EXECUTIVE SUMMARY

This chapter contains the following sections:

ES.1 Introduction

This Environmental Impact Report (EIR) has been prepared by the California Public Utilities Commission (CPUC) pursuant to the California Environmental Quality Act (CEQA) to analyze the potential environmental impacts of a proposed new water supply project for the Monterey Peninsula. The proposed project is called the Coastal Water Project (CWP) and is being proposed by the California American Water Company (CalAm). The water supply is needed to replace existing supplies that are constrained by ~~recent~~ legal decisions affecting the Carmel River and Seaside Groundwater Basin water resources, as described in more detail in Chapter 2. The CWP would produce desalinated water, convey it to the existing CalAm distribution system, and increase the system's use of storage capacity in the Seaside Groundwater Basin. The CWP would consist of several distinct components: a seawater intake system; a desalination plant; a brine discharge system; product water conveyance pipelines and storage facilities; and an aquifer storage and recovery (ASR) system. This Draft Environmental Impact Report (EIR) assesses the potential impacts of the Coastal Water Project.

This document has been prepared in accordance with the California Environmental Quality Act statutes and guidelines. CPUC is the lead agency for this CEQA process. Inquiries about the project should be directed to:

Andrew Barnsdale
c/o Environmental Science Associates
225 Bush Street
San Francisco, CA 94104
(www.cwp-eir.com/notify.html)

ES.2 Project Background and Objectives

The California American Water Company has served the Monterey Peninsula since it acquired properties from California Water and Telephone Company in 1966. CalAm's Monterey District service area is located in the semi-arid central California coastal area that is entirely dependent on local rainfall for its water supply; imported water is not an available 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 CalAm. An additional source of water for CalAm is a network of eight wells located in the Seaside Basin, which CalAm shares with a number of users and purveyors.

The CalAm Monterey Service Area, also known as the Monterey District, includes six incorporated cities, the Monterey Airport District, the unincorporated areas of Carmel Highlands, Carmel Valley, and Pebble Beach, and other unincorporated county areas. Moss Landing, an unincorporated ~~"census-designated place"~~ community of Monterey County classified by the U.S Census Bureau as a "census designated place", is located approximately 19 miles north of the CalAm service area. The City of Marina, unincorporated Castroville, and other areas of unincorporated Monterey County lie between Moss Landing and the CalAm service area.

The proposed water supply is needed to replace existing supplies that are constrained by ~~recent~~ legal decisions affecting the Carmel River and Seaside Groundwater Basin water resources: 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 CalAm's use of its two primary sources of supply for the Monterey District and provide the most immediate impetus for the CWP.

As proposed by CalAm, the CWP would produce desalinated water, convey it to the existing CalAm distribution system, and increase the system's use of storage capacity in the Seaside Groundwater Basin. The CWP would consist of several distinct components: a seawater intake system; a desalination plant; a brine discharge system; product water conveyance pipelines and storage facilities; and an aquifer storage and recovery (ASR) system.

The CWP is the result of a multi-year planning effort that has entailed thorough consideration of many alternatives in the context of several different proposed projects and various related documents. Since 1989, several options have been proposed that proponents have hoped would meet the water supply needs of the Monterey Peninsula and address the impacts on the Carmel River underlying SWRCB Order 95-10. The objectives that were considered during development of CWP projects are as follows:

- Satisfy CalAm's obligations to meet the requirements of SWRCB Order 95-10;
- Diversify and create a reliable drought-proof water supply;
- Protect the Seaside Basin for long-term reliability;
- Protect listed species in the riparian and aquatic habitat below San Clemente Dam;
- Protect the local economy from the effects of an uncertain water supply;

- Minimize water rate increases by creating a diversified water supply portfolio;
- Minimize energy requirements and greenhouse gas (GHG) emissions per unit of water delivered to the extent possible;
- Explore opportunities for regional partnerships, consistent with the Administrative Law Judge Decision (Decision 03-09-022, dated September 4, 2003);
- Avoid duplicative facilities and infrastructure.

The final three objectives listed here were not submitted as part of the original PEA or CalAm's Application for a CPCN. They were developed, rather, by the CPUC during the process of compiling this EIR.

ES.3 Project Description and Alternatives

This EIR analyzes at an equal level of detail three water supply projects that can each satisfy the objectives of the Coastal Water Project. The Proponent's Environmental Assessment (CalAm and RBF Consulting, 2005) described the CWP assuming the proposed desalination plant would be situated at Moss Landing (this is referred to as the Applicant's Proposed Project, or the Moss Landing Project) to take advantage of the existing cooling water intake system at the Moss Landing Power Plant (MLPP) for source water, and the existing MLPP ocean outfall for the disposal of brine. Since that time, two alternative projects have been developed that are also capable of satisfying the objectives of the CWP. The project facilities for the Moss Landing Project, the North Marina Project, and the Regional Project are summarized in **Table ES-1**.

The first alternative, known as the North Marina Project, includes most of the infrastructure improvements proposed for the CWP. The main differences are that the North Marina Project's desalination facility would be constructed at a different site (in North Marina) and the desalination facility's production capacity would be slightly greater than that of the Moss Landing facility. The North Marina Project would also utilize subsurface seawater intakes for the desalination plant source water (slant wells at the end of Reservation Road), and would require fewer miles of product water conveyance pipeline than the Moss Landing Project. The North Marina Project was initially identified in the PEA and subsequently refined by CalAm and the CPUC. The North Marina Project would meet all of the project objectives of the CWP and is analyzed in this EIR at a level of detail equal to that devoted to the Moss Landing Project. ~~the CWP.~~ Both the Moss Landing and North Marina Projects are described in Chapter 3, and both projects are analyzed in Chapter 4 of this EIR. CalAm would be the owner and operator of either of these two projects. The CPUC, as the Lead Agency under CEQA, will use this document to approve one of them to implement the CWP if it decides to approve either of these two projects.

The second alternative project analyzed in this EIR is the Monterey Regional Water Supply Project (Regional Project), which is proposed by Water for Monterey County (formerly known as the Regional Plenary Oversight Group, or REPOG) as a community-developed long-term water supply alternative. The Regional Project, as described in Chapter 5 and analyzed in Chapter 6, was submitted to the CPUC in June 2008, revised in January 2009 (see EIR Appendix N), and further revised in October 2009 (see EIR Appendix Q). In response to additional analyses and to public comments received on the DEIR since its publication in January 2009, Marina Coast

TABLE ES-1
PROJECT FACILITIES

	Moss Landing Project	North Marina Project	Phase 1 Regional Project	Full Regional Project
Desalination Plant	10 MGD at Moss Landing	11 MGD at North Marina	10 MGD at North Marina	13 MGD (total) at North Marina
Source Water	Existing cooling water system at the MLPP	6 new subsurface intakes (slant wells)	~~5~~ 6 new subsurface intakes (vertical wells)	~~10~~ 8 (total) new subsurface intakes (vertical wells)
Brine Disposal	Existing MLPP Outfall	Existing Outfall at MRWPCA		
Product Water Conveyance	Transmission Main North			
	Transmission Main South			
Seaside Groundwater ASR	2 existing and 2 new injection/extraction wells			
			~~3 additional injection wells~~	3 additional injection wells
				2 additional injection wells
Surface Water Treatment			~~Existing Salinas River Diversion Facility and new 14 MGD Plant at North Marina~~	Existing Salinas River Diversion Facility and new 14 MGD SWTP at North Marina
				Expansion of Salinas River Diversion Facility and 14 MGD SWTP at North Marina
Salinas Basin Groundwater for North Monterey County				Expansion of the Castroville Seawater Intrusion Project, Perched water storage at the Armstrong Ranch, additional distribution pipelines
Seaside Groundwater Basin Replenishment Project				Reverse Osmosis treatment of recycled water from MRWPCA treatment plant at an Advanced Water Treatment Plant and injection of treated water for groundwater recharge

Water District (MCWD), California American Water (CalAm), and Monterey County Water Resources Agency (MCWRA) have been working together to clarify and refine the components of Phase 1 of the Regional Project. This chapter has been updated to reflect the changes to the project components and phasing. References to the "Regional Project" herein and in all chapters of this EIR refer to the Monterey Regional Water Supply Program as described in the DEIR and as revised in the Final Technical Memorandum prepared by MCWD, CalAm, and MCWRA on October 15, 2009 (Appendix Q) and its supporting documents (see Master Response Changes to Desalination Facility and Regional Project Description).

The Regional Project~~, which is described separately in Chapter 5 and analyzed in Chapter 6,~~ would integrate the development and allocation of several water supply sources, including desalination, to address existing and projected future demands within the CalAm service area, as well as existing and future demands in other areas of northern Monterey County. The Regional Project as proposed would be implemented in phases and would incorporate most of the components of the North Marina Project. Specifically, the Regional Project would also utilize the existing Salinas River Diversion Facility (SRDF), and would include a new surface water treatment plant. However, instead of employing slant wells for desalination source water as would the North Marina Project, the Regional Project would employ vertical wells to draw water from beneath the inland side of the beach dunes, and would add capacity to store additional water in the Seaside Groundwater Basin. As proposed in the Regional Project alternative, the Marina Coast Water District (MCWD) would be the owner of the regional desalination facility and the surface water treatment plant. To be implemented, it is assumed the MCWD would use this EIR in considering approval of some of the Regional Project facilities.

ES.3.1 Project and Program Evaluations

The analytical and organizational approach to the analysis of environmental impacts is intended to enable the public and decision-makers to meaningfully compare the impacts of the Moss Landing Project and the North Marina Project, both of which have been analyzed in Chapter 4, with those of the Regional Project, analyzed in Chapter 6.

As described in Chapter 4, two alternative projects, the Moss Landing Project (referred to as the Applicant's Proposed Project) and the North Marina Project (the first alternative project), have been developed that are capable of satisfying the objectives of the CWP. Many of the infrastructure improvements proposed for the Moss Landing Project are the same as those proposed for the North Marina Project. The main differences between the Moss Landing and North Marina Projects are that the North Marina Project's desalination facility would be constructed at a different site (in North Marina) and the desalination facility's production capacity would be slightly greater than that of the Moss Landing Project's facility. The components of the Moss Landing and North Marina Projects are sufficiently defined so as to lend themselves to relatively near-term implementation and analysis at a project level of detail. This project level analysis is provided in Chapter 4.

As described in Chapter 5, the Regional Project (the second alternative project) includes two separate but related phases. The Phase 1 elements taken together would satisfy the replacement demand function of the CWP (in the same manner as the Moss Landing Project or the North Marina Project) and could also satisfy broader regional objectives to coordinate water supply for both CalAm and Marina Coast Water District customers. The components of Phase 1 are either already approved (with some being currently implemented) or are sufficiently defined so as to lend themselves to relatively near-term implementation and analysis at a project level of detail. This project level analysis is provided in Chapter 6.

On the other hand, the components within Phase 2 represent a set of actions that could be taken to satisfy longer term regional water demand, including water for approved growth, but may also require more detailed CEQA review at the appropriate time if and when they are formally

considered for approval. The Phase 2 components are included in the Regional Project for informational purposes since they would not function as an alternative to strictly meeting the objectives of the CWP and none of them would be subject to CPUC approval at this juncture. As such, the Phase 2 components are studied at a more general, programmatic level, consistent with the available information and level of detail associated with those elements.

When subsequent environmental review for facilities evaluated at a program level of detail is undertaken, the information contained in this EIR will be revisited to determine the accuracy and the adequacy of these evaluations.

ES.3.2 Schedule

The ~~S~~schedule representing permitting, design, and implementation ~~to~~ of the Coastal Water Project is shown ~~on pages ES-7 to ES-9~~ in **Figures ES-1a, ES-1b and ES-1c.**

ES.4 Summary of Impacts

Tables ES-2 and **ES-3**, at the end of this chapter, present a summary of the environmental impacts associated with each of the proposed components of the Moss Landing Project, the North Marina Project, the Phase 1 Regional Project, and the Phase 2 Regional Project. Also provided on the summary tables are collective impact summaries stating the overall environmental impacts for each of the projects.

The level of significance for each impact was determined using significance criteria (thresholds) developed for each category of impacts. The significance criteria are presented in the appropriate sections of Chapter 4 and 6. Significant impacts are those adverse environmental impacts that would meet or exceed the significance thresholds; less-than-significant impacts would not exceed the thresholds.

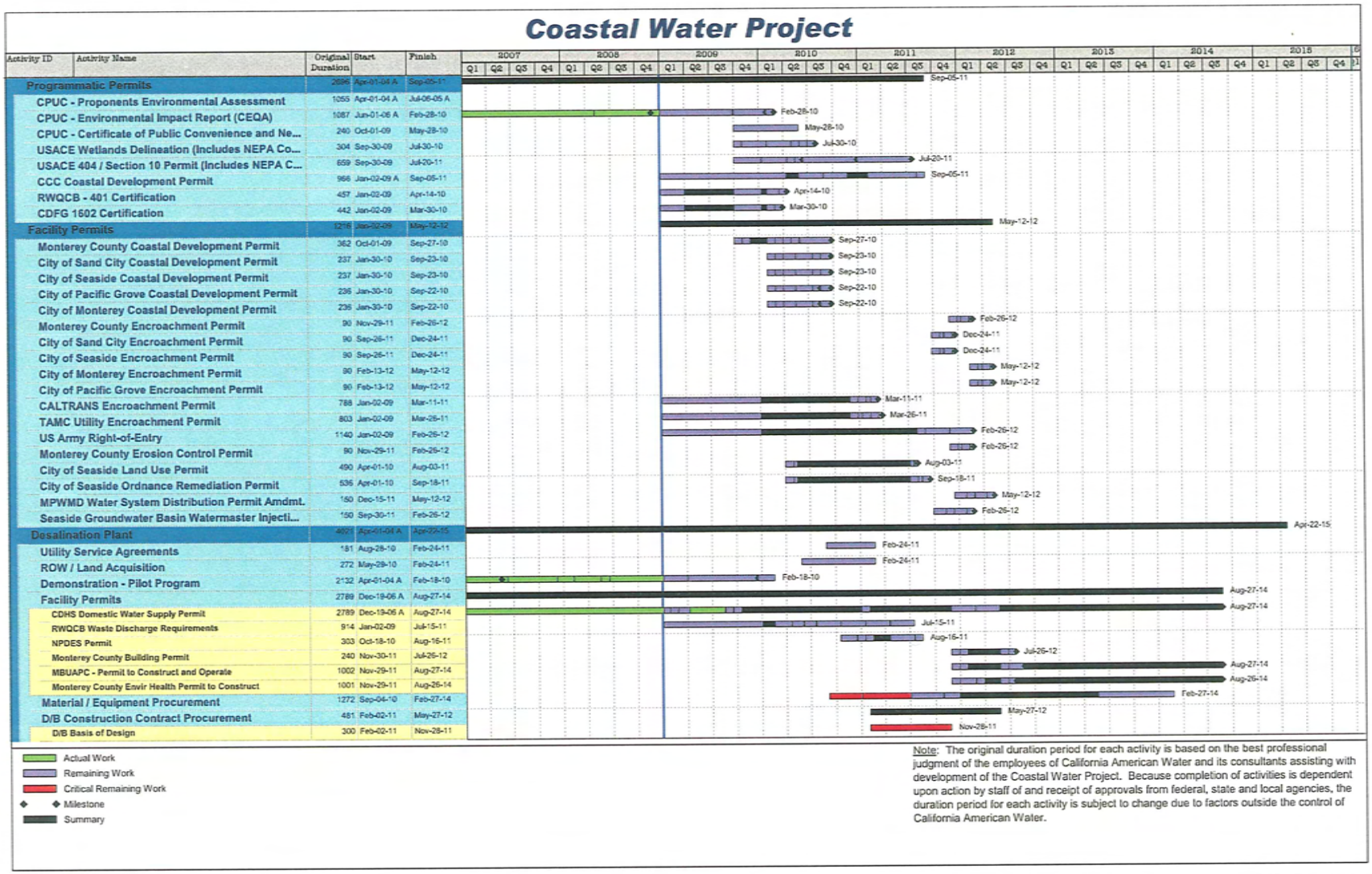
ES.4.1 Significant and Unavoidable Impacts

There are several impacts discussed in this EIR that are considered significant and unavoidable. These impacts have been identified for some projects in the areas of geology, soils, and seismicity; and air quality~~; and, noise~~. In addition, some of the indirect effects of growth resulting from implementation of the CWP as a whole (see Chapter 8) are considered significant and unavoidable for Phase 2 of the Regional Project. These impacts are discussed by resource area below.

ES.4.1.1 Greenhouse Gas (GHG) Emissions

The total estimated GHG emissions amounts that would be associated with the operations of the proposed Moss Landing Project or the North Marina Project would exceed the amount of CARB's preliminary draft significance threshold. Implementation of Mitigation Measures ~~(detailed in Chapter 4, Section 4.8)~~ would reduce short-term construction and long-term operations emissions of GHG Additionally, implementation of Mitigation Measures 4.8-5c:

Coastal Water Project



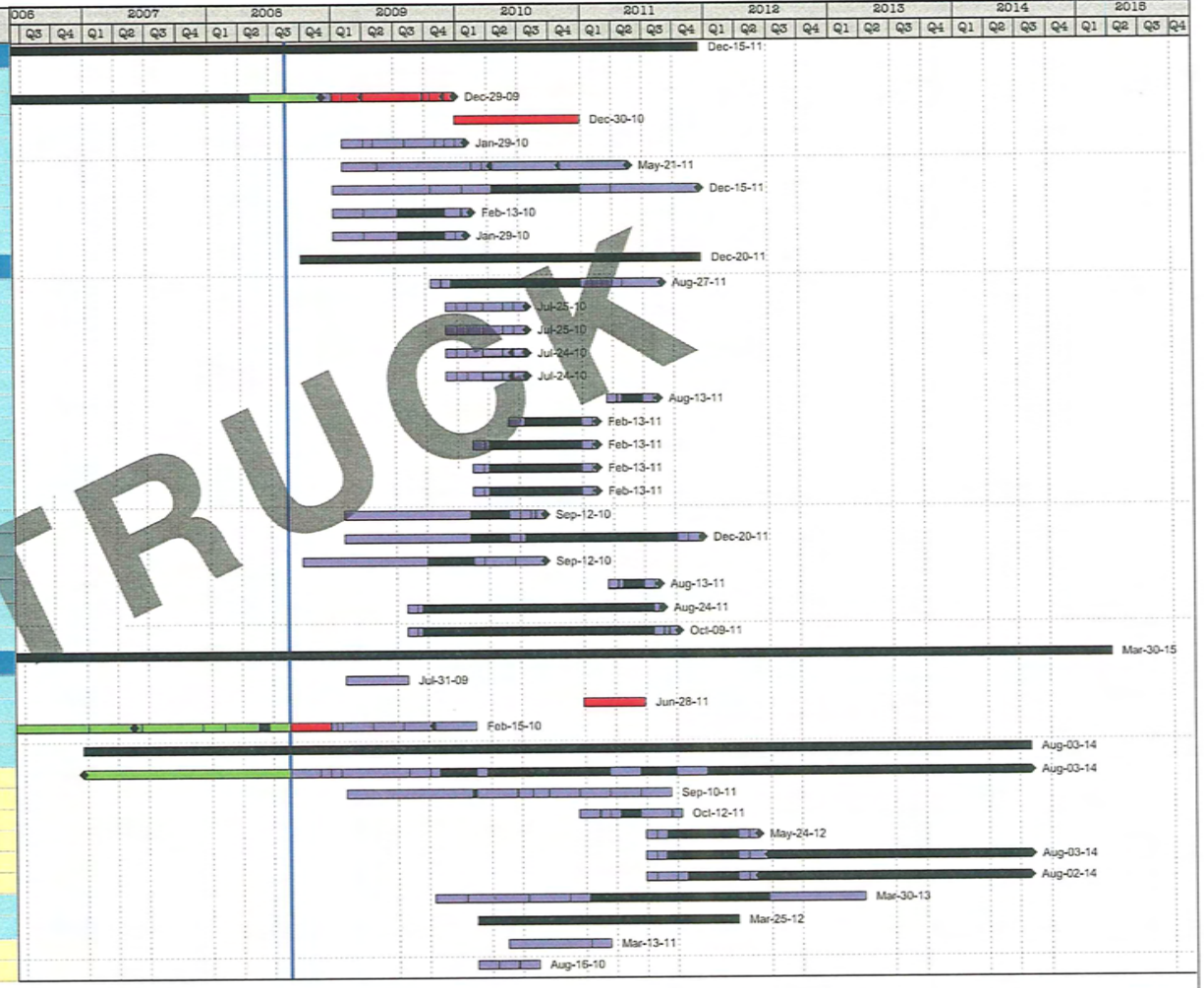
Note: The original duration period for each activity is based on the best professional judgment of the employees of California American Water and its consultants assisting with development of the Coastal Water Project. Because completion of activities is dependent upon action by staff of and receipt of approvals from federal, state and local agencies, the duration period for each activity is subject to change due to factors outside the control of California American Water.

SOURCE: RBF Consulting, 2009

Revised Figure ES-1a
Anticipated Project Schedule

Coastal Water Project

Activity ID	Activity Name	Original Duration	Start	Finish
	Programmatic Permits	2011	Apr-01-04 A	Dec-15-11
	CPUC - Proponents Environmental Assessment	753	Apr-01-04 A	Jul-06-05 A
	CPUC - Environmental Impact Report (CEQA)	746	Jun-01-06 A	Dec-29-09
	CPUC - Certificate of Public Convenience and Necessity	262	Dec-30-09	Dec-30-10
	USACE Wetlands Delineation (Includes NEPA Compliа...	260	Jan-31-09	Jan-29-10
	USACE 404 / Section 10 Permit (Includes NEPA Compli...	600	Jan-31-09	May-21-11
	CCC Coastal Development Permit	770	Jan-02-09	Dec-15-11
	RWQCB - 401 Certification	291	Jan-02-09	Feb-13-10
	CDFG 1602 Certification	281	Jan-02-09	Jan-29-10
	Facility Permits	842	Sep-27-08	Dec-20-11
	Monterey County Coastal Development Permit	487	Oct-15-09	Aug-27-11
	City of Marina Coastal Development Permit	170	Nov-29-09	Jul-25-10
	City of Seaside Coastal Development Permit	170	Nov-29-09	Jul-25-10
	City of Pacific Grove Coastal Development Permit	170	Nov-29-09	Jul-24-10
	City of Monterey Coastal Development Permit	170	Nov-29-09	Jul-24-10
	Monterey County Encroachment Permit	110	Mar-14-11	Aug-13-11
	City of Marina Encroachment Permit	185	May-30-10	Feb-13-11
	City of Seaside Encroachment Permit	260	Feb-14-10	Feb-13-11
	City of Monterey Encroachment Permit	260	Feb-14-10	Feb-13-11
	City of Pacific Grove Encroachment Permit	260	Feb-14-10	Feb-13-11
	CALTRANS Encroachment Permit	420	Feb-01-09	Sep-12-10
	TAMC Utility Encroachment Permit	752	Feb-01-09	Dec-20-11
	US Army Right-of-Entry	510	Sep-27-08	Sep-12-10
	Monterey County Erosion Control Permit	110	Mar-14-11	Aug-13-11
	City of Seaside Land Use Permit	538	Aug-01-08	Aug-24-11
	City of Seaside Ordnance Remediation Permit	570	Aug-01-08	Oct-09-11
	Desalination Plant	2068	Apr-01-04 A	Mar-30-15
	Utility Service Agreements	130	Feb-01-09	Jul-31-09
	ROW / Land Acquisition	128	Dec-30-10	Jun-28-11
	Demonstration - Pilot Program	1533	Apr-01-04 A	Feb-15-10
	Facility Permits	1988	Dec-19-06 A	Aug-03-14
	CDHS Domestic Water Supply Permit	1988	Dec-19-06 A	Aug-03-14
	RWQCB Waste Discharge Requirements	680	Feb-01-09	Sep-10-11
	NPDES Permit	217	Dec-14-10	Oct-12-11
	Monterey County Building Permit	236	Jun-29-11	May-24-12
	MBUAPC - Permit to Construct and Operate	808	Jun-28-11	Aug-03-14
	Monterey County Envir Health Permit to Construct	808	Jun-28-11	Aug-02-14
	Material / Equipment Procurement	901	Oct-16-09	Mar-30-13
	D/B Construction Contract Procurement	549	Feb-16-10	Mar-25-12
	D/B Basis of Design	215	May-16-10	Mar-13-11
	D/B Construction RFQ	130	Feb-16-10	Aug-16-10



Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

Summary

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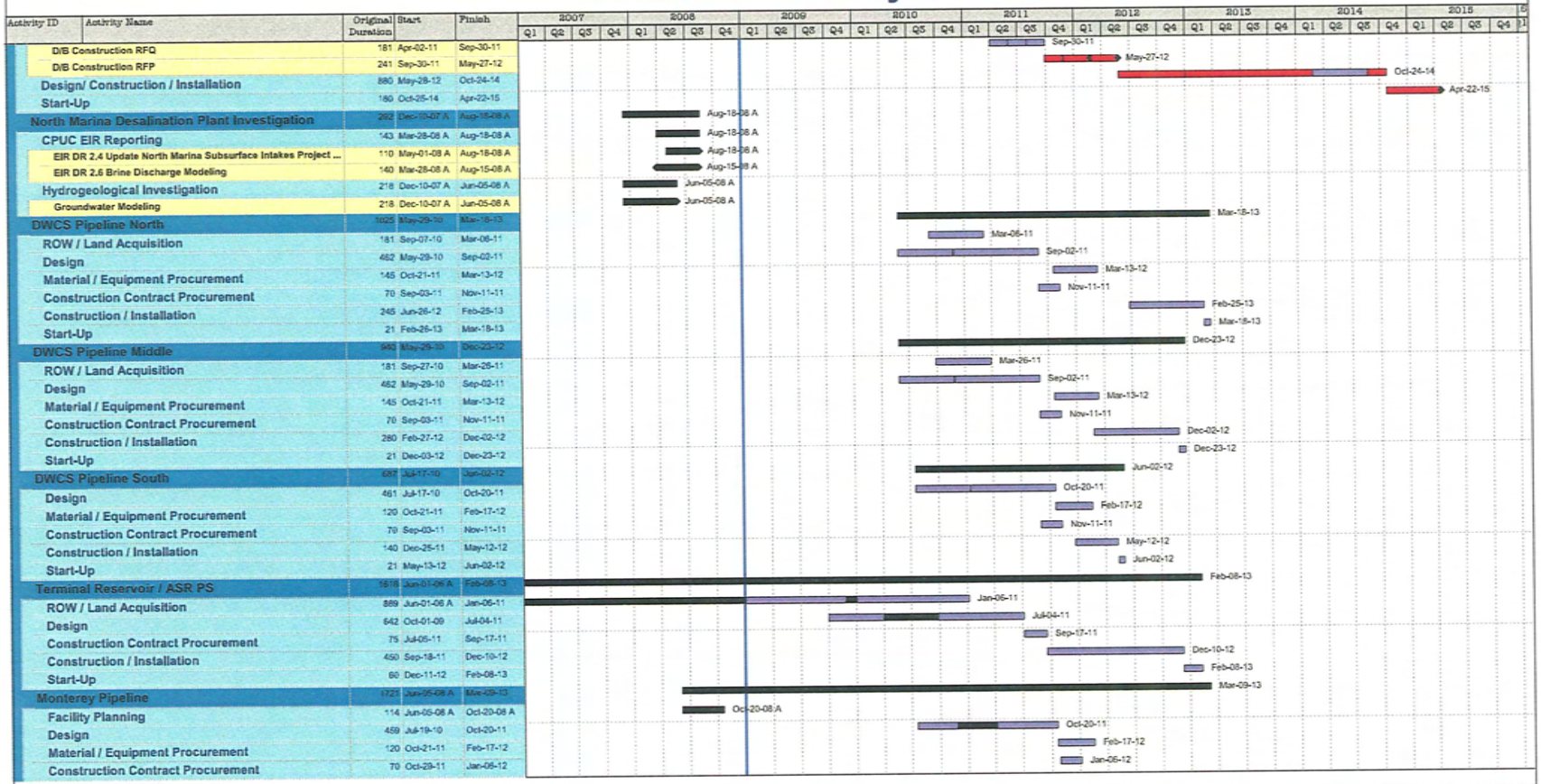
Coastal Water Project



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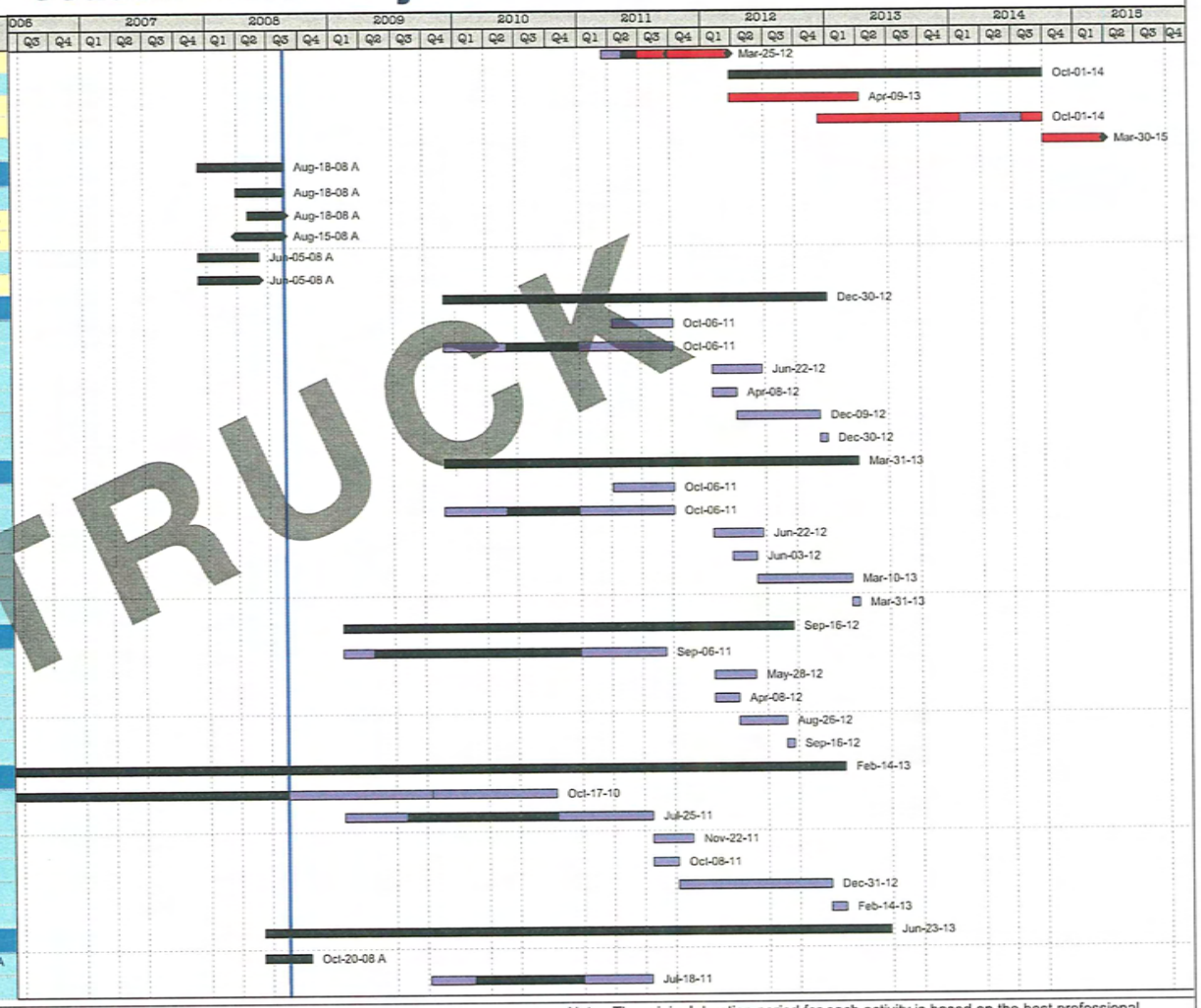
SOURCE: RBF Consulting, 2009

CalAm Coastal Water Project . 205335
Revised Figure ES-1b
Anticipated Project Schedule

Coastal Water Project

Activity ID	Activity Name	Original Duration	Start	Finish
	D/B Construction RFP	270	Mar-14-11	Mar-25-12
	Design/ Construction / Installation	658	Mar-25-12	Oct-01-14
	Final Design	272	Mar-25-12	Apr-09-13
	Construction/ Installation	472	Dec-10-12	Oct-01-14
	Start-Up	128	Oct-01-14	Mar-30-15
	North Marina Desalination Plant Investigation	206	Dec-10-07 A	Aug-18-08 A
	CPUC EIR Reporting	101	Mar-28-08 A	Aug-18-08 A
	EIR DR 2.4 Update North Marina Subsurface Intakes Project Desc...	78	May-01-08 A	Aug-18-08 A
	EIR DR 2.6 Brine Discharge Modeling	100	Mar-28-08 A	Aug-15-08 A
	Hydrogeological Investigation	156	Dec-10-07 A	Jun-05-08 A
	Groundwater Modeling	156	Dec-10-07 A	Jun-05-08 A
	DWCS Pipeline North	805	Nov-29-09	Dec-30-12
	ROW / Land Acquisition	129	Apr-09-11	Oct-06-11
	Design	484	Nov-29-09	Oct-06-11
	Material / Equipment Procurement	105	Jan-29-12	Jun-22-12
	Construction Contract Procurement	50	Jan-29-12	Apr-08-12
	Construction / Installation	175	Apr-08-12	Dec-09-12
	Start-Up	15	Dec-09-12	Dec-30-12
	DWCS Pipeline Middle	870	Nov-29-09	Mar-31-13
	ROW / Land Acquisition	129	Apr-09-11	Oct-06-11
	Design	484	Nov-29-09	Oct-06-11
	Material / Equipment Procurement	105	Jan-29-12	Jun-22-12
	Construction Contract Procurement	50	Mar-25-12	Jun-03-12
	Construction / Installation	200	Jun-03-12	Mar-10-13
	Start-Up	15	Mar-10-13	Mar-31-13
	DWCS Pipeline South	[illegible]	Feb-01-09	Sep-16-12
	Design	677	Feb-01-09	Sep-06-11
	Material / Equipment Procurement	85	Jan-29-12	May-28-12
	Construction Contract Procurement	50	Jan-29-12	Apr-08-12
	Construction / Installation	100	Apr-08-12	Aug-26-12
	Start-Up	15	Aug-26-12	Sep-16-12
	Terminal Reservoir / ASR PS	1174	Jun-01-06 A	Feb-14-13
	ROW / Land Acquisition	649	Jun-01-06 A	Oct-17-10
	Design	646	Feb-01-09	Jul-25-11
	Material / Equipment Procurement	86	Jul-26-11	Nov-22-11
	Construction Contract Procurement	54	Jul-26-11	Oct-08-11
	Construction / Installation	321	Oct-09-11	Dec-31-12
	Start-Up	33	Jan-01-13	Feb-14-13
	Monterey Pipeline	1317	Jun-05-08 A	Jun-23-13
	Facility Planning	82	Jun-05-08 A	Oct-20-08 A
	Design	466	Oct-05-09	Jul-18-11



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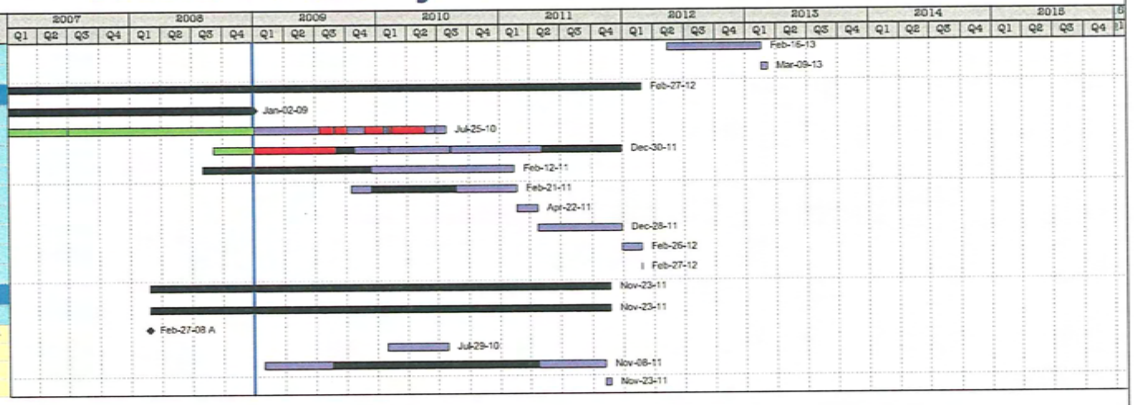
Coastal Water Project

Activity ID	Activity Name	Original Duration	Start	Finish
	Construction / Installation	280	May-13-12	Feb-15-13
	Start-Up	21	Feb-17-13	Mar-09-13
	CWP ASR Wells	1957	Oct-02-06 A	Feb-27-12
	Facility Planning	654	Oct-02-06 A	Jan-02-09
	Test / Monitoring Program	1375	Oct-02-06 A	Jul-25-10
	Facility Permits	1195	Sep-04-08 A	Dec-30-11
	Lease Acquisition	891	Aug-04-08 A	Feb-12-11
	Design	493	Oct-17-09	Feb-21-11
	Construction Contract Procurement	60	Feb-22-11	Apr-22-11
	Construction / Installation	250	Apr-23-11	Dec-28-11
	Start-Up	60	Dec-29-11	Feb-26-12
	Operation	1	Feb-27-12	Feb-27-12
	ASR Pipelines	1348	Feb-27-08 A	Nov-23-11
	CWP ASR Pipelines	1348	Feb-27-08 A	Nov-23-11
	Facility Planning	0	Feb-27-08 A	Feb-27-08 A
	Design	181	Jan-30-10	Jul-29-10
	Construction / Installation	1002	Jan-30-09	Nov-08-11
	Start-Up	15	Nov-09-11	Nov-23-11



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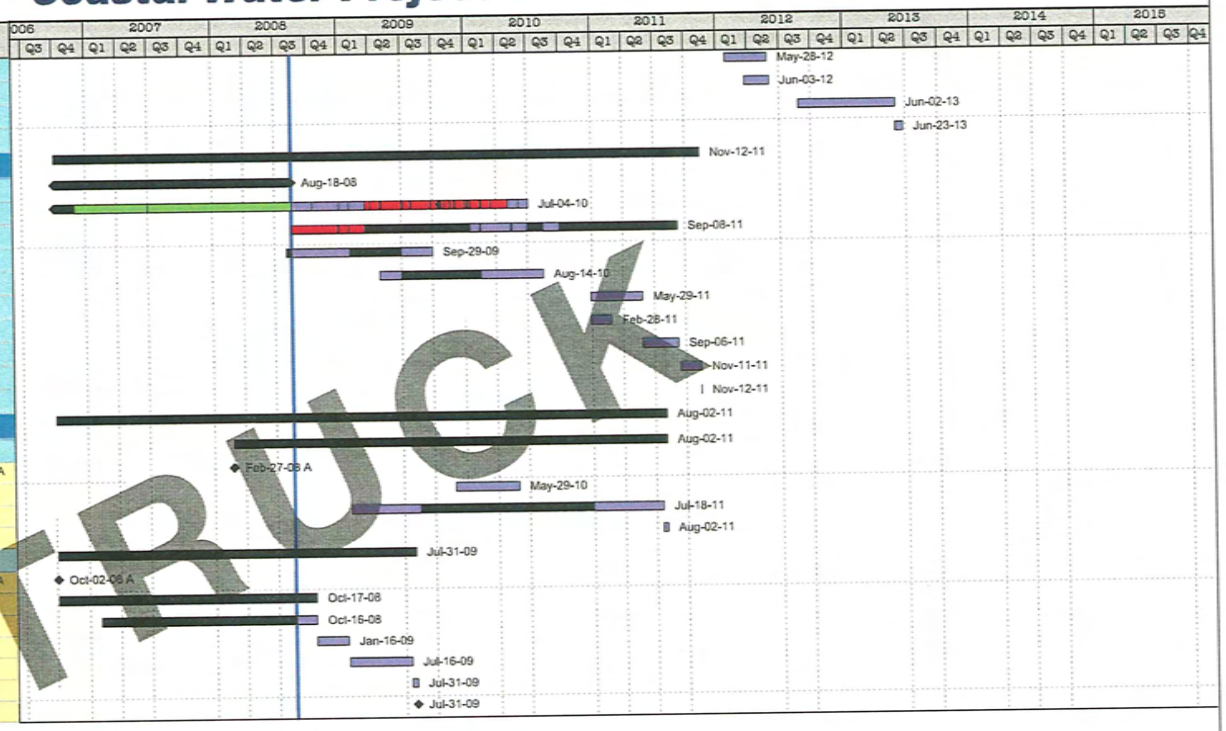
SOURCE: RBF Consulting, 2009

CalAm Coastal Water Project . 205335
Revised Figure ES-1c
Anticipated Project Schedule

Coastal Water Project

Activity ID	Activity Name	Original Duration	Start	Finish
	Material / Equipment Procurement	86	Jan-29-12	May-28-12
	Construction Contract Procurement	50	Mar-25-12	Jun-03-12
	Construction / Installation	200	Aug-26-12	Jun-02-13
	Start-Up	15	Jun-02-13	Jun-23-13
	CWP ASR Wells	1335	Oct-02-06 A	Nov-12-11
	Facility Planning	374	Oct-02-06 A	Aug-18-08
	Test / Monitoring Program	980	Oct-02-06 A	Jul-04-10
	Facility Permits	786	Sep-04-08 A	Sep-08-11
	ROW / Land Acquisition	292	Aug-04-08 A	Sep-29-09
	Design	335	May-02-09	Aug-14-10
	Material / Equipment Procurement	106	Dec-30-10	May-29-11
	Construction Contract Procurement	42	Dec-30-10	Feb-28-11
	Construction / Installation	72	May-29-11	Sep-06-11
	Start-Up	44	Sep-13-11	Nov-11-11
	Operation	0	Nov-12-11	Nov-12-11
	ASR Pipelines	1157	Oct-02-06 A	Aug-02-11
	CWP ASR Pipeline	895	Feb-27-08 A	Aug-02-11
	Facility Planning	0	Feb-27-08 A	Feb-27-08 A
	Design	130	Nov-29-09	May-29-10
	Construction / Installation	642	Jan-30-09	Jul-18-11
	Start-Up	11	Jul-18-11	Aug-02-11
	ASR Extension Pipeline (Hwy 218 Connection)	635	Oct-02-06 A	Jul-31-09
	Facility Planning	0	Oct-02-06 A	Oct-02-06 A
	Facility Permits	33	Oct-02-06 A	Oct-17-08
	Design	429	Feb-05-07 A	Oct-16-08
	Material / Equipment Procurement	66	Oct-17-08	Jan-16-09
	Construction / Installation	129	Jan-17-09	Jul-16-09
	Start-Up	11	Jul-17-09	Jul-31-09
	Operation	0	Jul-31-09	Jul-31-09



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Note: The original duration period for each activity is based on the best professional judgment of the employees of California American Water and its consultants assisting with development of the Coastal Water Project. Because completion of activities is dependent upon action by staff of and receipt of approvals from federal, state and local agencies, the duration period for each activity is subject to change due to factors outside the control of California American Water.

Energy Minimization and GHG Reduction Plan~~; however, there appear to be no feasible mitigation measures that c~~would ensure that annual project ~~reduce~~ GHG emissions levels ~~to~~would be below 7,000 metric tons ~~without fundamentally changing the project~~. Therefore, impacts would be mitigated to less than significant. ~~are considered to be significant and unavoidable~~. (See also ES 6.1 Unresolved Issues, for details of Implementation of Mitigation Measures).

The Draft EIR impact discussion for the Regional Project (see Draft EIR Impact 6.8-5 discussion in Section 6.8.4.2) also disclosed a significant and unavoidable impact related to GHG emissions. However, Mitigation Measure 4.8-5c has been determined to be a feasible mitigation measure that can and should be adopted by the CPUC and the relevant agencies (i.e., Marina Coast Water District [MCWD] and the Monterey County Water Resources Agency [MCWRA]) that would be associated with the Regional Project. If adopted and applied to the Regional Project as a whole, the GHG construction and operations mitigation measures, including Mitigation Measure 4.8-5c, would reduce GHG construction and operational impacts to less than significant levels. However, because several components of the Regional Project would occur under the jurisdiction of the other agencies, there is no way for the CPUC to guarantee that the mitigation measures would be implemented by those other agencies such that GHG emissions could continue to exceed the applicable significance thresholds. Therefore, for the purposes of this EIR, GHG impacts associated with the Regional Project continue to be classified as significant and unavoidable. ~~The total estimated GHG emission amounts that would be associated with the operations of Phase 1 and Phase 2 of the Regional Project would exceed the amount of CARB's preliminary draft significance threshold. Implementation of Mitigation Measures (detailed in Chapter 4, Section 4.8) would reduce short-term construction and long-term operations emissions of GHG; however, there appear to be no feasible mitigation measures that could reduce GHG emissions levels to below 7,000 metric tons without fundamentally changing the project. Therefore, impacts are considered to be significant and unavoidable.~~

ES.4.1.2 Air Quality

Emissions from construction of the Regional Project components have been assumed to occur simultaneously as a "worst-case" scenario for daily emissions. The worst-case day emissions would occur when construction of most of the components would overlap. It is anticipated that emissions associated with construction of Phase 1 and Phase 2 of the Regional Project would exceed the MBUAPCD's significance threshold of 82 pounds per day of PM_{10}.~~, resulting in a potentially significant impact. While Mitigation Measures (detailed in Chapter 4, Section 4.8) would reduce emissions of PM10 during construction, there would be no guarantee that the measures would reduce the total estimated emissions of the Regional Project to below the MBUAPCD's significance threshold.~~

Mitigation Measure 6.8-1a, if implemented, would reduce construction emissions to a level below the threshold of significance. However, there is no guarantee that all relevant agencies would impose these measures as conditions of approval on the portion of the Regional Project under their jurisdiction to ensure that total emissions would not exceed the MBUAPCD's significance threshold for PM_{10}. Further, due to the timely need to provide replacement water supplies so that

CalAm may continue to provide safe, reliable drinking water to residents of the Monterey peninsula and due to MCWD's need for water supply and in light of economies of scale, etc., it may be deemed infeasible (from an economic, social, and/or technological standpoint) to phase (i.e., delay) certain Regional Project construction activities in accordance with Mitigation Measure 6.8-1a. Therefore, impacts to regional air quality that would result from construction of the Regional Project are considered to be significant and unavoidable.

~~ES.4.1.3 Noise~~

~~Construction activities associated with several project components – at least one component in each of the three projects (Moss Landing, North Marina, and Regional Projects) analyzed in this EIR – would result in significant and unavoidable noise impacts due to their proximity to sensitive receptors. For all three projects, construction of the ASR facilities would result in significant and unavoidable noise impacts. For the North Marina Project, construction of the slant wells as the source water intake would result in additional significant and unavoidable noise impacts. For the Regional Project, nighttime well drilling activities that would be associated with the Phase 1 and Phase 2 projects would be significant and unavoidable depending on the sites' proximities to existing sensitive receptors.~~

ES.4.1.3~~4.1.4~~ Liquefaction

The proposed storage of 7,000 AF of recycled water in the shallow unconfined aquifer underlying Armstrong Ranch as part of the Phase 2 Regional Project could result in an increased risk of project induced liquefaction and related ground failure from a major earthquake. The 7,000 acre feet of recycled water would be stored within an 80-foot thickness of dune sand underlying the 220-acre parcel that is the proposed site for construction of Regional Project Phase 1 facilities (a desalination plant~~ and a surface water treatment plant~~). Saturating this 80-foot dune sand unit with recycled water could result in a condition that is susceptible to liquefaction during an earthquake resulting in an increased risk of Project induced liquefaction and related ground failure from a major earthquake resulting in structural damage to Phase 1 Regional Project facilities. A detailed geotechnical engineering evaluation is necessary to further assess the liquefaction risk before mitigation strategies to offset the effects of liquefaction can be considered or designed. The potential for a project-induced liquefaction condition is considered a significant and unavoidable impact (see discussion of Impact 6.5-5 in Chapter 6, Section 6.5 for more explanation).

The proposed Phase 2 sub-surface slurry cut-off wall installed for containment of recycled water in the shallow unconfined aquifer underlying Armstrong Ranch could be structurally damaged from a major earthquake resulting in loss of containment of perched groundwater. The final design of the slurry cut-off wall (groundwater dam) is not complete and would require additional geotechnical and structural design input and considerations. Until the final design of the wall is complete and there is ample evidence to clearly demonstrate that a cut-off wall or groundwater dam can effectively contain water in the Armstrong Ranch dune sand sediments without the risk of failure, it is assumed that the cutoff wall would have a potential to fail. The most probable failure mechanism would be deformation from strong earthquake ground motion leading to

cracking or complete failure of weakened sections. Failure of the slurry wall or groundwater dam could cause the release of recycled water from the saturated dune sands. The impacts to the environment from failure of the slurry cut-off wall could include 1) groundwater degradation of native groundwater by recycled water, 2) possible inundation of the down gradient and adjacent landfill, 3) alterations to groundwater conditions (flow gradients, vertical pressure heads, groundwater mounding) under the lands adjacent to the Armstrong Ranch, and 5) geotechnical effects such as surface settlement resulting in ground collapse (sink holes). Additional geotechnical testing and design would be necessary to adequately ensure that failure could be avoided, controlled, or the results of a failure could be mitigated. Until additional design and testing is complete, slurry cut-off wall failure is considered a significant and unavoidable impact of the project (see discussion of Impact 6.5-5 in Chapter 6, Section 6.5 for more explanation).

ES.4.1.44.1.5 Growth

Although the water supply provided by the Phase 2 Regional Project appears to be largely consistent with the growth assumptions for the general plans within the CalAm service area, and the impacts of such growth have been analyzed and addressed in environmental documents prepared for those plans, the Phase 2 Project would also provide for growth outside CalAm's service area. For all topical areas, the Phase 2 Project would remove an obstacle to growth (by providing a reliable water supply). As such, the Phase 2 project would have a significant growth inducing impact. Since there are no feasible mitigation measures that would lessen the impact, the impact would be considered significant and unavoidable.

ES.4.2 Cumulative Impacts

Due to the breadth and extent of the CWP projects, this EIR provides an analysis both of the collective impacts of all project-level and program-level projects included in the CWP as well as the potential for overlap with other pertinent projects proposed and/or planned in the region. The collective impact discussion provides a synthesis of both project- and program-level impacts for all proposed CWP facilities discussed in Chapters 4 and 6, and indicates the potential for overlapping impacts associated with multiple projects proposed for construction within the same time frame and same geographic area. The most noteworthy of these cumulative impacts are to air quality, surface water, noise, and seismic hazards (project induced liquefaction), summarized below. These and allAll other cumulative impacts are summarized below and discussed more fully in Chapter 9.

ES.4.2.1 Construction Related Impacts

Construction-related cumulative impacts resulting from the projects discussed in Chapter 9 are summarized below for air qualityeach some of the resource areas where the overall cumulative impact is determined to be significant. Section 9.4.1 provides discussion of cumulative impacts for all project facilitiesresource areas.

Air Quality

Concurrent construction of the projects listed in Table 9-1 would generate greater emissions of criteria pollutants, including fugitive dust and equipment exhaust particulate matter and could cause a significant cumulative impact. The regional air basin is non-attainment for ozone and particulate matter, which is treated as a significant cumulative impact for purposes of this analysis. However, implementation of the mitigation measures, as discussed in Chapter 4, Section 4.8, such as implementing a fugitive dust control plan, stabilizing dust on access roads, and imposing vehicle idling restrictions, would reduce particulate matter emissions from the Moss Landing ~~Project~~ and North Marina Projects to a less than cumulatively considerable level. As noted in Section 6.8, several components of the Phase 1 Regional Project would occur under the jurisdiction of agencies other than the CPUC (i.e., MCWD, MCWRA, and MRWPCA). For this reason, the mitigation measures designed to alleviate the construction impacts would require coordinated planning and implementation of mitigation efforts by the various agencies to ensure the outcome would be less than significant. If the agencies coordinate efforts and impose requirements and comply with the mitigation measures for PM10 emissions, then the PM10 emissions could be reduced to a less than cumulatively considerable level. ~~Ozone-producing emissions associated with construction activities from the Moss Landing Project would also not be substantial and therefore, would be less than cumulatively considerable.~~ However, as discussed in Chapter 6, Section 6.8, Phase 1 and Phase 2 Projects under the Regional Project could result in a significant and unavoidable impact and would have a cumulatively considerable contribution toward cumulative impacts.

~~Noise~~

~~Concurrent construction of the projects listed in Table 9-1 could increase noise levels temporarily and violate the noise standards established in the local general plans or noise ordinances. The increased noise levels as well as the temporary vibration from construction equipment could have an adverse effect on nearby sensitive receptors, mostly in the case of projects located in the same neighborhoods or in close vicinity of sensitive receptors (such as development projects in Marina, Seaside and Monterey). As discussed in Chapter 4, Section 4.9, Noise, the impacts from the Moss Landing and North Marina Projects would be minimized to less than significant levels with despite mitigation such as scheduling construction activities during specific hours of the day, notifying residents in the construction area, using equipment with sound control devices, and implementation of a Vibration Mitigation Plan. Concurrent construction activities would result in a significant cumulative impact.~~

~~As discussed in Chapter 4, Section 4.9, the noise impact from the construction of Moss Landing Project would be significant and unavoidable due to the increased noise levels from the ASR facilities. The project contribution would be cumulatively considerable.~~

~~As discussed in Chapter 6, Section 6.9, the noise impacts from the construction of the ASR facilities as part of Phase 1 and Phase 2 of the Regional Project would be less than significant with mitigationand unavoidable, and therefore the Regional Project would have a cumulatively considerable contribution toward cumulative impacts.~~

ES.4.2.2 Operational Impacts

Operational cumulative impacts resulting from the projects discussed in Chapter 9 are summarized below for ~~each~~some of the resource areas ~~where the overall cumulative impact is determined to be significant~~. Chapter 9, Section 9.4.1 provides discussion of cumulative impacts for all of the resource areas~~project facilities~~.

Surface Water

Under Phase 2 of the Regional Project, recycled water would be distributed for summertime irrigation in Fort Ord, Marina, and Seaside areas through the Regional Urban Water Augmentation Project pipeline. The pipeline would be used for conveying advanced treated water for storage in the Seaside Groundwater Basin in winter. As further explained in Chapter 6, Section 6.1, the water quality of the advanced treated water for ASR could be adversely affected. The impact is therefore considered to be significant and unavoidable. The contribution of Phase 2 projects to cumulative hydrology and water quality impacts would therefore be cumulatively considerable.

Air Quality

As described in Chapter 4, Section 4.8, Air Quality, long-term greenhouse gas (GHG) emissions associated with the substation for the Moss Landing and North Marina Projects would be approximately 3.3 metric tons CO_2e[1] per year and electricity use associated with the Moss Landing Project and the North Marina Project would result in approximately 7,910~~11,279~~ and ~~12,637~~9,032 metric tons of CO_2e each year, respectively. The total estimated GHG emissions that would be associated with the operations of the proposed Moss Landing Project or the North Marina Project would exceed ~~be at least twice~~ the amount of California Air Resources Board's (CARB) preliminary draft significance threshold ~~for industrial uses, which is based on cumulative emissions generated in California~~. Mitigation measures have been imposed on the project to avoid or substantially reduce, to the extent feasible, its GHG emissions. ~~Nonetheless the project would still exceed the preliminary draft significance threshold established by CARB.~~ As discussed in Section 4.8, implementation of the mitigation measures, including an energy minimizing and GHG reduction plan would minimize the project impact to less than significant; therefore the project's contribution would not be cumulatively considerable. However, for the Regional Project, coordination among various agencies would be required to implement mitigation as noted in Section 6.8, and there is no guarantee that the measures would reduce the total estimated emissions to below the significance thresholds. Therefore, impact from GHG emissions from the Regional Project is considered significant and unavoidable and could have cumulative considerable contribution toward the cumulative impact.

~~As such, the project would have a significant and unavoidable cumulative impact to GHG emissions, as further explained in Chapter 4, Section 4.8.~~

1 Carbon dioxide equivalents (see Section 4.8, Air Quality, for further details).

Liquefaction

As described in Chapter 6, Section 6.5, Geology, Soils, and Seismicity, potential adverse effects of project-induced liquefaction occurring in the saturated dune sands behind the proposed subsurface slurry cut-off wall (groundwater dam) under the Phase 2 of the Regional Project could be significant. The impact would depend upon the situation of the project facilities within the project induced liquefaction hazard zone, the amount of water stored in the sediments and the length of the slurry wall. The impact would remain significant and unavoidable until such time as further studies are conducted to demonstrate that effects of liquefaction would not cause an adverse impact on the environment. The cumulative effects would therefore be significant and Phase 2 of the Regional Project would have a cumulatively considerable contribution.

ES.5 Analysis of Alternatives

In addition to the Applicant's Proposed project (the Moss landing Project), this EIR evaluates 2 other alternatives (the North Marina and Phase 1 Regional Projects) at an equal level of detail; the Phase 2 Regional Project is evaluated more generally. Chapter 7 of this EIR also evaluates alternative components for each of the projects (e.g. intakes, outfalls, pipeline routes, plant locations), as well as a Ship-Based Desalination project; the Phase 1 Regional Project Plus Seaside Groundwater Basin Replenishment Project; and a CalAm Growth Project in addition to the required No Project alternative.

ES.6 Issues to be Resolved and Areas of Controversy

ES.6.1 Unresolved Issues

Relationships and working agreements between agencies involved in the Regional Project need to be developed and formalized: In order to implement the Regional Project, MCWD will assume the role of Project Sponsor of the desalination facility and the surface water treatment plant; MRWPCA will continue to be the owner and operator of the outfall, and; CalAm will be a water purchaser and could be the desalination project operator. MCWRA will likely be responsible for drilling and operating the groundwater extraction wells and will have oversight of project implementation as a result of their broad legislative authority. To date, several Memorandums of Understanding on the Regional Project have been developed between the local agencies, including MCWRA, MCWD, MRWPCA and CalAm.

The Future of Once Through Cooling (OTC) at Moss Landing is uncertain: Because OTC has been under increasing scrutiny due to entrainment and impingement of marine organisms at the sea water intakes (see Chapter 4, Section 4.3, Marine Biological Resources), there is a possibility that the MLPP OTC system may not be re-permitted in the future. In the absence of the OTC system, the desalination facility would require a new intake facility or it would have to utilize the existing intake to draw 24~~22.2~~ mgd of source water from the Moss Landing Harbor.

Implementation of Mitigation Measures to address Criteria Air Pollutant, PM_{10}. Estimated construction emissions of criteria air pollutant, PM_{10}, would result in a significant impact for the

Moss Landing, North Marina, or Regional Projects. Mitigation measures designed to alleviate the PM_{10} construction impact from the Phase 1 Regional Project would require coordinated planning and implementation of mitigation efforts by the various agencies to ensure that the outcome would be less than significant. If the agencies do not coordinate efforts and do not impose and comply with the mitigation measures for PM_{10} emissions, then the PM_{10} emissions could continue to exceed the applicable significance thresholds. Given the October 20, 2009, issuance of the Cease and Desist Order by the SWRCB (Order WR 2009-0060), time is of the essence in developing a replacement water supply to cease unauthorized withdrawal of water from the Carmel River. The potential need to accelerate the construction schedule may make it unrealistic for any of the proposed projects—including the North Marina Project—to comply with the PM_{10} mitigation measure. If the mitigation measures are indeed deemed infeasible at the project decision-making level, then North Marina and Phase 1 would be equal in terms of impacts stemming from PM_{10} emissions during construction.

ES.6.2 Areas of Controversy

Use of the Salinas Valley groundwater for use on the Monterey Peninsula: The North Marina Project will utilize subsurface intakes as a desalination source water supply, as will Phase 1 of the Regional Project. The projects have~~has~~ been defined in such a way as to ensure that water drawn from the Salinas Valley groundwater basin remains in the basin. But the concept may be controversial.

Appropriate use of recycled water and recycled water infrastructure: There are multiple ways to utilize the unassigned balance of the recycled water that is produced at the Salinas Valley Reclamation Project, which is operated by the MRWPCA. Some support agriculture and some support urban irrigation uses. How the recycled water is used, who has rights to use or deliver it, and what facilities are used for its delivery, are controversial issues that are not completely resolved.

Public versus Private ownership of a desalination facility in Monterey County: By Monterey County ordinance, private companies cannot own a desalination project. CalAm is a private, investor owned utility.

Provision of replacement water (or water for existing uses only) versus water for approved growth: The Applicant's Proposed Project at Moss Landing, the North Marina Project and Phase 1 of the Regional Project, all provide water for existing uses ~~only~~. In addition, Phase 1 of the Regional Project also includes replenishment water for a previously-approved supply for portions of Fort Ord within the MCWD service area. The Phase 2 Regional Project includes supplies to meet the needs of approved growth. While any water supply project in Monterey County is controversial, a project that includes water for growth, may be very controversial.

ES.7 Organization of This EIR

This Draft EIR has been organized into the following sections:

The **Summary** contains an overview of the project, including project description, impacts, and various conclusions.

Chapter 1 is an introduction to the CEQA process and the organization of the EIR.

Chapter 2 describes current and future water demands in both the California American Water (CalAm) Monterey District service area and the broader region of northern Monterey County that would be served under a regional project alternative, and the supplies available to meet this demand.

Chapter 3 contains a description of two projects: Moss Landing Project (the Applicant Proposed Project) and North Marina Project.

Chapter 4 includes 14 sections that address the impacts of the Moss Landing Project and North Marina Project on various resource areas.

Chapter 5 contains a description of the Regional Project.

Chapter 6 includes 14 sections that address the impacts of the Regional Project on various resource areas.

Chapter 7 presents a comparison of alternatives that have been considered during the process of compiling this EIR.

Chapter 8 discusses the potential of the CWP to cause "growth-inducing" impacts.

Chapter 9 discusses the potential for the CWP to cause cumulative impacts.

Chapter 10 is a list of preparers of the document.

Chapter 11 is an introduction and guide to the response to comments portion of the EIR (Volumes 4 through 5).

Chapter 12 includes all comments submitted during the public review period.

Chapter 13 includes sixteen long-format Master Responses on important topics brought up during the public review period.

Chapter 14 includes the responses to the comments presented in Chapter 12.

TABLE ES-2
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

		Moss Landing Facilities				North Marina Facilities			Facilities Common to Both Projects					Collective Impact	
	Impact	Plant: Moss Landing Desalination Site	Intake: Moss Landing Desalination Site	Outfall: Moss Landing Desalination Site	Transmission Main North	Plant: North Marina Desalination Site	Intake: North Marina Desalination Site	Outfall: North Marina Desalination Site	Transmission Main South	Terminal Reservoir Site	Valley Greens Pump Station	Aquifer Storage and Recovery Facilities	Monterey Pipeline	MOSS LANDING PROJECT	NORTH MARINA PROJECT
Surface Water Resources	**4.1-1**: Project construction activities could cause erosion and increase stormwater runoff resulting in an adverse water quality impact.	SM	SM	–	SM	SM	SM	–	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.1-1: Additional Erosion Control Measures and Monitoring Program	X	X		X	X	X		X	X	X	X	X	X	X
	4.1-2: Excavation during construction could require dewatering of shallow groundwater. The water discharge, if contaminated, could adversely affect surface water.	SM	SM	–	SM	SM	SM	–	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.1-2: Extracted Groundwater Measures	X	X		X	X	X		X	X	X	X	X	X	X
	4.1-3: The product water generated at the desalination facilities would be used as potable water that would be compliant with the drinking water standards.	–	–	LTS	–	–	–	LTS	–	–	–	–	–	LTS	LTS
	EIR Mitigation Measures														
	None required.														
	4.1-4: The project discharge from the desalination facility could degrade the marine water quality in Monterey Bay.	–	–	SM	–	–	–	SM	–	–	–	–	–	SM	SM
	EIR Mitigation Measures														
	4.1-4a: Moss Landing Monitoring Program			X										X	
	4.1-4b: Water Sampling Measures			X										X	
	4.1-4c: Develop an Aeration System							X						X	
	4.1-5: The proposed project would add impervious surfaces that could alter the drainage pattern and increase storm runoff that could exceed the storm drainage system. The increased runoff flow could cause downstream erosion, siltation, and/or flooding.	LTS	LTS	–	–	LTS	LTS	–	–	LTS	LTS	LTS	–	LTS	LTS
	None required.														

TABLE ES-2 (Continued)
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

		Moss Landing Facilities				North Marina Facilities			Facilities Common to Both Projects					Collective Impact	
	Impact	Plant: Moss Landing Desalination Site	Intake: Moss Landing Desalination Site	Outfall: Moss Landing Desalination Site	Transmission Main North	Plant: North Marina Desalination Site	Intake: North Marina Desalination Site	Outfall: North Marina Desalination Site	Transmission Main South	Terminal Reservoir Site	Valley Greens Pump Station	Aquifer Storage and Recovery Facilities	Monterey Pipeline	MOSS LANDING PROJECT	NORTH MARINA PROJECT
Surface Water Resources	**4.1-6:** Project operation would result in reduced pumping of the Carmel River water resulting in a relatively minor increase in the flows in Carmel River. *(Impact is to Carmel River, which is not included on this table. Refer to Section 4.4.1, Surface Water Resources)*	–	–	–	–	–	–	–	–	–	–	–	–	LTS	LTS
	EIR Mitigation Measures														
	None required.														
	4.1-7: Portions of the proposed project would be located within a 100-year flood hazard area and could impede or redirect flood flows.	LTS	LTS	–	LTS	–	–	–	–	–	–	–	–	LTS	–
	EIR Mitigation Measures														
	None required.														
	4.1-8: The proposed project could expose people or structures to risk from flooding resulting from failure of a dam or levee.	LTS	LTS	–	LTS	–	–	–	–	–	–	–	–	LTS	–
	EIR Mitigation Measures														
	None required.														
	4.1-9: The proposed project facilities could expose people or structures to risk from flooding due to a tsunami.	SM	SM	–	LTS	–	–	–	–	–	–	–	–	SM	LTS
	EIR Mitigation Measures														
	4.1-9: Tsunami Run-up Study	X	X											X	
	4.1-10: The proposed project facilities could be subject to flooding due to the sea level rise from global warming.	LTS	LTS	–	LTS	–	–	–	–	–	–	–	–	LTS	LTS
	EIR Mitigation Measures														
	None required.														

TABLE ES-2 (Continued)
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

	Impact	Moss Landing Facilities				North Marina Facilities			Facilities Common to Both Projects					Collective Impact	
		Plant: Moss Landing Desalination Site	Intake: Moss Landing Desalination Site	Outfall: Moss Landing Desalination Site	Transmission Main North	Plant: North Marina Desalination Site	Intake: North Marina Desalination Site	Outfall: North Marina Desalination Site	Transmission Main South	Terminal Reservoir Site	Valley Greens Pump Station	Aquifer Storage and Recovery Facilities	Monterey Pipeline	MOSS LANDING PROJECT	NORTH MARINA PROJECT
Groundwater Resources	**4.2-1:** The construction and development of ASR injection / extraction wells or desalination water supply wells may cause short-term changes in groundwater quality or violate waste discharge requirements.	–	–	–	–	–	–	–	–	–	–	SM	–	SM	SM
	EIR Mitigation Measures														
	4.2-1: Prepare Report of Waste Discharge/NPDES permit											X		X	X
	4.2-2: The injection and storage of Carmel River and/or desalinated water into the SGB ASR program may violate water quality standards or waste discharge requirements.	–	–	–	–	–	–	–	–	–	–	LTS	–	LTS	LTS
	EIR Mitigation Measures														
	None required.														
	4.2-3: The storage of Carmel River or desalinated water in the ASR program would increase groundwater storage and water levels in the SGB.	–	–	–	–	–	–	–	–	–	–	B	–	B	B
	EIR Mitigation Measures														
	None required.														
	4.2-4: Operation of the proposed slant wells for the NMA desalination water supply could lower groundwater levels and damage neighboring water supply wells within the vicinity of the proposed project.	–	–	–	–	–	LTS	–	–	–	–	–	–	–	LTS
	EIR Mitigation Measures														
	None required.														
	4.2-5: Operation of the proposed slant wells for the NMA desalination water supply could deplete groundwater resources within the Salinas Valley and export groundwater from the SVGB.	–	–	–	–	–	LTS	–	–	–	–	–	–	–	LTS
	EIR Mitigation Measures														
	None required.														

TABLE ES-2 (Continued)
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

		Moss Landing Facilities				North Marina Facilities			Facilities Common to Both Projects					Collective Impact	
	Impact	Plant: Moss Landing Desalination Site	Intake: Moss Landing Desalination Site	Outfall: Moss Landing Desalination Site	Transmission Main North	Plant: North Marina Desalination Site	Intake: North Marina Desalination Site	Outfall: North Marina Desalination Site	Transmission Main South	Terminal Reservoir Site	Valley Greens Pump Station	Aquifer Storage and Recovery Facilities	Monterey Pipeline	MOSS LANDING PROJECT	NORTH MARINA PROJECT
Groundwater Resources	**4.2-6:** Operation of the proposed slant wells for the NMA water supply may otherwise degrade water quality by inducing seawater intrusion.	–	–	–	–	–	LTS	–	–	–	–	–	–	–	LTS
	EIR Mitigation Measures														
	None required.														
Marine Biological Resources	**4.3-1:** Intake of source water for the proposed desalination facility could potentially result in nominal additional entrainment of marine and estuarine aquatic organisms.	–	LTS	–	–	–	–	–	–	–	–	–	–	LTS	–
	EIR Mitigation Measures														
	None required.														
	4.3-2: The project discharge from the desalination facility could degrade marine habitat and species.	–	–	SM	–	–	–	SM	–	–	–	–	–	SM	SM
	EIR Mitigation Measures														
	See Measures 4.1-4a and 4.1-4b			X										X	
	4.3-2a: Sampling of Benthic Organisms			X										X	
	4.3-2b: Measure Sediment Size Distribution of Inflow and Backwash Water			X										X	
	See Measure 4.1-4c							X							X
Biological Resources	**4.4-1:** The project may adversely affect species identified as rare, threatened, endangered, candidate, sensitive, or other special status by the California Department of Fish and Game, ~~or~~ U.S. Fish and Wildlife Service, or National Marine Fisheries Service.	SM	-	-	SM	SM	SM	-	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.4-1a: Avoid Harm or Harassment of Special-Status Invertebrates (Smith's Blue Butterfly)				X		X							X	X
	4.4-1b: Avoid Harm or Harassment of Tidewater Gobies and of South-Central California Coast Steelhead, Pacific Lampreys, and River Lampreys				X									X	

TABLE ES-2 (Continued)
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

	Impact	Moss Landing Facilities				North Marina Facilities			Facilities Common to Both Projects					Collective Impact	
		Plant: Moss Landing Desalination Site	Intake: Moss Landing Desalination Site	Outfall: Moss Landing Desalination Site	Transmission Main North	Plant: North Marina Desalination Site	Intake: North Marina Desalination Site	Outfall: North Marina Desalination Site	Transmission Main South	Terminal Reservoir Site	Valley Greens Pump Station	Aquifer Storage and Recovery Facilities	Monterey Pipeline	MOSS LANDING PROJECT	NORTH MARINA PROJECT
Biological Resources	4.4-1c: Avoid Harm or Harassment of California Red-legged Frogs, California Tiger Salamanders, and Santa Cruz Long-Toed Salamanders	X			X	X	X							X	X
	4.4-1d: Avoid Direct Mortality and/or Disturbance of Special-Status Plant Populations	X				X				X		X	X	X	X
	4.4-1e: Avoid Construction Impacts on Burrowing Owls	X			X	X	X		X			X		X	X
	4.4-1f: Avoid Construction Impacts on Other Special-Status Birds	X			X	X	X		X			X		X	X
	4.4-2: The project may adversely affect riparian habitat or other sensitive natural community identified in local or regional plans, policies regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	SM	-	-	SM	LTS	LTS	-	SM	SM	LTS	SM	LTS	SM	SM
	EIR Mitigation Measures														
	4.4-2a: Avoid Construction Impacts on Riparian Habitat	X			X									X	
	4.4-2b: Avoid Construction Impacts on Sensitive Upland Habitats								X	X		X		X	X
	4.4-3: The project may adversely affect federally protected wetlands as defined by Section 404 of the Clean Water Act.	SM	-	-	SM	LTS	LTS	-	LTS	LTS	LTS	LTS	LTS	SM	LTS
	EIR Mitigation Measures														
	4.4-3: Wetland Protection Measures	X			X									X	
	4.4-4: The project may adversely affect the movement of native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors.	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
	EIR Mitigation Measures														
	None required.														
	4.4-5: The project may conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	SM	-	-	SM	SM	-	-	SM	SM	SM	SM	LTS	SM	SM
	EIR Mitigation Measures														
	4.4-5: Tree Survey	X			X	X			X	X	X	X		X	X

TABLE ES-2 (Continued)
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

	Impact	Moss Landing Facilities				North Marina Facilities			Facilities Common to Both Projects					Collective Impact	
		Plant: Moss Landing Desalination Site	Intake: Moss Landing Desalination Site	Outfall: Moss Landing Desalination Site	Transmission Main North	Plant: North Marina Desalination Site	Intake: North Marina Desalination Site	Outfall: North Marina Desalination Site	Transmission Main South	Terminal Reservoir Site	Valley Greens Pump Station	Aquifer Storage and Recovery Facilities	Monterey Pipeline	MOSS LANDING PROJECT	NORTH MARINA PROJECT
Biological Resources	**4.4-6:** Operation of the project would alter Carmel River flows and may thus indirectly affect federally-listed threatened steelhead and other special-status aquatic species. This would be a beneficial impact. *(Impact is to Carmel River is beneficial, and not included on this table. Refer to Section 4.4.4, Biological Resources)*	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
	EIR Mitigation Measures														
	None required.														
Geology, Soils and Seismicity	**4.5-1:** Large earthquakes would be expected to damage the proposed facilities, impairing and/or disrupting their intended operations if not engineered to withstand such ground shaking.	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.5-1: Conduct Geotechnical Investigation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.5-2: Proposed pipelines and facilities could incur damage as a result of underlying soil properties (high shrink-swell potential, and corrosivity).	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.5-2: Compliance with Applicable Policies to Reduce Adverse Effects of Expansive Soils and Corrosivity	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.5-3: Continuing coastal erosion could expose sub-surface components of the project which may result in these structures being damaged or destroyed within the project lifetime rendering delivery systems inoperable.	–	–	–	–	–	LTS	–	–	–	–	–	–	– <u>LTS</u>	LTS
	EIR Mitigation Measures														
	None required.														
	4.5-4: Potential injury and/or damage resulting from landslides including earthquake induced landslides.	LTS	LTS	LTS	LTS	LTS	LTS	LTS	SM	SM	LTS	LTS	LTS	SM	SM
	EIR Mitigation Measures														
	4.5-4: Perform Site-Specific Geotechnical Evaluations								X	X				X	X

TABLE ES-2 (Continued)
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

		Moss Landing Facilities				North Marina Facilities			Facilities Common to Both Projects					Collective Impact	
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Geology, Soils & Seismicity	**4.5-5:** Seismically induced ground failure, including liquefaction and settlement	SM	SM	SM	SM	LTS	SM	SM	LTS	LTS	LTS	LTS	SM	SM	SM
	EIR Mitigation Measures														
	4.5-5: Compliance with Applicable Policies to Reduce Adverse Effects of Groundshaking and Liquefaction	X	X	X	X		X	X					X	X	X
Hazards and Hazardous Materials	**4.6-1:** Excavation and grading for the project could expose construction workers, the public, or the environment to hazardous materials that may be present in excavated soil or groundwater.	SM	–	–	SM	SM	SM	–	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.6-1a: Conduct Phase I Environmental Site Assessment	X			X	X	X		X	X	X	X	X	X	X
	4.6-1b: Prepare Project-Specific Health and Safety Plan	X			X	X	X		X	X	X	X	X	X	X
	4.6-1c: Site Health and Safety Supervisor	X			X	X	X		X	X	X	X	X	X	X
	4.6-1d: Compliance with Excavation, Digging, and Development Regulations	X			X	X	X		X	X	X	X	X	X	X
	4.6-1e: Materials Disposal Plan	X			X	X	X		X	X	X	X	X	X	X
	4.6-2: Potential for accidental release of hazardous materials from construction activities.	LTS	–	–	LTS	LTS	LTS	–	LTS	LTS	LTS	LTS	LTS	LTS	LTS
	EIR Mitigation Measures														
	None required.														
	4.6-3: Handling and Use of Hazardous Materials within ¼-mile of a school during construction.	–	–	–	–	–	–	–	LTS	–	–	LTS	–	LTS	LTS
	EIR Mitigation Measures														
	None required.														
	4.6-4: Increased risk of wildland fires during construction in high fire hazard areas.	–	–	–	LTS	–	–	–	LTS	LTS	LTS	LTS	–	LTS	LTS
	EIR Mitigation Measures														
	None required.														

TABLE ES-2 (Continued)
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

		Moss Landing Facilities				North Marina Facilities			Facilities Common to Both Projects					Collective Impact	
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Hazards and Hazardous Materials	**4.6-5:** Potential for accidental release of chemicals or petroleum products.	LTS	–	–	–	LTS	–	–	–	LTS	LTS	LTS	–	LTS	LTS
	EIR Mitigation Measures														
	None required.														
	4.6-6: Handling of hazardous materials within ¼-mile of a school.	–	–	–	–	–	–	–	LTS	–	–	LTS	–	LTS	LTS
	EIR Mitigation Measures														
	None required.														
Traffic and Circulation	**4.7-1:** Short-term increases in vehicle trips by construction workers and construction vehicles on area roadways.	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.7-1: Road Encroachment Permits and Traffic Control and Safety Assurance Plan	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.7-2: Reduction in the number of, or the available width of, travel lanes on roads where pipeline construction would occur, resulting in short-term traffic delays for vehicles traveling past the construction zones.	–	–	–	SM	–	SM	–	SM	–	–	–	SM	SM	SM
	EIR Mitigation Measures														
	4.7-2: Additional Requirements to be Incorporated into the Traffic Control and Safety Assurance Plan				X		X		X				X	X	X
	See Measure 4.7-1				X		X		X				X	X	X
	4.7-3: Demand for parking spaces to accommodate construction worker vehicles.	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.7-3: Identify Locations for Construction Worker Parking	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	See Measure 4.7-1	X	X	X	X	X	X	X	X	X	X	X	X	X	X

TABLE ES-2 (Continued)
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

		Moss Landing Facilities				North Marina Facilities			Facilities Common to Both Projects					Collective Impact	
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Traffic and Circulation	**4.7-4:** Potential traffic safety hazards for vehicles, bicyclists, and pedestrians on public roadways.	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.7-4: Roadside Safety Protocols	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	See Measure 4.7-1	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.7-5: Access disruption to adjacent land uses and streets for both general traffic and emergency vehicles.	–	–	–	SM	–	SM	–	SM	–	–	–	SM	SM	SM
	EIR Mitigation Measures														
	4.7-5: Access Safety Measures				X		X		X				X	X	X
	See Measure 4.7-1				X		X		X				X	X	X
	4.7-6: Disruptions to transit and railroad service on pipeline alignment routes.	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.7-6: Coordination with Monterey-Salinas Transit and UPRR	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	See Measure 4.7-1	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.7-7: Increased wear-and-tear on the designated haul routes used by construction vehicles.	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.7-7: Documentation of Road Conditions Prior to Project Construction	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.7-8: Long-Term Project Operations and Maintenance.	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
	EIR Mitigation Measures														
	None required.														

TABLE ES-2 (Continued)
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

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Air Quality	**4.8-1:** Construction activities would generate emissions of criteria pollutants, including fugitive dust and equipment exhaust particulate matter.	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.8-1a: Construction Fugitive Dust Control Plan	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.8-1b: Stabilize Dust on Access Roads	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.8-1c: Idling Restrictions	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.8-1d: Construction Emissions Control Plan														
	4.8-2: Project operations would result in emissions, including diesel particulates, from testing and emergency use of standby generators, as well as material haul trips and employee trips related to inspections and maintenance.	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
	EIR Mitigation Measures														
	None required.														
	4.8-3: Construction activities would generate a cumulatively considerable net increase of PM10.	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	See Measures 4.8-1a thru 4.8-1d.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.8-4: ~~Construction~~ Project activities would generate emissions of diesel particulate matter (DPM), potentially exposing local sensitive receptors to pollutant concentrations.	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
	EIR Mitigation Measures														
	None required.														
	4.8-5: Conflict with the State of California's goal of reducing greenhouse gas emissions to 1990 levels by 2020 (AB 32).	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM	~~SU~~ SM
	EIR Mitigation Measures														
	See Measure 4.8-1c.	X	X	X	X	X	X	X	X	X	X	X	X	X	X

TABLE ES-2 (Continued)
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

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Air Quality	4.8-5a: Aerodynamic Efficiency for Trucks	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.8-5b: Low SF_6 Leak Rate Circuit Breaker and Monitoring	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.8-6: Project construction and operations would result in odors.	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
	EIR Mitigation Measures														
	None Required.														
Noise and Vibration	4.9-1: Construction activity would violate standards established in the local general plans or noise ordinances, and/or would adversely affect nearby sensitive receptors.	SM	–	–	SM	SM	~~SU~~ SM	–	SM	LTS	SM	~~SU~~ SM	SM	~~SU~~ SM	~~SU~~ SM
	EIR Mitigation Measures														
	4.9-1a: Locate Stationary Noise-Generating Equipment	X			X	X	X		X	X	X	X	X	X	X
	4.9-1b: Limit Construction Activity Hours	X			X	X	X		X	X	X	X	X	X	X
	4.9-1c: Sound Control Devices	X			X	X	X		X	X	X	X	X	X	X
	4.9-1d: Notify Nearby Residences and other Sensitive Receptors	X			X	X	X		X	X	X	X	X	X	X
	4.9-1e: Obtain Approval for Night-Time Construction											X		X	X
	4.9-1f: Construction Activities Outside School Hours											X		X	X
	4.9-2: Operation of the proposed desalination plant and other conveyance facilities would potentially increase existing noise levels, which could exceed noise level standards and/or result in nuisance impacts.	SM	–	–	LTS	SM	LTS	–	LTS	LTS	SM	SM	LTS	SM	SM
	EIR Mitigation Measures														
	4.9-2: Noise Enclosures and Setback	X				X					X	X		X	X

TABLE ES-2 (Continued)
IMPACT AND MITIGATION SUMMARY FOR FACILITY CONSTRUCTION AND OPERATION OF MOSS LANDING AND NORTH MARINA PROJECT SITES

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Noise and Vibration	**4.9-3:** Short-term construction within the Project area would result in temporary vibration impacts on nearby sensitive receptors and structures.	LTS	–	–	LTS	LTS	SM	–	LTS	LTS	LTS	LTS	LTS	LTS	SM
	EIR Mitigation Measures														
	See Measures 4.9-1b and 4.9-1d.						X								X
	~~4.9-3: Use Trenchless Technology~~						~~X~~								~~X~~
Land Use, Recreation and Agriculture	**4.10-1:** Components of the Moss Landing Project or North Marina Project may permanently divide or temporarily disrupt an established community.	LTS	–	–	SM	SM	LTS	–	SM	SM	SM	SM	SM	SM	SM
	EIR Mitigation Measures														
	4.10-1a: Develop Construction Detours as Stated in Traffic Control and Safety Assurance Plan (see Measure 4.7-1)				X	X			X	X			X	X	X
	4.10-1b: Safe Access for Pedestrians and Bicyclists as Stated in Traffic Control and Safety Assurance Plan (see Measure 4.7-4)				X	X			X	X			X	X	X
	4.10-1c: Restore Disturbed Areas				X	X						X	X	X	X
	See measures in Section 4.8									X	X			X	X
	See measures in Section 4.9									X	X			X	X
	See measures in Section 4.12										X			X	X
	4.10-2: Components of the project may conflict with applicable land use plans, policies, or regulations of agencies with jurisdiction over the project.	LTS	–	–	SM	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	SM	LTS
	EIR Mitigation Measures														
	4.10-1b: Safe Access for Pedestrians and Bicyclists as Stated in Traffic Control and Safety Assurance Plan (see Measure 4.7-4)				X									X	