for this subarea of 466 AFY. CAW's adjudicated allocation from this subarea will eventually be zero. Therefore, assuming critically-dry-year demand, eventually 466 AFY replacement water would be needed to meet CAW customer demand currently supplied by this subarea.

#### ***Los Padres Reservoir Storage Capacity Loss***

The MPWMD's analysis of existing demand also addresses the potential loss of storage capacity in the Los Padres Reservoir (due to ongoing sedimentation), because such loss of capacity could affect the amount of replacement water CAW needs to develop in order to comply with Order 95-10. The MPWMD analysis points out that, in Order 95-10, the SWRCB reduced CAW's right to divert surface water to storage in Los Padres Reservoir (from CAW's initial licensed right of 3,030 AFY to the company's 1984 estimate of storage capacity of 2,179 AFY) based on the premise that the legal right to divert water to storage is limited by the physical ability to store the water. MPWMD addresses the possibility that the SWRCB could revisit Order 95-10 and, by applying the same logic, further reduce CAW's right to divert water to storage based on the additional loss of capacity.

In the assessment of Los Padres Reservoir storage capacity, MPWMD notes that the 1984 estimate of storage capacity provided to the SWRCB by CAW, and used as the basis for provisions in Order 95-10, was likely in error as it was inconsistent with previous and subsequent capacity estimates. Based on a 1978 USGS estimate of 1,950 AF, which MPWMD concluded was more accurate than the 1984 estimate, and a 1998 estimate of capacity by CAW of 1,569 AF, MPWMD calculated that capacity had decreased by an average rate of 19 AFY between 1978 and 1998. Based on this assumed annual sedimentation rate, MPWMD estimated that an

additional 152 AF of reservoir capacity had been lost in the eight years since the 1998 estimate, resulting in current storage capacity of approximately 1,417 AF (MPWMD, 2006a).

Based on the difference between MPWMD's revised estimate of current reservoir capacity (1,417 AF and the estimated capacity assumed in Order 95-10 (of 2,179 AF), MPWMD estimates that an additional 762 AF of replacement water supply would be needed to offset lost storage capacity.

### ***Replacement Supply Needed for Non-CAW Water Producers***

MPWMD's analysis of needed replacement supply assumed that the project or projects developed by CAW to provide replacement supplies would be sized to meet the existing water needs of other Seaside Basin producers whose legal rights had also been reduced in the adjudication. In its technical memorandum describing its analysis of existing needs (MPWMD, 2006a), MPMWD notes that while CAW is not directly responsible for developing replacement supply for non- CAW producers in the Seaside Basin, it was reasonable to assume, based on economies of scale, that CAW would be able to provide the least cost replacement supplies for the non-CAW Seaside Basin producers as part of the proposed project. According to MPWMD this assumption is consistent with Section III.M.1, California American's Obligations to Augment Water Supply, in the Seaside Basin adjudication decision (MPWMD, 2006a). Based on these considerations, MPWMD's analysis of existing water needs also considers the need for additional replacement supply due to the effect of the Seaside Basin adjudication on other (non-CAW) water producers within the Basin. As with CAW, the adjudicated water rights of the other producers that use the Seaside Basin are less than the amount they had been pumping. Although the areas served by these producers are outside CAW's service area, the reduction in supply of the other producers creates an additional shortfall that will need to be addressed in order to meet current water needs for the immediate Monterey Bay area vicinity.

Based on production records for the Seaside Basin Coastal subarea, MPWMD applied the same adjustment factor used for CAW production (7.8 percent) to estimate that critically-dry-year demand for non-CAW producers in the Coastal subarea would be 341 AFY. The eventual allocation for these producers, pursuant to the Seaside Basin adjudication, will be 155 AFY. Therefore, 186 AFY of replacement supply would be needed for these producers to meet their existing level of demand.

MPWMD similarly evaluated production volumes of the other producers in the Laguna Seca subarea over the same period (1996-2005). In this subarea, however, MPWMD observed a substantial increase in demand in the most recent five years (an average of 644 AFY was produced from water years 2001 through 2004, compared to an average of 418 AFY for the entire period). MPWMD therefore used the average production for water years 2001 through 2005 as a more accurate reflection of current pumping levels. MPWMD applied the same adjustment factor used for CAW production figures and non-CAW Coastal subarea production to estimate that critically-dry-year demand for the non-CAW producers in the Laguna Seca subarea would be 694 AFY. The eventual allocation for these producers, pursuant to the Seaside Basin adjudication, will be 608 AFY. Therefore, 86 AFY of replacement supply would be needed for the other producers in the Laguna Seca subarea to meet their existing level of demand.

Therefore, based on these estimates for the Coastal and Laguna Seca subareas, MPWMD estimates that the total replacement supply needed to meet existing demands of the other producers in the Seaside Basin would be 272 AFY. With CAW's needed replacement supply of 12,236, the total updated demand including the other producers is 12,508 AFY (rounded to 12,500)

## **Section 4 Environmental Consequences**

### **4.1 Aesthetics**

#### **4.1.1 No Action**

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects on aesthetic resources would occur.

#### **4.1.2 Proposed Action**

##### **4.1.2.1 Construction**

Construction activities associated with the project would include the use of heavy equipment and associated vehicles (e.g., bulldozers, graders, cranes, and various trucks). Construction-related impacts would most be visible from General Jim Moore Boulevard and other surrounding public roadways; however, no scenic highways occur within the vicinity of the project site.

Construction equipment would be present within the viewshed and limited views may occur from surrounding residential uses, commercial facilities, and/or public facilities; however, due to existing well-established vegetation in the area (e.g. oak trees and brush), views of the well sites would largely be restricted.

Although short-term impacts may occur as a result of construction-related activities, the existing visual character of areas surrounding the project sites would be restored after the completion of the project. Mitigation measures are proposed to reduce potential construction-related impacts to less than significant.

##### **4.1.2.2 Operation**

The ASR well locations east of the General Jim Moore Boulevard are not likely to be visible during operations because they are relatively small (approximately 30 feet by 30 feet) and would be located in a hillside area surrounded by trees and scrub within a fence, which would limit views of the wells from surrounding areas. These impacts would result in new visual features within the areas. Mitigation measures would be implemented to ensure that the project impact on existing visual quality within these areas is less than significant. Refer to Exhibits 4 through 7 which show the existing conditions, as well as the proposed conditions with implementation of the project. The visual simulations show two options for perimeter fencing of the ASR sites: one would utilize a chain-link fence, and the other would utilize an architectural fence. All architectural features would comply with the design guidelines given in the POM Real Property Master Plan.

Existing lighting in areas surrounding the project site is generally limited to light fixtures mounted on poles and at existing residential and commercial/recreational uses. Additional lighting as a result of the project facilities would be necessary for long-term operational use, although any new lighting would be subject to local design standards and would utilize directional lighting techniques and low-wattage bulbs (without compromising site safety or security) in order to direct light downwards and minimize light spillover. Impacts from light and

glare would be less than significant with implementation of standard design practices and required mitigation.

Mitigation measures for potential impacts with regard to aesthetic resources are discussed in Section 6, *List of Environmental Commitments*. Measures AES-1 through AES-4 in Section 6 of this document would ensure that environmental effects on aesthetic resources are adequately mitigated.

## 4.2 Air Quality

### 4.2.1 No Action

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects on air quality would occur.

### 4.2.2 Proposed Action

#### 4.2.2.1 Construction

Construction-related fugitive dust emissions associated with the proposed project would be generated from project site grading, construction of the monitoring and two test/production wells, excavation and trenching for pipeline construction, and construction of the access driveway. Fugitive dust resulting from construction activities are anticipated to be temporary and would cease upon completion of project construction. In addition to construction-related fugitive dust, exhaust emissions associated with construction vehicles and equipment would also be generated. Fugitive dust and exhaust emissions have the potential to result in short-term impacts to existing air quality. Construction equipment is the primary source of short-term emissions of pollutants such as particulate matter, reactive organic gases (ROG), and NO<sub>x</sub>.

**Table 4.2-1  
Construction Emissions**

OPERATIONAL SCENARIOS	Emissions in Pounds / Day				
	CO	NO <sub>x</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	ROG
<b>Project Action:</b>	60.90	136.90	6.63	7.17	17.25
<b>Significance Threshold (MBUAPCD):</b>	550	137	--	82	137
Project Action Emissions Source: CAW Coastal Water Project FEIR, October 2009, Appendix F Significance Threshold Source: Monterey Bay Unified Air Pollution Control District (MBUAPCD), 2008					

In order to reduce potential adverse impacts associated with the fugitive dust and exhaust emissions associated with the proposed project, implementation of Mitigation Measures AQ-1 and AQ-2 would be required; refer to Section 6, *List of Environmental Commitments*. It should be noted that a conformity determination is not required, as the project area is in attainment for National Ambient Air Quality Standards (NAAQS); however, implementation of these measures would ensure that the proposed project does not result in emissions that would exceed or violate the applicable air quality standards.



Existing view looking east to the ASR-3 site.

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Proposed view looking east to the ASR-3 site (Option A - Chain-link fence).



Proposed view looking east to the ASR-3 site (Option B - Architectural fence).

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Existing view looking east to the ASR-4 site.

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Proposed view looking east to the ASR-4 site (Option A - Chain-link fence).



Proposed view looking east to the ASR-4 site (Option B - Architectural fence).

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#### 4.2.2.2 Operation

The operation of the ASR wells and associated facilities would not result in a substantial increase of long-term operational emissions. Operational activities would consist of vehicular travel associated with maintenance and a slight increase in electricity consumption to operate the pumps and other facility operations. Operation of the proposed facilities would not result in emissions that would exceed or violate the applicable air quality standards.

#### 4.2.2.3 Climate Change and Greenhouse Gas Emissions

As discussed in Section 3.3.5, *Climate Change/Greenhouse Gases*, global climate change refers to the changes in the average global weather patterns and in the concentration of GHGs over periods of time. Atmospheric GHGs and clouds within the Earth’s atmosphere influence the Earth’s temperature by absorbing most of the infrared radiation rising from the Earth’s sun-warmed surface that would otherwise escape into space. This process is commonly known as the Greenhouse Effect. The GHGs and clouds, in turn, radiate some heat back to the Earth’s surface and some out to space. The balance between incoming solar radiation and outgoing radiation from both the Earth’s surface and atmosphere keeps the planet habitable. Anthropogenic (i.e., caused by humans) emissions of GHGs enhance the Greenhouse Effect by absorbing the radiation from other atmospheric GHGs that would otherwise escape to space, thereby trapping more radiation in the atmosphere and causing the temperature to increase. This section identifies the project’s cumulative contribution to the global inventory greenhouse gas emissions, as well as the effects of climate change on the project site.

As mentioned above in Sections 4.2.2.1, *Construction* and 4.2.2.2, *Operations*, the main contributor of air contaminants would occur during the construction phase of the ASR wells and associated facilities and would not result in a substantial increase of long-term operational emissions. Operational activities would consist of vehicular travel associated with maintenance and a slight increase in electricity consumption to operate the pumps and other facility operations. Based on the activities associated with the operations of the proposed project, adverse impacts are not anticipated.

GHG emissions associated with construction activities have been summarized in Table 4.2-2. As indicated in Table 4.1-2, the total estimated GHG emission amounts that would be associated with the operations of the proposed project would not exceed the amount of CARB’s preliminary draft significance threshold and no adverse impacts related to GHGs would result.

**Table 4.2-2  
GHG Emissions Associated with Project Construction Activities**

Source	CO <sub>2</sub>	CH <sub>4</sub>	Total
	Metric tons	Metric tons	Metric tons of CO <sub>2</sub> eq <sup>3</sup>
Construction Emissions <sup>1, 2</sup>	1032.95	0.108	1035.23
Total Construction Emissions	<b>517.62 MTCO<sub>2</sub>eq/year</b>		
<b>Significance Threshold</b>	<b>7000 MTCO<sub>2</sub>eq/year</b>		
CO <sub>2</sub> = Carbon Dioxide; N <sub>2</sub> O = Nitrous Oxide; CH <sub>4</sub> = Methane; MTCO <sub>2</sub> eq/year = metric tons of CO <sub>2</sub> equivalent per year			

**Table 4.2-2, continued**

Notes: 1. Emissions calculated using the California Air Resources Board's Construction Equipment Emissions Table. 2. Construction emissions assumed a two-year construction period. 3. CO2 Equivalent values calculated using the U.S. Environmental Protection Agency Website, Greenhouse Gas Equivalences Calculator, <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>, accessed April 2009.

#### **4.2.2.4 Impacts of Global Climate Change on the Project**

Climate change is expected to produce variability in precipitation, snow pack in the Sierra Nevadas, rising temperatures, rising sea levels, storm surges, and wildfires. The changes may affect California in a variety of ways, including a decrease in water supply from the decrease in snow pack in the Sierra Nevadas. The proposed project would not rely on this water supply and would instead be an adaptation mechanism as an alternative water supply within California, and would, therefore, not be impacted by climate change in this regard. As the climate change issues listed above may result in adverse conditions under a long-term cumulative basis, due to the nature of the proposed project, to store water to be utilized as an additional water supply to the area, effects related to water supply quantities and qualities would not impact the proposed project. In addition, the proposed project will not result in a sustained increase in electricity demand, so the anticipated increase in electricity demands related to climate change and increased temperatures within California. The proposed project site may be exposed to more frequent flooding events; however, the project would not subject life-supporting services or facilities to people and, therefore, would not be impacted by the anticipated increase in severe flood events as a result of climate change. Lastly, the proposed project would not subject persons to future worsening of air quality as no life-supporting services or facilities are being proposed. Therefore, no adverse impacts related to the impacts of global climate change on the project would result.

### **4.3 Biological Resources**

#### **4.3.1 No Action**

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects on biological species or habitat would occur.

#### **4.3.2 Proposed Action**

##### **4.3.2.1 Vegetation**

Multiple Biological Opinions issued by the U.S. Fish and Wildlife Service (USFWS) in years 1999, 2002 and 2005, indicate that any federally listed species should be salvaged and/or re-located. The Federally threatened and CNPS List 1B species, Monterey spineflower (protected under the ESA), was observed during biological surveys conducted in October 2009 at OMC; however, none have been identified within the project site (Denise Duffy & Associates, Inc., 2010). The USFWS issued concurrence in the above-mentioned Biological Opinions that Monterey spineflower and its designated critical habitat will not be adversely affected by the disposal and reuse of the military base. As such, consultation with the U.S. Fish and Wildlife Service for this species is not anticipated to be required. No special-status plant species were observed during the 2010 site-specific surveys and no additional plant surveys are required.

#### **4.3.2.2 Wildlife**

According to the *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California (HMP)* (U.S. Army Corps of Engineers, April 1997), the project site is located within an area designated as “development.” As such, impacts to HMP species occurring within the project site were anticipated and mitigated through the establishment of habitat reserves and corridors, and assignment of management requirements for other parcels on former Fort Ord. The only HMP species with the potential to occur within the Project site is the California legless lizard. With the designated reserves and corridors and habitat management requirements in place, the loss of this species is not expected to jeopardize the long-term viability of this species and its populations on the former Fort Ord. Recipients of disposed land with restrictions or management guidelines designated by the HMP will be obligated to implement those specific measures through the HMP and deed covenants. Because the proposed Project would not result in additional impacts to HMP species beyond those anticipated in the HMP, impacts to the California legless lizard are considered less-than-significant. However, in accordance with the *Integrated Natural Resource Management Plan for the Presidio of Monterey and Ord Military Community* (2008), pre-construction surveys shall be conducted for the California legless lizard, and all efforts will be made to relocate individuals during development projects.

The following special-status wildlife species should also be included in pre-construction surveys: Monterey dusky-footed woodrat, a California species of special concern (moderate potential to occur), and coast horned lizard, a California species of special concern (low potential to occur). None of these species were observed during field visits, however, suitable habitat is present within the coast live oak woodland and these species may occur within and adjacent to the project site and be impacted by construction activities. Should any of the above special-status wildlife species be identified during pre-construction biological surveys, possible mitigation would include relocation of the species to suitable habitat and in a manner approved by the Army Natural Resource Specialist. A biological monitor shall be present to ensure compliance with off-limits areas. Project facilities would be sited to avoid impacts to special-status species and their required habitat constituent elements. Unavoidable impacts to listed wildlife species may require formal consultation with USFWS and CDFG.

#### **4.3.2.3 Birds**

Pre-construction biological surveys will also determine the presence or absence of raptors and their nests and migratory bird species, since trees and understory suitable for raptors and migratory birds nesting exist in or within 300 feet of the construction area. Significant impacts to special-status plants would be mitigable through on- or off-site restoration or preservation of additional occupied habitat

#### **4.3.2.4 Trees**

Coast live oak trees may be removed as a result of construction activities. . This is considered a potentially significant impact that can be reduced to a less-than-significant level with implementation of mitigation.

Mitigation measures for potential impacts to biological resources have been proposed and are discussed in Section 6, *List of Environmental Commitments*. Measures BIO-1 through BIO-4 in

Section 6 of this document would ensure that environmental effects on biological resources are adequately mitigated.

## **4.4 Cultural Resources**

### **4.4.1 No Action**

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects on cultural resources would occur.

### **4.4.2 Proposed Action**

There are no recorded resources within the Proposed Action area; however, part of the area has not been surveyed for cultural resources. A visual inspection of the area in November 2008 from General Jim Moore Boulevard and the military reservation gate did not reveal any cultural resources; however, there is potential for surface or buried resources. Ground-disturbing activities associated with pipeline and facility construction, horizontal directional drill pits, pipe storage and laydown areas, and other project-associated ground disturbance have the potential to directly impact potential cultural resources in the project area by disturbing both surface and subsurface soils. Impacts could result from grading and excavation at the well locations, cut and fill trenching for underground pipe placement and utility connections, and other activities associated with placing the water line and facilities in service involving ground disturbance. No impacts are anticipated from operation.

Subsurface and surface disturbance could result in the loss of integrity of cultural deposits, loss of information, and the alteration of a site setting. Potential indirect impacts, primarily vandalism, could result from increased access to, and use of, the general areas during both construction and operation. There is also the potential for inadvertent discoveries of buried archaeological materials during construction, although the low number of recorded sites in the general area of the larger Monterey Bay Regional Water Project suggests a low potential. Additionally, the project alignment within the City of Seaside appears to have a low sensitivity potential according to the Monterey County archaeological sensitivity map.

Mitigation measures for potential impacts to cultural resources have been proposed and are discussed in Section 6, *List of Environmental Commitments*. If archaeological resources or human remains are accidentally discovered during construction, work shall be halted until it can be evaluated by a qualified professional archaeologist. Measure CULT-1 in Section 6 of this document would ensure that environmental effects on cultural resources are adequately mitigated.

## **4.5 Energy**

### **4.5.1 No Action**

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects on energy resources or changes in energy consumption would occur.

## **4.5.2 Proposed Action**

The proposed ASR System would provide additional water storage capacity for CAW, receiving both desalinated water and water from the Carmel River as needed, depending on relative demand and supply from customers, the Carmel River, and desalination operations. Water would be stored in the Seaside Groundwater Basin, and stored water would then be pumped from the Basin during periods of peak demand. Since stored water is used to meet peak demand, the operational requirements of a larger capacity desalination plant are reduced, resulting in operational energy savings over the life of the project. No boring and/or jacking would occur with the Proposed Action. Only onsite grading, drilling, and trenching activities would occur with installation of pipelines associated with the ASR wells would occur with the Proposed Action.

### **4.5.2.1 Short Term Construction Impacts**

Although construction energy would be consumed during the construction period, such activities would represent the irreversible consumption of finite, non-renewable natural energy resources. Both fuel and energy would be consumed directly and indirectly during project construction activities. Indirect energy use would occur through the extraction of raw materials, manufacturing, and transportation to make materials used in construction of the project. Direct energy consumption for the project would include the consumption of petroleum for operation of construction vehicles and the use of electricity for the operation of construction equipment, such as power tools. The energy required for operation of construction power equipment would be minimal, as would the amount of energy required for the provision of interior utilities (lighting, heating, etc.) for construction trailers and the operation of electrical equipment.

Due to the nature of the required construction activities, it is difficult to predict the exact quantity of energy that would be consumed by project construction-related activities; however, energy consumption for construction-related activities is considered to be less than significant, as such consumption would not create a depletion of non-renewable energy resources over the long-term and would not permanently cause an increased reliance on non-renewable energy resources. It is not anticipated that project-related construction activities would significantly reduce or disrupt the provision of existing electrical and/or natural gas services as the result of insufficient supplies. In addition, existing power lines in the project area are aboveground. Proper clearance would be maintained during construction activities to minimize the potential for temporary service interruptions or transmission line relocation. It should also be noted that, depending on the ultimate horsepower rating of the well pump motors, PG&E may require a new underground power line to deliver medium-voltage power to the ASR well sites during construction; however, the requirement for such an additional line has not yet been determined. As project construction is not anticipated to interrupt PG&E operations, and project-related construction energy demands would be unlikely to have a significant effect on PG&E's energy resources, energy consumption required for construction activities is anticipated to result in less than significant impacts.

#### **4.5.2.2 Long Term Operational Impacts**

The proposed project would result in the long-term consumption of electricity, which includes energy produced from non-renewable resources. Electrical power would be used to operate the wells/pumps, lighting, process controls, and heating/ventilation systems, as applicable.

Long-term power to the project would be provided by PG&E. The two Monterey Bay Regional Water Project ASR wells would each demand approximately 715,000 kW-hrs/year. The peak power demand of each well is approximately 400 kW. Given that the electrical power would be provided directly from the PG&E grid, that the required electrical power is presently being generated by existing electrical infrastructure, and with consideration for the size of the project, the project-related increase in electricity demand would be minimal, and no adverse impacts have been identified.

## **4.6 Environmental Justice**

### **4.6.1 No Action**

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects on minority or low-income populations would occur.

### **4.6.2 Proposed Action**

#### **4.6.2.1 Low Income**

None of the census tracts included in the environmental justice analysis contained a low-income population over 50 percent. Therefore, the Proposed Action would not disproportionately affect a low-income population.

#### **4.6.2.2 Minority**

As identified in Table 3.7-2, *Study Area Census Tract Minority and Poverty Population*, three out of eight census tracts identified within the Proposed Action area contain a minority population over 50 percent, all of which are located in the City of Seaside. The total minority population in the City of Seaside is 16,097, which is 50.8 percent of the City's total population.

Construction of the Proposed Action could result in physical impacts, such as construction-related air quality impacts, hazardous materials, and noise, which could be disproportionately distributed to specific areas of high minority populations. Analysis of these issues in Sections 4.2, 4.8, and 4.12 indicates that the Proposed Action would not result in significant air quality, hazardous materials, or noise impacts with implementation of environmental commitments. As such, any physical impacts associated with the Proposed Action would be reduced, and disproportionately high and adverse effects on minority populations would not occur.

## 4.7 Geology and Soils

### 4.7.1 No Action

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects relative to geology or soils would occur.

### 4.7.2 Proposed Action

#### 4.7.2.1 Geology

Construction of the ASR facilities located on the Fitch Park sites, including the monitoring well, two injection/extraction wells, pipelines, and pump-to-waste system, may be subject to seismic hazards, such as high ground accelerations, ground shaking, and liquefaction. In addition, the proposed ASR facilities could be exposed to intense ground shaking associated with potential earthquakes from nearby faults. In addition to implementation of Mitigation Measures GEO-1 and GEO 2 (refer to Section 6, *List of Environmental Commitments*), the ASR facilities will be engineered, designed, and constructed utilizing methods that provide the least susceptibility to effects of seismic hazards, and no adverse impacts have been identified.

#### 4.7.2.2 Soils

Grading and trenching activities associated with the Proposed Action would result in the removal of topsoil and existing vegetation. The removal of topsoil and vegetation may increase the susceptibility of the Proposed Action site to soil erosion. Standard construction practices to mitigate erosion include the preparation of a SWPPP. However, prior to construction, the Proposed Action would prepare erosion control plans and/or incorporate typical BMPs to minimize potential erosion. The use of the BMPs described below would result in less than adverse impacts from soil erosion.

#### Typical BMPs

- Regularly water the construction site.
- Apply erosion control measures, such as mulch and fiber rolls for erosion prevention, if necessary.
- Use grading and landscaping methods that lower the potential for downstream sedimentation.
- Ensure that structural erosion and sediment transport control measures are ready for implementation prior to the onset of the first major storm of the season.
- Trap sediment before it leaves the site with such techniques as sediment ponds, straw bales, gravel bags, or silt fences.

## **4.8 Hazards and Hazardous Materials**

### **4.8.1 No Action Alternative**

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects with regard to hazards or hazardous materials would occur.

### **4.8.2 Proposed Action**

The Proposed Action would involve the temporary storage, handling, and use of hazardous materials as a result of activities associated with the construction of the ASR System. In addition, hazardous materials, such as remnant and undiscovered explosives associated with previous activities on Fort Ord, may be present on or in the vicinity of the Proposed Action site. Although contamination sites within the former Fort Ord have been remediated and no restrictions are required, some areas, as required by the U.S. Army's *U.S. Army, Base Realignment and Closure Fort Ord* (EPA Superfund Record of Decision; EPA ID CA7210020676, dated April 4, 2005), an ordnance recognition class must be given to all construction workers participating in ground-disturbing activities. Activities associated with operations of the Proposed Action would not introduce the transport of new hazardous materials through the site.

Following compliance with the local, State, and Federal regulatory framework, implementation of the Proposed Action is not anticipated to result in adverse impacts related to hazards and hazardous materials. In addition, construction activities will adhere to standard safety and hazard regulations. Potential adverse impacts related to hazards and hazardous materials would be reduced with the implementation of Mitigation Measures HAZ-1 and HAZ-2; refer to Section 6, *List of Environmental Commitments*.

## **4.9 Hydrology and Water Quality<sup>8</sup>**

### **4.9.1 No Action Alternative**

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects on hydrology or water quality resources would occur.

### **4.9.2 Proposed Action**

#### **4.9.2.1 Water Quality and Stormwater Drainage**

The proposed ASR facilities would have limited potential to result in substantial adverse temporary water quality effects. Application of BMPs and approval of a SWPPP would ensure that construction and operations of these facilities would not result in substantial adverse water quality or storm water drainage effects.

As previously noted, during injection periods, a combination of Carmel River water and desalinated water would be delivered to the ASR wells for storage. Water would be conveyed to a new Terminal Reservoir and then pumped by a new ASR Pump Station through an existing

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<sup>8</sup> CPUC, Proponent's Environmental Assessment for the Coastal Water Project, Proceeding A.04-09-019, 07/14/05

pipeline to MPWMD's existing two wells and through a new ASR pipeline to CAW's two new ASR wells. During recovery periods, water pumped from the ASR wells would be disinfected at the MPWMD ASR wells site because it is considered "raw water" according to the California Department of Public Health. The disinfected water would then be delivered through the same pipelines back to the Terminal Reservoir. A dedicated recirculation pipeline connected and installed parallel the new ASR injection/extraction pipeline would allow continuous flow through the ASR System to minimize stagnation in the ASR piping during periods when injection or extraction is not occurring.

Provisions for backflushing the wells will be provided. Well backflushing is used to pump the well to waste to flush accumulated sediments and turbidity from the well. The duration of backflushing is usually from a few minutes to about two hours. The frequency of backflushing will need to be determined from operational experience; however, a typical frequency is every few days to every few weeks. A backflush basin will be constructed onsite, north of ASR-4. Any overflow from the backflush basin will be directed to the adjacent 36" storm drain. The backflush water in the basin would percolate into the soil. The backflush schedule would be managed so that discharges to the percolation pit or storm drain would be minimized during peak wet weather events, thereby reducing potential effects to the storm drain system.

If a beneficial reuse of the backflush water is identified, the backflush basin would serve instead as a settling basin to remove sediments from the water. The settled backwash water would then be pumped offsite for reuse.

Upon completion of construction of Test Well ASR-3 at Fitch Park, pumping and recharge tests would be conducted, measuring water level response in the 6-inch monitor well (MW-1). Initial operations will include recharge testing at design flow rates (2.1 mgd) or as close to design flow rates as MCWD can provide. Development pumping and recovery test pumping will be to waste, discharging to an onsite percolation pit with potential overflow to the storm drain that underlies General Jim Moore Boulevard near the ASR-4 site.

The CCRWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose discharges to waters of the State can affect water quality. These requirements can be either State Waste Discharge Requirements (WDR) or Federally-delegated NPDES permits for discharges to Waters of the U.S. The CCRWQCB has adopted a separate NPDES General Permit for storm water discharge associated with construction activity on sites greater than one acre in size.

Mitigation measures are proposed to reduce potential project impacts with regard to water quality. NPDES permit conformance requires that a project applicant file a NOI to comply with the terms of the General Permit to Discharge Storm Water Associated with Construction Activity and submit a SWPPP to the CCRWQCB. A SWPPP contains a listing and implementation plan for use of storm water BMPs that would be implemented during construction of the project to minimize erosion and sedimentation. The SWPPP also requires the implementation of monitoring programs, post-development BMPs, and water quality management strategies.

Resolution R3-2002-0115 (General Waiver) applies to the onsite percolation of well development water and test well recovery water which would be authorized under the existing

2007 CCRWQCB discharge waiver (June 1, 2007). For permanent, full-scale operations, routine backflushing of the wells would occur to the onsite percolation basin with potential overflow to the storm drain. Any water entering the storm drain would be "clean groundwater" as sediment and debris will have settled out in the percolation basin. Discharge of clean groundwater associated with the Proposed Action is not exempt from the CCRWQCB's General NPDES Permit. As such, the Proposed Action will require re-enrollment in the CCRWQB General NPDES Permit for Discharges with Low Threat to Water Quality (Order No. R3-2006-0063).

Refer also to Section 1.3, Purpose and Need, for additional information with regard to the required storm drain connection and proposed discharge to the system.

#### **4.9.2.2 Groundwater**

The MPWMD and CAW are currently conducting an ASR program in the Seaside Groundwater Basin. MPWMD has been evaluating the feasibility of ASR since 1996. Efforts have included hydrogeologic testing and construction of full-scale test ASR wells in the coastal subarea of the Seaside Basin. This testing has found that the Basin can be successfully used to store water for future use in the CAW system and that methods to control and reduce disinfection byproducts in the stored and recovered water in the system do not result in adverse impacts to groundwater.

Water from the Carmel River is conveyed north through existing pipelines to ASR wells located on General Jim Moore Boulevard. The existing ASR program includes two wells, known as Santa Margarita Test Injection Wells 1 and 2. The combined injection capacity of these two wells is approximately 4.3 mgd (3,000 gpm) into the sandstone aquifer. Only one well will be used for extraction at approximately the same rate. Construction of these two injection/extraction wells has been completed, and Phase 1 ASR project testing and permanent operating status commenced in Water Year 2008. Operation of the ASR project began in 2009.

The proposed ASR System would utilize and augment MPWMD's existing ASR system of the two wells. It would also include the construction of two wells at two different parcels of land owned and managed by the U.S. Army on the former Fort Ord military base. The sites are immediately east of General Jim Moore Boulevard in a residential neighborhood known as Fitch Park. The wells would first be used for test purposes to determine the feasibility of operating two full-scale wells on these two sites. If the test well program is successful, a decision may be made to convert the wells to permanent ASR injection/extraction wells. The wells serve both for injection of water for storage and extraction of water for use, and would be designed for injection capability of approximately 2.1 mgd and an extraction capacity of approximately 4.3 mgd. These wells would be used in conjunction with the existing MPWMD wells, so that water could be injected into any one of the four ASR wells. Operation of an ASR system in the Seaside Groundwater Basin involves the injection of water for storage during periods when excess treated Carmel River Basin water is available. In terms of potable water quality, of particular concern is the fate and stability of disinfectant by-products (i.e., trihalomethanes [THMs] and halogenic acetic acids [HAAs]) that are introduced into the Basin. While THM and HAA concentrations initially increase during injection and storage, at the time of recovery, the THM and HAA levels in stored groundwater is at or below that of the injectate. In addition, as with all groundwater, the stored water would be retreated upon recovery before delivery to CAW's customers to ensure that it meets the drinking water standards of the Department of Health

Services (DHS) and the EPA. As the presence of disinfection byproducts in the stored and recovered water of the ASR system may occur as a result of the project, Mitigation Measure HWQ-1 will be implemented to reduce potential adverse impacts; refer to Section 6, *List of Environmental Commitments*.

## **4.10 Indian Trust Assets**

### **4.10.1 No Action Alternative**

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects on Indian Trust Assets would occur.

### **4.10.2 Proposed Action**

There are no tribes possessing legal property interests held in trust by the United States in the land involved with the Proposed Action; therefore, the Proposed Action would not result in impacts to any Indian Trust Assets.

## **4.11 Land Use**

### **4.11.1 No Action Alternative**

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects on land use would occur.

### **4.11.2 Proposed Action**

The Proposed Action would not physically divide an established community, nor would it conflict with any applicable land use plans, policies, or regulations, including local coastal plans or habitat conservation plans. The objective of the Proposed Action, as a component of the larger Monterey Bay Regional Water Project, is to provide water to replace existing water supplied by the Project Proponent to comply with SWRCB Order 95-10 and the Seaside Groundwater Basin Adjudication. Analysis of these issues in Section 4.9 indicates that the Proposed Action would not result in significant water quality impacts with implementation of environmental commitments, and, in fact, would result in beneficial impacts to water supply. No land use changes would result from implementation of the Proposed Action.

## **4.12 Noise**

### **4.12.1 No Action Alternative**

The No Action Alternative would not result in changes to the project site, and, therefore, no adverse impacts from noise would occur with this alternative.

## **4.12.2 Proposed Action**

### **4.12.2.1 Construction Noise**

As part of the proposed ASR System, two wells would be constructed at two different parcels of land owned and managed by the U.S. Army on the former Fort Ord military base. The sites are immediately east of General Jim Moore Boulevard in a residential neighborhood known as Fitch Park; refer to Exhibit 3, *Site Plan*. The wells would first be used for test purposes to determine the feasibility of operating two full-scale wells on these two sites. If the test well program is successful, a decision may be made to convert the wells to permanent ASR injection/extraction wells. The wells serve both for injection of water for storage and extraction of water for use. The wells would be connected to existing and/or future pipelines located in General Jim Moore Boulevard.

ASR well development activities may occur over a period of 24-hour a day construction activity. Continuous drilling operations as part of Phase I improvements would occur Monday through Friday for approximately two weeks for the monitoring wells and approximately four weeks for the extraction wells. Temporary noise attenuators (sound walls) would be installed at each well to reduce resulting noise levels; however, given the proximity of sensitive receptors to the ASR wells, nighttime drilling activities would result in potentially significant impacts because they would affect noise-sensitive uses during the nighttime. Implementation of Measures NOI-1 through NOI-6 (refer to Section 6, *List of Environmental Commitments*), would reduce the potentially significant well drilling impact to a less than significant level.

Construction activities at the site would result in maximum noise levels of approximately 63 dBA at the nearest residences, which is below the daytime ambient noise level measured in the vicinity of this receptor location (see Table 4.12-1). Given the ambient noise level of the area and the attenuation requirements, short-term construction noise nuisance impacts at this residence would be less than significant.

An ASR Well Construction Noise Control Plan will be developed for the Proposed Action. The Plan shall identify all feasible noise control procedures that would be implemented during nighttime construction activities. At a minimum, the Plan shall require implementation of Mitigation Measures NOI-1 through NOI-5 (refer to Section 6, *List of Environmental Commitments*), and the construction contractor shall ensure that noise blankets, or equivalent sound attenuation devices, are used to attenuate stationary drill equipment noise during ASR well development activities that take place during nighttime hours. The Plan shall specify that only well development construction equipment that is absolutely required shall be allowed to operate during the nighttime hours.

### **4.12.2.2 Operational Noise**

Mechanical equipment for the ASR wells would include a 500 horsepower electric motor driving a pump rated at 3,000 gpm at each well. The ASR well motors would be enclosed within a building. Assuming that the ASR motors would generate noise levels up to 76 dBA at 50 feet, if placed within a building, noise levels would be attenuated by at least 20 dBA, to approximately 56 dBA at 50 feet. Table 4.12-1, *Noise Levels (dBA) – ASR Wells*, identifies the estimated Leq and CNEL noise levels that would occur at the various distances to sensitive receptors.

**Table 4.12-1  
Noise Levels – ASR Wells**

Stationary Source	Distance to Receptor (feet)	L <sub>eq</sub> at Receptor (dBA)	CNEL at Receptor (dBA)
ASR Well Monitor	50	56	63
	350	35	42
	1,050	23	30
	400	33	40

As indicated in the table, CNEL noise levels would be as high as 63 dBA at 50 feet, which would exceed acceptable land use compatibility guidelines for residences and schools, which is up to 60 dBA. Therefore, impacts would be potentially significant; however, implementation of Mitigation Measure NOI-6 (refer to Section 6, *List of Environmental Commitments*) would reduce this impact by requiring the ASR well heads to be housed within an enclosure designed to reduce noise levels by at least 20 dBA. This impact would be mitigated to less than significant.

## 4.13 Socioeconomic Resources

### 4.13.1 No Action Alternative

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects on socioeconomics would occur.

### 4.13.2 Proposed Action

The Proposed Action would have minimal operational impacts on the economies of the communities within which the ASR facilities are proposed, although temporary economic benefits may be experienced when demand for local supplies and services are required during construction. The Proposed Project will contribute to the augmentation of water supplies in the area, as a component of the larger Monterey Bay Regional Water Project. As such, potential growth-inducing impacts are possible.

However, the Monterey Bay Regional Water Project was proposed to comply with SWRCB Order 95-10 and the Seaside Groundwater Basin Adjudication, which are specifically directed at reducing diversion of all supplies along the Carmel River, thereby increasing existing water supplies and, thus, helping to alleviate the water supply challenges that face the Monterey Peninsula. Because the Proposed Action will serve to replace the constrained existing supply, it is not anticipated to attribute to growth inducement in the area.

## 4.14 Public Utilities and Service Systems

### 4.14.1 No Action Alternative

The No Action Alternative would not result in any physical changes to the project site; therefore, no effects on public utilities or service systems would occur.

#### **4.14.2 Proposed Action**

During the construction period, disruption to any existing utilities system will be coordinated with U.S. Army no less than 10 working days in advance of such activities. If required, CAW would attempt to schedule the disruption of utility service during non-peak times (e.g. early a.m.) as feasible. It is not anticipated that such disruption would exceed four hours in duration.

##### **4.14.2.1 Water**

The connection [to the MCWD pipeline] would be temporary and would provide water for test injection purposes only. The project would require connection to a 20-inch water line owned and operated by MCWD. The ASR Pipeline and ASR Recirculation Pipeline would allow conveyance of water between Terminal Reservoir and the ASR wells. The proposed pipelines would extend north along General Jim Moore Boulevard for approximately 5,000 feet, from a connection near the existing MPWMD wells near Coe Avenue to the ASR well sites situated in Fitch Park. These pipelines would be located parallel to an existing 20-inch pipeline owned by the MCWD.

Test facilities would include connection to the MCWD 20-inch transmission main, wellhead piping, valves and fittings; electrical power, local controls, discharges to waste and site access. Permanent wellhead facilities will be designed to facilitate a future intertie to the CAW system for both injection supplies and production of potable water into the CAW distribution system.

Upon completion of construction of Test Well ASR-3 at Fitch Park, pumping and recharge tests would be conducted, measuring water level response in the 6-inch monitor well (MW-1). This will provide critical information regarding aquifer hydraulic characteristics. Initial operations would utilize water obtained from MCWD from their adjacent 20-inch transmission pipeline. Initial operations will include recharge testing at design flow rates (2.1 mgd), or as close to design flow rates as MCWD can provide. Recharge during winter months may be necessary to avoid causing low distribution system pressure problems during summer months when peak demands occur. Development pumping and recovery test pumping will be to waste, discharging either to an onsite percolation pit or to the storm drain that underlies General Jim Moore Boulevard near the ASR-4 site, or more likely to both.

Upon completion of the pumping tests of the ASR-3 test well, CAW may elect to proceed with drilling, developing and testing of the ASR-4 test well located on the southern parcel. Similar to the tests conducted at ASR-3, initial operations at ASR-4 would utilize water obtained from MCWD from the adjacent 20-inch transmission pipeline. Initial operations will include recharge testing at design flow rates (2.1 mgd), or as close to design flow rates as MCWD can provide. Development and recovery pumping will be to waste, discharging either to the onsite percolation pit or to the storm drain that underlies General Jim Moore Boulevard.

Existing water supplies are adequate to provide water to the project for testing and initial operation of the ASR wells. As such, a significant demand on water supplies would not result with the project. No adverse effects have been identified, and impacts would be less than significant.

#### **4.14.2.2 Wastewater**

Due to the nature of the project, no connection to the sewer system would be required. As such, the project would not adversely affect the existing public sewer system or the provision of such services. Impacts would be less than significant.

An existing sewer line is located to the north of the ASR-4 site, within the proposed limits of the temporary construction easement. Project construction activities would avoid this existing line. All required clearances and separations per Department of Health and Monterey County codes and regulations would be maintained, as applicable during project construction.

#### **4.14.2.3 Natural Gas**

Short Term Construction Impacts - Construction may require protection or relocations of existing facilities. Temporary impacts, such as temporary service interruptions and pipeline relocations, may result during construction of pipelines and other facilities near existing natural gas transmission facilities; however, tunneling techniques may be utilized, such as boring and jacking, microtunneling or directional tunneling in areas where it is not feasible to conduct open trench construction. These special construction methods would be used in areas where it is difficult to perform open cut trenching, such as State Route crossings, flood control channel crossings, stream crossings, and high utility congestion areas.

Each crossing presents unique conditions and construction methods may vary depending on physical conditions such as the available construction area, utility interference and contractor's preferred method of construction. Due to the short-term nature of these impacts and the proposed alternative construction techniques, impacts would be less than significant.

Existing pipelines would only be impacted during trenching activities, which would be avoided by following standard practices such as contacting Dig-Alert Underground Location Service or local sewer district representatives for diagrams of underground pipeline placement. With the proper awareness of the locations and depths of existing pipelines and coordination with Pacific Gas and Electric planners, no significant impacts would occur. Additionally, the short-term nature of these impacts and the proposed alternative construction techniques would further reduce the significance of impacts.

#### **4.14.2.4 Electricity**

Electrical service for the project would be provided by PG&E. PG&E is regulated by the CPUC and is required to supply electricity and extend infrastructure to all new developments.

Refer to Section 4.5, Energy, for additional discussion of electrical demand generated by the project.

#### **4.14.2.5 Telephone**

Telephone service (data/voice) for the project site would be provided by the local provider. Existing telephone service facilities are presently located within the project area and would be extended to the ASR well sites by CAW with project implementation. Adequate local service is

available to serve the project, and therefore, no adverse effects would occur with regard to new or increased demand for such services. Impacts would be less than significant.

#### **4.14.2.6 Solid Waste**

The Monterey Regional Waste Management District (MRWMD) manages the Monterey coastal area's solid waste collection/disposal and recycling system. Any solid waste generated by project construction or operation would be deposited in the MRWMD landfill or diverted for recycling or reuse at the District's Materials Recovery Facility.

Project construction activities would generate solid waste during the construction period. Such waste would be delivered to the MRWMD MRF in Marina, for recycling and that it is expected that most of the generated construction waste would be diverted for recycling and reuse, with only a small portion of the construction waste being disposed of at the landfill.

Construction of the two ASR wells is expected to generate a total of 280 cubic yards (140 cubic yards each) of spoils. CAW has indicated that these would be managed the same as trench spoils: reused by CAW at another site, sold, or taken to the MRWMD for recycling or disposal as a last resort. MRWMD accepts for recycling soil that meets specified criteria for "clean soil." Soil not meeting the clean soil criteria may, if approved, be used for cover material at the landfill. Otherwise, the soil not meeting the clean soil criteria or used as cover would be disposed. The facility's rate structure provides an incentive for customers to deliver clean soils for recycling: acceptance of clean soils costs \$1 per ton, soil used for cover costs \$10 per ton, and soil that would be disposed at the landfill costs \$45 per ton.

Maintenance of the ASR wells is expected to generate approximately 240 pounds per year of sediment from the pump to waste system. According to CAW, this material would be reused or sold as clean fill, if possible, or taken to the MRWMD site for recycling or disposal.

As noted above, the MRWMD landfill is permitted to accept 3,500 tons per day and has an expected site live life of approximately 100 years. According to facility information posted at the CIWMB website (CIWMB, 2009c), for the years 2005 through 2007, the MRWMD landfill accepted an average of approximately 231,880 tons per year. Assuming the landfill operates 306 days per year, this is about 760 tons per day. Based on these estimates, the landfill could accept substantial loads for disposal without exceeding its permitted daily tonnage or depleting substantial long-term capacity. As such, solid waste generated by the construction and/or operation of the ASR wells would not adversely affect operations at the landfill. Impacts would be less than significant.

## **4.15 Water Supply**

### **4.15.1 No Action Alternative**

The No Action Alternative would not develop an additional water source for CAW at the Fitch park site. Under this alternative, no adverse impacts to water supply would occur, nor would any of the beneficial impacts associated with the Proposed Action. Water supplies to the Monterey

Peninsula would continue and would further increase the potential for wells to be impacted by seawater intrusion.

#### **4.15.2 Proposed Action**

As discussed in Section 1.0, *Purpose and Need*, ASR involves injecting water into an aquifer through wells or by surface spreading and infiltration and then pumping it out when needed. The aquifer essentially functions as a water bank. Deposits are made in times of surplus, typically during the rainy season, and withdrawals occur when available water falls short of demand. The proposed ASR System would provide additional water storage capacity for CAW, receiving both desalinated water and water from the Carmel River as needed, depending on relative demand and supply from customers, the Carmel River, and desalination operations. Water would be stored in the Seaside Groundwater Basin, and stored water would then be pumped from the Basin during periods of peak demand. The result of implementation of the Proposed Action would ultimately provide additional water storage capacity for CAW and capacity during the summer months, and provide additional drinking water supply to the service area. This would reduce groundwater demands and pumping and reduce the potential impacts to wells by seawater intrusion. As such, no adverse impacts to water supply were identified under the Proposed Action alternative.

### **4.16 Cumulative Impacts**

Cumulative impacts refer to two or more individual effects that, when combined, are considerable, or result in an increase in environmental impacts. No projects within the immediate vicinity of the project site have been identified. In addition, the analysis included in this EA has determined that no adverse operational impacts would result from the Proposed Action; therefore, the cumulative analysis is limited to construction-related activities. The Proposed Action may indirectly result in a contribution to population growth by providing an additional water supply. The growth would not exceed the Fort Ord Reuse Plan or the Association of Monterey Bay Area Government's projections. Cumulative impacts associated with population growth were not identified.

#### **4.16.1 Aesthetics**

Construction activities would temporarily alter views of the areas affected by the project; however, no views of the affected areas would occur from scenic highways. As such visual disruption caused by construction activities would be temporary, and the existing visual character of areas affected by the project would be restored after construction is completed, the project's contribution to impacts with regard to aesthetics would not be cumulatively considerable.

Construction of the proposed facilities at the proposed locations would permanently alter existing views; however, due to the size of the proposed structures, proximity of existing land uses, the undergrounding of the pipelines, and the design measures proposed to reduce the visibility of the facilities within the visual landscape, the project is not anticipated to substantially degrade the visual quality of the project site or surrounding areas or significantly change existing views from public roadways within the project area. As other future projects would be subject to review and implementation of mitigation or design measures to reduce the potential for impacts on visual

resources to occur, the Proposed Action is not considered to contribute to potential cumulative effects on aesthetic resources. As such, project impacts would not be cumulatively considerable.

## **4.16.2 Air Quality**

### **4.16.2.1 Regional Air Quality**

Sources of cumulative air quality impacts would be related to construction activities, including construction equipment exhaust and fugitive dust from ground-disturbing activities. Emissions associated with the project would conflict with or obstruct implementation of the 2008 AQMP if the emissions are not accounted for in the 2008 AQMP. Pursuant to MBUAPCD policy, construction projects in the Basin that use typical construction equipment, such as dump trucks, scrapers, bulldozers, compactors and front-end loaders, that temporarily emit precursors of ozone (i.e., ROG and NO<sub>x</sub>) are accounted for in the emission inventories of State and Federally required air plans. As such, the Proposed Action is consistent with the Air Quality Management Plan and would, therefore, not contribute adverse effects on regional air quality. It should be noted that a conformity determination is not required, as the project area is in attainment for National Ambient Air Quality Standards (NAAQS); however, implementation of these measures would ensure that the proposed project does not result in emissions that would exceed or violate the applicable air quality standards.

### **4.16.2.2 Localized Air Quality**

Monterey Air District has identified a threshold of 82 pounds per day (or disturbance of more than 2.2 acres per day) for PM<sub>10</sub> emissions. The Proposed Action would not have a substantial cumulative contribution to localized concentrations of PM<sub>10</sub> because standard dust control measures to control fugitive dust from ground-disturbing activities would be incorporated, and no other cumulative construction projects would be occurring within a ¼ mile of the Proposed Action.

## **4.16.3 Biological Resources**

Concurrent construction of other planned projects in the region could result in cumulative impacts to biological resources. Monterey dusky-footed woodrat (*Neotoma macrotis*), a California species of special concern; black legless lizard (*Anniella pulchra nigra*), a California species of special concern; coast horned lizard, a California species of special concern and raptors and other migratory birds have the potential to occur at the project site.

Numerous trees exist on the project site. If the project will include the removal of trees, a tree inventory and protection program shall be prepared, which would be required to include a 2:1 replacement ratio, as well as tree protection measures for those trees that are scheduled to remain.

Other projects in the vicinity would be required to adopt avoidance measures to minimize any impacts to biological resources and would also be subject to regulatory permits to either protect or provide compensatory mitigation to any loss of sensitive habitat and resources. Therefore, cumulative impacts to biological resources would not be cumulatively considerable.

#### **4.16.4 Cultural Resources**

Concurrent construction of other planned projects in the region would involve ground-disturbing activities, which could result in the inadvertent discovery of cultural resources. As discussed in Section 4.3, *Cultural Resources*, the Proposed Action is located in an area determined to have a low sensitivity potential according to the Monterey County archaeological sensitivity map. However, any cultural resource found in the project area could provide significant cultural information, and cumulative development in the area could result in the loss of significant cultural resources. Any potential cumulative impacts to an unknown archaeological site would be minimized by evaluation and the development of a Cultural Resources Treatment Plan (CRTP) in which specific protective measures are defined. With implementation of CRTPs for every project planned, cultural resource impacts would be reduced and impacts would not be considered to be cumulatively considerable.

#### **4.16.5 Noise**

As no other cumulative construction projects would be occurring within a ¼ mile of the Proposed Action and standard noise abatement measures will be required by the proposed project, no adverse cumulative noise impacts would result from implementation of the proposed project.

#### **4.16.6 Traffic**

As construction activities would be temporary and no other cumulative construction projects would be occurring within a ¼ mile of the Proposed Action, cumulative traffic-related impacts associated with construction activities have not been identified. In addition, the increase in vehicular traffic associated with the proposed project would be minimal. Therefore, no adverse cumulative traffic impacts would result from project implementation.

### **4.17 Irreversible and Irretrievable Commitment of Resources**

As identified through this EA, although the Proposed Action would utilize natural resources during project construction, the Proposed Action would not result in an increase in the overall rate of consumption or substantial depletion of these resources. In addition, although an increase in electrical demand would result from operations associated with the Proposed Action, an increase in demand that would result in an adverse effect on the load for the electrical grid would not result. Some direct (construction equipment exhaust) and indirect (electricity demand associated with Proposed Action operations) emissions of greenhouse gasses, the effects are not considered substantial. Lastly, no irreversible damages associated with hazards or hazardous wastes would result from implementation of the Proposed Action.

## **Section 5 Consultation and Coordination**

### **5.1 Agencies and Persons Consulted**

No additional contact with public agencies was undertaken for the preparation of this EA; however, agency contact and/or consultation occurred during preparation of the Final EIR and PEA for the Coastal Water Project. Refer to these documents for discussion of the agencies and persons consulted for each.

### **5.2 Field Reviews of the Sites**

No additional field reviews were performed for this EA; however, the following field reviews were previously completed as part of the technical studies for the Coastal Water Project Final EIR and/or PEA and included the areas affected by the Proposed Action:

- Cultural resources reconnaissance surveys were performed by H.T. Harvey & Associates between January 31 and February 4, 2005, excluding areas that were previously surveyed, areas requiring specific landowner permission, posted areas with safety concerns, and areas posted as “environmentally sensitive” for nesting birds.

A cultural resources survey was performed by Pacific Legacy staff in November 2008 for various project components that had not been surveyed previously (Busby 2005).

- Field studies were conducted by H.T. Harvey & Associates staff during late summer 2004 and early winter 2005. Protocol-level surveys for special-status plants were not conducted as part of the Terrestrial Biological Resources Phase II Report, prepared by H.T. Harvey & Associates in April 2005 in support of the PEA. No additional technical analyses for biological resources were prepared at the time when the EIR was prepared.

### **5.3 Public Involvement**

The public was provided the opportunity to review and comment on the Environmental Assessment and findings. The following places were provided a copy of the Environmental Assessment for public review: City of Seaside Library, Marina Library, and the US Army Garrison, Presidio of Monterey. The following newspapers published a Notice of Availability: the Monterey County Herald, the Carmel Pine Cone, and the Monterey County Weekly. The comment period was July 22, 2010 through August 26, 2010. During the review period, only one comment was received; refer to Appendix A Responses to Comments. The comment received was from the provided by the Monterey Peninsula Water Management District and was not at variance with the determination made in the EA. No additional public involvement activity was undertaken for the preparation of this EA. However, public involvement occurred during preparation of the Final EIR and PEA prepared for the Coastal Water Project. Refer to these documents for discussion of the public participation process that was undertaken for each document.

## **5.4 Fish and Wildlife Coordination Act (16 USC § 651 et seq.)**

The Fish and Wildlife Coordination Act requires consultation with fish and wildlife agencies (Federal and State) on all Federal water development projects that could affect biological resources. The Proposed Action is a not Federal water development project, and therefore, the Fish and Wildlife Coordination Act does not apply.

## **5.5 Endangered Species Act (16 USC § 1531 et seq.)**

Section 7 of the Endangered Species Act (ESA) requires Federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of these species.

No additional consultation occurred during preparation of the EA; however, such consultation did occur during preparation of the Final EIR prepared for the Coastal Water Project. Refer to the Final EIR for discussion of the public participation process that was undertaken. Consultation with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) will be required to be completed for any special-status species if their presence is determined during pre-construction biological surveys.

## **5.6 National Historic Preservation Act (16 USC § 470 et seq.)**

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to evaluate the effects of Federal undertakings on historical, archaeological, and cultural resources. Construction activities associated with the Proposed Action were determined to be the type of activities that have the potential to affect historic properties.

Based on background research and field reconnaissance previously conducted for the Monterey Bay Regional Water Project Final EIR and/or PEA, the Area of Potential Effect (APE) for the Proposed Action contains no listed or otherwise known historic and/or cultural resources.

## **5.7 Indian Trust Assets**

Indian Trust Assets (ITAs) are legal interests in property held in trust by the United States for federally-recognized Indian tribes or individual Indians. An Indian trust has three components: (1) the trustee, (2) the beneficiary, and (3) the trust asset. ITA can include land, minerals, federally-reserved hunting and fishing rights, federally-reserved water rights, and in-stream flows associated with trust land. Beneficiaries of the Indian trust relationship are federally-recognized Indian tribes with trust land; the United States is the trustee. By definition, ITA cannot be sold, leased, or otherwise encumbered without approval of the United States. The characterization and application of the United States trust relationship have been defined by case law that interprets Congressional acts, executive orders, and historic treaty provisions.

There are no tribes possessing legal property interests held in trust by the United States in the lands involved with the Proposed Action. Therefore, there would be no adverse affect to ITA.

## **5.8 Migratory Bird Treaty Act (16 USC § 703 et seq.)**

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions between the U.S. and Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the MBTA provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; or possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the MBTA, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting, or exporting of any migratory bird, part, nest or egg would be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits, and migratory flight patterns. This page intentionally left blank.

# Section 6 List of Environmental Commitments

## 6.1 Introduction

The following topical environmental commitments have been adopted by CAW to reduce potential adverse impacts.

## 6.2 Aesthetics

### Construction-Related Visual Impacts

AES-1 Short-term construction equipment staging areas shall be located within the project site through the duration of construction. Appropriate screening (e.g., temporary opaque fencing [six feet in height]) shall be used to buffer views of construction equipment and material. Staging locations shall be indicated on final plans. Additionally, all construction activities shall be consistent with all conditions of approval.

AES-2 For areas visible from adjacent existing or proposed residential areas, exterior mechanical equipment shall be screened and/or landscaped. Equipment to be screened and/or landscaped includes, but is not limited to, heating, air conditioning, and refrigeration equipment; plumbing lines and ductwork; and, transformers.

### Operational-Related Visual Impacts

AES-3 CAW will coordinate with the U.S. Army and Clark Realty to implement complementary architectural and landscaping features into the facility design to be consistent and/or compatible with the future development plans of Fitch Park. The U.S. Army and/or its representative, Clark Realty, shall approve architectural landscaping and fencing plans of the permanent ASR facilities prior to construction of buildings or permanent fences. All proposed architectural and landscaping features shall adhere to the design guidelines provided in the *POM Real Property Master Plan*.

## 6.3 Air Quality

AQ-1 The contractors shall adhere to the following, as required to reduce particulate matter emissions below the MBUAPCD threshold:

- water all active construction areas at least twice daily, unless determined that during a rain event, precipitation provides sufficient soil saturation to ensure that dust particles are not being released into the air.
- cover all trucks hauling soil, sand, and other loose materials and require all trucks to maintain at least two feet of freeboard,

- pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites,
- sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites,
- sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets,
- hydroseed (using plant species that are in accordance with the November 2008 Integrated Natural Resource Management Plan [INRMP], and are approved by DPW-Environmental) or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more),
- enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.),
- limit traffic speeds on unpaved roads to 15 mph,
- install appropriate best management practices or other erosion control measures to prevent silt runoff to public roadways,
- replant vegetation in disturbed areas as quickly as possible (using plant species that are in accordance with the INRMP, and are approved by DPW-Environmental),
- install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site,
- limit the area subject to excavation, grading and other construction activity at any one time,
- post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints (the person shall respond to complaints and take corrective action within 48 hours), and ensure that the phone number of MBUAPCD is visible to ensure compliance with Rule 402 (Nuisance).

AQ-2

Subject to approval by the MBUAPCD prior to and, as needed, during project construction, CAW and the contractor shall implement measures to reduce or eliminate diesel exhaust emissions to meet identified thresholds of significance, such as reduction in hours of operation of equipment contributing to such emissions or by utilizing oxidation catalysts or catalytic particulate matter filters on all diesel-powered equipment above 50 horsepower that require CARB-certified low-sulfur diesel fuel (less than or equal to 15 parts per million by

weight). Site-specific risk assessment may be required to determine the appropriate measures to implement.

## 6.4 Biological Resources

### BIO-1

Conduct Pre-Construction Surveys for special-status wildlife species during the appropriate time of year for each species, including the following: Monterey dusky-footed woodrat (*Neotoma macrotis*), a California species of special concern; black legless lizard (*Anniella pulchra nigra*), a California species of special concern and coast horned lizard, a California species of special concern; and raptors and migratory birds. A copy of the report including findings and proposed avoidance and/or mitigation measures shall be provided to the Army Directorate of Public Works, Environmental Division, prior to commencement of any construction activities.

Because the Monterey dusky-footed woodrat has a moderate potential to occur within the project site, the following measures shall be implemented if individuals are found:

- The project proponent shall retain a qualified DFG-approved biologist to conduct pre-construction surveys within three days prior to construction for woodrats nests within the Project area and in a buffer zone 100 feet out from the limit of disturbance. All woodrat nests shall be flagged for avoidance of direct construction impacts, where feasible. Any active nests that will not be in areas of grading or vegetation removal will be avoided and protected during Project activities with a minimum 25-foot buffer. Nests that cannot be avoided shall be manually deconstructed prior to land clearing activities to allow animals to escape harm and to reestablish territories for the next breeding season. Nests shall be dismantled during the non-breeding season, between October 1 and December 31. Dismantling shall be done by hand, allowing any animals to escape either along existing woodrat trails or toward other available habitat. If a litter of young is found or suspected, nest material shall be replaced, and the nest left alone for two to three weeks before rechecking the nest to verify that young are capable of independent survival before proceeding with nest dismantling.

### BIO-2

Conduct Pre-Construction Surveys for Raptors and their Nests and Migratory Bird Species. Construction activities can be timed to avoid the nesting season period. Specifically, ground disturbance, in addition to tree removal and vegetation clearance, can be scheduled after September 1 and before January 31 to avoid impacts to these species. Alternatively, if avoidance of the nesting period is not feasible, pre-construction surveys shall be conducted for nesting raptors and other migratory bird species within 300 feet of proposed construction activities if construction is to be initiated between February 1 and August 31. Pre-

construction surveys shall be conducted no more than 30 days prior to the start of construction. If nesting raptors or other migratory bird species are identified during the pre-construction surveys, the DFG and the Army Natural Resource Specialist shall be contacted and an appropriate no-disturbance buffer imposed within which no construction activities or disturbance shall take place (generally 250 feet in all directions for raptors) until the young of the year have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist and the DFG. This construction buffer must be reviewed and approved by the U.S. Army Garrison DPW Environmental Division.

BIO-3 Conduct an Employee Education Program. Prior to construction activities, the Project proponent shall retain a qualified biologist to conduct an Employee Education Program for the construction crew. The biologist shall meet with the construction crew at the Project site at the onset of construction to educate the construction crew on the following: 1) a review of the Project boundaries; 2) all special-status species that may be present, their habitat, and proper identification; 3) the specific mitigation measures that will be incorporated into the construction effort; 4) the general provisions and protections afforded by the DFG; and 5) the proper procedures if a special-status animal is encountered within the project site. The U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Game (CDFG) and the Army will be notified if any special-status wildlife species is observed during pre-construction biological surveys. In addition, any mitigation, salvaging or restoration plan will require review and approval by the U.S. Army Garrison DPW Environmental Division.

BIO-4 Prepare a Tree Inventory and Protection Program for Existing Trees. If the project will include the removal of trees, a 2:1 replacement ratio will be implemented. Trees not planned for removal shall be protected during construction to the maximum extent feasible in accordance with the Integrated Natural Resource Management Plan for the Presidio of Monterey and Ord Military Community. This shall include the use of exclusionary fencing such as hay bales, orange cyclone fencing, and/or protective wood barriers. Only certified weed-free straw shall be used to avoid the introduction of non-native, invasive species. Protective fencing shall be placed so as to keep construction vehicles and personnel from impacting trees adjacent to the project site outside of work limits. Species, planting sites and tree protection measures must be reviewed and approved by the U.S. Army Garrison DPW Environmental Division.

## **6.5 Cultural Resources**

CULT-1 If archaeological resources or human remains are accidentally discovered during construction, the cultural resources point of contact at the U.S. Army Garrison, Presidio of Monterey, will be notified immediately. Consultation procedures and planning requirements shall be implemented from Section 3 and Section 5 of the Native American Graves Protection and Repatriation Act (NAGPRA) prior to issuing approval to proceed with the project upon inadvertent discovery of cultural items from Federally-owned or Army controlled lands, in compliance

with Army Regulation (AR) 200-1. Work shall be halted within 50 meters (150 feet) of the find until it can be evaluated by a qualified professional archaeologist. If the find is determined to be adverse, appropriate mitigation measures shall be formulated and implemented with the concurrence of the lead agency. If the find includes human remains, the County Coroner and Army POC must be notified. If the remains are determined to be Native American remains, the Native American Heritage Commission shall be notified. The Native American Heritage Commission will appoint a Most Likely Descendant who will provide recommendations for the disposition of the remains. All activities with regard to the discovery and handling of human remains will comply with applicable requirements of the Integrated Cultural Resource Management Plan (ICRMP).

## **6.6 Geology and Soils**

- GEO-1 To minimize the potential effects from strong seismic ground shaking on project components, a project specific geotechnical analysis shall be performed by a registered professional engineer with geotechnical expertise prior to the development of project level plans. The recommendations of the geotechnical analysis shall be incorporated into project plans and implemented during construction, as appropriate.
- GEO-2 The engineer shall develop project level plans based upon and in response to the observations and recommendations made in the project specific geotechnical analysis.
- GEO-3 To minimize potential soil erosion impacts, the Project will implement the following typical BMPs:
- Regularly water the construction site.
  - Apply certified weed-free erosion control measures, such as mulch and fiber rolls for erosion prevention, if necessary.
  - Use grading and landscaping methods that lower the potential for downstream sedimentation.
  - Ensure that structural erosion and sediment transport control measures are ready for implementation prior to the onset of the first major storm of the season.
  - Trap sediment before it leaves the site with such certified weed-free techniques as sediment ponds, straw bales, gravel bags, or silt fences.

## **6.7 Hazards and Hazardous Materials**

- HAZ-1 In the event the Grantee or any person should encounter or suspect they have encountered MEC on the project site, they shall not attempt to disturb, remove, or

destroy it, but shall cease any intrusive or ground-disturbing activities being conducted at the project and immediately notify the installation's military police or fire department so that appropriate EOD personnel can be dispatched to address such MEC. The Grantor shall dispose of such MEC at no expense to the Grantee.

The U.S. Army Garrison, POM, Department of Public Works shall review any construction plans that involve the removal of surface soils and shall have the authority to appoint a Military Munitions monitor, as deemed appropriate by the U.S. Army. The Munitions Monitor shall be present during grading in areas where excavation exceeds two feet. If munitions or munitions constituents are discovered, the Army will be consulted and all response actions shall be in accordance with Army requirements, in addition to all other appropriate laws and regulations. Military Munitions encountered shall be properly managed. Access shall be restricted to adjacent areas by means of temporary fencing and signage.

HAZ-2 For areas recommended or required by U.S. Army, the CAW shall require that all construction workers receive a U.S. Army Military Munitions safety orientation from the U.S. Army Garrison, POM, Department of Public Works, prior to starting construction, and on an as-needed basis thereafter. In the event Military Munitions is suspected or discovered, the following actions shall be taken: CAW and their contractors shall immediately suspend actions which may affect the item;

- the item shall not be touched or disturbed;
- the location shall be clearly marked;
- the local law enforcement agency [Presidio of Monterey (POM) Police] contacted immediately for further investigation; and,
- Upon notification, the police shall secure the area and make arrangements to have the item identified and destroyed.

## 6.8 Hydrology and Water Quality

HWQ-1 In coordination with MPWMD, CAW will monitor the injected and extracted water for disinfection system by-products test.

HWQ-2 In order to ensure the project will not result in adverse impacts to water quality the following mitigation measure will be implemented as part of the Project.

The project applicant will file a NOI to comply with the terms of the General Permit to Discharge Storm Water Associated with Construction Activity and submit a SWPPP to the CCRWQCB. A SWPPP contains a listing and implementation plan for use of storm water BMPs that would be implemented during construction of the project to minimize erosion and sedimentation. The

SWPPP also requires the implementation of monitoring programs, post-development BMPs, and water quality management strategies.

## 6.9 Noise

- NOI-1      The contractor shall locate all stationary noise-generating equipment as far as possible from nearby noise-sensitive receptors. Where possible, noise-generating equipment shall be shielded from nearby noise-sensitive receptors by noise-attenuating devices (e.g. sound walls). Contractor specifications shall include a requirement that drill rigs, located within 500 feet of noise-sensitive receptors shall be equipped with noise reducing engine housings or other noise reducing technology such that drill rig noise levels are no more 85 dBA at 50 feet, and the line of sight between such sources the drill rig and nearby sensitive receptors shall be blocked by portable acoustic attenuators and/or shields (i.e. sound walls) to reduce noise levels by at least an additional 10 dBA. For nighttime drilling activities within 500 feet of residences, the drill rig sites shall be equipped with noise control blankets designed to achieve a Sound Transmission Class (STC) rating of 25 or more so that noise levels 50 feet from the drilling site would be no more 60 dBA.
- Portable acoustic attenuators (sound walls) shall be placed around noise-generating equipment located less than 200 feet from noise-sensitive receptors.
- NOI-2      The contractor shall assure that construction equipment powered by gasoline or diesel engines have sound control devices at least as effective as those provided by the original equipment manufacturer. No equipment shall be permitted to have an unmuffled exhaust.
- NOI-3      The contractor shall assure that noise-generating mobile equipment and machinery are turned off when not in use.
- NOI-4      Residences within 500 feet of a construction area shall be notified of the construction schedule in writing, prior to construction. CAW and the contractor shall designate a noise disturbance coordinator who would be responsible for responding to complaints regarding construction noise. The coordinator shall determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem. A contact number for the noise disturbance coordinator shall be conspicuously placed on construction site fences and written into the construction notification schedule sent to nearby residences.
- NOI-5      Temporary hotel accommodations shall be provided by CAW to all residents located within 50 feet of a designated construction area where construction activities would occur on a 24-hour continuous basis. The accommodations shall be provided for the duration of the 24-hour construction activities.
- NOI-6      All stationary noise sources (e.g., pump stations, permanent and emergency power generators, variable frequency drive motors, well heads with motors, etc.) shall be

located within enclosed structures with adequate setback and screening, as necessary, to achieve acceptable regulatory noise standards for industrial uses as well as to achieve acceptable levels at the property lines of nearby residences. Noise enclosures shall be designed to reduce equipment noise levels by at least 20 dBA. Once the stationary noise sources have been installed, noise levels shall be monitored to ensure compliance with local noise standards. If project stationary noise sources exceed the applicable noise standards, an acoustical engineer shall be retained by CAW to install additional noise attenuation measures in order to meet the applicable noise standards.

## **Section 7 List of Preparers and Reviewers**

### **7.1 List of Preparers**

#### **7.1.1 RBF Consulting, EA Preparers**

Paul Findley, P.E., Project Manager, Water Resources  
Kevin Thomas, Project Manager, Environmental Services  
Lorraine Ahlquist, Project Manager, Environmental Services  
Monica Kling, Environmental Analyst  
Renee Randolph, Environmental Planner  
Nicole Marotz, Environmental Planner  
Tyla Montgomery, P.E., Design Engineer  
Hilary Potter, Administrative Assistant

### **7.2 List of Reviewers**

Doug Guenther, US Army Presidio of Monterey, DPW Acting Environmental Chief  
Lorrie Madison, US Army Presidio of Monterey, DPW Natural Resources Manager  
Tania Leisten, US Army Presidio of Monterey, DPW Air and Water Compliance Manager  
Bob Guidi, US Army Presidio of Monterey, DPW Community Planner  
Juliette Sager, US Army Presidio of Monterey, DPW Real Property Specialist  
John C. Klein, P.E., California Water, Senior Operations Engineer  
James Pigg, Office of the Staff Judge Advocate, Environmental Law Branch, HQ IMCOM  
(Ft. Sam Houston, San Antonio, TX)  
Pamela M. Klinger, US Army Environmental Command FST,  
(Ft. Sam Houston, San Antonio, TX)  
William Genova, Chief, Operations & Maintenance, Dept. of Public Works,  
US Army Garrison, Presidio of Monterey  
Donald Letson, Engineering Technician, Operations & Maintenance, Dept. of Public Works,  
US Army Garrison, Presidio of Monterey  
Thomas Uncles, Chief, Business Operations and Integration Division, Dept. of Public Works,  
US Army Garrison, Presidio of Monterey  
Thomas Ivey, EMS Coordinator, Environmental Division, Dept. of Public Works,  
US Army Garrison, Presidio of Monterey  
Young J. Park, Office of Staff Judge Advocate, DLIFLC & Presidio of Monterey

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# **Appendix A**

## **Responses to Comments**



August 26, 2010

\*\*TRANSMITTED ALSO VIA E-MAIL\*\*

Lenore Grover-Bullington, POM  
Environmental Chief, US Army Garrison  
Presidio of Monterey  
4463 Gigling Road  
Monterey, CA 93944

**SUBJECT: COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT FOR  
MONTEREY BAY REGIONAL WATER PROJECT – AQUIFER STORAGE  
AND RECOVERY**

Dear Ms. Grover-Bullington:

The Monterey Peninsula Water Management District (MPWMD or District) appreciates this opportunity to comment on the above-referenced document. The District has reviewed the document and concurs with the proposed action. Notably, since 1998, the District has worked jointly with California American Water on Aquifer Storage and Recovery (ASR) in the Seaside Basin, and will continue these efforts in future years. If you have any questions, the MPWMD staff contact is Joe Oliver, Water Resources Division Manager, at 831/658-5630 or [joe@mpwmd.dst.ca.us](mailto:joe@mpwmd.dst.ca.us).

Thank you for your consideration.

Sincerely,

A handwritten signature in cursive script that reads "Henrietta Stern".

Henrietta Stern  
Project Manager

Cc: Joe Oliver

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Prepared by H. Stern on 8/26/2010

## Comment Letter A – Monterey Peninsula Water Management District, August 26, 2010

A-1 Concurrence with the proposed action has been noted.

A-1