CHAPTER 6 ALTERNATIVES TO THE PROPOSED PROJECT

6.1 INTRODUCTION AND APPROACH

This chapter presents the alternatives analysis for the Proposed Pure Water Monterey Groundwater Replenishment Project. This section sets forth the objectives of the Proposed Project, summarizes its significant impacts, discusses the alternatives considered but eliminated from further analysis, describes the range of alternatives considered, and compares the impacts of the alternatives evaluated to the impacts of the Proposed Project.

The State CEQA Guidelines, Section 15126.6(a), state that an EIR must describe and evaluate a reasonable range of alternatives to the Proposed Project, or to the location of the project, that would feasibly attain most of the project's basic objectives, but that would avoid or substantially lessen any significant adverse effects of the project. An EIR is not required to consider every conceivable alternative to a Proposed Project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. The CEQA Guidelines further state that the specific alternative of "no project" shall also be evaluated. The EIR must evaluate the comparative merits of the alternatives and include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the impacts of the Proposed Project.

6.1.1 Organization of this Chapter

This chapter is organized into the following sections:

Section 6.1, Introduction and Approach, provides an overview of CEQA requirements pertaining to the identification and analysis of alternatives, and the Chapter organization. This section also includes the objectives of the Proposed Project and a summary of significant impacts of the Proposed Project by topical area (**Table 6-1**). The section concludes with the identification of CEQA alternatives evaluated in this Chapter.

Section 6.2, Alternatives Considered but Eliminated, discusses the alternatives that were considered, but eliminated from further analysis in this EIR. This section is organized into two parts.

6.2.1 Alternative Water Supplies Considered but Eliminated

6.2.2 Alternative Components of the Proposed Project Considered but Eliminated

Section 6.3, Alternatives Analysis*,* describes the alternatives to the Proposed Project, compares the impacts of the alternatives to the impacts of the Proposed Project, and also evaluates the alternatives' ability to accomplish the project objectives. This section is organized into three parts:

6.3.1 No Project

6.3.2 Alternatives to Proposed Project

6.3.1.1 Reduced Seaside Basin Replenishment Alternative

6.3.1.2 Alternatives to Source Water Diversion and Use

6.3.1.3 Alternatives for Product Water Conveyance

6.3.1.4 Alternatives to CalAm Distribution System Pipelines

6.3.3 Conclusion of Alternatives Analysis

Section 6.4, Environmentally Superior Alternative*,* identifies an environmentally superior alternative, as required by CEQA.

6.1.2 Project Objectives

As described in **Section 2.4, Project Objectives**, the primary objective of the Proposed Project is to replenish the Seaside Groundwater Basin with 3,500 acre feet per year (AFY) of purified recycled water to replace a portion of CalAm's water supply as required by state orders. To accomplish this primary objective, the Proposed Project would need to meet the following objectives:

- Be capable of commencing operation, or of being substantially complete, by the end of 2016 or, if after 2016, no later than necessary to meet CalAm's replacement water needs;[1]
- Be cost-effective such that the project would be capable of supplying reasonably-priced water; and
- Be capable of complying with applicable water quality regulations intended to protect public health.

Secondary objectives of the Proposed Project include the following:

- Provide additional water to the Regional Treatment Plant that could be used for crop irrigation through the Salinas Valley Reclamation Plant and CSIP system;
- Develop a drought reserve to allow the increased use of Proposed Project source waters as crop irrigation within the area served by the CSIP during dry years;
- Assist in preventing seawater intrusion in the Seaside Groundwater Basin;

[1] The Monterey Peninsula Water Supply Project has been delayed to the point where it is not possible for CalAm to meet the State Water Resources Control Board Cease and Desist Order 2009-60 deadline of December 31, 2016. Accordingly, representatives of the local agencies are proposing a CDO extension that would be acceptable to the public and that would have the potential to obtain State Board approval.

- Assist in diversifying Monterey County's water supply portfolio.

6.1.3 Significant Impacts of the Proposed Project

In **Chapter 4**, this EIR found that the Proposed Project would result in the significant impacts identified in **Table 6-1**, below, all of which would be reduced to a less-than-significant level with implementation of mitigation measures, with the exception of construction noise impacts at two component sites. The EIR found that construction noise at the Tembladero Slough Diversion site could exceed Monterey County noise ordinance standards, which would be a significant and unavoidable impact. Construction of the proposed CalAm Distribution System: Monterey Pipeline would also have a significant unavoidable impact associated with temporary increases in nighttime ambient noise levels during construction. Operation of the project would not result in any significant unavoidable impacts. In some cases, the operation of the Proposed Project would result in beneficial impacts on an environmental resource. See **Table S-1** for the Proposed Project's less-than-significant and beneficial impacts.

Table 6-1 summarizes the significant adverse construction and operational impacts identified in this EIR by the applicable component sites.

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Table 6-1
Significant Impacts of Proposed Project by Component Site

Significant Impacts That Can Be Reduced To Less Than Significant With Mitigation	Applicable Component(s)
AE-2: Construction Impacts due to Temporary Light and Glare	Injection Well Facilities
AE-4: Operation Impacts due to Permanent Light and Glare	Product Water Conveyance: Booster Pump Stations (RUWAP and Coastal Options) Injection Well Facilities
AQ-1: Construction Criteria Pollutant Emissions (PM_{10})	Proposed Project Overall (no individual sites would exceed the PM_{10} threshold)
BF-1: Habitat Modification Due to Construction of Diversion Facilities	Reclamation Ditch and Tembladero Slough
BF-2: Interference with Fish Migration Due to Project Operations	Reclamation Ditch
BT-1: Construction Impacts to Special-Status Species and Habitat	Salinas Pump Station, Salinas Treatment Facility Storage and Recovery, Blanco Drain, Product Water Conveyance (RUWAP and Coastal Options), Injection Well Facilities, CalAm Distribution System (Monterey Pipeline), plus indirect effects of implementation of Alternate Fisheries Mitigation Measure BF-2b
BT-2: Construction Impacts to Riparian, Federally Protected Wetlands as defined by Section 404 of the Clean Water Act, or Other Sensitive Natural Community	Reclamation Ditch, Tembladero Slough, Blanco Drain, Product Water Conveyance (RUWAP and Coastal Options), CalAm Distribution System (Monterey Pipeline), plus indirect effects of implementation of Alternate Mitigation Measure BF-2b for Fisheries
BT-4: Construction Conflicts with Local Policies, Ordinances, or approved Habitat Conservation Plan	Product Water Conveyance (RUWAP and Coastal Options)
BT-6: Operational Impacts to Riparian, Federally Protected Wetlands as defined by Section 404 of the Clean Water Act, or Other Sensitive Natural Community	Reclamation Ditch, Tembladero Slough, Blanco Drain, Lake El Estero, Product Water Conveyance (Coastal Option), CalAm Distribution System: Monterey Pipeline
CR-1: Construction Impacts on Historical Resources	CalAm Distribution System: Monterey Pipeline
CR-2: Construction Impacts on Archaeological Resources or Unknown Human Remains	All Components

Table 6-1
Significant Impacts of Proposed Project by Component Site

Significant Impacts That Can Be Reduced To Less Than Significant With Mitigation	Applicable Component(s)
EN-1: Construction Impacts due to Temporary Energy Use	All Components
GS-5: Operation - Exposure to Coastal Erosion and Sea Level Rise	CalAm Distribution System: Monterey Pipeline
HH-2: Accidental Release of Hazardous Materials During Construction	Lake El Estero, Product Water Conveyance (RUWAP and Coastal Options), Injection Well Facilities, CalAm Distribution: Monterey and Transfer Pipelines
HS-4: Operational Surface Water Quality Impacts due to Source Water Diversions	Reclamation Ditch
LU-1: Construction Temporary Farmland Conversion	Salinas Treatment Facility Storage and Recovery, Blanco Drain
LU-2: Operational Consistency with Plans, Policies, Regulations	All Components
NV-1: Construction Noise	Injection Well Facilities
NV-2: Construction Noise Exceeds Local Standards	Reclamation Ditch, Blanco Drain, Product Water Conveyance (RUWAP and Coastal options), Injection Well Facilities, CalAm Distribution System: Monterey and Transfer Pipelines
PS-3: Construction Solid Waste Policies and Regulations	All Components
TR-2: Construction Traffic Delays, Safety and Access Limitations	Product Water Conveyance (RUWAP and Coastal Options), CalAm Distribution System: Monterey and Transfer Pipelines
TR-3: Construction-Related Road Deterioration	All Components
TR-4: Construction Parking Interference	Lake El Estero, Product Water Conveyance (RUWAP and Coastal Options), CalAm Distribution System: Monterey and Transfer Pipelines
Significant and Unavoidable Impacts	**Applicable Component(s)**
NV-1: Construction Noise	CalAm Distribution System: Monterey Pipeline
NV-2: Construction Noise Exceeds Local Standards	Tembladero Slough

6.2 ALTERNATIVES CONSIDERED BUT ELIMINATED

In accordance with the State CEQA Guidelines, the lead agency is responsible for selecting a range of potentially feasible project alternatives for examination, and must briefly discuss the alternatives it eliminated from detailed consideration. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are:

- Failure to meet most of the basic project objectives,
- Infeasibility, or
- Inability to avoid significant environmental impacts.

The following section discusses those alternatives that were considered but eliminated during the course of this CEQA evaluation. The CEQA alternatives that were considered but eliminated from more detailed evaluation are presented using the following framework:

6.2.1 Alternative Water Supplies Considered but Eliminated.

6.2.2 Alternative Components of the Proposed Project Considered but Eliminated

6.2.1 Alternative Water Supplies Considered but Eliminated

Other potential projects previously designed to solve the existing regional water supply problems and needs were considered for evaluation as alternatives to the Proposed Project. The other potential water supply projects would serve water supply needs of the following three geographic areas:

- the Monterey Peninsula area,
- the Marina Coast Water District service area (former Fort Ord), and
- the Salinas Valley Groundwater Basin

The rationale for reviewing previous water supply projects in the Monterey Peninsula, the former Fort Ord, and Salinas Valley areas is to document past efforts at developing water supplies that were intended to achieve similar objectives of the Proposed Project, as well as to address specific comments raised in response to the Notice of Preparation for this EIR.

This section also describes the previous groundwater replenishment project considered in past environmental documents as part of prior regional water planning efforts.

6.2.1.1 *Alternative Water Supplies for CalAm Monterey District Service Area*

As described in **Section 2.3.4**, CalAm is under orders to meet the restrictions of the SWRCB Order 95-10 and the subsequent Cease and Desist Order (SWRCB Order Number WR 2009-0060) issued in 2009. These orders require CalAm to secure replacement water supplies for its Monterey District service area by December 2016 and reduce its Carmel River diversions to 3,376 AFY by the 2016 to 2017 timeframe. In addition to the Pure Water Monterey Groundwater Replenishment Project analyzed in this EIR, the following proposals and projects intended to augment CalAm water supplies for the Monterey District service area have been analyzed in previous environmental documents, or currently are being analyzed in other environmental documents, and have been eliminated from further consideration as alternatives to the Proposed Project for the reasons indicated.

New Los Padres Dam and Reservoir Project

Proposed by the Monterey Peninsula Water Management District (Water Management District) in 1989, this dam and reservoir project was intended to supply 21,000 AFY of water. The project was the subject of an EIR in 1994 to 1995, and it received a Clean Water Act Section 404 permit and a water right permit from the State Water Resources Control Board (SWRCB) in 1995. That year, voters within the Water Management District did not approve a measure that would have provided funding for the project, and it is not considered to be potentially feasible because the voters have rejected it.

Carmel River Dam and Reservoir Project

In 1996, CalAm proposed a "no growth" version of the previous New Los Padres Dam and Reservoir Project, called the Carmel River Dam and Reservoir Project. This project was intended to provide water supply of only 17,641 AFY to comply with SWRCB Order 95-10. In 1997, CalAm applied for a Certificate of Public Convenience and Necessity from the CPUC to construct and operate the project. The Water Management District, as the CEQA lead agency for the project, prepared a Draft Supplemental EIR in 1998. In 1998, the State legislature passed Assembly Bill (AB) 1182 mandating the CPUC to identify an alternative or alternatives to the dam so a Final EIR was never completed or certified. As discussed below, the studies mandated by the State legislature found the Carmel River Dam and Reservoir Project to be infeasible.

CPUC Water Supply Contingency Plan Evaluation

In 1999, the CPUC began evaluating alternatives to the Carmel River Dam and Reservoir Project as mandated by AB 1182. In 2002, the CPUC, working with CalAm and others, completed a water supply contingency plan, known as "Plan B." Plan B concluded that a combination of desalination and aquifer storage and recovery could produce up to 10,730 AFY of new water supply. The desalination component of the project was recommended to be located adjacent to the Moss Landing Power Plant and produce 9,430 AFY of water. Treated water was proposed to be transported to the CalAm service area through a new pipeline. The ASR element was proposed to provide 1,300 AFY of water by diverting surplus water from the Carmel River and storing this water in the Seaside Groundwater Basin for later use. The Plan B evaluation also considered the feasibility of constructing and operating a large scale desalination plant at Sand City. The Plan B studies also concluded that for various reasons the Carmel River Dam and Reservoir Project was not feasible.

Plan B provided an engineering and environmental analysis of the following water supply options to meet the requirements of SWRCB Order 95-10:

- Groundwater Development: Carmel Valley deep fractured bedrock; Seaside Basin aquifer storage and recovery; and Tularcitos Creek Basin aquifer storage and recovery.
- Desalination: Three different desalination plant locations – Marina; Moss Landing; and Sand City.
- Importation: Water purchase from Central Valley Project; water purchase from Humboldt Bay; and water purchase from Salinas Valley.
- Reclamation: Carmel Area Wastewater District/ Pebble Beach Community Services District reclamation project expansion; Salinas Valley Reclamation Project expansion; and local storm water reclamation projects.

- Legal Strategies: Pueblo Water Rights (Carmel River); Pueblo Water Rights (Salinas River); and Table 13 Rights (Carmel River).[2]

Of the fifteen water supply options, three were excluded because of fatal flaws (water purchase from Salinas Valley, Pueblo Water Rights for Carmel River, and Pueblo Water Rights for the Salinas River) and ten were withheld from further consideration. Two were carried forward: (1) Seaside basin aquifer storage and recovery that has been successfully implemented by the Water Management District in cooperation with CalAm (see **Section 2.5.5.2** of the Project Description) and (2) seawater desalination at Moss Landing. Projects pursuing desalination at Moss Landing are described in the following sections.

Coastal Water Project and Alternatives

After the completion of the Plan B evaluation, significant additional engineering design and environmental analysis was conducted. In 2003, CalAm requested the CPUC to allow it to amend its application for a Certificate of Public Convenience and Necessity (CPCN) to substitute a new water supply project called the Coastal Water Project. In September 2003, the CPUC determined that it should be the Lead Agency for an EIR for CalAm's project to construct and operate a desalination plant at Moss Landing and an aquifer storage and recovery system using the Seaside Basin. CalAm's proposal for the Coastal Water Project was evaluated in CalAm's 2005 submittal of the Proponent's Environmental Assessment (PEA), and further evaluated by the CPUC in the Coastal Water Project EIR (CPUC, 2009).

The Coastal Water Project EIR analyzed three desalination alternatives at a project level of detail: the Moss Landing Project, the North Marina Project, and the Regional Project. The alternatives analysis in the Coastal Water Project EIR considered these alternatives as well as alternative options for the seawater intake system (including open-water intakes, subsurface slant wells, vertical wells, brackish vertical wells, once-through cooling at Moss Landing Power Plant, and horizontal wells); alternative desalination plant sites (including two sites in Moss Landing), and different outfall options. The Regional Project alternative was approved by the CPUC but ultimately abandoned by CalAm. Many of the features of the Monterey Peninsula Water Supply Project discussed elsewhere in this EIR and below, and other water supply project proposals being pursued, share common features with the Coastal Water Project and its alternatives. None of the Coastal Water Project desalination plant sites are the same as the proposed Monterey Peninsula Water Supply Project (described in the following section). Several of the sites analyzed in the Coastal Water Project are being considered as proposed or alternative sites for desalination plants by other entities, including the Monterey Bay Regional Water Project, proposed by DeepWater Desal, LLC, and the Peoples' Moss Landing Water Desalination Project (described below).

Monterey Peninsula Water Supply Project

CalAm, working with local agencies, has proposed construction and operation of a CalAm-owned and operated desalination project (known as the Monterey Peninsula Water Supply Project or MPWSP). **Section 2.3.2.5** and **Section 4.1.3.2** describe the MPWSP, including its relationship to the Proposed Project and this EIR, and its status. The MPWSP requires approval by the CPUC to implement and therefore, the CPUC is the CEQA lead agency for that project. The Monterey Peninsula Water Supply Project is not an alternative to the Proposed Project. Rather, the Proposed Project, if implemented, would reduce the size of the desalination plant

[2] In 2013, the SWRCB granted CalAm additional Carmel River water rights (up to 1,488 AFY) for use during the rainy season.

proposed as part of the MPSWP. The MPSWP would not achieve the Proposed Project objectives of provision of additional recycled water that could be used for crop irrigation through the Salinas Valley Reclamation Plant and CSIP system, and the development of a drought reserve to allow the increased use of Proposed Project source waters for crop irrigation during dry years. Operation of the MPSWP could result in more severe adverse environmental impacts compared to operation of the GWR Project in the areas of marine water quality and marine biological resources, in particular because brine disposal from the desalination plant would adversely affect ocean resources absent mitigation.

Other Desalination Projects

There are other seawater desalination projects that are in various stages of development, and one or more of these projects may provide an opportunity for using desalinated water and delivering this water to Monterey Peninsula. These desalination projects include the following:[3]

- The Monterey Bay Regional Water Project, proposed by DeepWater Desal, LLC, would provide up to 25,000 AFY of potable water supply to serve participating communities in the Monterey Bay region, potentially including the Monterey Peninsula, Castroville, Salinas, and parts of Santa Cruz County. The project would withdraw up to 48.7 mgd of seawater and produce up to 22.3 mgd of potable supply. Core facilities consisting of a reverse osmosis desalination plant, open water intake, and brine discharge pipeline would be located in Moss Landing and Monterey Bay offshore from Moss Landing. Product water pipelines extending to areas that would be served are not part of the project currently proposed and would be evaluated as separate projects. As currently described, the Monterey Bay Regional Water Project would ultimately be owned by a joint powers authority consisting of the communities and water districts served by it.
- The Peoples' Moss Landing Water Desalination Project (Peoples' Moss Landing Project), proposed by Moss Landing Commercial Business Park, LLC, would provide 13,404 AFY (11.97 mgd) of potable water supply to serve North Monterey County and the Monterey Peninsula. The Peoples' Moss Landing Project would deliver 3,652 AFY to customers in the North Monterey County area and 9,752 AFY to the Monterey Peninsula. Core facilities consisting of a reverse osmosis desalination plant, open water intake, and brine discharge pipeline would be located in Moss Landing and Monterey Bay offshore from Moss Landing. Product water would be conveyed to the Monterey Peninsula via a 17.5-mile, 24-inch water main and 10 million gallon terminal storage tank. Product water would be conveyed to North County areas via 30 miles of water main pipeline ranging in size from 8 to 12 inches and three terminal water tanks

Rationale for elimination from more detailed evaluation in this EIR: These projects are not considered to be alternatives to the Proposed Project. They would not achieve the objective of providing replacement water for the Monterey District service area customers by the timeframe specified in the Proposed Project objectives, because they could not be developed in time to meet the timeframe objectives. In addition, the desalination projects would be expected to result in greater environmental impacts than would occur under the Proposed Project.

[3] The Deep Water Desalination Project is conceptually described at: www.deepwaterdesal.com and the Peoples Project information is found at www.thepeopleswater.com.

6.2.1.2 *Alternative Water Supplies for the Former Fort Ord*

Although the Proposed Project does not include any water supply objectives that include provision of new water supplies to the Marina Coast Water District service area, the Marina Coast Water District relies on wells that extract water from the Salinas Valley Groundwater Basin that would benefit from the Proposed Project. The Salinas Valley Groundwater Basin is Marina Coast Water District's only water supply source. In accordance with a 1993 annexation agreement with the Monterey County Water Resources Agency, up to 6,600 AFY of Salinas Valley groundwater is available to Marina Coast Water District for its service area at the former Fort Ord.

In 2002, in cooperation with the Fort Ord Reuse Authority (Reuse Authority), Marina Coast Water District initiated the Regional Urban Water Augmentation Project (RUWAP), a programmatic evaluation of water supply alternatives in order to identify feasible water augmentation supplies capable of meeting the water demands for redevelopment of the former Fort Ord as anticipated by the Fort Ord Reuse Plan. The Reuse Plan anticipates that a total of 9,000 AFY of water would be needed for redevelopment of the former Fort Ord; therefore, RUWAP's key objective was to produce 2,400 AFY of new water supplies to augment groundwater. A multi-tiered alternatives analysis was conducted as described in the RUWAP Alternatives Analysis (Marina Coast Water District/DD&A/RBF Consulting, March 2003). The analysis found that the two most viable alternatives that could be implemented by the Marina Coast Water District were seawater desalination and recycled water. Consequently, an EIR was prepared by Marina Coast Water District for the primary alternatives: a 3,000 AFY Recycled Water Alternative and a 3,000 AFY Seawater Desalination Alternative. In addition, a Hybrid Alternative (a combination of recycled water and seawater desalination) was evaluated. The Draft Environmental Impact Report for the Regional Urban Water Augmentation Project, State Clearinghouse Number #2003081142 (Marina Coast Water District 2004a) was released in June 2004. A Final EIR was certified in October 2004 (hereafter referred to as the "RUWAP EIR") (Marina Coast Water District Resolution 2004-56), and the RUWAP Plan was approved by Marina Coast Water District and by the Reuse Authority. As part of the RUWAP approval, Marina Coast Water District and the Reuse Authority identified the Hybrid Alternative as the recommended alternative to satisfy the RUWAP objectives.

Following the CEQA approval process, Marina Coast Water District, in cooperation with the MRWPCA, continued detailed engineering and proposed the Regional Urban Recycled Water Project to the U.S. Bureau of Reclamation as required by the federal loan for the Salinas Valley Reclamation Plant. The Recycled Water Project (a component of the Hybrid Alternative of the RUWAP) would include construction of a distribution system to provide up to 1,727 AFY of recycled water from the existing Salinas Valley Reclamation Plant to urban users. Of the total 1,727 AFY, 300 AFY of recycled water would be provided to the Monterey Peninsula (outside of the former Fort Ord) once that portion of the distribution system is operational. The Marina Coast Water District Board has adopted two addenda to the RUWAP EIR and has received federal approval in the form of a signed Finding of No Significant Impact from the U.S. Bureau of Reclamation for the Recycled Water Project but to date, only portions of the distribution system have been constructed and no recycled water deliveries have occurred.

While pursuing the Recycled Water Project, Marina Coast Water District separately pursued a local desalination plant consistent with the Hybrid Project of the RUWAP; however, in approximately 2008, Marina Coast Water District began planning for a regional desalination project (called the Monterey Bay Regional Desalination Project) in partnership with the Monterey County Water Resources Agency and CalAm. The regional desalination project is no

longer being pursued. More recently, Marina Coast Water District has been considering a local desalination project again to serve the former Fort Ord (Marina Coast Water District, 2015).

Rationale for elimination from more detailed evaluation in this EIR: The RUWAP Recycled Water Project and Marina Coast Water District's local desalination project would not accomplish the objectives of the Proposed Project. These projects are intended to provide water supplies for the City of Marina and the former Fort Ord. They would not provide replacement water to enable CalAm to comply with state orders,[4] nor would they augment water supplies for the growers in the CSIP service area.

6.2.1.3 *Alternative Water Supplies for Salinas Valley*

The Proposed Project includes secondary objectives to provide additional recycled water for crop irrigation in the Salinas Valley and to create a drought reserve system to support crop irrigation during dry years. Comments on the Notice of Preparation for this EIR requested consideration of an expanded GWR Project to consider additional irrigation water for the Salinas Valley. The following discussion provides background on water planning projects in the Salinas Valley that are under consideration. The Salinas Valley projects are primarily proposed or under the authority of the Monterey County Water Resources Agency (MCWRA). Water projects proposed since the MCWRA was established by the State in 1947 have been developed to address the seawater intrusion issue in the Salinas Valley. Beginning with construction of the Nacimiento and San Antonio reservoirs in 1957 and 1967, respectively, these projects have generally focused on capturing surface water and utilizing that water more effectively. Besides several surface water diversion rights throughout the watershed and the Salinas Valley Reclamation Plant and CSIP, the primary source of supply in the Monterey County portion of the Salinas Valley is groundwater.

Currently several projects are in various stages of planning and design to address water supply and seawater intrusion issues in the Salinas Valley. These projects include the Interlake Tunnel Project and the Salinas Valley Water Project Phase II, both of which are described below and identified under **Section 4.1.3, Cumulative Impacts Overview**.

- **Salinas Valley Water Project Phase II.** This project would allow MCWRA to facilitate offsets of groundwater pumping by delivering additional surface water to the Pressure and East Side subareas of the Salinas Valley Groundwater Basin. The project would divert up to 135,000 acre-feet per year of water from the Salinas River for municipal, industrial, and/or agricultural uses in the Pressure and East Side subareas. Continued reductions in groundwater pumping through use of the diverted surface water would help combat seawater intrusion in northern Monterey County. The Phase II project proposes two new surface water diversion points and appurtenant facilities for capture, conveyance, and delivery of the water. The capture and diversion facilities would consist of either a surface water diversion facility, similar to the Salinas River Diversion Facility (SRDF), or subsurface collectors, such as radial arm wells. The conveyance facilities would be composed of pipelines and pump stations for which location and designs have not yet been determined. The delivery facilities may consist of injection wells for aquifer storage and recovery (ASR), percolation ponds, turnouts for direct use of the water, or other options. The

[4] While the primary objectives of the RUWAP Recycled Water Project was to provide recycled water for urban irrigation within the former Fort Ord, the project also proposed to provide 300 AFY recycled water to the Monterey Peninsula. No known urban irrigation demands in the CalAm Monterey District service area have been identified for use of the 300 AFY that could be provided by the RUWAP.

construction design and physical location of the delivery facilities would be influenced by the type of facility, the end-users' intended application of the water (agricultural versus urban), and need for water treatment (MCWRA, 2014b). The Project is not an alternative to the Proposed Project, but rather would provide additional benefits beyond those that would be provided by the Proposed Project. The Proposed Project could not produce all of the water needed to prevent seawater intrusion in the Salinas Valley Groundwater Basin.

- **Interlake Tunnel.** The Interlake Tunnel Project would construct an 11,000-foot-long tunnel to divert approximately 50,000 AFY of water from Nacimiento Reservoir to San Antonio Reservoir that would have otherwise been spilled at Nacimiento Dam. The Nacimiento River basin produces nearly three times the average annual flow of the San Antonio River basin. During the winter season, the Interlake Tunnel would be used to transfer excess Nacimiento River flows to San Antonio Reservoir, thereby increasing the overall storage capacity of the system (MCWRA, 2014a). The water stored in San Antonio Reservoir would then be used for downstream groundwater recharge and abatement of seawater intrusion in the Salinas Valley Groundwater Basin (Monterey County Regional Water Management Group, 2014). Like the Phase II project described above, the Interlake Tunnel is not an alternative to the Proposed Project, but rather would provide additional benefits beyond those that would be provided by the Proposed Project.

- **Salinas River Stream Maintenance Project.** MCWRA proposes to coordinate voluntary stream maintenance activities with individual property owners, growers, and municipalities (participants) and appropriate federal, state, and local agencies. The Salinas River Stream Maintenance Project provides guidance and outlines maintenance procedures that will be used by the participants along the Salinas River mainstem and portions of San Lorenzo Creek, Bryant Canyon Channel, and Gonzales Slough to effectively implement routine stream maintenance activities in a timely, cost-effective and environmentally-sensitive manner. The proposed SMP provides process, policy, and field procedures to allow the participants to conduct stream maintenance activities (i.e., non-native and native vegetation treatment, sediment management, and other activities) on a voluntary basis to increase flood flow capacity and minimize bank erosion, helping to protect against flooding during and after major storm events. This flood control project has the potential to improve percolation and increase storage in the Salinas Valley Groundwater Basin; however, those benefits and supplies have not been quantified. This project is not an alternative to the Proposed Project because it would not meet the project objectives, but rather would provide additional benefits beyond those that would be provided by the Proposed Project (MCWRA, 2014).

Rationale for elimination from more detailed evaluation in this EIR: These projects are not considered as alternatives for the Proposed Project as none of the projects above would be capable of being accomplished within the timeframe stated in the Project Objectives, as presented in **Section 6.2.1** above. In addition, these projects are not alternatives to the Proposed Project; rather multiple projects are needed to remedy seawater intrusion conditions in the Salinas Valley Groundwater Basin, and these projects would provide additional benefits beyond those provided by the Proposed Project.

6.2.1.4 *Previous Groundwater Replenishment Project*

A previous groundwater replenishment project was considered in 2009 as part of CalAm's Coastal Water Project. The project was called the Seaside Groundwater Replenishment Project (2009 GWR), and was also proposed by MRWPCA. The 2009 GWR project was identified as a Phase 2 component of the Regional Project (Coastal Water Project Final EIR, 2009) and was evaluated at a programmatic level in the EIR. The project objectives of the 2009 GWR Project were to provide a year-round water supply source for the Seaside Groundwater Basin in support of the Seaside Basin Watermaster and to allow the Basin to meet peak demands. The 2009 GWR project components included replenishment of the Seaside Groundwater Basin with purified recycled water, which would later be extracted for potable use, conveyance via the RUWAP pipeline, injection and extraction facilities, and an advanced water treatment plant. The 2009 GWR project proposed to deliver 2,700 AFY of water to the Seaside Basin for subsurface application.

Rationale for elimination from more detailed evaluation in this EIR: This project is not considered as an alternative for further evaluation in this EIR as the project was an earlier version of the GWR Project, and would not meet the basic objectives of supplying 3,500 AFY to the Seaside Basin and also providing additional irrigation to the Salinas Valley CSIP. Specific components of the 2009 GWR project are included in the currently Proposed Project.

6.2.2 Alternative Components of the Proposed Project Considered but Eliminated

During preliminary design and project development, and as an initial phase of the EIR process, several feasibility-level and technical analyses were conducted to support development of the Proposed Project and provide an initial screening for environmental issues. The technical reports provided an initial screening process to address key feasibility issues including source water availability and alternatives, engineering feasibility, environmental considerations and timing. This section describes the technical analysis and documentation used to select the location, technologies and preliminary designs for the major components of the Proposed Project and why other alternative components were eliminated from more detailed evaluation in this EIR.

6.2.2.1 *Alternative Source Waters*

The following reports and technical analyses provided early recommendations for determinations on the optimal sources of water, timing and methods of diversion, and conveyance of those waters to the Regional Treatment Plant for recycling to meet the Proposed Project objectives:

- *Source Water Alternatives Report for the Monterey Peninsula Groundwater Replenishment Project* (Kimley-Horn and Associates, Inc., 2013). This report developed and studied several alternatives for conveying source water of various origins within the City of Salinas area to the Regional Treatment Plant for the Proposed Project. At that time, the Crop Irrigation component was not a part of the Proposed Project. The report outlined the source water options, conveyance methods, and estimated costs for the physical facilities.
- *Monterey Regional Water Pollution Control Agency Groundwater Replenishment Project Source Water Alternatives Analysis Report* (Brezack & Associates, 2014). This report provided a description of the range of alternative solutions for Proposed

Project source water conveyance components as well as a recommendation of preferred alternatives based upon a specified screening analysis.

- *Source Water Technical Analysis prepared by MRWPCA and MPWMD staff, with assistance by Schaaf & Wheeler and DD&A* (Various dates, 2014-2014). Spreadsheet analyses and evaluations of various source water alternatives including possible combinations were prepared to determine the timing and quantities of source waters that could be utilized for the Proposed Project. Screening criteria included meeting the demands for the GWR Features (i.e., conveyance and injection of purified recycled water to the Seaside Groundwater Basin for later extraction by CalAm for their customers) and the Crop Irrigation Features to augment supplies of tertiary-treated recycled water to the CSIP area (See **Appendices B, O, P, Q, and R**).[5]

The above analysis led to the development of the Proposed Project source waters as evaluated in this EIR. The following describes alternative source waters considered during the project development process that were eliminated for further consideration in this EIR.

Dry and Wet Weather Urban Runoff Capture and Reuse Alternatives

Early in the project alternatives screening process, additional alternative source water diversions and locations were considered and screened for suitability for consideration in the GWR Project EIR. In July 2013, a meeting was held which solicited information from MRWPCA member agencies to determine if a project component related to stormwater and/or dry weather urban runoff from member cities would be included in the Proposed Project description. MRWPCA requested that the agencies describe the potential for the discharge of both dry and wet weather flows in their storm water systems to the MRWPCA system for the benefit of the Proposed Project. During the 2013 screening analysis, it was determined that collection and conveyance of all urban runoff to the MRWPCA sewer conveyance and treatment system for the benefit of the GWR project would not be technically feasible, and even collecting a majority of it would be cost prohibitive (MRWPCA, 2013). The potential diversions that are not included in the Proposed Project include the following Monterey Peninsula area urban runoff projects: Laguna Grande Lake, Roberts Lake, Navy/Del Monte Lake, the Bay Avenue Outfall, Del Monte Dry Weather Diversion, and Areas of Special Biological Significance (ASBS) Compliance Wet Weather Diversion. The rationale for why these alternative source waters were not included in the Proposed Project and are not evaluated in more detail in this section is provided following the alternative source water descriptions.

[5] Technical analyses in Appendices G-1, H, O, P, and Q include two source water scenarios, called Phase A and B. Phase A assumes smaller diversions from the Reclamation Ditch and the Blanco Drain (diverting only up to 3 cfs rather than 6 cfs from these two diversion points). Appendix G-1 presents fisheries impacts under both scenarios. The Proposed Project described in Chapter 2, Project Description and the analyses in Chapter 4, assume that the maximum diversion in Phase B scenarios would occur (i.e., up to 6 cfs from each, the Reclamation Ditch and the Blanco Drain Diversions). The complete technical analyses presented in Appendices G-1, H, O, P, and Q and the impact conclusions in this EIR (Biological Resources: Terrestrial, Biological Resources: Fisheries, and Hydrology and Water Quality: Surface Water sections), support conclusions that level of impacts would not differ with implementation of the Phase A maximum diversions of 3 cfs from these water bodies when compared to the Phase B diversions of 6 cfs. In addition, the Phase A maximum diversion quantities would not meet the project objectives as fully as Phase B would and would not improve the ability of the Proposed Project to meet its timeframe objectives as was originally assumed.

Cities of Pacific Grove and Monterey ASBS Stormwater Management Project

The Cities of Pacific Grove and Monterey proposed the ASBS Stormwater Management Project, which includes enhancing the Pacific Grove existing dry weather urban runoff diversion system that connects Pacific Grove's storm drain system to the MRWPCA system, to be able to divert some wet weather flows. The City of Pacific Grove has an existing dry weather diversion system that diverts urban runoff from Pacific Grove's storm drain system into the MRWPCA regional collection system. The primary goal of the Pacific Grove ASBS stormwater management project is to improve stormwater quality discharged into the ASBS located along the Pacific Grove coastline. Providing an additional source of water supply is a secondary goal of the project. Conceptual engineering for this project is complete and a Final EIR was certified in 2014. However, final design of the ASBS Stormwater Management Project is pending the findings of the Central Coast ASBS Regional Monitoring Program, which will establish the ASBS water quality parameters and determine treatment requirements, and is not anticipated to occur until late 2015.

Proposed components of the stormwater conveyance to the MRWPCA include upsizing pump stations at Eardley, Berwick, Greenwood Park, and miscellaneous pipeline and valves to regulate flows. A Point Pinos Stormwater Treatment Plant project component could potentially add to the total amount of urban runoff available as a source of supply to the proposed GWR Project. Approximately 417 to 434 AFY of additional wet weather flows could be routed to this treatment plant, which could then potentially be diverted to MRWPCA at the Coral Street pump station if capacity is available in the MRWPCA system to accept the flow rates from the treatment plant.

City of Monterey New Monterey Urban Diversion Concept

The City of Monterey identified a potential future urban runoff diversion project to cover the watershed area and coastline to the west of Monterey Harbor (New Monterey). This potential multi-benefit project would reduce runoff to the Monterey Bay and improve water quality. Although a complete water balance analysis was not conducted by the City (i.e. calculating infiltration and evapotranspiration losses), a preliminary calculation of total yearly runoff of the 85th percentile storm event in a low water year was estimated to yield 150 AFY.

Currently, runoff is discharged through eight outfalls along this stretch of the coast. To divert the City's storm drains prior to the outfalls would require similar facilities to Pacific Grove's urban diversion systems, with pipelines to collect the runoff and pumps to move the water to the point of diversion. In this area, the MRWPCA Reeside pump station would be the point of connection to divert to the MRWPCA Regional Treatment Plant.

City of Monterey/U.S. Navy - Del Monte/Navy Lake Storage Management Concept

Del Monte Lake is used by the U.S. Navy for irrigation at the Naval Postgraduate School and Monterey Pines Golf Course. Similar to Lake El Estero, wet weather flows to Del Monte Lake could be a source water alternative with pre- and post- storm "lake lowering" projects. Prior to large storm events, the City of Monterey currently lowers Del Monte Lake several feet for flood control and stormwater management purposes by pumping water from the lake to the storm drain outfall that flows to the Bay.

Flow could be diverted from the 48-inch storm drains in Del Monte Lake to the collector and or on-site tanks prior to discharging from the twin 48-inch outfalls from Del Monte Lake and putting them in the collector force main. Using the lake as storage for an extended time frame to feed stormwater runoff into the force main is the most advantageous for maximizing total flows to the Regional Treatment Plant and maximizing the use of the existing force main.

The local agencies would need to partner with the U.S. Navy to pursue ways to further utilize and reclaim the local run-off collected in Del Monte Lake. Environmental impacts, such as impacts to habitat and species that depend on the lake, would be key considerations for this alternative. This project would require, at a minimum: (1) National Environmental Policy Act compliance and other federal land entitlements/right of way coordination; (2) Coastal development permit for any land within the Coastal Zone, and (3) potentially U.S. Fish and Wildlife consultation and permits.

City of Seaside Urban Runoff Sources

The City of Seaside owns and maintains the storm drain system within the City limits and the 90-inch diameter Bay Avenue ocean outfall which is located in Sand City. Collected stormwater in the City of Seaside is either percolated into ponds or subsurface galleries, or flows out to the ocean by means of a 90-inch ocean outfall near Bay Avenue and through Roberts Lake.

Minimal surface water flows from the City of Seaside urban areas to the ocean, primarily due to sandy soils and the presence of lakes. These lakes (also called ponds) collect stormwater from: the Seaside Highlands development, Monterey Peninsula Regional Park (Frog Pond Wetland Preserve), and a watershed surrounding two lakes on the western boundary of the City (Laguna Grande and Roberts Lakes). Within the City of Seaside, there are two percolation systems beneath parking lots: one at Edgewater shopping center (Costco) and the other at Seaside Auto Center along Del Monte Boulevard. Although the total precipitation in the Seaside Groundwater Basin is approximately 2,250 AFY, the majority infiltrates into the groundwater. Only approximately 105 AFY of stormwater is estimated to runoff within the basin. Although there are several stormwater percolation locations, there are no water quality data available for them.

The following City of Seaside's proposed improvements to the storm drainage system were evaluated during preliminary screening as potential source water alternatives.

Laguna Grande/Roberts Lake Storage Management Concept

The Canyon del Rey catchment that drains into Laguna Grande and Roberts Lake, and ultimately the Monterey Bay, only generates runoff from larger, less frequent storms. This is because the watershed during those storms is considered saturated which causes a larger percentage of runoff to occur as streamflow (Monterey County Flood Control and Water Conservation District, 1977). Rainfall and stormwater generated in smaller more frequent storms mostly percolates directly into the basin.

Laguna Grande and Roberts Lakes, located at the terminus of the watershed, continue to experience sedimentation and have a reduced flood control capacity. High flows during the extremely wet years of 1995 and 1998 exposed several drainage problems and confirmed some of the predictions made in the 1977 study, especially concerning head-cutting in Canyon Del Rey Creek and culvert sedimentation of road drainage facilities.

Roberts Lake outfalls through four parallel 6-foot by 6-foot box culverts that transverse beneath State Highway 1. The outfall was constructed prior to 1971. The City has been investigating if there are any structural solutions that will resolve outfall maintenance issues and reduce the amount of time spent by maintenance staff.

The City of Seaside has preliminarily evaluated a dredging project that would potentially capture more runoff from that drainage. The Proposed Project is to create additional storage capacity, visitor serving amenities, and habitat enhancements. The additional storage capacity could act as a reservoir for diversion of stormwater to the MRWPCA wastewater collection system for conveyance to the Regional Treatment Plant. It is unknown whether or how these lakes might be able to feed into MRWPCA's Peninsula Interceptors. If storm flows

could be diverted from Laguna Grande to Roberts Lake to MRWPCA, it would alleviate the culvert maintenance issues for the City. Facilities and improvements required to create a point of diversion to MRWPCA were assumed to include a new wet well, pump station, and short pipeline to connect to the existing wastewater system near the intersection of Canyon Del Rey Boulevard (Highway 218) and Del Monte Boulevard.

Del Monte Boulevard and/or Bay Avenue Outfall Diversion

The Bay Avenue outfall includes a 90-inch diameter pipeline extending out towards the ocean for a distance of 124 feet. The outfall was constructed in 1966 and has undergone several modifications. The Bay Avenue outfall is the end point of an existing 90-inch diameter storm drain pipe that conveys water from approximately 2,000 acres within the City of Seaside to the Monterey Bay. The existing outfall is frequently blocked by sand. In 2005, an improvement project included the installation of a Tideflex check valve at the outfall discharge to prevent migration of sand into the outfall culvert.

This project would divert dry weather and, potentially, first flush storm flows, to the Seaside Pump Station adjacent to the outfall. This project was conceptually designed; however, the City has not actively pursued it due to difficulties in finding suitable sites for the facilities required. The yield from this is likely lower than the others due to lack of storage. In addition, the potential effect of ocean storm surge (and ultimately sea level rise) into the outfall during diversion periods may need to be evaluated. (Rick Riedl, City of Seaside, personal communication, September 9, 2013 and April 1, 2014)

Rationale for elimination from more detailed evaluation in this EIR. The dry and wet weather urban runoff capture alternatives were not carried forward as part of the Proposed Project source waters because they would not reduce the environmental impacts of the Proposed Project and they are not capable of meeting the Proposed Project objectives related to meeting the timeframe requirements of CalAm's water supply replacement needs. The following describes the rationale for this determination:

- The amount of source water that could be collected from these diversion projects is limited by the capacity of the MRWPCA collection system to accept additional flows during a peak or larger storm event, as well as by the few available storage facilities to detain peak storm flows that could be later diverted into the MRWPCA system when greater capacity is available.
- Infrastructure for collection and discharge of urban runoff in the cities does not connect to the wastewater collection system, except in the City of Pacific Grove where they have implemented three phases of a dry weather Urban Runoff Diversion Project to comply with the requirements of the Areas of Special Biological Significance program (described above).
- Surface storage for detaining stormwater for use by the Proposed Project is limited or non-existent within the Pacific Grove and western portions (called New) Monterey area watersheds. In addition, much of the soils underlying Pacific Grove and Monterey are granitic, and these soils have a very low ability to infiltrate and slow runoff. Large flows of stormwater runoff become available within a very short time after initiation of a storm event. Diversion of stormwater flows to the MRWPCA interceptor at reduced flowrate over a longer period of time would be the only flows that would provide measurable yields for the Proposed Project. This type of diversion requires more storage than is currently available and there are no known sites available for the storage needed.

- There is no current system or method in place to allocate capacity within MRWPCA sewer force mains, pump stations, and treatment plant by jurisdiction or watershed to enable collection of stormwater flows.

6.2.2.2 *Alternative Treatment Facilities at the Regional Treatment Plant*

Water treatment for the Proposed Project would be provided by the Regional Treatment Plant's existing primary and secondary treatment processes: the new Advanced Water Treatment Facility (AWT Facility), and the existing Salinas Valley Reclamation Plant which would be modified by the Proposed Project. The Regional Treatment Plant effluent not further treated to tertiary levels and used for agricultural irrigation for the CSIP irrigation system would be conveyed to the new AWT Facility to produce purified recycled water. A description and analysis of the existing Regional Treatment Plant and proposed AWT Facility treatment is provided in **Chapter 2, Project Description** (see **Sections 2.5.1 and 2.8**). This section describes alternative treatment technologies and facility locations that were considered by MRWPCA as the Proposed Project was being developed.

Alternative Treatment Technologies

The AWT Facility would include: pre-treatment (using ozone, and potentially biologically activated filtration); membrane filtration (MF); reverse osmosis (RO); advanced oxidation (AOP) using ultraviolet light (UV) and hydrogen peroxide; and water stabilization using calcium and alkalinity addition. No other treatment alternatives are considered, other than the potential to add the biologically activated filtration (BAF) process following the ozone treatment process (Pure Water Monterey Groundwater Replenishment Project, Water Quality Statutory and Regulatory Compliance Technical Report, February 2015, **Appendix D**). The AWT Facility would provide full advanced treatment as required in the State's Groundwater Replenishment Regulations for subsurface application projects (June 2014 Groundwater Replenishment Regulations).

Consideration was given to removing nitrogen as part of the Regional Treatment Plant's secondary treatment process as a means to lower ammonia concentrations in the AWT Facility reverse osmosis concentrate. This alternative was not pursued based on impacts on the volume of recycled water that would be available for reuse and solids disposal. In addition, the use of Biologically Active Filtration was considered and was included in this EIR as an optional treatment process and the impacts were evaluated. Studies were conducted to assess the performance of the proposed ozone, MF, and RO treatment technologies, to collect information for the design of the new AWT Facility, and to assess the quality of the purified recycled water produced using secondary effluent from the Regional Treatment Plant and some of the source waters to be utilized for the Proposed Project. Two variations of the MF process were considered. No differences in environmental impacts would occur with selection of either of these process variations.

Treatment Plant Location Alternatives

The site selected for the proposed AWT Facility is owned by the MRWPCA, is located in close proximity to the existing facilities at the Regional Treatment Plant to which the Proposed Project must connect, provides adequate space for the proposed treatment process, and does not have environmental and engineering constraints. An alternative site for the AWT Facility within the Regional Treatment Plant (immediately south of the administrative offices and west of the Salinas Valley Reclamation Plant) was identified for the 2009 GWR Project discussed previously. The current location was found to better meet project objectives due to its location in closer proximity to key Regional Treatment Plant facilities, such as the secondary effluent and

outfall pipelines. In addition, the Proposed Project site for the AWT Facility does not have significant elevation changes, which results in less grading and reduced impacts relative to soils, runoff, and dust control.

***Rationale for elimination from more detailed evaluation in this EIR*:** Alternatives to the proposed AWT Facility processes and the AWT Facility location would not reduce the significant effects of the Proposed Project, and would not better accomplish the project objectives.

6.2.2.3 *Alternative Product Water Conveyance System Options*

The Proposed Project includes two options for product water conveyance, the RUWAP and the Coastal Alignment Options (including pipelines and booster pump stations). These options are described in detail in **Chapter 2, Project Description**, within **Section 2.9, Product Water Conveyance**. Both of these alternatives were considered at a project level within Chapter 4 of this EIR and **Section 6.3.2.3** evaluates the two options in comparison to each other.

In addition to the two options analyzed in this EIR, a preliminary design alignment was presented in the Notice of Preparation for the Proposed Project (May 2013, **Appendix A**). This preliminary alignment followed a portion of the potable product water conveyance pipeline alignment of CalAm's proposed desalination project at that time (California Public Utilities Commission application A.12-04-019). This pipeline alignment would start at the northern boundary of the Regional Treatment Plant access road, and then follow Charlie Benson Road to the west to Del Monte Boulevard. Alternatively, the pipeline to Del Monte Boulevard could follow the existing MRWPCA outfall pipeline alignment from the western boundary of the Regional Treatment Plant. This pipeline alignment would turn south on Del Monte Boulevard and be located either within the roadway or within land owned by the Transportation Agency for Monterey County adjacent to the roadway. After Del Monte Boulevard crosses under Highway 1, this pipeline alternative was proposed to be within or parallel to the Transportation Agency of Monterey County's land that follows the former rail line in that location. The pipeline alignment continued south past Fort Ord Dunes State Park and into the City of Seaside turning east at Auto Center Parkway and Del Monte Boulevard. At this point, the pipeline would turn east following Auto Center Parkway/La Salle Avenue until either Lincoln or Havanna Streets to connect the pipeline to San Pablo Avenue then to General Jim Moore Boulevard.

Rationale for elimination from more detailed evaluation in this EIR: Early evaluation of this alignment revealed that it would have more severe environmental impacts, including impacts to biological resources, increased construction impacts in terms of traffic and transportation, air pollutant emissions, and noise compared to the Product Water Conveyance Alignments that were carried forward in this EIR. Due to the sensitive resource concerns and engineering design considerations, this preliminary pipeline alignment was revised to the options currently being considered for the Proposed Project (see **Figure 2-18**, in **Chapter 2, Project Description**).

6.2.2.4 *Alternative Injection Well Facilities*

The Proposed Project Injection Well Facilities include new deep and vadose zone wells to inject Proposed Project purified recycled water into the Seaside Groundwater Basin. The injection wells are proposed in four clusters of two wells and each cluster includes a deep injection well, a vadose zone well, and associated monitoring equipment and monitoring wells. Two potential locations for the injection wells, referred to in the 2013 Notice of Preparation as the Coastal location and the Inland location, initially were considered favorable and were evaluated in prior studies. The Coastal location was eliminated as noted below due to unfavorable hydrogeologic conditions, engineering requirements, and higher costs. A discussion of the selection of the

current injection site as the preferred location is presented below and also provided in the supporting technical memorandum provided as **Appendix L**.[6]

In early 2013, the formerly proposed Inland location was relocated to an adjacent parcel approximately 2,000 feet southwest based on hydrogeologic and engineering criteria including the following:

- To ensure that recharged water remains within the Seaside Basin,
- To locate recharge immediately upgradient of pumping depressions to mitigate declining water levels, and
- To decrease conveyance and pumping costs by placing them in areas of lower ground surface elevations.

The proposed Injection Well Facilities site, labeled as the "Proposed Recharge Location" on **Figure 6-1,** was selected for evaluation as a Proposed Project component in this EIR.

The former Coastal location was eliminated from further consideration based on an evaluation by HydroMetrics WRI for the Seaside Basin Watermaster of recharge at various inland and coastal locations—including the Coastal location and a site near the proposed Injection Well Facilities (HydroMetrics WRI, 2013). In the 2013 evaluation, HydroMetrics WRI applied a basin-wide groundwater flow model to simulate changes in water levels resulting from recharge of various amounts and at various locations within the basin. That analysis provided technical information that allowed selection of the proposed location (i.e., the Inland location). The results of the Watermaster modeling and the rationale for selection of the proposed location and elimination for the former locations are described in the Todd Groundwater memorandum titled "Selection of Recharge Location for GWR Project" dated May 29, 2014 provided within **Appendix L** (see Appendix A of the Recharge Impacts Assessment Report in **Appendix L** of this EIR).

Rationale for elimination from more detailed evaluation in this EIR: In the May 2014 memorandum, Todd Groundwater documented the following conclusions that support the selection of the proposed Injection Well Facilities site (as shown in **Figure 6-1** and described in detail in Chapter 2, Project Description) and the elimination of the former Coastal and Inland locations as alternative site locations for this component:

- The proposed Injection Well Facilities location provides more hydrogeologic certainty than the former Coastal Location for project development because the Santa Margarita Aquifer may be thin or absent at the former Coastal location, and a deep aquifer testing program to reduce this uncertainty would adversely impact the project's schedule such that the operational objectives of the Proposed Project would not be met.
- More injection wells would be required at the former Coastal location for the same amount of recharge at an Inland location, increasing the environmental impacts of the Proposed Project due to construction and operation, and increasing overall project costs.
- The proposed Injection Well Facilities location is in close proximity to the existing ASR wells in the Santa Margarita Aquifer that have been operated effectively with favorable

[6] Todd Groundwater prepared two technical reports that addressed injection wells and related Seaside Basin recharge impacts and field investigations. The Recharge Impacts Assessment Report analyzed the recharge components of the project, including recharge wells, operational facilities, and transport of the purified water in the groundwater basin (Todd Groundwater, 2015a). The Field Investigation Report included geochemical modeling and compatibility with ambient groundwater (Todd Groundwater, 2015b).

injection rates since 2007-2008, which demonstrates the effectiveness of the site for injection/recharge and extraction of groundwater.

- The proposed Injection Well Facilities would be upgradient of water supply wells that would extract the Proposed Project's injected water.
- The proposed location provides sufficient basin storage to accommodate all of the injected GWR purified recycled water. Both locations are not needed. Storage capability at the former Coastal Location is less certain.
- Injection at the former Coastal location would increase loss of GWR water to ocean outflow, potentially reducing the amount of GWR water that could be recovered.

6.3 ALTERNATIVES ANALYSIS

This section describes the alternatives to the Proposed Project that were selected and evaluated in additional detail. The following information is provided for each alternative: (1) a description of the alternative, (2) analysis of the alternative's ability to reduce the impacts of the Proposed Project or result in any additional environmental impacts, and (3) assessment of the alternative's ability to meet the project objectives. A summary comparison of the alternatives is provided at the end of the section. This section is organized into three parts:

6.3.1 No Project

6.3.2 Alternatives to Proposed Project

6.3.1.1 Reduced Seaside Basin Replenishment Alternative

6.3.1.2 Alternatives to Source Water Diversions and Use

6.3.1.3 Alternatives for Product Water Conveyance

6.3.1.4 Alternatives to CalAm Distribution System Pipelines

6.3.3 Conclusion of Alternatives Analysis

6.3.1 No Project Alternative

CEQA Guidelines Section 15126.6(e) requires that an EIR include an evaluation of the No Project Alternative to provide decision- makers the information necessary to compare the relative impacts of approving a project to not approving a project. The No Project Alternative is defined as a continuation of existing conditions, as well as conditions that are reasonably expected to occur in the event that a Proposed Project is not implemented. Under the No Project Alternative for the Proposed Project, the Proposed Project would not be built and no project objectives would be achieved. It is reasonably likely that, pursuant to the orders requiring CalAm to curtail its diversion and use of Carmel River water and to reduce pumping from the Seaside Basin, mandatory water conservation and water rationing would be required. It also is possible that other projects would be constructed to provide replacement water to CalAm and/or to increase supplies for growers in the CSIP service area, but such projects would be required to undergo their own environmental review and discretionary approvals and are not appropriately included in the No Project Alternative.

6.3.1.1 *Description of the Alternative*

This alternative is considered because it is required by CEQA (i.e., continuation of existing conditions). In the event that the MRWPCA and its partner agencies do not implement the Proposed Project, the "no project" analysis assumes a "no build" scenario where none of the Proposed Project components would be constructed or operated. As described in **Chapter 2**, the Proposed Project would produce 3,500 AFY of high quality replacement water to CalAm for delivery to its customers in the Monterey District Service area, thereby enabling Cal Am to reduce its diversions from the Carmel River system by the same amount. CalAm is to reduce its diversions by the State Board's Cease and Desist Order (SWRCB Order WR 2009-0060) that is scheduled to take effect in January 2017. The No Project Alternative is defined as continuation of existing conditions at various Project Component sites, but also likely would trigger water management actions, including mandatory conservation and water rationing, in the CalAm service area due to SWRCB Order 95-10, the Seaside Basin Adjudication, and the Cease and Desist Order. Water rationing and water shortages would likely have potentially significant effects on the local economies within the area, including a possible moratorium on construction and development.

It is also possible that the time periods for compliance with SWRCB Order 95-10, the Seaside Basin Adjudication and/or the Cease and Desist Order would be extended. In that case, the beneficial impacts of the project with respect to the restoration of flows in the Carmel River would potentially be delayed or would not occur.

6.3.1.2 *Environmental Impacts of the Alternative Compared to those of the Proposed Project*

The No Project Alternative would eliminate all construction and operational impacts at all of the Proposed Project component sites, avoiding all significant impacts identified for the Proposed Project. The beneficial impacts of the project with respect to the restoration of flows in the Carmel River would potentially be delayed or would not occur if the No Project Alternative was implemented. Benefits of the Proposed Project related to additional irrigation water for CSIP (and related to offset of groundwater pumping by delivering additional recycled water for crop irrigation) and potential improvements in seawater intrusion conditions would also not occur. Refer to **Table 6-6** for a comparison of impacts of the No Project Alternative to the impacts of the Proposed Project.

6.3.1.3 *Ability of the Alternative to Meet the Project Objectives*

Under the No Project Alternative, none of the objectives of the Proposed Project would be met, and the benefits of the Proposed Project would not occur. The No Project Alternative would not enable CalAm to reduce its diversions from the Carmel River system by up to 3,500 AFY by injecting the same amount of purified recycled water into the Seaside Basin. CalAm is under a State order to secure replacement water supplies and cease over-pumping of the Carmel River by January 2017, and the No Project Alternative may impact the ability of CalAm to secure replacement supplies and cease pumping beyond the approved limits. If no other projects are built to address the Cease and Desist Order within the time requirements, the State Board may enforce the Cease and Desist Order and institute severe water use cutbacks, with potential impacts on local economies. Alternatively, the timeframe for compliance with the Cease and Desist Order and/or for reducing Seaside Basin pumping could be extended, which would delay or eliminate the associated Project benefits.

This alternative also would not meet the project objective of providing additional water to the Regional Treatment Plant to be used for crop irrigation through the Salinas Valley Reclamation Plant and CSIP system, and there would be no drought reserve for crop irrigation within the CSIP area during dry years. Proposed Project benefits associated with preventing seawater intrusion in the Seaside Groundwater Basin and assisting in diversifying Monterey County's water supply portfolio would not be realized.

6.3.2 Alternatives to the Proposed Project

6.3.2.1 *Reduced Seaside Basin Replenishment Alternative*

Description of Alternative

The Reduced Seaside Basin Replenishment Project Alternative would constitute a 3,000 AFY capacity project for water deliveries for the Proposed Project to the Seaside Basin. This alternative is considered in this EIR to provide an evaluation of a project that is consistent with the smaller scale GWR Project that was presented in the Settling Parties' Motion to Approve Settlement Agreement on Plant Size and Operation (MPWSP Desalination sizing agreement) (CPUC, 2013). This alternative assumes all facility components would be constructed related to pipeline conveyances, treatment and injection facilities and diversion facilities, but the new source water diversions would be used to a lesser extent. Under this alternative, 3,000 AFY of advanced treated water would be produced for replenishment of the Seaside Basin instead of 3,500 AFY. All of the Proposed Project facilities would be constructed, and the proposed additional recycled water for crop irrigation in the CSIP area (4,500 to 4,750 AFY) would be included. Under this alternative, the required diversions of source water would be reduced. To produce 3,000 AFY of water, approximately 3,703 AFY of new source waters would be required to be diverted to the AWT Facility. This compares to the 4,320 AFY needed to produce 3,500 AFY under the Proposed Project. Under this alternative, the total new source waters required would be 8,200 to 8,500 AFY (approximately 600 AFY less than the Proposed Project). This alternative would involve the same component facilities as the Proposed Project and this alternative would still achieve most of the project yield, as discussed above and in **Section 6.4**.

Environmental Impacts of Alternative Compared to Those of the Proposed Project

This alternative would result in nearly the same environmental impacts as the Proposed Project, since all facilities are assumed to be constructed under this alternative, even though there would be a reduction of water provided to the Seaside Groundwater Basin. There would be a reduction of purified water injected into the Seaside Groundwater Basin (i.e., 3,000 AFY compared to 3,500 AFY); while the alternative would still enable CalAm to reduce its diversions from the Carmel River system, it would only replace up to 3,000 AFY. **Table 6-6** compares the impacts of this alternative to the Proposed Project.

Ability of Alternative to Meet Project Objectives

This alternative would partially meet the project objectives during normal and dry years, in that a reduced water supply would be produced and available to CalAm – 3,000 AFY instead of the proposed 3,500 AFY to replenish the Seaside Groundwater Basin. This alternative would fully meet the Crop Irrigation water supply project objectives.

6.3.2.2 *Alternatives to Source Water Diversions and Use*

This section describes and evaluates alternatives in which one or more source water components are eliminated. Many of these alternatives have been considered during preliminary engineering and project development. Several of the new source waters would require agreements with other agencies, and others would require appropriative permits from the SWRCB. **Section 4.18, Water Supply and Wastewater Systems,** and **Appendix C** contain a description of those water rights and agreement requirements of the Proposed Project. In the event that one or more of the source water agreements is not signed or the appropriative permit is not issued (for the surface water bodies), then the Proposed Project may be implemented without the benefit of the particular source water(s) type and the physical diversion facility needed to use that source water would not be built.

The following Reduced Source Water Alternatives are considered in this section:

- No Lake El Estero (#1)
- No Tembladero Slough (#2)
- No Lake El Estero and No Tembladero Slough (#3)
- No Blanco Drain (#4)
- No Reclamation Ditch/Tembladero Slough (#5)
- No Surface Water Diversions from Reclamation Ditch, Tembladero Slough, and Blanco Drain (#6)
- Salinas Agricultural Wash Water and South Salinas Storm Water Only (#7)
- No City of Salinas Waters (#8)

A summary of the estimated changes to the maximum annual uses of each source water type is provided in **Table 6-2**. A summary of the impacts and mitigation measures that would be eliminated under each reduced source water diversion and use alternative is provided in **Table 6-3**.

Reduced Source Water Alternative #1 (No Lake El Estero)

Description of Reduced Source Water Alternative #1

In this Reduced Source Water Alternative, the Lake El Estero source water diversion facilities would not be implemented. The construction of the new physical facilities described in Section 2.7.2.8 at the Lake El Estero site would not occur and no operational diversions of water from this water body to the wastewater collection system would occur.

Environmental Impacts of Alternative Compared to Those of the Proposed Project

Significant impacts related to biological resources (wetlands), construction and land use policy consistency would be eliminated at the Lake El Estero site as summarized in **Table 6-3**.

Ability of Alternative to Meet Project Objectives

Based on the yield study (**Appendix R**) and source water analysis and assumptions in **Appendix B**, the alternative would not meet the project objectives as fully as the Proposed Project, including water demands for CalAm Monterey District of 3,500 AFY and for Crop Irrigation in the CSIP area of 4,500 – 4,750 AFY and up to 5,900 AFY in drought years. While the necessary amount of yield could be provided by the other proposed source waters without

the Lake El Estero diversion, this component provides source water in certain drought years to more easily meet the project objectives and to provide more certainty that those objectives would be consistently achieved.

Reduced Source Water Alternative #2 (No Tembladero Slough)

Description of Reduced Source Water Alternative #2

This alternative consists of a reduced source water diversion through elimination of the proposed diversion facilities at the Tembladero Slough Diversion site. Under this alternative, the construction of the new physical facilities described in Section 2.7.2.6 at the Tembladero Slough Diversion site would not occur and no operational diversions of water from this water body to the wastewater collection system would occur. A variation of this alternative (the alternative source waters described above combined with the Alternative Monterey Pipeline Alignment) is also presented in **Section 6.3.3** and **Table 6.6**.

Environmental Impacts of Alternative Compared to Those of the Proposed Project

In comparison to the Proposed Project, elimination of this component would eliminate all of the significant impacts at the Tembladero Slough diversion as summarized in **Table 6-3**. The significant and unavoidable noise impact during construction would be eliminated (exceedance of the limits in County of Monterey's noise ordinance). Significant impacts related to biological resources (fisheries and wetlands) and construction would be eliminated at the Tembladero Slough site. Impacts to fisheries resources would be avoided under this alternative; specifically there would be no impact to fish habitat due to construction of diversion facilities at Tembladero Slough. This alternative would also avoid any impacts from interference with fish migration due to project operations (although the impact was found to be less than significant). Cumulative operational marine water quality impacts would be reduced as some constituents that are within the Tembladero Slough waters are ones that may result in Ocean Plan exceedances at the edge of the zone of initial dilution of the MRWPCA outfall if the MPWSP with 6.4 mgd desalination plant is implemented. Nevertheless, the project would still have a considerable contribution to cumulative impacts and thus mitigation measures would be required to reduce this cumulative impact to a less-than-significant level.

Ability of Alternative to Meet Project Objectives

Based on the Reclamation Ditch Yield Study (**Appendix P**) and source water analysis and assumptions in **Appendix B**, the alternative would meet the primary project objective of replenishment of the Seaside Basin but would not fully accomplish the project objectives for CSIP irrigation in some drought years in comparison to the Proposed Project. This alternative would provide Crop Irrigation water in the CSIP area in certain drought years of up to 5,200 AFY, as compared to up to 5,900 AFY under the Proposed Project.

Reduced Source Water Alternative #3 (No Tembladero Slough and No Lake El Estero)

Description of Reduced Source Water Alternative #3

In this Reduced Source Water Alternative, there would be no source water diversion facilities constructed or operated at Tembladero Slough or at Lake El Estero. Under this alternative, the construction of the new physical facilities described in **Sections 2.7.2.6** (at Tembladero Slough Diversion site) and **2.7.2.8** (at Lake El Estero) would not occur and no operational diversions of water from these water bodies to the wastewater collection system would occur.

Environmental Impacts of Alternative Compared to Those of the Proposed Project

Significant impacts related to noise, biological resources, cultural resources and land use policy consistency at the Lake El Estero and Tembladero sites would be eliminated as summarized in **Table 6-3**. Additionally, impacts of public services, traffic, hazards and hazardous materials and energy would also be avoided at the Tembladero Slough and Lake El Estero sites due to the elimination of these diversion facilities. This Reduced Source Water Alternative #3 would eliminate the significant and unavoidable noise impact from construction of the Tembladero Slough diversion (i.e., exceedance of the limits in County of Monterey's noise ordinance during construction). Cumulative operational marine water quality impacts would be reduced as some constituents that are within the Tembladero Slough waters are ones that may result in Ocean Plan exceedances at the edge of the zone of initial dilution of the MRWPCA outfall if the MPWSP with 6.4 mgd desalination plant is implemented. Nevertheless, the project would still have a considerable contribution to cumulative impacts and thus mitigation measures would be required to reduce this cumulative impact to a less-than-significant level.

Ability of Alternative to Meet Project Objectives

This alternative would meet the primary project objective of replenishment of the Seaside Basin. However, based on the yield study (**Appendix P**) and source water analysis and assumptions in **Appendix B**, the alternative would not fully accomplish the project objectives for CSIP irrigation; in some drought years the yield from this alternative would be up to 5,200 AFY for the proposed Crop Irrigation component, as compared to up to 5,900 AFY under the Proposed Project. Elimination of the Tembladero Slough and Lake El Estero Diversion would not fully accomplish the Proposed Project objectives because they provide additional source water supplies to meet certain dry/drought year conditions.

Reduced Source Alternatives #4 (No Blanco Drain Diversions)

Description of Reduced Source Alternative #4

Under this alternative, there would be no diversion of surface waters from the Blanco Drain and the construction of the new Blanco Drain pump station and pipeline (including the trenchless construction or directionally drilling activities to install the pipeline under the Salinas River) would not occur. This alternative may occur if the State Water Resources Control Board does not issue an appropriative permit to divert surface waters from the Blanco Drain. No operational diversions of Blanco Drain water would occur and the flows from this agricultural drainage channel (listed as an impaired water body for numerous pollutants by the State Water Resources Control Board) would continue to flow into the Salinas River upstream of the Salinas River diversion structure.

Environmental Impacts of Alternative Compared to Those of the Proposed Project

The impacts of eliminating the Blanco Drain Diversion component would reduce the physical changes to this site because no construction would occur to install the facilities needed to divert the surface water. In addition, the less-than-significant operational changes to flow and water levels and associated habitat and special status species impacts in the downstream reaches of the watershed (a short segment of the Blanco Drain, Salinas River and lagoon) would not occur. Biological, cultural, traffic, energy, land use, public services and noise impacts would also be reduced at the Blanco Drain site due to the elimination of these facilities. Cumulative operational marine water quality impacts would be reduced as some constituents that are within the Blanco Drain waters are ones that may result in Ocean Plan exceedances if the MPWSP with 6.4 mgd desalination plant is implemented. Nevertheless, the project would still have a considerable

contribution to cumulative impacts and thus mitigation measures would be required to reduce this cumulative impact to a less-than-significant level. Significant impacts that would be avoided or eliminated by elimination of the Blanco Drain diversion component are summarized in **Table 6-3**.

Ability of Alternative to Meet Project Objectives

Based on the yield studies (**Appendices O, P, Q, and R**) and source water analysis and assumptions in **Appendix B**, the alternative would not fully accomplish the project objectives; in some drought years, the yield of the alternative would only provide from 2,800 to 4,300 AFY for the proposed Crop Irrigation component, as compared to up to 5,900 AFY under the Proposed Project.

Reduced Source Alternatives #5 (No Reclamation Ditch and Tembladero Slough Diversions)

Description of Reduced Source Alternative #5

This alternative assumes no diversion from the source waters of the Reclamation Ditch or Tembladero Slough. This alternative may occur if the State Water Resources Control Board does not issue an appropriative permit to divert surface waters from these points of diversion. No construction of physical facilities would be built at the Reclamation Ditch or Tembladero Slough Diversion sites (as described in **Section 2.7.2.6**) and no operational diversion of water and the resulting flow and water level changes to the existing surface water hydrology and habitat in the affected reaches (below the diversion points) would occur.

Environmental Impacts of Alternative Compared to Those of the Proposed Project

The impacts of eliminating these components would reduce the physical changes to these sites because no construction would occur to install the facilities needed to divert the surface water. In addition, the operational changes to flow and water levels in the downstream reaches of the watershed would not occur. If the Reclamation Ditch diversion is eliminated, the significant impacts related to fish bypass flows and water quality (water level fluctuations) would be eliminated. Impacts related to biological (terrestrial and fisheries) resources, cultural resources, land use, noise, energy and traffic impacts would be reduced under this alternative at the Reclamation Ditch Diversion site due to the elimination of construction and operation of these facilities. Biological, cultural, traffic, energy, land use, public services and noise would also be reduced at the Tembladero Slough sites due to the elimination of these facilities. If the Tembladero Slough Diversion is eliminated, the significant and unavoidable noise impact during construction would be eliminated (i.e., exceedance of the limits in County of Monterey's noise ordinance at the Tembladero Slough Diversion site). Impacts to fisheries resources due to the Tembladero Slough diversion would be avoided under this alternative, specifically there would be no impact to fish habitat due to construction of diversion facilities, and this alternative would avoid any impacts from interference with fish migration due to project operations. Significant impacts that would be avoided or eliminated at each of these sites are summarized in **Table 6-3**.

Ability of Alternative to Meet Project Objectives

Based on the yield studies (**Appendices O, P, Q, and R**) and source water analysis and assumptions in **Appendix B**, this alternative would not fully accomplish the project objectives; in some drought years, the yield of this alternative would be from 2,800 to 4,300 AFY for the proposed Crop Irrigation component, as compared to up to 5,900 AFY under the Proposed Project.

Reduced Source Alternative #6 (No Surface Water Appropriative Permits)

Description of Reduced Source Alternative #6

This alternative assumes that no source waters under the permit authority of the State Water Resources Control Board would be utilized and that the State would not issue any appropriative permits to divert surface waters from any of the proposed points of diversion. In this alternative, the following diversions would be eliminated from the Proposed Project: Reclamation Ditch, Tembladero Slough, and Blanco Drain. This alternative includes the Lake El Estero source water diversion facility as use of existing stormwater diversions from this site does not appear to require an appropriative permit.

Environmental Impacts of Alternative Compared to Those of the Proposed Project

The impacts of eliminating these components would reduce the physical changes to these sites because no construction would occur to install the facilities needed to divert the surface water. In addition, the operational changes to flow and water levels in the downstream reaches of the watershed would not occur. If the Reclamation Ditch diversion is eliminated, the significant impacts related to fish bypass flows and water quality (water level fluctuations) would be eliminated. Impacts related to biological (terrestrial and fisheries) resources, cultural resources, land use, noise, energy and traffic impacts would be reduced under this alternative at the Reclamation Ditch Diversion site due to the elimination of construction and operation of these facilities. Biological, cultural, traffic, energy, land use, public services and noise would also be reduced at the Tembladero Slough and Blanco Drain sites due to the elimination of these facilities. If the Tembladero Slough Diversion is eliminated, the significant and unavoidable noise impact during construction of that component would be eliminated (i.e., exceedance of the limits in County of Monterey's noise ordinance at the Tembladero Slough Diversion site). Impacts to fisheries resources would be avoided under this alternative; specifically there would be no impact to fish habitat due to construction of diversion facilities, and this alternative would avoid any impacts from interference with fish migration due to project operations. Significant impacts that would be avoided or eliminated at each of these sites are summarized in **Table 6-3**.

Ability of Alternative to Meet Project Objectives

Based on the yield studies (**Appendices O, P, Q, and R**) and source water analysis and assumptions in **Appendix B**, the alternative would not fully accomplish the project objectives; in some drought years, the yield of the alternative would only provide from 2,800 to 4,300 AFY for the proposed Crop Irrigation component, as compared to up to 5,900 AFY under the Proposed Project.

Reduced Source Water Alternative #7 (City of Salinas Sources Only - No Source Water Diversions to Augment CSIP Deliveries)

Description of Reduced Source Water Alternative #7

This alternative assumes new source waters would be conveyed to the Regional Treatment Plant for project use from the City of Salinas sources only, and this alternative eliminates all diversions from surface waters including the Reclamation Ditch, Tembladero Slough, and Blanco Drain, and the diversion facility at Lake El Estero. This alternative assumes that no additional waters would be diverted to provide augmentation of recycled water for CSIP area crop irrigation as proposed under the Project.

This alternative assumes that the new sources would be limited to the City of Salinas sources that include agricultural wash water and Salinas stormwater, in addition to excess secondary effluent. The same treatment components as would be constructed under the Proposed Project would be built. The Product Water Conveyance facilities would be the same under this alternative as under the Proposed Project. No new facilities would be built at the source water diversion sites that are not required for this alternative.

A variation of this alternative (the alternative source waters described above combined with the Alternative Monterey Pipeline Alignment) is also presented in **Section 6.3.3** and **Table 6-6**.

Environmental Impacts of Alternative Compared to Those of the Proposed Project

Elimination of all of the surface water diversion components would reduce the physical changes to those sites because no construction would occur to install the facilities need to divert the surface water. In addition, the operational changes to flow and water levels in the downstream reaches of the Reclamation Ditch watershed would not occur. Significant impacts that would be eliminated at each of these sites are summarized in **Table 6-3** (and in combination with the Alternative Monterey Pipeline in **Table 6-6**). Reduced construction and operational impacts would occur due to the elimination of the diversion sites at Blanco Drain, Reclamation Ditch, Tembladero Slough and Lake El Estero. Impacts related to biological resources, cultural resources, land use, noise, energy and traffic would be reduced under this alternative at four diversion sites due to the elimination of construction and operation of these facilities. Biological, cultural, traffic, energy, land use, public services and noise impacts would be avoided at the Tembladero Slough, Reclamation Ditch, Blanco Drain and Lake El Estero sites due to the elimination of these facilities. Impacts to fisheries resources would be avoided under this alternative, specifically there would be no impact to fish habitat due to construction of diversion facilities at the Reclamation Ditch and Tembladero Slough. This alternative would also avoid any impacts from interference with fish migration due to project operations. The significant unavoidable impact of noise from construction of the Tembladero Slough diversion would be eliminated under this alternative. This alternative is also presented together with the Alternative Monterey Pipeline in **Section 6.3.3**.

As discussed above in **Section 6.4**, the impacts of eliminating all of these source water components would result in elimination of the applicable significant impacts listed in **Table 6-3**. Refer to **Table 6-6** for a comparison of this alternative combined with the Alternative Monterey Pipeline to the Proposed Project.

Ability of Alternative to Meet Project Objectives

This alternative would produce 3,500 AFY of purified recycled water to replace a portion of CalAm's water supply to meet project objectives to replenish the Seaside Basin. However, irrigation waters for CSIP would not be augmented in comparison to the Proposed Project. Based on the yield studies (**Appendix O**) and source water analysis and assumptions in **Appendix B**, this alternative would not fully meet the Crop Irrigation objectives. In this alternative, excess source waters delivered to the Regional Treatment Plant as municipal wastewater flows from existing MRWPCA customers would still be available for use in the CSIP irrigation area. However, new source waters diverted to the system would only be sufficient to meet the Seaside Basin replenishment and CalAm water supply needs objectives.

Reduced Source Water Alternative #8 (No Agricultural Wash Water or South Salinas Stormwater)

Description of Reduced Source Water Alternative #8

In the event that the City of Salinas does not enter into an agreement with MRWPCA to provide the agricultural wash water or south Salinas stormwater for the benefit of the Proposed Project, the other proposed new source waters may be the only waters available for the Proposed Project and less yield would be possible, in particular, during the late summer and fall when minimal surface water flows would be available to divert. Under this alternative, no physical changes would be made to the Salinas Pump Station source water diversion site, the Salinas Treatment Facility or the 33-inch wastewater pipeline to enable agricultural wash water and south Salinas stormwater to be stored and recovered for recycling and reuse.

Environmental Impacts of Alternative Compared to Those of the Proposed Project

Significant impacts that would be eliminated at each of the sites associated with this alternative are summarized in **Table 6-3**. Construction and operational impacts related to biological (terrestrial and fisheries) resources, cultural resources, noise, energy, public services (waste disposal), and traffic impacts would be reduced under this alternative at the City of Salinas facilities due to the elimination of construction and operation of these facilities, including the temporary agricultural construction impacts due to slip-lining the 33-inch pipeline between the Salinas Pump Station and the Salinas Treatment Facility sites. Significant operational land use impacts related to compliance with plans and policies for the Salinas Treatment Facilities Storage and Recovery component would be eliminated.

Ability of Alternative to Meet Project Objectives

Based on the yield studies (**Appendix O**) and source water analysis and assumptions in **Appendix B**, the alternative would not fully meet the project objective to provide additional agricultural irrigation water as the yield of the alternative would not provide the total Crop Irrigation amount proposed, and in drought years would require the use of CSIP wells in the peak irrigation demand months.

Table 6-2
Reduced Source Water Alternatives: Source Waters Flows/Maximum Use (and range) (in AFY)

Type of Source Water:	Proposed Project (from Table 2-12)	Alternative 1: No Lake El Estero	Alternative 2: No Tembladero Slough	Alternative 3: No Lake El Estero; No Tembladero Slough	Alternative 4: No Blanco Drain	Alternative 5: No Reclamation Ditch; No Tembladero Slough	Alternative 6: No Surface Water Diversions	Alternative 7: City of Salinas Waters Only	Alternative 8: No City of Salinas Waters
Excess/Unused Regional Treatment Plant Municipal Effluent (MRWPCA, Regional Treatment Plant flow monitoring data, January 2014)	3,000 to more than 5,000								
Agricultural Wash Water Flows (Source: City of Salinas and MRWPCA, 2014)	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579	0
City of Salinas Urban Runoff to Salinas River (Source: Schaaf & Wheeler, 2015a)									
Reclamation Ditch at Davis Road (Source: Schaaf & Wheeler, 2015b)	1,522	1,522	1,522	1,522	1,522	0	0	0	1,522
Tembladero Slough at Castroville (Source: Schaaf & Wheeler, 2015b)	1,135	1,135	0	0	1,135	0	0	0	1,135
Blanco Drain Diversions (Source: Schaaf & Wheeler, 2014b)	2,620	2,620	2,620	2,620	0	2,620	0	0	2,620
Lake El Estero Storage Management Water (Source: Schaaf & Wheeler, 2014a)	87	0	87	0	87	87	87	0	87
TOTALS (Note 2)	**9,309**	**9,302**	**8,852**	**8,851**	**8,231**	**8,499**	**7,329**	**7,322**	**7,264**

1. Source: Schaaf & Wheeler/Monterey Peninsula Water Management District, 2015 (see **Appendix B**).
2. The total use of source water would be less than the sum of all source waters due to seasonal nature of the demands and losses due to Salinas Treatment Facility Storage and Recovery. The amount of secondary-treated Excess Regional Treatment Plant Municipal Effluent used in each scenario is the lesser of the monthly volume available or the average monthly CSIP well usage. The analysis assumes that new source water that exceeds the amount used by the Proposed Project for recycling would not be diverted, or if diverted and unneeded, be disposed via the MRWPCA existing ocean outfall. The amount of secondary-treated municipal effluent to be disposed to the MRWPCA ocean outfall would be less with Proposed Project than current conditions as shown in Appendix B.

Table 6-3
Reduced Source Water Alternatives and Resulting Impacts Eliminated

#	Source Water Type/Site Included / Alternative Description	Salinas Agricultural Wash Water	Salinas Stormwater from Salinas River Watershed	Salinas Treatment Facility Storage and Recovery	Reclamation Ditch Diversion	Blanco Drain Diversion	Tembladero Slough Diversion	Lake El Estero Diversion	Impacts/Mitigation Measures Eliminated by the Alternative (Applicable Site) The listed alternative eliminates the following significant impacts – all of which can be reduced to less than significant with the mitigation measures, except **NV-2** that would be significant and unavoidable for Tembladero Slough (numbers correlate to both the impacts and the mitigation measures)
	Proposed Project (all source waters)	X	X	X	X	X	X	X	None
1	No Lake El Estero	X	X	X	X	X	X		BT-6, CR-2, EN-1, HH-2, LU-2, PS-3, TR-3, TR-4 (only at the Lake El Estero site)
2	No Tembladero Slough	X	X	X	X	X		X	BF-1, BT-2, BT-6, CR-2, EN-1, LU-2, **NV-2**, PS-3, TR-3 (only at Tembladero Slough site)
3	No Lake El Estero and No Tembladero Slough	X	X	X	X	X			BT-6, CR-2, EN-1, HH-2, LU-2, PS-3, TR-3, TR-4 (at the Lake El Estero) BF-1, BT-2, BT-6, CR-2, EN-1, LU-2, **NV-2**, PS-3, TR-3 (at Tembladero Slough site)
4	No Blanco Drain	X	X	X	X		X	X	BT-1, BT-2, BT-6, CR-2, EN-1, LU-1, LU-2, NV-2, PS-3, TR-3 (only at the Blanco Drain Diversion site)
5	No Reclamation Ditch/Tembladero Slough	X	X	X		X		X	BF-1, BF-2, BT-2, BT-6, CR-2, EN-1, HS-4, LU-2, NV-2**,** PS-3, TR-3 (at Reclamation Ditch site) BF-1, BT-2, BT-6, CR-2, EN-1, LU-2, **NV-2**, PS-3, TR-3 (at Tembladero Slough)
6	No Surface Water Diversions (Reclamation Ditch, Tembladero Slough, and Blanco Drain Eliminated)	X	X	X				X	BF-1, BF-2, BT-2, BT-6, CR-2, EN-1, HS-4, LU-2, NV-2, PS-3, TR-3 (at Reclamation Ditch site) BF-1, BT-2, BT-6, CR-2, EN-1, LU-2, **NV-2**, PS-3, TR-3 (at Tembladero Slough) BT-1, BT-2, BT-6, CR-2, EN-1, LU-1, LU-2, NV-2, PS-3, TR-3 (at the Blanco Drain Diversion site)
7	Salinas Waters Only	X	X	X					BF-1, BF-2, BT-2, BT-6, CR-2, EN-1, HS-4, LU-2, NV-2, PS-3, TR-3 (at Reclamation Ditch site) BF-1, BT-2, BT-6, CR-2, EN-1, LU-2, **NV-2**, PS-3, TR-3 (at Tembladero Slough) BT-1, BT-2, BT-6, CR-2, EN-1, LU-1, LU-2, NV-2, PS-3, TR-3 (at the Blanco Drain Diversion site) BT-6, CR-2, EN-1, HH-2, LU-2, PS-3, TR-3, TR-4 (at the Lake El Estero site)
8	No City of Salinas Waters				X	X	X	X	BT-1, CR-2, EN-1, LU-2, PS-3, TR-3 (Salinas Pump Station Diversion) BT-1, CR-2, EN-1, LU-1, LU-2 PS-3, TR-3 (Salinas Treatment Facility Storage and Recovery)

6.3.2.3 *Alternatives for Product Water Conveyance*

Description of the Alternative

Section 2.9 in **Chapter 2, Project Description**, describes two options for the Product Water Conveyance system, including two pipeline alignments and two associated locations for a booster pump station, called the RUWAP and Coastal Alignment Options. Only one of the two Product Water Conveyance pipeline alignments and booster pump stations would be constructed as part of the Proposed Project.

Environmental Impacts of the Alternative – Comparison of the Two Options for Product Water Conveyance

Table 6-4 below summarizes and compares the impacts of construction and operation of the two options for the Product Water Conveyance System for the Proposed Project.

A comparison of the severity of impacts between the two alternative Product Water Conveyance Systems shows that they are very similar. The primary difference in impacts is in construction and operational impacts to riparian habitat and federally protected wetlands as defined by Section 404 of the Clean Water Act; specifically, the impacts of the RUWAP alignment option would be less than significant while the Coastal alignment option would be significant, but reduced to less than significant with mitigation in this EIR (specifically, Mitigation Measures BT-2, and BT-6). The Coastal alignment option of the Product Water Conveyance pipeline could impact Locke Paddon Lake that contains wetlands and riparian habitat in the City of Marina, and the RUWAP alignment would not affect those habitats.

All other impacts of the two pipeline alignment options would be the same or similar. The RUWAP booster pump station site is located in proximity to the CSUMB classrooms and ¼ mile east of some student housing; however, the site is located in a depression and is immediately adjacent to the City of Marina Corporation Yard. The Coastal booster pump station site is located along and visible from 2nd Avenue within an area that contains trees and is adjacent to dilapidated former Army barracks buildings. It is also near CSUMB recreational facilities; however the immediate vicinity is primarily paved parking lots areas. Both booster pump station sites would result in similar or the same environmental impacts.

Table 6-4
Summary of Significant Impacts of Product Water Conveyance Options: RUWAP and Coastal (including Pipelines and Booster Pump Stations)

Impact Title	Coastal Alignment Option	RUWAP Alignment Option
AE-4: Operation Impacts due to Permanent Light and Glare *Note: this impact is specific to the Booster Pump Station components of the Product Water Conveyance system. The pipelines would not result in any new sources of light and glare.*	LSM	LSM
BT-1: Construction Impacts to Special-Status Species and Habitat	LSM	LSM
BT-2: Construction Impacts to Riparian, Federally Protected Wetlands as defined by Section 404 of the Clean Water Act, or Other Sensitive Natural Community	LS	LSM
BT-4: Construction Conflicts with Local Policies, Ordinances, or approved Habitat Conservation Plan	LSM	LSM
CR-2: Construction Impacts on Archaeological Resources or Unknown Human Remains	LSM	LSM
EN-1: Construction Impacts due to Temporary Energy Use	LSM	LSM
HH-2: Construction Accidental Release of Hazardous Materials	LSM	LSM
LU-2: Operational Consistency with Plans, Policies, Regulations	LSM	LSM
NV-1: Construction Noise	LS	LS
NV-2: Construction Noise Exceeds Local Standards	LSM	LSM
PS-3: Construction Solid Waste Policies and Regulations	LSM	LSM
TR-2: Construction Traffic Delays, Safety and Access Limitations	LSM	LSM
TR-3: Construction-Related Road Deterioration	LSM	LSM
TR-4: Construction Parking Interference	LSM	LSM

Ability of Alternatives to Meet Project Objectives

Either of the Product Water Conveyance options evaluated in the EIR would fully achieve the project objectives. The two alignments would differ in relationship to the requirements to obtain necessary easements and rights of way, and project costs. The Coastal alignment would utilize a large portion of the Transportation Agency for Monterey County right of way, pass through State Parks land near the Divarty Street undercrossing of Highway 1, and also would be located

in the Coastal Zone, including areas within the City of Marina Local Coastal Program and Coastal Commission jurisdiction. These issues may be constraints to timely project implementation. The RUWAP alignment is proposed within City of Marina public roadway rights of way, requiring rights of way and easements from that jurisdiction, in addition to horizontal directional drilling (trenchless technology) through major intersections. The RUWAP alignment would also require agreements with the Marina Coast Water District for placing the pipelines within areas that contain Marina Coast Water District water supply and wastewater infrastructure.[7]

6.3.2.4 *Alternatives to CalAm Distribution System Pipelines*

The CalAm Distribution System Transfer and Monterey Pipelines are proposed to be built by CalAm. These pipelines are also a part of the MPWSP[8] and will be evaluated in the EIR for that project. Alternative alignments for the proposed Transfer and Monterey Pipelines alignments are considered in this section (called the Alternative Transfer Pipeline and Alternative Monterey Pipeline).

Description of the Alternative CalAm Distribution System Pipelines

The alternative CalAm Distribution System Pipelines are described below and shown in **Figure 6-2** (together with the proposed pipelines) and **Appendix Z** in detail. **Figures 2-18, 2-38, and 2-39** illustrate the Proposed Project pipeline alignments in detail. **Table 6-5** compares the impacts of the Proposed CalAm Distribution Monterey and Transfer Pipelines to the impacts of the Proposed Project's alignments for the Monterey and Transfer Pipelines. It is important to note that if the Alternative Monterey Pipeline were constructed instead of the Proposed Project's alignment for the Monterey Pipeline, then the Transfer Pipeline would no longer be needed and the impacts associated with construction of the Transfer Pipeline would be eliminated. As shown on **Figure 6-2**, the Alternative Monterey Pipeline would convey water from an existing pipeline at the intersection of Yosemite Street and Hilby Avenue (its eastern terminus) through Seaside and Monterey to the Eardley pump station within the City of Pacific Grove (the western terminus). Therefore, with this alignment, the Transfer Pipeline would not be needed for delivering water supplies from the Seaside Groundwater Basin to the CalAm customers. If the Proposed Project alignment for the Monterey Pipeline were constructed, then either the Proposed Project alignment for the Transfer Pipeline could be constructed and operated, or the alternative alignment for the Transfer Pipeline could be constructed and operated.

Description of Alternative Transfer Pipeline

An alternative to the Proposed Transfer Pipeline alignment has been designed by CalAm's consultants (see **Figure 6-2** and **Appendix Z**). As shown in **Figures 2-18** and **2-38**, the

[7] The RUWAP alignment option (and to a lesser extent the Coastal alignment) would also provide for a future opportunity for shared use of the GWR Product Water Conveyance Alignment (or the trench) to convey water supplies for the Marina Coast Water District customers. This future opportunity is not addressed in this EIR due to lack of information about the shared use scenario—no potential water users have been identified and no agreements for sharing the proposed GWR Product Water Conveyance System are in progress.

[8] A short segment of the pipeline (approximately 1,800 linear feet located west of General Jim Moore) is not needed for the GWR Project and would not be built by CalAm unless the MPWSP or an alternative to the MPWSP without the GWR Project, is implemented. That pipeline would be needed to connect to a storage tank called the Terminal Reservoir that is a component of the MPWSP, but is also not part of the Proposed GWR Project.

Proposed Transfer Pipeline would be 2.4 miles long. From the intersection of Del Monte Boulevard/La Salle Avenue, the Proposed Transfer Pipeline would be routed east along La Salle Avenue for approximately 0.9 mile to Yosemite Street, then south to the ASR Pump Station near the intersection of Hilby Avenue and Yosemite Street.[9]

Similar to the Proposed Project's alignment, the Alternative Transfer Pipeline would be 2.4 miles long. From the intersection of Del Monte Boulevard/La Salle Avenue, the Alternative Transfer Pipeline would be routed east along La Salle Avenue for approximately 0.3 mile to Noche Buena Street (this first segment is the same as Proposed Project alignment) where it would then proceed to Hilby Avenue, then proceed approximately 1,800 feet along Hilby Avenue to its intersection with Yosemite Street where it would connect to an existing potable water supply pipeline.

Description of Alternative Monterey Pipeline

An alternative to the proposed Monterey Pipeline has been designed by CalAm's consultants (see **Figure 6-2** and **Appendix Z**). The following describes the proposed pipeline and the alternative pipeline and compares the differences in alignments.

Proposed Monterey Pipeline. The Proposed Project's alignment for the Monterey Pipeline would be 5.4 miles long. **Figures 2-38** and **2-39** in **Chapter 2**, **Project Description**, shows the proposed Monterey Pipeline alignment. From the intersection of Del Monte Boulevard/La Salle Avenue, the proposed Monterey Pipeline would be routed southwest on the west side of Del Monte Boulevard, generally following the Monterey Peninsula Recreational Trail and Transportation Agency for Monterey County right-of-way. The alignment would run south on Figueroa Street and west along Franklin Street. At High Street, the alignment would bear north and traverse the Presidio of Monterey in existing roadway. At the western boundary of the Presidio of Monterey, the alignment would continue on to Spencer Street southwest on Eardley Street and terminate near the existing Eardley Pump Station.

Alternative Monterey Pipeline. The alternative pipeline, called the "Alternative Monterey Pipeline," would be 6.5 miles long (and, if selected, there would be no need to construct the Transfer Pipeline). **Figure 6-2** and detailed figures in **Appendix Z** illustrate the Alternative Monterey Pipeline alignment. From the intersection of Yosemite Avenue and Hilby Avenue, the pipeline would continue west along Hilby Avenue to Fremont Street, then head generally southwest along Fremont Avenue and Mark Thomas Drive to Aquajito Road. At the Fairgrounds Road/Mark Thomas Drive Bridge over Highway 68, the pipeline would be supported on an approximately 400-foot-long truss pipe bridge alongside the existing road bridge. From the intersection of Mark Thomas Drive/Aquajito Road, the alternative alignment would head northwest along Aquajito Road to Fremont Street and continue west along Fremont Street, Munras Street, and Webster Street. At the intersection of Webster Street/Hartnell Street, the alternative alignment would turn northwest onto Hartnell Street. The pipeline would cross over Hartnell Gulch within the existing roadway. From the intersection of Hartnell Street/Madison Street, the alternative alignment would continue northwest along Madison Street to Monroe Street. The pipeline would turn north onto Monroe Street, west onto Jefferson Street, and north onto High Street. The 0.8-mile segment between the intersection of High Street/Franklin Street and the intersection of Spencer Street/Hoffman Avenue would be the same as the Proposed

[9] Under the MPWSP, the Proposed Transfer Pipeline would also be built east of General Jim Moore to connect existing pipelines in that roadway to the Terminal Reservoir storage tanks proposed as part of the MPWSP. For the GWR Proposed Project, the Proposed Transfer Pipeline would end at Yosemite Avenue where it would connect to an existing potable water supply pipeline.

Project alignment. At Spencer Street/Hoffman Avenue, the alternative alignment would head southwest along Hoffman Avenue, northwest along Lily Street, west along Withers Avenue, and northwest along Filmore Street and Sinex Avenue, terminating at a new connection with the CalAm distribution system near the Eardley Pump Station (URS, 2014b). With the exception of the 400-foot-long segment that would be suspended in a pipe bridge alongside the Fairgrounds Road/Mark Thomas Drive Bridge over Highway 68, the rest of the alternative alignment would be located entirely within existing paved road rights-of-way.

Monterey Pipeline Comparison Overview. The entire Alternative Monterey Pipeline would be located outside of the Coastal Zone. **Figure 6-2** shows the proposed and alternative alignments. If the Alternative Monterey Pipeline is selected for construction, neither the proposed Transfer Pipeline nor the Alternative Transfer Pipeline would be built to deliver the required water quantities to meet CalAm customers' demands.

Environmental Impacts of the Alternative Compared to those of the Proposed Project

CalAm Distribution System: Transfer Pipeline

Table 6-5 compares the impacts of the Proposed Project Transfer Pipeline and the Alternative Transfer Pipeline. The level of significance and the severity of the impacts would be the same or similar for all impact topics if the Alternative Transfer Pipeline were constructed instead of the Proposed Transfer Pipeline, because both would be 2.4 miles long and both would be entirely within existing, paved, public roadways. As discussed previously, if the Alternative Monterey Pipeline is built all impacts of the Transfer Pipeline would be eliminated.

CalAm Distribution System: Monterey Pipeline

Table 6-5 compares the impacts of the Proposed Project Monterey Pipeline and the Alternative Monterey Pipeline. If the Alternative Monterey Pipeline is selected rather than the Proposed Monterey Pipeline, neither the Proposed Project Transfer Pipeline nor that the Alternative Transfer Pipeline would be constructed, and all of the impacts of constructing the Transfer Pipeline would be avoided. The Alternative Monterey Pipeline also would avoid the impact related to coastal erosion and bluff retreat due to sea level rise because the alternative alignment is located outside of the 2030 to 2050 coastal erosion hazard zone.

The Alternative Monterey Pipeline would not avoid other identified significant impacts of the Proposed Monterey Pipeline nor would the Alternative reduce significant impacts to a less-than-significant level. Mitigation measures would be required as with the Proposed Project. The Alternative would not avoid the significant and unavoidable impact of the Proposed Monterey Pipeline related to nighttime construction noise. In the case of impacts to special status species and sensitive habitat, impacts would continue to be significant with the Alternative Monterey Pipeline, although different species and habitats would be affected with the Alternative. The Alternative Monterey Pipeline would reduce impacts related to biological resources; specifically, the Alternative would not be located within coastal dune habitat or monarch butterfly habitat. The Alternative Monterey Pipeline would also result in significant impacts, which would be potentially greater than the Proposed Project's significant impacts related to historic and prehistoric archaeological resource impacts during construction due to its location in the vicinity of known archaeological resources. Potential hazards along the Monterey Peninsula Recreational Trail during construction would decrease compared to the Proposed Project. **Table 6-5** provides more detailed analysis of these impacts and the relative severity of the Proposed Project's Pipeline Alignments compared to the alternatives.

Ability of Alternatives to Meet Project Objectives

The Proposed Project CalAm Distribution System, the Alternative Transfer Pipeline, and the Alternative Monterey Pipeline would achieve the project objectives. Due to being located outside of the Coastal Zone and the elimination of the need for the Transfer Pipeline, the Alternative Monterey Pipeline would have the potential to be implemented more expeditiously and thus may better meet the objective of being implemented in a timely manner.

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Table 6-5
CalAm Distribution Pipeline Alignment Alternatives Overview

Impact Title (NOTE: Where the Proposed CalAm Distribution System would result in no impacts or less than significant impacts, such impacts have not been included in this table if they would be the same for the CalAm Distribution System: Monterey and Transfer Pipeline Alternatives.)	**PROPOSED CalAm Distribution System**			**ALTERNATIVES CalAm Distribution System: Transfer and Monterey Pipelines** Note: If Alternative Monterey Pipeline is implemented, neither the Proposed nor the Alternative Transfer Pipeline would be built and those impacts would be eliminated.			
	Transfer (GWR) Pipeline	**Monterey Pipeline**	**Mitigation Measures**	**Alternative Transfer Pipeline**	**Change to impact significance and mitigation measures applicable**	**Alternative Monterey Pipeline**	**Change to impact significance and mitigation measures applicable**
KEY TO ACRONYMS: **SU** = Significant Unavoidable Impact even with Mitigation; **LSM** = Significant Without Mitigation / Less-than-Significant with Mitigation; **LS =** Less-than-Significant Impact **"+"** Greater = Impact is greater compared to project impact **"—".** Reduced = Impact is reduced compared to project impact. If neither **"—"** nor **"+"** is shown, the impact is the same or similar compared to the project impact							
AE-2: Construction Impacts due to Temporary Light and Glare	NI	**LSM**	**AE-2:** Minimize Construction Nighttime Lighting. (Applies to the Monterey Pipeline)	NI	Same / No mitigation required	**LSM**	The Alternative Monterey Pipeline would not avoid or reduce the impact to a less-than-significant level compared to the Proposed Project because nighttime lighting would still be potentially used during construction of for the Alternative Monterey Pipeline. Mitigation would be required for the Proposed Project and Alternative Monterey Pipeline. **Mitigation Measure AE-2** would be required for the Proposed Project and Alternative.
BT-1: Construction Impacts to Special-Status Species and Habitat	NI	**LSM**	**BT-1a, BT-1b, BT-1c, BT-1d, BT-1e, BT-1g, BT-1h, BT-1k, BT-1l, BT-1m, BT-1n, and BT-1o.** See complete text in Table S-1. (Applies to Monterey Pipeline, only)	NI		LS —	The Alternative Monterey Pipeline would reduce the project impact to special status during construction to a less-than-significant level because the pipeline would be entirely with roadway rights of way. **Mitigation Measures:** None Required
BT-2: Construction Impacts to Sensitive Habitats, including Riparian, Federally Protected Wetlands as defined by Section 404 of the Clean Water Act, or Other Sensitive Natural Community.	NI	**LSM**	**BT-2a:** Implement Construction Best Management Practices. (Applies to both) **BT-2b:** Avoidance and Minimization of Impacts to Central Dune Scrub Habitat. (Applies to Monterey Pipeline, only)	NI	Same / No mitigation required	**LSM**	The Alternative Monterey Pipeline would not avoid or reduce the impact to a less-than-significant level. Although the Alternative Monterey Pipeline would traverse different areas and different types of habitats than the Proposed Transfer and Monterey Pipeline, the construction-related impacts would be similar to those of the Proposed Transfer and Monterey Pipelines would have the same level of impact significance as the Proposed Project alignment; however, where different resources would be adversely affected, different mitigation measures would apply. **Mitigation Measure BT-2a and BT-2b** would be required for the Proposed and Alternative Monterey Pipeline, although a different Mitigation BT-2b would be required.
BT-6: Operational Impacts to Sensitive Habitats, including Riparian, federally protected wetlands as defined by Section 404 of the Clean Water Act, or Other Sensitive Natural Community.	NI	LSM	**BT-6:** Implementation of Mitigation Measure BT-1a for Avoidance and Minimization of Operational Impacts to Sensitive Habitat (Applies to Monterey Pipeline, only)	NI	Same / No mitigation required	NI—	The Alternative Monterey Pipeline would avoid the significant impact on sensitive habitats (Coastal Dune Scrub and Monarch Butterflies). **Mitigation Measures:** None Required
CR-1: Construction Impacts on Historical Resources	NI	**LSM**	**CR-1:** Avoidance and Vibration Monitoring for Pipeline Installation in the Presidio of Monterey Historic District, and Downtown Monterey. (Applies to Monterey Pipeline, only)	NI	Same / No mitigation required	**LSM+**	Project impacts to historical resources would be similar with the Alternative Monterey Pipeline as with the Proposed Transfer and Monterey Pipeline. Construction of the Alternative Monterey Pipeline could impact the entrance monument at the Presidio of Monterey, a significant impact that would be reduced to less than significant with Mitigation Measure CR-1. The Alternative Monterey Pipeline would pass adjacent to the Spanish Royal Presidio and through the Monterey Old Town National Historic Landmark District, adjacent to the Stokes Adobe, the Gabriel de la Torre Adobe, the Fremont Adobe, Colton Hall, and Friendly Plaza. Although those potentially impacted resources would be different historical resources than the Proposed Monterey Pipeline would potentially impact, the severity of impacts on any one would be similar with implementation of the Proposed or Alternative Monterey Pipeline. The Alternative Monterey Pipeline would also extend through the Presidio of Monterey Historic District along Stillwell Avenue. Potential direct and

Table 6-5
CalAm Distribution Pipeline Alignment Alternatives Overview

Impact Title (NOTE: Where the Proposed CalAm Distribution System would result in no impacts or less than significant impacts, such impacts have not been included in this table if they would be the same for the CalAm Distribution System: Monterey and Transfer Pipeline Alternatives.)	**PROPOSED CalAm Distribution System**			**ALTERNATIVES CalAm Distribution System: Transfer and Monterey Pipelines** Note: If Alternative Monterey Pipeline is implemented, neither the Proposed nor the Alternative Transfer Pipeline would be built and those impacts would be eliminated.			
	Transfer (GWR) Pipeline	**Monterey Pipeline**	**Mitigation Measures**	**Alternative Transfer Pipeline**	**Change to impact significance and mitigation measures applicable**	**Alternative Monterey Pipeline**	**Change to impact significance and mitigation measures applicable**
							indirect impacts on these historical resources would be significant, but reduced to less than significant with the mitigation measure listed below. **Mitigation Measure CR-1** would be required for the Proposed Project and Alternative.
CR-2: Construction Impacts on Archaeological Resources or Unknown Human Remains	**LSM**	**LSM**	**CR-2a**: Archaeological Monitoring Plan. (Applies to Monterey Pipeline) **CR-2b**: Discovery of Archaeological Resources or Human Remains. (Applies to both) **CR-2c**: Native American Notification. (Applies to both)	**LSM**	Project impact would not be eliminated or reduced in significance with the Alternative Transfer Pipeline as construction would have the same potential to uncover unknown archaeological resources during construction. **Mitigation Measure CR-2b and 2c** required for the Proposed Project and Alternative.	**LSM+**	Project impact would not be avoided with Alternative Monterey Pipeline as its construction would result in the potential to uncover unknown archaeological resources during construction. The Alternative would be located adjacent to recorded prehistoric archaeological resources, which could increase the possibility for discovery during construction and result in a greater significant impact than with the Proposed Transfer and Monterey Pipelines. The potential inadvertent discovery of archaeological resources and human remains during construction of the Proposed Project Monterey Pipeline are considered significant impacts, but reduced to less than significant with mitigation measure listed below. **Mitigation Measure CR-2a, 2b and 2c** would be required for the Proposed Project and Alternative.
EN-1: Construction Impacts due to Temporary Energy Use	**LSM**	**LSM**	**EN-1**: Construction Equipment Efficiency Plan. (Applies to both)	**LSM**	Project impact would not be eliminated or reduced in significance with Alternative as construction of either the Proposed or Alternative Transfer Pipeline because they both would result in similar levels of energy consumption during construction. **Mitigation Measure EN-1** required for the Proposed Project and Alternative.	**LSM—**	Project impact would be reduced in significance with Alternative Monterey Pipeline as its construction would result in less energy consumption during construction. **Mitigation Measure EN-1** would be required for the Proposed Project and Alternative.
GS-1: Construction-Related Erosion or Loss of Topsoil	LS	**LS**	None required.	LS	Similar-Same / No mitigation required	LS—	Construction-related soil erosion would be reduced compared to that of the Proposed Monterey Pipeline because the Alternative Monterey Pipeline would be shorter than the combined Proposed (or Alternative) Transfer and Proposed Monterey Pipelines. The associated ground disturbance area would also be reduced. Like the Proposed Monterey Pipeline, the impact associated with increased soil erosion would be less than significant because construction activities would be conducted in accordance with requirements of the NPDES Construction General Permit and local grading and erosion control ordinances. **Mitigation Measures:** None Required.
GS-5: Operation - Exposure to Coastal Erosion and Sea Level Rise	NI	**LSM**	**GS-5:** Monterey Pipeline Deepening. (Applies to Monterey Pipeline only).	NI	Same / No mitigation required	NI	The Alternative Monterey Pipeline would avoid the impact related to coastal erosion and bluff retreat due to sea level rise because the alternative alignment is located outside of the 2030 to 2050 coastal erosion hazard zone. Therefore, no impact related to coastal erosion and bluff retreat would occur with the Alternative Monterey Pipeline. **Mitigation Measure GS-5** would be required for Proposed Project, but not required for the Alternative Monterey Pipeline.

Table 6-5
CalAm Distribution Pipeline Alignment Alternatives Overview

Impact Title (NOTE: Where the Proposed CalAm Distribution System would result in no impacts or less than significant impacts, such impacts have not been included in this table if they would be the same for the CalAm Distribution System: Monterey and Transfer Pipeline Alternatives.)	**PROPOSED CalAm Distribution System**			**ALTERNATIVES CalAm Distribution System: Transfer and Monterey Pipelines** Note: If Alternative Monterey Pipeline is implemented, neither the Proposed nor the Alternative Transfer Pipeline would be built and those impacts would be eliminated.			
	Transfer (GWR) Pipeline	**Monterey Pipeline**	**Mitigation Measures**	**Alternative Transfer Pipeline**	**Change to impact significance and mitigation measures applicable**	**Alternative Monterey Pipeline**	**Change to impact significance and mitigation measures applicable**
HH-2: Accidental Release of Hazardous Materials During Construction	**LSM**	**LSM**	**HH-2a:** Environmental Site Assessment. (Applies to both) **HH-2b:** Health and Safety Plan. (Applies to both) **HH-2c:** Materials and Dewatering Disposal Plan. (Applies to both)	**LSM**	Project impact would not be eliminated or reduced in significance with this Alternative as construction of either the Proposed or Alternative Transfer Pipeline would result in similar impact related to potential release of hazardous materials during construction. **Mitigation Measure HH-2a, 2b and 2c** would be required for the Proposed Project and Alternative.	**LSM**	Project impact would not be avoided or reduced in significance with Alternative Monterey Pipeline as construction of either the Proposed or Alternative Transfer and Proposed Monterey pipelines would result in similar impact related to potential release of hazardous materials during construction. **Mitigation Measure HH-2a, 2b and 2c** would be required for the Proposed Project and Alternative Monterey Pipeline.
LU-2: Operational Consistency with Plans, Policies, Regulations	**LSM**	**LSM**	Mitigation Measures in Table 4.12-4.	LSM	Project impact would not be eliminated or reduced in significance with this Alternative as construction of either the Proposed or Alternative Transfer Pipeline would result in similar impacts related to consistency with plans, policies and regulations. **Mitigation Measures in Table 4.12-4**	**LSM**	Project impact would not be avoided or reduced in significance with Alternative Monterey Pipeline as construction of either the Proposed Project or Alternative would result in similar impact related to potential policy inconsistencies. **Mitigation Measures** would be required for the Proposed Monterey Pipeline and Alternative Monterey Pipeline.
NV-1: Construction Noise	LS	**SU**	**NV-1c:** Neighborhood Notice. (Applies to Monterey Pipeline)	LS	Similar-Same / No mitigation required	**SU**	The Alternative Monterey Pipeline would not avoid or reduce the impact related to nighttime construction noise to a less-than-significant level because the Alternative would traverse residential neighborhoods similar to the Proposed Project alignment and may require nighttime construction. **Mitigation Measure NV-1c** would be required for the Proposed Project and Alternative, but would not reduce the impact to a less-than-significant level.
PS-3: Construction Solid Waste Policies and Regulations	**LSM**	**LSM**	**PS-3**: Construction Waste Reduction and Recycling Plan (Applies to both)	**LSM**	Project impact would not be avoided or reduced in significance with Alternative as construction of either the Proposed Project or Alternative would result in similar impact during construction. **Mitigation Measure PS-3** would be required for the Proposed Project and Alternative.	**LSM**	Project impact would not be avoided or reduced in significance with Alternative as construction of either the Proposed Project or Alternative would result in similar impact during construction. **Mitigation Measure PS-3** would be required for the Proposed Project and Alternative.
TR-2: Construction Traffic Delays, Safety and Access Limitations	**LSM**	**LSM**	**TR-2:** Traffic Control and Safety Assurance Plan (Applies to both)	**LSM**	Project impact would not be avoided or reduced in significance with Alternative as construction of either the Proposed Project or Alternative would result in similar traffic impact during construction. **Mitigation Measure TR-2** would be required for the Proposed Project and Alternative.	**LSM**	Project impact would not be avoided or reduced in significance with Alternative, and would be approximately the same with the Alternative due to the same total length of pipeline, but potential hazards along the Monterey Peninsula Recreational Trail during construction would decrease compared to the Proposed Project. **Mitigation Measure TR-2** would be required for the Proposed Project and Alternative.
TR-3: Construction-Related Road Deterioration	**LSM**	**LSM**	**TR-3**: Roadway Rehabilitation Program (Applies to both)	**LSM**	Project impact would not be avoided or reduced in significance with Alternative as construction of	**LSM**	Project impact would not be avoided or reduced in significance with Alternative, and would be approximately the same with the Alternative due to the same total length of pipeline.

Table 6-5
CalAm Distribution Pipeline Alignment Alternatives Overview

Impact Title (NOTE: Where the Proposed CalAm Distribution System would result in no impacts or less than significant impacts, such impacts have not been included in this table if they would be the same for the CalAm Distribution System: Monterey and Transfer Pipeline Alternatives.)	**PROPOSED CalAm Distribution System**			**ALTERNATIVES CalAm Distribution System: Transfer and Monterey Pipelines** Note: If Alternative Monterey Pipeline is implemented, neither the Proposed nor the Alternative Transfer Pipeline would be built and those impacts would be eliminated.			
	Transfer (GWR) Pipeline	**Monterey Pipeline**	**Mitigation Measures**	**Alternative Transfer Pipeline**	**Change to impact significance and mitigation measures applicable**	**Alternative Monterey Pipeline**	**Change to impact significance and mitigation measures applicable**
					either the Proposed Project or Alternative would result in similar traffic impact during construction. **Mitigation Measure TR-3** would be required for the Proposed Project and Alternative.		**Mitigation Measure TR-3** would be required for the Proposed Project and Alternative.
TR-4: Construction Parking Interference	**LSM**	**LSM**	**TR-4**: Construction Parking Requirements (Applies to both)	**LSM**	Project impact would not be avoided or reduced in significance with Alternative, and the Alternative's impact on parking during construction would be similar to the Proposed Project. **Mitigation Measure TR-4** would be required for the Proposed Project and Alternative.	**LSM**	Project impact would not be avoided or reduced in significance with Alternative, and the Alternative's impact on parking during construction would be similar to the Proposed Project. **Mitigation Measure TR-4** would be required for the Proposed Project and Alternative.

KEY TO ACRONYMS:

SU = Significant Unavoidable Impact even with Mitigation

LSM = Significant Without Mitigation / Less-than-Significant with Mitigation

LS = Less-than-Significant Impact

"+" Greater = Impact is greater compared to project impact

"—". Reduced = Impact is reduced compared to project impact.

If neither "—" nor "+" is shown, the impact is the same or similar compared to the project impact

AE- Aesthetics, AQ- Air Quality/Greenhouse Gas, BF-Biological/Fisheries, BT- Biological/Terrestrial, CR- Cultural, EN-Energy Mineral Resources, GS-Geology/Soils, HH Hazards/ Hazardous Materials, GW-Hydrology/Water Quality: Groundwater, HS-Hydrology/Water Quality: Surface Water, LU-Land Use/Agriculture, MR-Marine Biological, NV-Noise/Vibration, PH-Population/Housing, PS-Public Services/Recreation/Utilities, TR-Traffic/Transportation, WW-Water Supply/Wastewater

6.3.3 Conclusion of Alternatives Analysis

This section summarizes the comparative environmental analysis of the No Project Alternative to the Proposed Project and also discusses several combinations of alternatives discussed above that were found to reduce environmental impacts while still meeting most of the project objectives. These are called Alternative A, Alternative B, and Alternative C in **Table 6-6** for brevity purposes.

Alternative A: Reduced Seaside Basin Replenishment and Alternative Monterey Pipeline

The Reduced Seaside Basin Replenishment Alternative would reduce the amount of water for Seaside Basin replenishment by 500 AFY compared to the Proposed Project (i.e., 3,000 AFY rather than 3,500 AFY of purified recycled water would be produced, conveyed to, and injected into the Seaside Basin, for later extraction by CalAm). The need to divert source waters would be reduced by approximately 600 AFY which could be achieved by eliminating one or more source water diversion sites, or by constructing and operating all of the source water diversions, but operating them with a lower total diversion amount.

If the Reduced Seaside Basin Replenishment Alternative were combined with the Alternative Monterey Pipeline (i.e., rather than the Proposed Transfer and Monterey Pipelines), numerous other significant construction impacts would be reduced due to reduced construction areas and activities, and the Proposed Project may be implemented more quickly, better meeting the project timeframe objective. **Table 6-6** provides an overview of environmental impacts of this combined alternative (called Alternative A) compared to the Proposed Project.

Alternative B: Reduced Source Water Alternative # 2 (No Tembladero Slough) and Alternative Monterey Pipeline

Reduced Source Water Alternative # 2 was found to avoid the significant and unavoidable noise impact at the Tembladero Slough diversion due to exceedances of the County's noise level ordinance; however, the alternative would not meet the project objectives as fully as the Proposed Project. Specifically, the Reduced Source Water Alternative #2 would only provide up to 5,200 AFY for the proposed Crop Irrigation component in some drought years (compared to up to 5,900 AFY under the Proposed Project).

If the Reduced Source Water Alternative #2 was combined with the Alternative Monterey Pipeline (i.e., rather than the Proposed Transfer and Monterey Pipeline), numerous other significant construction impacts would be reduced due to reduced construction areas and activities. Because the Alternative Monterey Pipeline avoids the Coastal Zone, it may be implemented more quickly than the Proposed Monterey Pipeline, better meeting the project timeframe objective. **Table 6-6** provides an overview of environmental impacts of this combined alternative (called Alternative B) compared to the Proposed Project.

Alternative C: Reduced Source Water Alternative # 7 (Salinas Source Waters Only) and Alternative Monterey Pipeline

Reduced Source Water Alternative #7 (Salinas Source Waters Only) was found to avoid the significant and unavoidable noise impact at the Tembladero Slough Diversion, in addition to reducing environmental impacts related to source water diversions from surface waters, such as changes in flow, induced water level changes, and direct and indirect impacts on biological resources (albeit the latter would be less-than-significant under the Proposed Project). The Reduced Source Water Alternative #7 would not meet the Crop Irrigation objective to the extent that the Proposed Project would; in fact it would provide very little or no augmentation of the existing supplies to the CSIP area.

If the Reduced Source Water Alternative #7 was combined with the Alternative Monterey Pipeline (i.e., rather than both the Proposed Transfer and Monterey Pipelines), numerous other significant construction impacts would be reduced due to reduced construction areas and activities. Because the Monterey Pipeline avoids the Coastal Zone, it may be implemented more quickly than the Proposed Project, better meeting the project timeframe objective. **Table 6-6** provides an overview of environmental impacts of this combined alternative (called Alternative C) compared to the Proposed Project.

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines (Section 15126.6(e)(2)) require that an environmentally superior alternative be identified among the alternatives considered. According to CEQA Guidelines section 15126.6(e), if the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. The environmentally superior alternative is generally defined as the alternative that would result in the fewest adverse environmental impacts on the project site and surrounding area.

Table 6-3 presents a comparison of impacts from eliminating each of the proposed new source waters. **Table 6-4** presents a comparison of impacts of the Product Water Conveyance Options. **Table 6-5** presents a comparison of impacts of the Proposed CalAm Distribution System: Transfer and Monterey Pipelines to the Alternative Transfer and Monterey Pipelines. **Table 6-6** presents a comparison of impacts between the Proposed Project, the No Project Alternative, the Reduced Seaside Basin Replenishment Alternative, Reduced Source Water Alternative #2 (No Tembladero Slough) plus the Alternative Monterey Pipeline, and the Reduced Source Water Alternative #7 (No Surface Water Diversions) plus the Alternative Monterey Pipeline.

Of the alternatives considered, the No Project Alternative would eliminate all the identified significant impacts, but would not attain any of the project objectives. All of the impacts of the Proposed Project can be reduced to less-than-significant levels with mitigation except for significant and unavoidable noise impacts associated with construction of the Tembladero Slough Diversion and nighttime construction of the CalAm Distribution System: Monterey Pipeline. The Reduced Source Water #2 (No Tembladero Slough) would eliminate the significant and unavoidable noise impact associated with construction at that site. The Alternative Monterey Pipeline would not necessarily eliminate the significant and unavoidable noise impact from nighttime construction of the Monterey Pipeline; however, that alternative would eliminate the need for the Transfer Pipeline, which would eliminate all impacts associated with construction of the Transfer Pipeline. Accordingly, other than the No Project Alternative, the Environmentally Superior Alternative would be the Reduced Source Water (No Tembladero Slough) Alternative combined with the Alternative Monterey Pipeline.

Table 6-6
Impact Summary for Proposed Project and Alternatives to the Proposed Project

Impact Title *NOTE: Where the Proposed Project would result in no impacts or less than significant impacts, such impacts have not been included in this table if they would be the same for the Alternatives A, B, or C.)*	**Project Overall**	**Alternatives to the Proposed Project**				**Mitigation Measures and Impact Comparison of Alternative to Proposed Project**
		No Project Alternative (No New Facilities or Modifications to Existing Facilities)	**Reduced Seaside Basin Replenishment Alternative (3,000 AFY) with Monterey Pipeline Alternative** (Alternative A)	**Reduced Source Water Alternative #2 (No Tembladero Slough) with Alternative Monterey Pipeline** (Alternative B)	**Reduced Source Water Alternative #7 (Salinas Source Waters Only) with Alternative Monterey Pipeline** (Alternative C)	
KEY TO ACRONYMS: BI- Beneficial Impact; NI – No Impact; LS – Less than Significant; S / LS – Before Mitigation: Significant / After Mitigation: Less than Significant; SU = Significant **"+"** = Impact is **greater** than Proposed Project impact ; **"—"** = Impact is **less** than Proposed Project impact; If neither **"—"** nor **"+"** is shown, the impact is the same as or similar to the Proposed Project impact						
AE-2: Construction Impacts due to Temporary Light and Glare	**S / LS**	No Impact	**S / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with the No Project Alternative, but would not be eliminated or reduced in significance with any other alternative as none of the alternatives result in changes at the Injection Well Facilities site where the significant project impact would occur and the Alternative Monterey Pipeline would still potentially involve nighttime lighting that is assumed to be a similar level of impact. Mitigation would be required for the Project and with Alternatives A, B, C. **Mitigation Measure AE-2**: Minimize Construction Nighttime Lighting. *(Applies to the Injection Well Facilities Site*)
AE-4: Operation Impacts due to Permanent Light and Glare	**S / LS**	No Impact	S / LS	S / LS	S / LS	Project impact would be eliminated with the No Project Alternative, but would not be eliminated or reduced in level of significance with any other alternative as none of the alternatives result in changes at the Product Water Booster Pump Station and Injection Well facilities sites, where the impact would occur. Mitigation would be required for the Project and with Alternatives A, B, C. **Mitigation Measure AE-4**: Exterior Lighting Minimization (*Applies to Product Water Conveyance Booster Pump Station - (both Options) and Injection Well Facilities)*
AQ-1: Construction Criteria Pollutant Emissions	**S / LS**	No Impact	**S / LS**	**S— / LS**	**S—* / LS**	Project impact would be eliminated with the No Project Alternative. Impact would not be reduced with Alternative A as construction would occur at all Project sites as with the Proposed Project. The impact would be reduced, but not to a less-than-significant level, with Alternatives B and C as some Project construction sites would be eliminated, thus reducing emissions, but construction-related emissions would continue to result at multiple Project construction sites. Mitigation would be required for the Project and with Alternatives A, B, and C. * It is noted that Alternative C has the potential to reduce this impact to LS without mitigation; however, assuming all components of Alternative C are constructed with overlapping schedules, the impact would still be significant without mitigation. **Mitigation Measure AQ-1:** Construction Fugitive Dust Control Plan (*Applies to all Project Component Sites where ground disturbance would occur.)*
AQ-4: Construction Greenhouse Gas Emissions and AQ-9: Operational Greenhouse Gas Emissions (Cumulative Impacts)	LS	No Impact	LS—	LS—	LS—	Project impact would be reduced in significance and continue to be LS (i.e., no alternatives would result in a considerable contribution to significant cumulative GHG or climate change impacts). Impact would be eliminated with the No Project Alternative. **Mitigation Measure:** None required.
BF-1: Fish Habitat Modification Due to Construction of Diversion Facilities	**S / LS**	No Impact	**S / LS**	**S— / LS**	NI	Project impact would be eliminated with No Project Alternative. Project impact would not be eliminated or reduced in significance with Alternative A as construction would occur at all Project sites same as with the Proposed Project. Impact would be reduced, but not to a less-than-significant level, with Alternative B as mitigation still would be required at the Reclamation Ditch Diversion site. Mitigation would be required for the Proposed Project and Alternatives A and B. Project impact would be eliminated with Alternative C as both the Reclamation Ditch and Tembladero Slough Diversion sites would be eliminated. **Mitigation Measure BF-1a**: Construction during Low Flow Season (*Applies to Reclamation Ditch and Tembladero Slough Diversions)* **Mitigation Measure BF-1b:** Relocation of Aquatic Species during Construction (*Applies to Reclamation Ditch and Tembladero Slough Diversions*)

Table 6-6
Impact Summary for Proposed Project and Alternatives to the Proposed Project

Impact Title *NOTE: Where the Proposed Project would result in no impacts or less than significant impacts, such impacts have not been included in this table if they would be the same for the Alternatives A, B, or C.)*	**Project Overall**	**Alternatives to the Proposed Project**				**Mitigation Measures and Impact Comparison of Alternative to Proposed Project**
		No Project Alternative (No New Facilities or Modifications to Existing Facilities)	**Reduced Seaside Basin Replenishment Alternative (3,000 AFY) with Monterey Alternative Pipeline** (Alternative A)	**Reduced Source Water Alternative #2 (No Tembladero Slough) with Alternative Monterey Pipeline** (Alternative B)	**Reduced Source Water Alternative #7 (Salinas Source Waters Only) with Alternative Monterey Pipeline** (Alternative C)	
BF-2: Interference with Fish Migration Due to Project Operations	**S / LS**	No Impact	**S / LS**	**S / LS**	NI	Project impact would be eliminated with No Project Alternative. Project impact would not be eliminated or reduced in significance with Alternative A as all facilities would be built and source water diversions would be operated similarly to the Proposed Project (while there may be less diversions from the Reclamation Ditch, the proposed and mitigated timing (seasonality) and quantity of diversion would still apply to this alternative). Impact would not be eliminated or reduced in significance with Alternative B (No Tembladero Diversion) as the Reclamation Ditch Diversion would be built and operated under this alternative. Mitigation would be required for the Proposed Project and Alternatives A and B. Project impact would be eliminated with Alternative C as there would be no surface water diversions from Tembladero Slough or Reclamation Ditch and all diversion sites would be eliminated. **Mitigation Measure BF-2a:** Maintain Migration Flows (*Applies to the Reclamation Ditch Diversion)*
BF-3: Reduction in Fish Habitat or Fish Populations Due to Project Operations	LS	No Impact	LS	LS —	NI	Project impact would be eliminated with No Project Alternative. Proposed Project impacts for Reduction in Fish Habitat or Fish Populations Due to Project Operations are LS. Reductions in level of impact are discussed due to the sensitive resource. LS impact would be reduced under Alternatives B due to elimination of one diversion site (Tembladero Slough). Under Alternative C, both Tembladero Slough and Reclamation Ditch Diversion sites would be eliminated and fisheries impacts due to project operations of these facilities are avoided. **Mitigation Measure:** None required.
BT-1: Construction Impacts to Special-Status Species and Habitat	**S / LS**	No Impact	**S / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with the No Project Alternative. Impact would not be eliminated or reduced with Alternative A as construction would occur at all Project sites same as with the Proposed Project. The impact would be reduced with elimination of some Project Diversion sites, but not to a less-than-significant level, with Alternatives B and C as some impacts would continue to occur at other Project sites. Mitigation would be required for the Project and with Alternatives A, B, and C. **Mitigation Measure BT-1**: See complete text following Table S-1 or in Section 4.5 Biological Resources: Terrestrial.
BT-2: Construction Impacts to Riparian, Federally Protected Wetlands as defined by Section 404 of the Clean Water Act, or Other Sensitive Natural Community.	**S / LS**	No Impact	**S / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with No Project Alternative. Project impact would not be eliminated or reduced in significance with Alternative A as construction would occur at all Project sites the same as with the Proposed Project. Impact would be reduced in significance, but not to a less-than-significant level, under Alternative B due to elimination of Tembladero Slough Diversions Site. Alternative C would eliminate construction within Tembladero Slough, the Reclamation Ditch, and Blanco Drain; therefore, the significant project impacts at those sites would be eliminated. Mitigation would be required for the Project and for Alternatives A, B, and C. With the Proposed Project all of Mitigation Measure BT-2 (including BT-1a) would be required. With Alternative A and B, only BT-1A, BT-2a, and BT-2c would be required (i.e., BT-2b does not apply because it only applies to the Proposed Monterey Pipeline, not the Alternative Monterey Pipeline included in Alternatives A and B). With Alternative C, only BT-1a and BT-2a would be required for the Product Water Conveyance: Coastal Alignment. **Mitigation Measure BT-1a**: See complete text following Table S-1 or in Section 4.5 Biological Resources: Terrestrial. **Mitigation Measure BT-2a:** Avoidance and Minimization of Impacts to Riparian Habitat and Wetland Habitats. (Applies to Tembladero Slough Diversion, Blanco Drain Diversion, and Product Water Conveyance: Coastal Alignment Option.) **Mitigation Measure BT-2b:** Avoidance and Minimization of Impacts to Central Dune Scrub Habitat. (Applies to Monterey Pipeline) **Mitigation Measure BT-2c:** Avoidance and Minimization of Construction Impacts Resulting from Horizontal Directional Drilling under the Salinas River (Applies to Blanco Drain Diversion)
BT-4: Construction Conflicts with Local Policies, Ordinances, or approved Habitat Conservation Plan.	**S / LS**	No Impact	**S / LS**	**S / LS**	**S / LS**	Project impact would be eliminated with the No Project Alternative, but would not be eliminated or reduced in significance with any other alternative. Mitigation would be required for the Project and with Alternatives A, B and C. **Mitigation Measure BT-4a**. HMP Plant Species Salvage (*Applies to Product Water Conveyance: RUWAP and Coastal Alignment Options, and Injection Well Facilities site within the former Fort Ord only)*

Table 6-6
Impact Summary for Proposed Project and Alternatives to the Proposed Project

Impact Title *NOTE: Where the Proposed Project would result in no impacts or less than significant impacts, such impacts have not been included in this table if they would be the same for the Alternatives A, B, or C.)*	**Project Overall**	**Alternatives to the Proposed Project**				**Mitigation Measures and Impact Comparison of Alternative to Proposed Project**
		No Project Alternative (No New Facilities or Modifications to Existing Facilities)	**Reduced Seaside Basin Replenishment Alternative (3,000 AFY) with Monterey Alternative Pipeline** (Alternative A)	**Reduced Source Water Alternative #2 (No Tembladero Slough) with Alternative Monterey Pipeline** (Alternative B)	**Reduced Source Water Alternative #7 (Salinas Source Waters Only) with Alternative Monterey Pipeline** (Alternative C)	
BT-5: Operational Impacts to Special-Status Species and Habitat.	LS	No Impact	LS	LS—	LS—	Project impact would be eliminated with No Project Alternative. All impacts for Operational Impacts to Special-Status Species and Habitat are LS but reductions in level of impact are discussed due to the sensitivity of the resource. Less-than-significant impact would be reduced under Alternative B with one less site (elimination of the Tembladero Slough site) for diversion, but not eliminated. Alternative C would reduce diversions further and also reduce impact to special status species and habitat due to elimination of Reclamation Ditch, Tembladero Slough, and Blanco Drain diversions. The impact under the No Project and Alternatives A, B, and C would be LS. **Mitigation Measure:** None required.
BT-6: Operational Impacts to Riparian, federally protected wetlands as defined by Section 404 of the Clean Water Act, or Other Sensitive Natural Community.	**S / LS**	No Impact	**S— / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with No Project Alternative. The impact would not be eliminated or reduced in significance or with Alternative A as construction would occur at all Project sites same as with the Proposed Project. Impact would be reduced in significance, but not to a less-than-significant level, under Alternatives B and C due to elimination of some diversion sites and continued impacts at other sites. Mitigation would be required for the Project and with Alternatives A, B and C. **Mitigation Measure BT-6a.** Implementation of Mitigation Measures BT-1a for Avoidance and Minimization of Operational Impacts to Sensitive Habitat (*Applies to CalAm Distribution System: Monterey Pipeline)*
CR-1: Construction Impacts on Historical Resources	**S / LS**	No Impact	**S / LS**	**S / LS**	**S / LS**	Project impact would be eliminated with the No Project Alternative, but would not be eliminated or reduced in significance with Alternatives A, B or C. Mitigation would be required for the Project and with Alternatives A, B and C. See discussion of Monterey alignment alternatives regarding changes to the significance determinations; this analysis assumes the historical resources impacts of construction of the Alternative Monterey Pipeline would be the same as those for the Proposed Monterey Pipeline described in Chapter 2, Project Description. **Mitigation Measure CR-1:** Avoidance and Vibration Monitoring for Pipeline Installation in the Presidio of Monterey Historic District, and Downtown Monterey (*Applies to portion of the CalAm Distribution Pipeline-Monterey Pipeline)*
CR-2: Construction Impacts on Archaeological Resources or Unknown Human Remains	**S / LS**	No Impact	**S / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with No Project Alternative. Impact would not be eliminated or reduced in significance with Alternative A as construction would occur at all Project sites same as the Proposed Project. The impact would be reduced in significance, but not to a less-than-significant level, with Alternatives B, and C as construction would continue to occur at some Project sites and elimination of construction of under Alternative B and C does not impact this resource category. Mitigation would be required for the Project and Alternatives A, B and C. **Mitigation Measure CR-2a:** Archaeological Monitoring Plan (*Applies to the segment of the CalAm Distribution Pipeline through the Presidio and along W. Franklin Street and to the Lake El Estero Diversion Site)* **Mitigation Measure CR-2b:** Discovery of Archaeological Resources or Human Remains (Applies to all Proposed Project components) **Mitigation Measure CR-2c:** Native American Notification (*Applies to all Proposed Project components)*
EN-1: Construction Impacts due to Temporary Energy Use	**S / LS**	No Impact	**S / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with No Project Alternative. Impact would not be eliminated or reduced in significance with Alternative A as construction would occur at all Project sites same as the Proposed Project. Impact would be reduced in significance, but not to a less-than-significant level, with Alternatives B, and C as construction would continue to occur at some Project sites. Mitigation would be required for the Project and Alternatives A, B and C. **Mitigation Measure EN-1:** Construction Equipment Efficiency Plan (*Applies to all Proposed Project components)*

Table 6-6
Impact Summary for Proposed Project and Alternatives to the Proposed Project

Impact Title *NOTE: Where the Proposed Project would result in no impacts or less than significant impacts, such impacts have not been included in this table if they would be the same for the Alternatives A, B, or C.)*	**Project Overall**	**Alternatives to the Proposed Project**				**Mitigation Measures and Impact Comparison of Alternative to Proposed Project**
		No Project Alternative (No New Facilities or Modifications to Existing Facilities)	**Reduced Seaside Basin Replenishment Alternative (3,000 AFY) with Monterey Alternative Pipeline** (Alternative A)	**Reduced Source Water Alternative #2 (No Tembladero Slough) with Alternative Monterey Pipeline** (Alternative B)	**Reduced Source Water Alternative #7 (Salinas Source Waters Only) with Alternative Monterey Pipeline** (Alternative C)	
EN-2: Operational Impacts due to Energy Use	LS	No Impact	LS—	LS—	LS—	Project impact would be reduced in significance and continue to be less than significant (i.e., no alternatives would result in a consumption of energy such that existing supplies would be substantially constrained nor would the Project result in the unnecessary, wasteful, or inefficient use of energy resources). Impact would be eliminated with the No Project Alternative. **Mitigation Measure:** None required.
GS-5: Operation - Exposure to Coastal Erosion and Sea Level Rise	**S / LS**	No Impact	NI	NI	NI	Project impact would be eliminated with all alternatives because the Alternative Monterey Pipeline would not be within the zone where coastal erosion and sea level rise would effect it as the case with the Proposed Monterey Pipeline as described in Chapter 2, Project Description. **Mitigation Measure:** None Required
HH-2: Accidental Release of Hazardous Materials During Construction	**S / LS**	No Impact	**S— / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with No Project Alternative. Project impact would be reduced in significance with Alternatives A, B or C because there would be less overall construction due to constructing only the Alternative Monterey Pipeline instead of both the Proposed CalAm Distribution System: Monterey and Transfer Pipelines. Impact would be reduced further with Alternative C, but not to a less-than significant level, due to elimination of additional conveyance and construction sites. Mitigation would be would be required for the Project and with Alternatives A, B and C **Mitigation Measures HH-2a:** Environmental Site Assessment, **HH-2b:** Health and Safety Plan, and **HH-2c:** Materials and Dewatering Disposal Plan. (*Applies to the Lake El Estero Diversion, Product Water Conveyance System Options, Injection Well Facilities, and the CalAm Distribution System)*
GW-3: Operational Groundwater Depletion and Levels: Salinas Valley Groundwater Basin	**Beneficial Impact**	No Beneficial Impact	**Beneficial Impact**	**Beneficial Impact (less)**	**Beneficial Impact (less)**	Beneficial impact would be eliminated with No Project Alternative. Beneficial impact would be reduced under Alternative B due to elimination of Tembladero Diversion yield. Beneficial impact would be further reduced (and potentially eliminate) under Alternative C. Alternative C (Reduced Source Water Alternative #7) would provide little augmentation of the existing supplies to the CSIP area. **Mitigation Measure:** None required.
GW-5: Operational Groundwater Quality: Salinas Valley Groundwater Basin	**Beneficial Impact**	No Beneficial Impact	**Beneficial Impact**	**Beneficial Impact (less)**	**Beneficial Impact (less)**	Beneficial impact would be eliminated with No Project Alternative. Beneficial impact would be somewhat reduced under Alternatives B and C. Beneficial impact could be eliminated with Alternatives C. Alternative C (Reduced Source Water Alternative #7) would provide little augmentation of the existing supplies to the CSIP area. **Mitigation Measure:** None required.
GW-6: Operational Groundwater Quality: Seaside Basin	**Beneficial Impact/LS**[10]	No Beneficial Impact	**Beneficial Impact/LS**[10] **(less)**	**Beneficial Impact/LS**[10]	**Beneficial Impact/LS**[10]	Beneficial and LS impacts would be eliminated with No Project Alternative, and the beneficial impact would be reduced with Alternative A. **Mitigation Measure:** None required.
HS-4: Operational Surface Water Quality Impacts due to Source Water Diversions	**S / LS**	No Impact	**S / LS**	**S / LS**	No Impact	Project impact would be eliminated with No Project Alternative and with Alternative C. Impact would not be eliminated or reduced in significance with Alternatives A and B. Mitigation would be required for the Project and Alternatives A and B. **Mitigation Measure HS-4:** Management of Surface Water Diversion Operations (*Applies to Reclamation Ditch Diversion, only*)

[10] The project impact of groundwater quality in the Seaside Groundwater Basin would be less than significant for most constituents and beneficial related to salinity.

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Impact Title *NOTE: Where the Proposed Project would result in no impacts or less than significant impacts, such impacts have not been included in this table if they would be the same for the Alternatives A, B, or C.)*	**Project Overall**	**Alternatives to the Proposed Project**				**Mitigation Measures and Impact Comparison of Alternative to Proposed Project**
		No Project Alternative (No New Facilities or Modifications to Existing Facilities)	**Reduced Seaside Basin Replenishment Alternative (3,000 AFY) with Monterey Alternative Pipeline** (Alternative A)	**Reduced Source Water Alternative #2 (No Tembladero Slough) with Alternative Monterey Pipeline** (Alternative B)	**Reduced Source Water Alternative #7 (Salinas Source Waters Only) with Alternative Monterey Pipeline** (Alternative C)	
HS-7: Operational Carmel River Flows	**Beneficial Impact**	No Impact	**Beneficial Impact (less)**	**Beneficial Impact**	**Beneficial Impact (less)**	Beneficial impact would be eliminated with No Project Alternative, and the beneficial impact would be reduced with Alternative A. **Mitigation Measure:** None required.
LU-1: Construction Temporary Farmland Conversion	**S / LS**	No Impact	**S / LS**	**S / LS**	**S— / LS**	Project impact would be eliminated with No Project Alternative. Impact would not be eliminated or reduced in significance with Alternatives A or B. Impact would be reduced, but not to a less-than-significant level with Alternative C. Mitigation would be required for the Project and Alternatives A, B and C. **Mitigation Measure LU-1:** Minimize Disturbance to Farmland *(Applies to the Salinas Treatment Facility and a portion of the Blanco Drain Diversion)*
LU-2: Operational Consistency with Plans, Policies, Regulations	**S / LS**	No Impact	**S / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with No Project Alternative, but would not be eliminated or reduced in significance with Alternative A. Impact would be reduced, but not to a less-than-significant level, with Alternatives B and C. Mitigation would continue to be required as specified to insure consistency with plans, policies and regulations. **Mitigation Measures (all)**
NV-1: Construction Noise	**SU**	No Impact	**SU —**	**SU—**	**SU—**	Project impacts would be eliminated with No Project Alternative. Nighttime noise SU Impact during construction of the CalAm Monterey Distribution: Monterey Pipeline would be reduced in significance, but not be eliminated, under Alternatives A, B, and C. Mitigation would be required. **Mitigation Measure NV-1a**: Drilling Contractor Noise Measures (*Applies to Injection Well Facilities)* **Mitigation Measure NV-1b:** Monterey Pipeline Noise Control Plan for Nighttime Pipeline Construction (*Applies to CalAm Distribution System: Monterey Pipeline)* **Mitigation Measure NV-1c:** Neighborhood Notice (*Applies to Injection Well Facilities and CalAm Distribution System: Monterey Pipeline)*
NV-2: Construction Noise Exceeds Local Standards	**SU**[11]	No Impact	**SU**	**S / LS**	**S / LS**	Project impact would be eliminated with No Project Alternative. SU impact would still apply to Alternative A, but would no longer apply to Alternatives B and C due to elimination of the Tembladero Slough Diversion site (the only site for which mitigation would not reduce impact to LS). Impact would remain significant but reduced to a less-than-significant level for Alternatives B and C. Mitigation would be required for the Proposed Project and Alternatives A, B and C. **Mitigation Measure NV-2a:** Construction Equipment (*Applies to Source Water Diversion and Storage Sites – Reclamation Ditch, Tembladero Slough and Blanco Drain, Product Water Conveyance Pipeline segments within the City of Marina and RUWAP Booster Station)* **Mitigation Measure NV-2b:** Construction Hours (*Applies to Product Water Conveyance Pipelines and Booster Pump Station in the City of Marina)*
PS-3: Construction Solid Waste Policies and Regulations	**S / LS**	No Impact	**S— / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with No Project Alternative. Impact would be reduced, but not to a less-than-significant level, with Alternatives A, B and C. Mitigation would be required for the Project and Alternatives A, B and C. **Mitigation Measure PS-3:** Construction Waste Reduction and Recycling Plan *(Applies to all Proposed Project components)*
TR-2: Construction Traffic Delays, Safety and Access Limitations	**S / LS**	No Impact	**S / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with No Project Alternative, but would not be eliminated or reduced in significance for Alternative A. Impact would be reduced, but not to a less-than-significant level with Alternatives B and C. Mitigation would be required for the Project and Alternatives A, B, and C. **Mitigation Measure TR-2:** Traffic Control and Safety Assurance Plan (*Applies to Product Water Conveyance RUWAP and Coastal Alignments, and CalAm Distribution System: Transfer and Monterey Pipelines)*

[11] Significant and unavoidable impact applies only to the Tembladero Slough diversion.

Table 6-6
Impact Summary for Proposed Project and Alternatives to the Proposed Project

Impact Title *NOTE: Where the Proposed Project would result in no impacts or less than significant impacts, such impacts have not been included in this table if they would be the same for the Alternatives A, B, or C.)*	**Project Overall**	**Alternatives to the Proposed Project**				**Mitigation Measures and Impact Comparison of Alternative to Proposed Project**
		No Project Alternative (No New Facilities or Modifications to Existing Facilities)	**Reduced Seaside Basin Replenishment Alternative (3,000 AFY) with Monterey Alternative Pipeline** (Alternative A)	**Reduced Source Water Alternative #2 (No Tembladero Slough) with Alternative Monterey Pipeline** (Alternative B)	**Reduced Source Water Alternative #7 (Salinas Source Waters Only) with Alternative Monterey Pipeline** (Alternative C)	
TR-3: Construction-Related Road Deterioration	**S / LS**	No Impact	**S / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with No Project Alternative, but would not be eliminated or reduced in significance for Alternative A. Impact would be reduced, but not to a less-than-significant level with Alternatives B and C. Mitigation would be required for the Project and Alternatives A, B, and C. **Mitigation Measure TR-3**: Roadway Rehabilitation Program *(applies to all Proposed Project facilities and associated construction activities)*
TR-4: Construction Parking Interference	**S / LS**	No Impact	**S / LS**	**S— / LS**	**S— / LS**	Project impact would be eliminated with No Project Alternative, but would not be eliminated or reduced in significance for Alternative A. Impact would be reduced, but not to a less-than-significant level with Alternatives B and C. Mitigation would be required for the Project and Alternatives A, B, and C. **Mitigation Measure TR-4:** Construction Parking Requirements (*Applies to construction activities associated with the Product Water Conveyance Pipelines in Marina and Seaside, Transfer Pipeline, and Monterey Pipeline)*

KEY TO ACRONYMS:

BI- Beneficial Impact
NI – No Impact
LS – Less than Significant
S / LS – Before Mitigation: Significant / After Mitigation: Less than Significant
SU - Significant
"+" = Impact is greater than Proposed Project impact
"—" = Impact is less than Proposed Project impact
If neither "—" nor "+" is shown, the impact is the same as or similar to the Proposed Project impact

AE - Aesthetics
AQ - Air Quality and Greenhouse Gas
BF - Biological Resources: Fisheries
BT- Biological Resources: Terrestrial
CR - Cultural and Paleontological Resources
EN - Energy and Mineral Resources
GS – Geology, Soils, and Seismicity
HH – Hazards and Hazardous Materials
GW – Hydrology and Water Quality: Groundwater

HS – Hydrology and Water Quality: Surface Water
LU - Land Use and Agriculture
MR - Marine Biological Resources
NV - Noise and Vibration
PH – Population and Housing
PS - Public Services, Recreation, and Utilities
TR – Traffic and Transportation
WW - Water Supply and Wastewater Systems

6.5 REFERENCES

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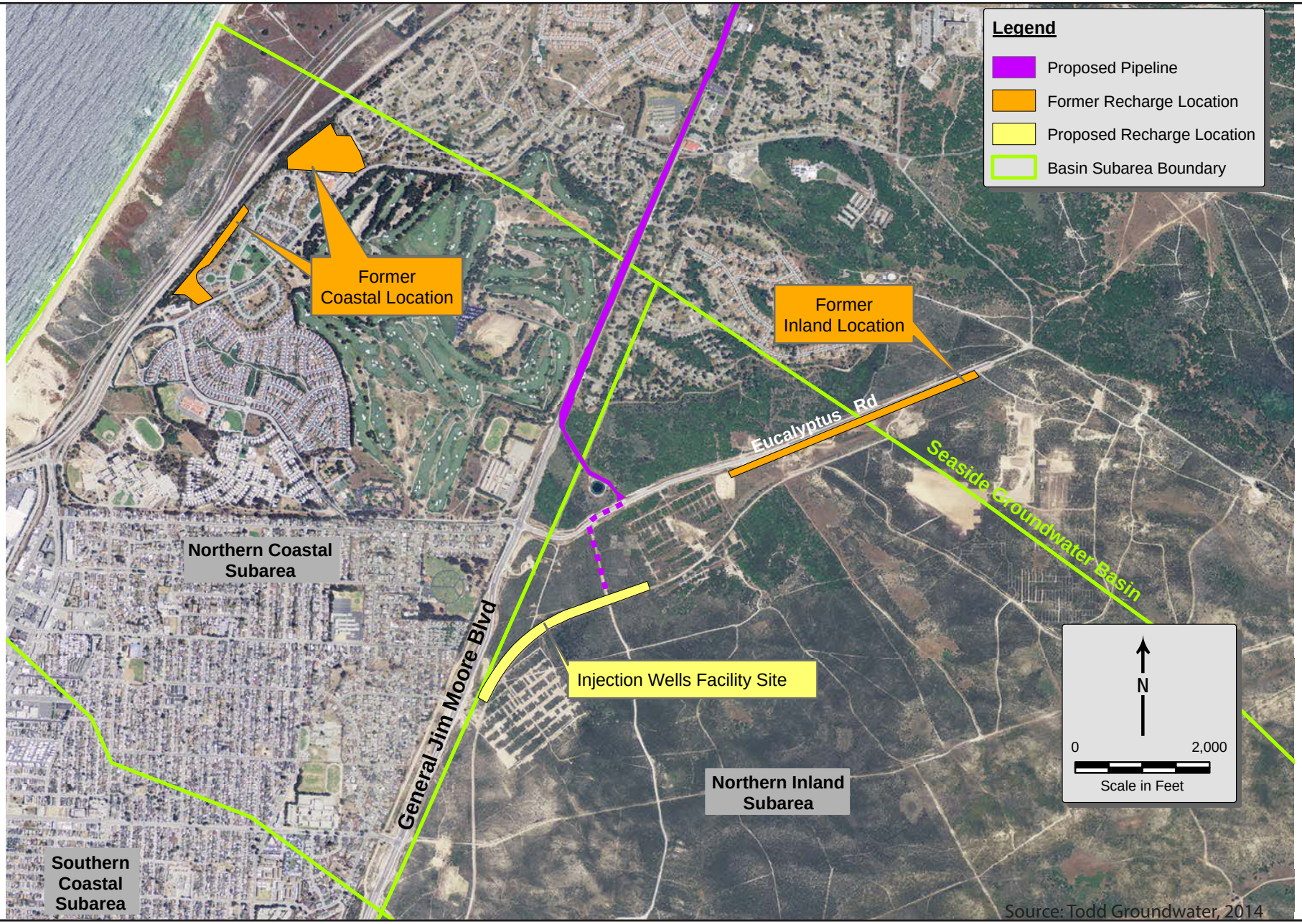
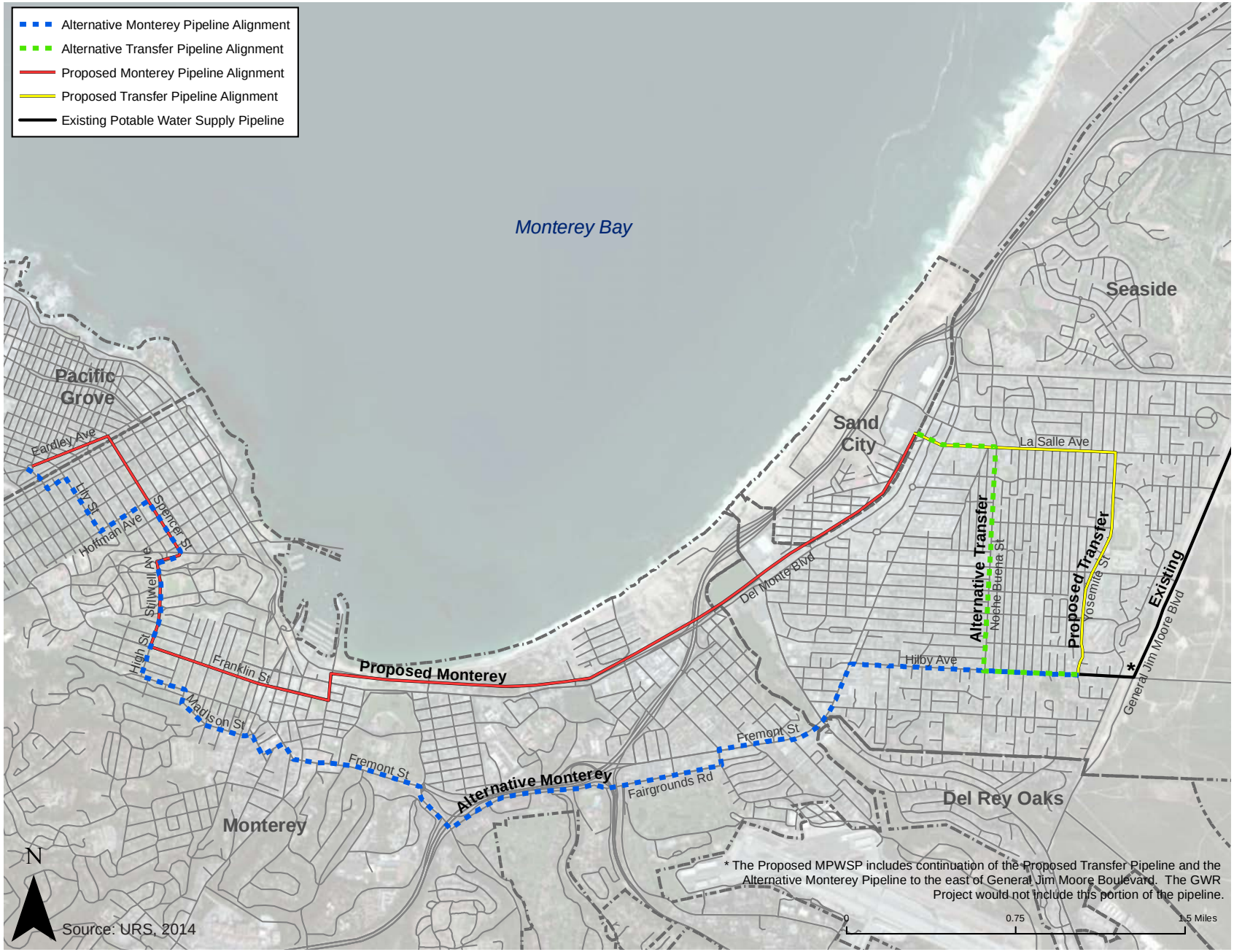


Alternative Injection Well Facilities Sites

April 2015

Pure Water Monterey GWR Project
Draft EIR

Figure
6-1



Proposed and Alternative CalAm Distribution System Pipelines: Transfer and Monterey

April 2015

Pure Water Monterey GWR Project
Draft EIR

Figure
6-2