CHAPTER 6
Other Considerations

This chapter addresses other considerations required by CEQA and NEPA, including the potential for the proposed project to have unavoidable significant impacts; the irreversible or irretrievable commitment of resources; the relationship between short-term uses of the project and long-term productivity; growth-inducing effects of the project; and project consistency with MBNMS Desalination Guidelines.

6.1 Significant and Unavoidable Environmental Effects

Section 15126.2(b) of the CEQA Guidelines requires that an EIR identify significant environmental effects that cannot be avoided by the proposed project, including those that can be mitigated, but not to a less-than-significant level. CEQ Regulations 40 CFR Section 1502.16 states that the EIS environmental analysis shall include any adverse environmental effects which cannot be avoided should the proposal be implemented. The analysis in Chapter 4 identifies all adverse impacts associated with the proposed project/proposed action and those impacts that

cannot be avoided. The analysis in Chapter 4 determined that the proposed project would result in impacts related to noise, greenhouse gas (GHG) emissions, air quality, and terrestrial biological resources that, even with implementation of mitigation measures, would remain significant and unavoidable. These impacts are summarized below:

- Nighttime noise impacts on residential receptors during installation of the Castroville Pipeline Optional Alignment 1 and during drilling and development of the ASR-5 and ASR-6 Wells would remain significant and unavoidable, even with implementation of mitigation measures. See Section 4.12, Noise and Vibration, for additional information on this impact.

- Nighttime construction could contribute to a significant unavoidable cumulative impact. In the absence of detailed information regarding cumulative project construction equipment and exact construction phase timing, a quantitative assessment of cumulative nighttime noise impact cannot be reasonably estimated. However, it is conservatively assumed that the potential exists for residual (post-mitigation) MPWSP pipeline construction noise to combine with that of one or more of five cumulative projects in Table 4.1-2 (Nos. 31, 35, 38, 45, and 51) to cause nighttime noise levels to exceed the sleep interference threshold. As a result, temporary cumulative increases in nighttime construction noise could result in a significant cumulative nighttime noise impact. No additional mitigation within the scope of this EIR/EIS is available to further reduce this potential impact. Therefore, MPWSP nighttime construction noise could have a considerable contribution to a significant cumulative effect. See Section 4.12, Noise and Vibration, for additional information on this impact.

- Greenhouse Gas emissions associated with construction and operation of the proposed project would exceed the emissions significance threshold in Executive Order B-30-15. In addition, although the MPWSP Desalination Plant would include energy recovery and efficiency features, the lead agencies cannot substantiate that the project's electricity use would be consistent with the AB 32 Scoping Plan Measure W-3, which sets a 20 percent electricity use reduction target from 2006 levels. Therefore, such impacts would remain significant and unavoidable, even with implementation of mitigation measures. See Section 4.11, Greenhouse Gas Emissions, for additional information on these impacts.

- Greenhouse Gas emissions could contribute to a significant cumulative impact. Although implementation of mitigation measures would reduce the overall carbon footprint of the project, the lead agencies cannot substantiate that the mitigated GHG emissions would be reduced to a less-than-significant level. Therefore, the project's incremental contribution to the significant cumulative climate change impact related to GHG emissions would remain cumulatively considerable. See Section 4.11, Greenhouse Gas Emissions, for additional information on this impact.

- Short-term air emissions associated with construction of the proposed project could contribute to an exceedance of state and/or federal standards for ozone and NO_x, which could increase the susceptibility of sensitive individuals to respiratory infections and is a significant impact. Such exceedances in ozone would also be inconsistent with the Monterey Bay United Air Pollution Control District's 2012 Air Quality Management Plan (AQMP). Implementation of mitigation measures would not reduce project-related NO_x emissions (a precursor to ozone) to a level below the significance threshold, therefore resulting in significant and unavoidable impacts with regard to violations of air quality standards and compliance with the AQMP. See Section 4.10, Air Quality, for additional information on these impacts.

- Project construction NO_x emissions, in combination with cumulative project emissions, would violate ambient air quality standards and conflict with implementation of the applicable air quality plan, even with implementation of mitigation measures**.** The proposed project's incremental contribution to the cumulative impact would be cumulatively considerable. No further feasible mitigation measures are available to reduce the project's contribution to cumulative impacts.

- Several proposed facilities would occur in areas that may qualify as Primary and Secondary Habitat according to the City of Marina Local Coastal Land Use Plan (LCLUP). These facilities, which include the subsurface slant wells, and portions of the Source Water Pipeline, new Desalinated Water Pipeline, new Transmission Main, and the staging area at Beach Road, would be inconsistent with the City of Marina's LCLUP Policy 25 that prohibits development in Primary Habitat that is not protective of and dependent upon that habitat. The LCLUP states, "Primary habitat areas shall be protected and preserved against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas (City of Marina, 1982)." Implementation of mitigation measures would reduce impacts on special-status species habitat. However, given that project facilities proposed for such habitats are not resource-dependent, and because the LCLUP policy provides no exception to the requirements that development within such habitats be resource-dependent, potential conflicts with this policy would remain unresolved. The effect would be significant and unavoidable. Section 4.6, Terrestrial Biological Resources, for additional information.

- As described above, construction of some of the proposed components would be inconsistent with the City of Marina LCLUP. The test slant well at the CEMEX site is a cumulative project that is within the geographic scope of this analysis. The test slant well was also found to be inconsistent with the City of Marina LCLUP. Implementation of the proposed project would have a cumulatively considerable contribution to the cumulative impact related to inconsistencies with the City of Marina LCLUP. No mitigation measures are available that would reduce this impact to less than cumulatively considerable. See Section 4.6, Terrestrial Biological Resources, for additional information.

- Given the size of the MPWSP, along with the number of cumulative projects and uncertainty regarding cumulative project construction timing, the MPWSP transportation impacts could contribute substantially to cumulative local and regional traffic and roadway capacity disruptions, a cumulatively significant impact. Implementation of Mitigation Measure 4.9-C (Construction Traffic Coordination Plan), could reduce cumulative impacts, however there is no guarantee that local agencies would participate in such coordination efforts. Therefore, the project's incremental contribution to potential significant cumulative effects would be considerable, even with implementation of mitigation measures. See Section 4.9, Traffic and Transportation, for additional information.

- The proposed project would indirectly support growth by removing some water supply limitations as an obstacle to growth, thereby enabling a degree of growth under the approved general plans within the area served by the MPWSP. The effect would be significant and unavoidable. See Section 6.3, Growth-Inducing Impacts, for additional information.

6.2 Significant Irreversible Changes and Short-Term versus Long-Term Uses

In accordance with CEQA Section 21100(b)(2)(B), CEQA Guidelines Sections 15126(c) and 15126.2(c), and CEQ Regulations 40 CFR Section 1502.16, the purpose of this section is to identify significant irreversible environmental changes and commitments of resources that would be caused by implementation of the proposed project. In addition, NEPA (40 CFR §1502.16) requires an EIS to include analysis of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity.

6.2.1 Irreversible Changes

A resource commitment is considered irreversible when primary or secondary impacts from its use limit future use options. Irreversible commitment applies primarily to nonrenewable resources, such as minerals or cultural resources, and to those resources that are renewable only over long time spans, such as soil productivity. A resource commitment is considered irretrievable when the use or consumption of the resource is neither renewable nor recoverable for use by future generations. Irretrievable commitment applies to the loss of production, harvest, or natural resources. The proposed project would involve two types of resources: (1) general industrial resources including fuels and construction materials; and (2) project-specific resources such as land, biotic and cultural resources at the project facility sites. This section identifies any resources that would be lost permanently as a result of undertaking the project.

Implementation of the proposed project would result in a significant irreversible commitment of natural resources during construction and operation through the use of fossil fuels, energy and materials such as concrete, steel, and plastics.

During the life of the project, the land used for the facilities would be committed to the project. Project components, including the slant wells, desalination plant, Terminal Reservoir, ASR-5 and 6 Wells, and Carmel Valley Pump Station, would permanently occupy approximately 30.5 acres of land, via physical siting and security fencing. This land could be used for other purposes in the future; however, the baseline condition of the land would either be irretrievable or renewable in an undeterminable timeframe. Siting of the slant wells would displace sensitive dune habitat and designated mineral resources; the desalination plant would displace non-native grassland; the ASR-5 and 6 Wells and the Terminal Reservoir could displace central maritime chaparral plant communities, including special-status species; and the Carmel Valley Pump Station site could displace non-native grassland with coastal live oak woodland fringe.

Accidents, such as the release of hazardous materials, could trigger irreversible environmental damage. As discussed in Section 4.7, Hazards and Hazards Materials, construction and operation of the proposed project would involve limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, solvents, paints, and other chemicals. An accidental spill of any of these substances could affect water and/or groundwater quality and, if a spill were to occur of significant quantity, the release could pose a hazard to construction workers, the public, and the environment. Improper storage, use, handling, or accidental spilling of such materials could result in a hazard to

the public or the environment. However, compliance with the various regulations regarding the safe transport, use, and storage of hazardous materials (see Section 4.7.2, Regulatory Framework) as well as the National Pollutant Discharge Elimination System General Construction Permit requirements would ensure that public health and safety risks are maintained at acceptable levels. Therefore, significant irreversible changes from accidental releases are not anticipated.

6.2.2 Short-Term versus Long-Term Uses

This section compares the short- and long-term environmental effects of the project. Short-term impacts would result from constructing the various project components. These actions would result in temporary adverse impacts related to soils, air quality, terrestrial biology, water quality, noise, hazardous materials, traffic and transportation, aesthetics, agriculture, energy consumption, and the daily influx of construction workers. The siting and operation of various project components could result in long-term adverse impacts related to terrestrial biological resources, greenhouse gas emissions and the indirect effects of induced growth. All of these short-term and long-term impacts are addressed in Chapter 4 and feasible mitigation measures are identified that would result in a reduction of many impacts to a less than significant level. On balance, impacts would not substantially affect the maintenance and enhancement of long-term environmental productivity, nor pose long-term risks to health or safety.

6.3 Growth-Inducing Impacts

6.3.1 Introduction

This section addresses the indirect growth inducement potential of the proposed MPWSP. Refer to Section 4.19, Population and Housing, for an analysis of the MPWSP's potential direct effects on growth[1] Direct and indirect growth-inducing effects of the alternatives are addressed in Section 5.5. This section describes the relationship between land use planning and water supply; identifies the regulatory framework for the analysis; and discloses the MPWSP's potential to induce growth indirectly. The study area for this analysis consists of the area that would be served by the proposed project – CalAm's Monterey District service area (Monterey District)– which encompasses most of the Monterey Peninsula, and Monterey County. In particular, the MPWSP would provide water supply to customers served by the Monterey District main distribution system and three small satellite water systems, the Ryan Ranch, Hidden Hills, and Bishop systems. The main distribution system serves the cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Pacific Grove, Sand City, and most of the City of Seaside, as well as the unincorporated county areas of Carmel Highlands, Carmel Valley, Pebble Beach, and the Del Monte Forest. The analysis also evaluates the proposed delivery of Salinas Valley Groundwater Basin Return Water to the community of Castroville.

[1] "Direct effects" of a proposed project are "caused by the [action or project] and occur at the same time and place," while "indirect or secondary effects" are "caused by" the action or project and are "later in time or farther removed in distance, but are still reasonably foreseeable." (CEQA Guidelines § 15358(a))

Growth can be induced in several ways, such as through the elimination of obstacles to growth, through the stimulation of economic activity within the region, or through the establishment of policies or other precedents that directly or indirectly encourage additional growth. In general, a project may foster spatial, economic, or population growth in a geographic area if the project removes an impediment to growth (for example, the establishment of an essential public service, the provision of new access to an area; a change in zoning or general plan amendment approval); or economic expansion or growth occurs in an area in response to the project (for example, changes in revenue base, employment expansion, etc.).

Assessing the MPWSP's potential to indirectly induce growth means determining whether the project would indirectly support economic expansion, population growth, or residential construction, and if so, determining the magnitude and nature of the potential environmental effects of that growth.

The objectives of the MPWSP include development of water supply to enable CalAm to replace Carmel River and Seaside Groundwater Basin supplies that are currently diverted and pumped in excess of CalAm's legal rights; development of a reliable water supply for its Monterey District service area; and provision of sufficient water supply to serve existing vacant lots of record and accommodate tourism demand under recovered economic conditions. Water supply is one of the primary public services needed to support urban development. A water service deficiency could constrain future development, particularly if coupled with policies that constrain growth relative to water supply. Adequate water supply would play a role in supporting additional growth in CalAm's service area, but it would not be the single impetus behind such growth. Other factors that influence new development and population growth on the Monterey Peninsula include economic factors such as employment opportunities; the availability of adequate infrastructure like public schools, roadways, and sewer service; local land use policies in the affected communities; and constraints on the use of areas like floodplains and sensitive habitats.

6.3.2 Relationship between Land Use Planning and Water Supply

There is a connection between land use planning and water supply. In California, cities and counties have primary authority over land use while water suppliers, through laws and agreements, are expected – and usually required – to provide water service if water supply is available. In the areas served by CalAm, it is the responsibility of the cities or of Monterey County to approve or deny development proposals. In addition, on the Monterey Peninsula, the MPWMD is responsible for allocating water to the jurisdictions within its boundary (which includes the CalAm service area), issuing water permits, and approving new water distribution systems or expansions. Therefore, when deciding whether to approve or deny development projects, including whether water would be available to serve the projects, the jurisdictions within the MPWMD's boundary take into account the MPWMD's allocation and distribution determinations and permits. Numerous laws ensure that water supply planning and land use planning proceed in an orderly fashion. The laws and agencies described below provide the regulatory and planning context in which water agencies, cities, and counties work together and produce key documents (e.g., general plans and regional projections) used in this analysis.

6.3.2.1 Regional Planning and Local Planning

AMBAG

The Association of Monterey Bay Area Governments (AMBAG) is the key regional agency involved in forecasting growth in Monterey County. Although AMBAG can forecast growth, it does not have authority to approve or deny land use plans or development projects. AMBAG is a Joint Powers Authority that serves as the federally-designated Metropolitan Planning Organization and Council of Governments for Monterey, Santa Cruz and San Benito Counties. It is governed by a Board of Directors made up of elected officials from each city and county in the region. AMBAG undertakes metropolitan-level transportation planning on behalf of the region; manages the region's transportation demand model; and prepares regional housing, population and employment forecasts that are used in a variety of regional plans (AMBAG, 2013). AMBAG's regional growth forecast, which it produces approximately every five years, supports regional planning efforts such as the Metropolitan Transportation Plan, and may be used by city and county governments in support of local planning efforts such as the development of general plans and project review. The 2004 and 2008 forecasts describe how the existing water and sewer infrastructure constrains growth (AMBAG, 2004, 2008). AMBAG adopted a different methodology for its current (2014) forecast, which emphasizes employment growth as the primary driver of long-term population change at a regional scale. The 2014 forecast includes population, housing, and employment projections out to the year 2035 (AMBAG, 2014a). While AMBAG does not have authority to approve or deny land use plans, it does direct regional growth decisions by setting state-mandated fair-share regional housing allocations in Monterey and Santa Cruz Counties and their respective cities.[2]

General Plan Requirements

Under state law,[3] each city and county must adopt a comprehensive, long-term general plan for the physical development of the jurisdiction. The general plan is a statement of development policies, and must include land use, circulation, housing, conservation, open space, noise, and safety elements. The land use element designates the general distribution, location, and extent of land uses, and includes a statement of the standards of population density and building intensity recommended for lands covered by the plan. The city or county must prepare the water section of the conservation element in coordination with any countywide water agency and with all district and city agencies that have developed, served, controlled, managed, or conserved water of any type for any purpose in the county or city for which the general plan is prepared. Coordination among relevant agencies is required to include the discussion and evaluation of any water supply and demand information contained in any applicable urban water management plan, current capital improvement program, and related supply and demand information that has been submitted to the city or county by a water agency.[4]

2 San Benito County is responsible for setting the fair share regional housing allocation for the cities and unincorporated area in that county.
3 California Government Code § 65300 *et seq.*
4 California Government Code § 65302(d)(1).

6.3.2.2 Coordination of Land Use Planning and Water Supply

Urban Water Management Planning Act

The Urban Water Management Planning Act[5] requires every urban water supplier to prepare an urban water management plan (UWMP) for the purpose of "actively pursu[ing] the efficient use of available supplies."[6] In preparing the UWMP, the water supplier must coordinate with other appropriate agencies, including other water suppliers that share a common source, water management agencies, and relevant public agencies. When a city or county proposes to adopt or substantially amend a general plan, the water agency must provide the planning agency with the current version of the adopted UWMP, the current version of the water agency's capital improvement program or plan, and other information about the system's sources of water supply. The Urban Water Management Planning Act requires urban water suppliers, as part of their long-range planning activities, to make every effort to ensure the appropriate level of reliability in their water service sufficient to meet the needs of their various categories of customers during normal, dry, and multiple dry water years.[7]

Senate Bills (SB) 610 and 221

SB 610[8] and SB 221[9] were companion legislative measures that took effect in January 2002. They require increased efforts to identify and assess the reliability of anticipated water supplies, and require increased levels of communication between municipal planning authorities and local water suppliers.

- **SB 610** requires that the CEQA documents for most large projects[10] (including those that generate water demand greater than an equivalent of 500 dwelling units or increase service connections by 10 percent) include a water supply assessment. A water supply assessment must address whether existing water supplies will suffice to serve the proposed project and other planned development over a 20-year period in average, dry, and multiple-dry year conditions, and must set forth a plan for finding additional supplies necessary to serve the proposed project. Cities and counties can approve projects notwithstanding identified water supply shortfalls if they address those shortfalls in their findings.
- **SB 221** applies when cities and counties approve new tentative subdivision maps. When they do so, the cities and counties must impose a condition on the developers, requiring them to provide a detailed, written verification from the applicable water supplier that sufficient water supply will be available to serve the proposed subdivision. Without that verification, the cities and counties cannot approve the final subdivision map. SB 221 applies to projects similar in size to those addressed in SB 610.

5 California Water Code §10610 *et seq.*
6 California Water Code §10610.4(c).
7 California Water Code §10610.2(a)(4)
8 Codified at California Water Code §§ 10631, 10656, 10910, 10911, 10912, and 10915, and California Public Resources Code § 21151.9.
9 Codified at California Government Code §§ 65867.5, 66455.3, and 66473.7, and California Business and Professions Code § 11010.
10 Large projects include residential developments with more than 500 units; retail uses with more than 500,000 square feet of floor space; office buildings with more than 250,000 square feet of floor space; hotels or motels with more than 500 rooms; industrial uses occupying more than 40 acres or having more than 650,000 square feet of floor area; and mixed-use projects that include any use or combination as large as the above uses.

Senate Bill 7 of the Seventh Extraordinary Session (Senate Bill 7)

Enacted in November 2009, Senate Bill 7[11] requires all water suppliers in the State to increase the efficiency of water use. Urban water suppliers like CalAm must reduce per capita water consumption 20 percent by 2020, and must set and achieve interim targets by 2015.

State Policies Encouraging Compact and Sustainable Development

In addition to the laws promoting coordinated land use and water supply planning, several recent laws have been adopted that seek to refocus planning efforts to reduce sprawl, preserve farmland, increase the viability of public transportation, and reduce the emission of greenhouse gases. These efforts promote compact and sustainable development, which allows for the more efficient provision of public services and reduces the consumption of resources, including water. One of the cornerstones of sustainable development is efficient water use. This includes water conservation and efficiency measures such as using recycled water, installing water efficient fixtures, and putting in drought-tolerant landscaping.

- **Assembly Bill (AB) 32,**[12] the Global Warming Solutions Act of 2006, was adopted with the goal of reducing greenhouse gas emissions to 1990 levels by the year 2020. Under the Act, the California Air Resources Board (CARB) adopted a scoping plan that identifies measures to reduce the energy requirements of significant greenhouse gas sources, including those associated with providing reliable water supplies. These measures include increasing water use efficiency, recycling water, and improving water system energy efficiency. CARB updated the Scoping Plan CARB in May 2014.
- **SB 375,**[13] adopted in 2008, requires each of the state's MPOs to coordinate land use and transportation planning, and to develop a "Sustainable Communities Strategy" to reduce sprawl, and to reduce greenhouse gas emissions from automobiles and light trucks. AMBAG, the MPO for the three-county region, adopted its combined Metropolitan Transportation Plan/Sustainable Communities Strategy, which is advisory, in June 2014.
- **SB 732,**[14] adopted in 2008, establishes the Strategic Growth Council, a cabinet-level committee that coordinates the activities of State agencies to improve air and water quality, protect natural resources, and assist in the planning of sustainable communities.
- **AB 857,**[15] signed into law in 2002, establishes three planning priorities for the State: promoting infill development, protecting natural resources, and encouraging efficient development patterns. These priorities are to be incorporated into the Governor's Environmental Goals and Policy Report,[16] which provides a 20- to 30-year overview of State growth and development and guides the commitment of State resources in agency plans and infrastructure projects.

11 Codified at California Water Code §§ 10608 and 10800-10853.
12 Codified at California Health and Safety Code § 38500 *et seq*.
13 Codified by amending California Government Code §§ 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, and 65588; amending California Public Resources Code § 21061.3; adding Government Code §§ 14522.1, 14522.2 and 65080.01; and adding Public Resources Code §§ 21159.28 and 21155 *et seq*.
14 Codified at California Public Resources Code §§ 75076, 75077, 75100 *et seq.*, and 75120 *et seq.*
15 Codified at California Government Code § 65041.1.
16 Required in California Government Code § 65041.

- The **Regional Blueprint Planning Program** is a grant program operated by the California Department of Transportation that provides assistance to COGs in developing long-range plans with the intent of supporting greater transit use, encouraging more efficient land use, improving air quality, and protecting natural resources. AMBAG released its blueprint, *Envisioning the Monterey Bay Area: A Blueprint for Sustainable Growth and Smart Infrastructure*, in June 2011.

6.3.2.3 Water Supply Management and Planning: Monterey Peninsula Water Management District

The MPWMD was established by state statute in 1978[17] to provide integrated management of all water resources for the Monterey Peninsula. In doing so, the MPWMD must ensure that the quantity of water use does not harm public trust resources, and that all water use is reasonable and beneficial. The MPWMD manages surface water produced from the Carmel River,[18] water pumped from municipal and private wells in Carmel Valley, and groundwater in the Seaside Groundwater Basin. Its functions include:

- augmenting the water supply through integrated management of surface water and groundwater resources;
- promoting water conservation;
- promoting water reuse and reclamation of stormwater and wastewater; and
- fostering scenic values, environmental qualities, native vegetation, fish and wildlife, and recreation on the Monterey Peninsula and in the Carmel River basin.

The MPWMD's responsibilities also include:

- computer modeling of water resources systems;
- hydrologic monitoring;
- issuing water connection permits;
- allocating water to jurisdictions;
- adopting water conservation ordinances and performing inspections;
- determining when drought emergencies exist and then imposing rationing programs; and
- approving new water distribution systems and expansions.

The MPWMD includes the cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Pacific Grove, Sand City, and Seaside, as well as the Monterey Peninsula Airport District and portions of unincorporated Monterey County (see Figure 3-1 in Chapter 3). Its boundary encompasses CalAm's Monterey District as well as other territory east of Carmel Valley Village and in the Ord Community. MPWMD is governed by a seven-member Board of Directors: five directors are

17 West's California Water Code, Appendix Chapters 118-1 to 118-901.

18 Historically, surface water stored in the San Clemente and Los Padres Reservoirs was diverted for use via the San Clemente Reservoir. Sedimentation claimed most of the San Clemente reservoir's capacity, however, and in recent years all of the water supply from the Carmel River system has been provided by wells in the Carmel Valley alluvial aquifer. The San Clemente Dam was removed in 2015 after two year of construction work to reroute the river and prepare the site for dam removal. MPWMD and CalAm are currently studying options for use or removal of the Los Padres Reservoir (CalAm et al., 2016a).

elected from voter divisions; one is a member of the County Board of Supervisors; and one is an elected official or chief executive officer appointed by a committee consisting of the mayors from jurisdictions within the District boundaries.

6.3.3 Regulatory Framework

NEPA requires that an EIS discuss the direct and indirect effects of a proposed action. The potential for growth-inducing effects are indirect effects (40 CFR 1508.8). Specifically:

> Effects include:
>
> > Indirect effects, which are caused by the action and are later in time or farther removed in distance [than direct effects], but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

The CEQA Guidelines require that an EIR evaluate the growth-inducing impacts of a proposed project (Section 15126.2(d)). The EIR should:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.[19]

Economic growth refers to the extent to which a project could cause increased activity in the local or regional economy.

Growth that is induced by a project may be consistent with adopted local or regional land use plans. In that case, a formal CEQA/NEPA review would have identified and evaluated the indirect, or secondary, effects of that planned growth and, if necessary, mitigation would have been adopted to address these effects. If a project would have growth inducement potential that is not consistent with the land use plans and growth management plans and policies for the area affected (e.g., growth beyond that reflected in adopted plans and policies), then additional adverse secondary effects of growth beyond those previously evaluated could occur. Regional and local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, utilities, wastewater, and solid waste service. This urban development may have environmental impacts, as identified in CEQA documents prepared for adoption of local land use plans. A project that would induce “disorderly” growth that conflicts

[19] The CEQA Guidelines define indirect effects the same as NEPA, above, except that the Guidelines refer to “indirect or secondary” effects (Section 15358(a)(2)).

with regional and local planning could indirectly cause additional adverse environmental impacts and impacts on other public services. Thus, it is important to assess the degree to which the growth associated with a project would be consistent with regional and local planning.

6.3.4 Approach to Analysis

Based on the CEQA and NEPA discussions above, assessing the growth-inducement potential of the MPWSP involves answering the question: Would implementation of the proposed project directly or indirectly cause economic or population growth or residential construction? As indicated above, a project can have a direct or indirect growth inducement potential, or both. This chapter addresses the proposed project's indirect effects; the potential direct effects are addressed in Section 4.19, Population and Housing.

To determine the MPWSP's potential to indirectly induce growth, the proposed project was evaluated for its potential to stimulate additional housing development and the need for services as a result of increasing available water supply and providing associated infrastructure improvements. The following steps were taken to investigate the MPWSP's growth inducement potential and to characterize the secondary effects on the environment resulting from such growth.

- **Describe the relationship between land use planning and water supply.** Section 6.3.2 provides an overview of water supply and land use planning requirements in California to provide the reader with an understanding of the rules that govern decisions about water, land use, and growth.
- **Identify Changes in Water Supply and Characterize Growth-Inducement Potential of the Proposed Project.** Section 6.3.5 analyzes the impact of growth-inducement. It describes the water supply that the MPWSP would provide, and characterizes the proposed project's potential to support or foster growth within the service area. The section describes recent growth trends reflected in census data; presents population and housing forecasts prepared by AMBAG; and provides an overview of growth anticipated in the general plans of the jurisdictions served by the MPWSP. To evaluate the proposed project's consistency with growth anticipated by these local planning agencies, the analysis compares project supply that would be available to meet future demand with an analysis of future water needs prepared by the MPWMD in collaboration with service area jurisdictions.

  While Castroville is not in CalAm's service area, the analysis also considers the growth-inducement potential of delivering Salinas Valley Groundwater Basin return water as desalinated supply, to the Castroville Community Services District (see Section 6.3.5.4).
- **Characterize the Indirect or Secondary Effects of Planned Growth.** When the jurisdictions adopt general or specific plans, they must first perform CEQA review. Those CEQA documents have evaluated the environmental effects of planned growth. To characterize and disclose the impacts of planned growth, including the cumulative impacts of such growth, the EIRs prepared for the general plans of jurisdictions served by the proposed project are summarized in Section 6.3.6.

6.3.5 Growth-Inducement Potential

6.3.5.1 Proposed MPWSP Water Service Capacity

As described in Chapter 2, Water Demand, Supplies, and Water Rights, CalAm proposes that the MPWSP provide, along with other supply sources, sufficient water supply to:

- meet existing service area demand;
- serve development that uses existing water entitlements held in the Pebble Beach-Del Monte Forest area;
- develop vacant legal lots of record; and
- support increased water consumption at local restaurants and lodging when tourism increases under improved economic conditions.

Table 6.3-1 summarizes the water demand CalAm proposes to meet with the MPWSP, along with existing and other planned water supply sources. The estimate of existing system demand, 12,270 afy, is based on demand in 2010.[20] Other demand proposed to be served by the MPWSP totals 2,005 acre-feet per year (afy). The proposed water supplies for each of these demand components are analyzed below to determine whether they would have growth-inducement effects.

TABLE 6.3-1
MPWSP DEMAND ASSUMPTIONS

Demand Component	Annual Demand (acre-feet)
Existing System Demand	12,270
Pebble Beach Water Entitlements	325
Hospitality Industry Rebound Economic Recovery	500
Legal Lots of Record	1,180
Total	**14,275**

SOURCE: RBF Consulting, 2013; Svindland, 2016.

Components of Water Demand to be Served by the MPWSP

Existing Demand

CalAm's estimate of existing system demand is based on recent demand data for the areas of CalAm's Monterey District that would be served by the project: the main distribution system and the Ryan Ranch, Hidden Hills, and Bishop satellite systems. As discussed above in Section 6.3.3, a proposed project would induce growth if it would directly or indirectly foster economic or population growth, including by removing an obstacle to growth (such as a constraint on water supply) in the surrounding environment. The portion of MPWSP water used to satisfy existing demand would replace current withdrawals from the Carmel River and Seaside Groundwater

[20] Although demand in 2010 is slightly less than the current 10-year average demand (12,351 afy) CalAm assumes this is the appropriate level of demand for planning purposes to ensure the proposed action is sized appropriately to meet peak demands as required by state regulations; see Section 2.3 in Chapter 2 for more information.

Basin in excess of CalAm's legal rights. The portion of MPWSP supply used to meet existing service area demand would serve existing customers, and would not be available to serve economic or population growth. Therefore, this portion of the MPWSP supply would not be growth-inducing under CEQA and NEPA because it would not remove water supply limitations as an obstacle to additional growth.

Pebble Beach Entitlements

As described in Chapter 2, Water Demand, Supplies and Water Rights, Section 2.3.3, the MPWMD granted water entitlements totaling 380 afy to the fiscal sponsors that underwrote development of the Carmel Area Wastewater District/Pebble Beach Community Services District (CAWD/PBCSD) wastewater reclamation project. The reclamation project now provides all of the irrigation water used on golf courses and some open space areas in the Del Monte Forest, and MPWMD estimates that it saves approximately 1,000 afy of potable water (Stoldt, 2011). In 2013, when CalAm prepared the estimate of demand associated with these entitlements, approximately 325 afy of the entitlements were unassigned. Since then, MPWMD has issued additional water permits and the remaining unassigned Pebble Beach entitlements now stand at about 304 afy (MPWMD, 2016a). Because the recently issued permits may not immediately translate to water connections or water use that is reflected in existing demand data, 325 afy is a reasonable estimate of future demand associated with these entitlements.

The remaining entitlements represent an existing commitment by MPWMD to issue water permits to entitlement-holders but the entitlements do not represent existing demand or development. Supply provided by the MPWSP would enable remaining entitlement holders to convert the entitlements to actual water permits – and water – to serve the development of properties in the Del Monte Forest. MPWSP supply used to serve the Pebble Beach entitlement-holders would remove water supply limitations as a constraint on that development, and would therefore, induce growth.

Hospitality Industry Rebound

Since the 2008 recession, the Monterey Peninsula hospitality industry, which includes hotels, restaurants and other visitor-serving businesses, has experienced lower occupancy rates – and therefore lower water use – than it had before the recession (Svindland, 2013). With the recession over, the industry expects to rebound. Industry representatives are concerned that basing the estimate of existing demand on water use in recent years will understate water needs at existing businesses during a more robust economy. CalAm estimates that a tourism rebound will increase annual demand by about 500 afy and the rebound will be evenly distributed between May and September, which is the high tourist season (RBF Consulting, 2013). CalAm based this estimate on its review of past water use by commercial sector customers (Svindland, 2013) and "recent discussions in the region" (RBF Consulting, 2013). As described in Chapter 2, Water Demand, Supplies, and Water Rights, Section 2.3.3, the MPWMD performed several comparisons of recent commercial sector water demand with earlier levels of demand, considering the years 1998 through 2011, and determined that recent demand ranged from 194 to 440 afy lower than in previous years, depending on the years compared and the methodology used (refer to Chapter 2 for more information).

This analysis performed several additional comparisons of commercial sector water consumption, based on annual CalAm consumption reports that the MPWMD provided for water years[21] 2003 through 2015 (MPWMD, 2008, 2013a, 2016b). **Table 6.3-2** summarizes commercial sector consumption data from these reports; the data reflect consumption in CalAm's Monterey District main distribution system and the Ryan Ranch, Hidden Hills and Bishop satellite systems. As the table shows, over this 13-year period, annual commercial sector consumption declined in all but two years; therefore, comparing the earliest years in the period with the most recent years yields the most pronounced differences. For example, consumption in 2003 was 980 af higher than in 2015, whereas the average annual consumption for the first seven years (water years 2003 through 2009) was 467 af higher than average annual consumption in the last six years (water years 2019 through 2015). Consumption in the last year before the recession (water year 2007) was higher than the year before and any year since. Since the region was experiencing a serious drought during the last four years of this record, at least some of the reductions in demand shown in these years may reflect short term behavioral water conservation practices that may not be sustained during normal rainfall years.

TABLE 6.3-2
MONTEREY DISTRICT COMMERCIAL SECTOR WATER CONSUMPTION
WATER YEARS[a] 2003 THROUGH 2015

2003-2009		2010-2015	
Water Year[a]	**Consumption (acre-feet)[b]**	**Water Year[a]**	**Consumption (acre-feet)[b]**
2003	3,284	2010	2,857
2004	3,320	2011	2,839
2005	3,108	2012	2,770
2006	3,093	2013	2,731
2007	3,125	2014	2,498
2008	3,097	2015	2,304
2009	2,920		
Annual Average 2003-2009	3,135	Annual Average 2010-2015	2,667

NOTES:

a A water year runs from October 1 through September 30 and is named for the year in which it ends.

b Consumption shown is for the CalAm's Monterey County District excluding the Ambler, Ralph Lane, Chualar, and Toro satellite systems, which would not be served by the proposed project.

SOURCE: MPWMD, 2008; 2013a, 2016b.

MPWMD's water conservation programs have continued over this period, and have permanently reduced some consumption through, for example, the replacement of less efficient water fixtures with more efficient ones or the replacement of more water-intensive landscaping with drought-tolerant landscaping. Thus, the years just prior to the recession should better indicate the increases in commercial sector demand that could result from economic recovery and a rebound of tourism in the area than do the earlier years. In addition, MPWMD's analysis of occupancy levels and

[21] A water year runs from October 1 through September 30 and is named for the year in which it ends.

commercial sector water consumption indicated that, based on four hospitality-industry businesses in Monterey and one in downtown Carmel, occupancy levels in 2011 were about 7 percent lower than the average occupancy levels for the years 1998 to 2001. Based on this difference, and on commercial sector water consumption data, MPWMD calculated that a 7 percent increase in the average annual commercial water demand for years 2009 to 2011 would increase annual demand by about 194 af. Therefore, based on this comparison, increases in demand at area businesses from a rebounding economy and hospitality industry may more likely be on the order of 200 or 300 afy rather than CalAm's estimate of 500 afy.

A recent study of the economic impacts of travel in California suggests that the tourism in Monterey County may have largely returned to pre-2008 levels (Dean Runyon Associates, Inc., 2016). For example, by 2013, the California transient occupancy tax, which had decreased in the years following 2008, had surpassed 2007 levels for all but one of the Peninsula cities listed. And by 2014, all of the listed Peninsula cities showed higher occupancy tax receipts than in 2008. While the increases in tax receipts reflect any increases in hotel room rates that have occurred over this period, it is assumed that the increase in occupancy tax receipts also reflect increased occupancy rates since 2008. Thus, it seems that Monterey County's hospitality industry has experienced a substantial rebound. However, because the last four years were also drought years, the water demand shown in Table 3.6-2 may be somewhat lower than what could be expected during normal rainfall years. Therefore, demand associated with hospitality industry rebound on the order of 200 to 300 afy is a reasonable estimate for purposes of this analysis.

This rebound in demand is assumed to occur due to increased occupancy rates without any expansion in physical capacity. Because no development or expansion of physical capacity would cause those demand increases, water supply provided to meet such increases would not be considered growth-inducing under CEQA or NEPA.

To the extent that businesses were to expand, or to the extent that increased tourism in the area were to cause new businesses to open, that new development would only be possible if water supply were available. Water supply serving new or expanded businesses would remove water supply limitations as a constraint to such development and therefore would induce growth. Based on the analysis above, a portion of 500 afy capacity proposed to meet demand for the existing hospitality industry may exceed the need for this purpose. This analysis assumes that the excess water service capacity provided by the project would be available to support future growth; that would therefore be considered growth-inducing. According to the analysis above, even with economic recovery, between 200 and 300 afy of the project capacity earmarked for hospitality industry rebound may be available to serve additional growth in the service area. For simplicity's sake, this analysis assumes that about 250 afy of supply designated for rebound of the hospitality industry would likely be used for this purpose and 250 afy would be available for new development. How this surplus could be allocated is discussed below under "Assumptions Regarding Allocation and Use of MPWSP Water Service Capacity."

Vacant Lots of Record

The proposed project would provide 1,181 afy of water to serve the development of vacant legal lots of record in the service area. This estimate is apparently based on an estimate presented in CalAm's 2006 UWMP, which cited a 2001 MPWMD estimate of demand associated with vacant buildable lots of record (CalAm, 2006).[22] However, as described in Chapter 2, Water Demand, Supplies, and Water Rights, Section 2.3.3, the MPWMD no longer considers this a valid estimate. The most recent demand assessment prepared for MPWMD specifically on lots of record was a 2002 estimate that identified demand of 1,211 afy for lots of record in the incorporated cities of the service area. The District never adopted this estimate because it did not include demand associated with vacant lots on improved parcels in the unincorporated County areas. In 2013, the MPWMD testified that CalAm's estimate of 1,181 afy may underestimate demand associated with lots of record (Stoldt, 2013). MPWMD's most recent estimate of future service area demand, prepared in collaboration with service area jurisdictions, was completed in 2006. In that estimate, the MPWMD did not evaluate demand associated with lots of record *per se*, although it included demand associated with new residential and non-residential development under general plan buildout, which would include developable lots within the respective jurisdictions. Water supply that would serve currently vacant lots of record would remove water supply limitations as an obstacle to the development of these lots and would induce growth under CEQA and NEPA. As discussed below in Section 6.3.5.3, this would not be growth beyond the level anticipated in adopted General Plans.

According to the MPWMD's methodology for calculating demand, and according to its water permit system, new demand can also be generated at developed lots of record by, for example, adding bathrooms and fixtures. For this analysis, absent the addition of new dwelling units or similar intensification of use at a given lot, supply that would meet demand associated with remodels or fixture additions at developed lots would not be considered to be removing an obstacle to new development and therefore would not be growth-inducing. In any event, because the 1,181 afy that the MPWSP would provide could support new development at currently vacant lots of record, this analysis assumes that it would be so used, and that MPWSP supply used to serve this component of demand would be growth-inducing.

Assumptions Regarding Allocation and Use of MPWSP Water Service Capacity

As noted above in Section 6.3.2, MPWMD is responsible for allocating water to the jurisdictions within its boundary. MPWMD has not prepared an allocation program for the water that the MPWSP would provide. MPWMD will start updating its water allocation program's EIR once construction has started on an identified water supply project (MPWMD, 2015). Separate from CalAm's current MPWSP application, MPWMD plans to collaborate with CalAm and the service area jurisdictions to address the allocation of water from the MPWSP. In the meantime, absent a new allocation for the MPWSP water, this analysis assumes that the MPWMD's allocation of water provided by the project would be similar to the District's current and past allocation

[22] The 2006 UWMP refers to a 2001analysis by the MPWMD that "projected an additional California American Water demand of 1,181 afy, based on a review of vacant legal buildable lots of record" (CalAm, 2006). Note that this is not CalAm's currently adopted UWMP; CalAm's current UWMP (WSC, 2012) does not include an estimate of demand associated with vacant lots of record.

programs. That is, for purposes of this EIR/EIS, it is assumed that supply provided by the proposed project would be allocated to meet existing demand within the CalAm service area, and that water service capacity beyond that would be allocated to the jurisdictions in general proportion to an estimate – which the MPWMD has not yet developed – of their future water supply needs. Once the water were allocated, each city and the County (for the unincorporated areas) would have the responsibility and discretion to approve or deny proposed development projects for which water was available, consistent with the jurisdiction's role as the primary land use authority (discussed in Section 6.3.2 above) and applicable land use plans, policies, regulations and laws. For example, this analysis recognizes that supply based on an estimate of demand associated with lots of record may not exclusively serve development of existing vacant lots; some portion of it could, for example, support development of lots created after the preparation of this EIR/EIS or the approval of this project, depending on the jurisdiction's internal allocation system and assuming water service capacity were available.

This analysis also recognizes that the MPWMD could choose not to allocate to the County the approximately 325 afy proposed to serve Pebble Beach water entitlement-holders, to ensure that adequate water supply would be available when development associated with those entitlements was proposed. If, on the other hand, the MPWMD did allocate this water to the County, the County could then elect to allocate at least a portion of the 325 afy to other development – if, for example, other development was proposed first or the County determined that the entitlement-holders were unlikely to use the full amount. In either case, this portion of the proposed MPWSP supply would be used to serve new development.

Similarly, because there is no guarantee that the 500 afy proposed to meet demand associated with hospitality industry rebound will actually go to that use, this analysis assumes that either the MPWMD or the local jurisdictions could elect not to set aside 500 afy exclusively for use by existing businesses. Therefore, some portion of this 500 afy could actually serve new development within the service area.

Conclusion: MPWSP Water Service Capacity

Along with existing and other planned water supply sources, the MPWSP would provide up to 16,294 afy during the 25-year Seaside Groundwater Basin replenishment period; an additional 700 afy of Seaside Groundwater Basin supply would be available to the CalAm service area at the end of the replenishment period.[23] Of this, 12,270 afy would serve existing service area demand, and another 2,005 afy is proposed to meet anticipated future demand. This includes an estimated 250 afy associated with the local hospitality industry, absent new development, assuming increased economic activity. Thus, 12,520 afy would be used to meet existing demand and demand of existing business customers, and 1,755 afy would support new development. **Table 6.3-3** provides a breakdown of demand associated with existing and anticipated land uses assumed for the MPWSP. **Table 6.3-4** shows water supplies that would be available with the

[23] For the first 25 years of MPWSP operation, CalAm would provide in-lieu replenishment of the Seaside Groundwater Basin in repayment of groundwater CalAm has pumped from the basin in excess of CalAm's adjudicated right, as discussed in Chapter 2, Section 2.2.4. Replenishment would occur at a rate of 700 afy. During the replenishment period, available supply from the Seaside Groundwater Basin would be limited to 774 afy; at the end of the replenishment period, available supply would equal CalAm's adjudicated right of 1,474 afy.

MPWSP, compared with the service area demands shown in Table 6.3-3, as well as two estimates of the SVGB return water obligation associated with operating the proposed 9.6-mgd desalination plant. As discussed in Chapter 2, the SVGB return water obligation will be based on the amount of fresh water component in the source water. In order to consider the effect of the return water for this EIR/EIS, groundwater modeling simulated scenarios with return water obligations representing 0, 3, 6, and 12 percent of the source water (see Section 4.4, Groundwater Resources).

TABLE 6.3-3
EXISTING AND ANTICIPATED DEMAND
(acre-feet per year)

Demand Component	MPWSP Demand Assumptions	Demand Associated with Existing Land Uses	Demand Associated with Anticipated Development
Existing System Demand	12,270	12,270	-
Pebble Beach Water Entitlements	325		325
Hospitality Industry Bounce-Back	500	250[a]	250
Legal Lots of Record	1,180		1,180
Total	**14,275**	**12,520**	**1,755**

NOTES:

[a] A comparison of commercial sector demand prepared for this analysis suggests that demand by the hospitality industry under improved economic conditions may be lower than identified by CalAm; refer to text discussion for more information.

SOURCE: Table 6.3-1.

TABLE 6.3-4
WATER SUPPLIES AND DEMANDS DURING SEASIDE GROUNDWATER BASIN REPLENISHMENT PERIOD, 9.6-MGD DESALINATION PLANT WITH SVGB RETURN
(acre-feet per year)

	Existing Demand		Anticipated Demand	
Supplies and Demands	**6% SVGB Return**	**12% SVGB Return**	**6% SVGB Return**	**12% SVGB Return**
Total Supplies[a]	**16,294**	**16,294**	**16,294**	**16,294**
Service Area Demand (Existing and Anticipated)	12,520	12,520	14,275	14,275
Supply Available for Other Use (Total Supplies Minus Service Area Demand)	3,774	3,774	2,019	2,019
SVGB Return (6% and 12%)	1,620	3,240	1,620	3,240
Surplus or (Deficit)	**2,154**	**535**	**399**	**(1,220)**

NOTES: mgd = million gallons per day; Seaside GW Basin = Seaside Groundwater Basin; SVGB = Salinas Valley Groundwater Basin

[a] Water supply sources include: Carmel River (3,376 afy), Seaside Groundwater Basin (774 afy), Aquifer Storage and Recovery Project (1,300 afy), Sand City Coastal Desalination Plant (94 afy), and the proposed MPWSP Desalination Plant (10,750 afy), as shown in Table 2-4 of Chapter 2.

SOURCE: Table 2-4, Table 6.3-3.

Table 6.3-4 illustrates available and surplus supply (or deficit) during the Seaside Groundwater Basin replenishment period, assuming a 6 percent or 12 percent return water obligation. As shown, under either of these return water scenarios, the available supply would meet existing service area demand and demand associated with the existing hospitality industry (12,520 afy), with a surplus of 535 or 2,154 afy depending on the return water obligation. The table also compares available supply with the total 14,275 afy demand that the MPWSP is proposed to meet. Assuming a 6 percent SVGB return water obligation, there would be enough water to meet existing and anticipated demand. But assuming a 12 percent return water obligation, supplies would not be able to fully meet anticipated demand. Total projected demand associated with development of lots of record and Pebble Beach entitlements would not occur immediately, however; rather, it is expected to occur gradually over time. At the end of the Seaside Groundwater Basin replenishment period an additional 700 afy of Seaside Groundwater Basin supply would be available to the CalAm service area.

Supply not used to meet existing demand or demand of existing business customers under more robust economic conditions would be available to support new development. New development might include development of existing vacant lots of record and development by Pebble Beach water entitlement holders. Water supply capacity to serve new development would remove water supply limitations as an obstacle to such development and would be considered growth-inducing under CEQA and NEPA.

6.3.5.2 MPWSP Infrastructure Capacity

Pipeline Capacity

CalAm sized the proposed project pipelines to accommodate a range of flow volumes, including flows associated with the proposed 9.6-mgd MPWSP desalination plant, or with a 6.4-mgd desalination plant – the size of the plant that would be built if CalAm were able to purchase water from the Pure Water Monterey Groundwater Replenishment (GWR) project. The 6.4-mgd desalination plant is evaluated in Chapter 5, Alternatives, and described in Sections 5.4.7 and 5.4.8. Consistent with standard engineering practice, pipeline sizing takes into account the need to meet peak demands, since water demand fluctuates daily, monthly and seasonally over the course of a year. Refer to Chapter 2, Water Demand, Supplies, and Water Rights, Section 2.3.2, for more information regarding consideration of peak demands. **Table 6.3-5** shows the flow capacity of the proposed service area pipeline segments and the flows that would be generated by the 6.4- and 9.6-mgd plants. The table also shows that all pipelines would have the capacity to accommodate flows generated by a somewhat larger-capacity plant.

Added pumping pressure enables pipelines of a given size to accommodate the higher flows. For example, in the normal course of business, the estimated operating pressure needed to pump flows generated by a 9.6-mgd plant to the proposed Terminal Reservoir is 132 pounds per square inch (psi). The plant itself would comprise seven modules – six in operation plus one on standby – each of which independently produces 1.6 mgd. While CalAm does not propose to regularly run all seven modules, it might have to do so in an emergency (Svindland 2014). Running all seven modules would produce a total of 11.2 mgd: 9.6 plus 1.6. To pump that additional 1.6 mgd would require an operating pressure of 136 psi.

TABLE 6.3-5
RANGE OF FLOW VOLUMES ACCOMMODATED BY PIPELINE SEGMENT

Pipeline Segment	Pipeline Capacity (Flow Volumes Accommodated) (mgd)	Flow per Pipeline Segment for 6.4-mgd Plant[a] (mgd)	Flow per Pipeline Segment for 9.6-mgd Plant[b] (mgd)	Flow per Pipeline Segment for 11.2-mgd Plant[c] (mgd)	Flow per Pipeline Segment for 12.8-mgd Plant[d] (mgd)
Source Water Pipeline	16-30	16	24	28	30
Brine Discharge Pipeline	12-20	10	14	17	18
Salinas Valley Return Pipeline	2-4	2	3	3	4
Desalinated Water Pipeline	6-13	6	10	11	13
Transmission Main	6-13	6	10	11	13
ASR Pipeline	15	15	15	15	15

NOTES:

a Flow that would be generated by four 1.6-mgd reverse osmosis modules; i.e., operation of the 6.4-mgd plant not including its 1.6-mgd standby module.
b Flow that would be generated by six 1.6-mgd reverse osmosis modules; i.e., operation of the 9.6-mgd plant not including its 1.6-mgd standby module.
c Flow that would be generated by seven 1.6-mgd reverse osmosis modules; i.e., concurrent operation of all six modules of a 9.6-mgd plant and its 1.6-mgd standby module.
d Flow that would be generated by eight 1.6-mgd reverse-osmosis modules. While this size plant is not proposed, this column shows that all pipeline segments would have capacity, with increased pumping pressure, to accommodate flows from a 12.8-mgd plant.

SOURCE: Svindland, 2014.

The smaller 6.4-mgd plant that would be built in conjunction with purchase of GWR water would have four working modules plus one on standby; each, again, would produce 1.6 mgd. Under normal conditions, the smaller plant would require an operating pressure of 128 psi to pump water to the Terminal Reservoir, and an additional 2 psi to pump the 8.0 mgd produced by all five units.

CalAm's initial basis for pipeline sizing assumed seven 1.6-mgd modules operating concurrently for the 9.6-mgd plant, and five 1.6-mgd modules operating concurrently for the 6.4-mgd plant. As **Table 6.3-5** shows, all of the pipeline segments would have the capacity to accommodate flows associated with a 12.8 mgd plant, which is somewhat higher than flows that would be generated by a 9.6-mgd plant plus its standby module. CalAm has noted that the lower end of the range of flows would have lower overall energy requirements (e.g., if the smaller plant were constructed) and that the pipelines' capacity to accommodate the higher end of the flows would delay the possible need for future, disruptive, pipeline expansion projects (Svindland, 2014).

Sizing the pipelines to accommodate flows beyond that needed to serve the proposed project would remove constrained pipeline capacity as an obstacle to future growth and therefore would induce growth. Additional water supply would be required to generate the higher future flows that the MPWSP pipelines could accommodate. Expanding the desalination plant to increase its production capacity beyond 9.6 mgd would require additional CEQA review and approval by the CPUC and, if more source wells were needed, NEPA review and approval by the MBNMS. In addition, before CalAm could increase production capacity, the MPWMD would need to review the proposed increase under CEQA and issue a permit under its Rule 22; CalAm would likely require other permits as well.

According to a proposed Settlement Agreement between CalAm and other parties relating to CalAm's MPWSP application, MPWMD intends to collaborate with the Monterey Peninsula Regional Water Authority, Monterey County, and CalAm to determine an accurate estimate of the added water supply capacity needed to meet the General Plan buildout projections for communities served by CalAm (CalAm et al., 2013). That process has not yet begun, however, and we cannot predict its results. Depending on the results, the proposed pipelines would accommodate some or all of the added water supply needs identified in this process. Growth anticipated in jurisdictions' General Plans is summarized below in Section 6.3.5.3 and the effects of growth under General Plan buildout that would be induced by pipeline capacity, and the added water supply the pipelines could accommodate, are evaluated in Section 6.3.6.

Permitted Desalination Plant Capacity

If CalAm does purchase water from the GWR project, it could reduce the size of its MPWSP Desalination Plant. Because the GWR project's timing and cost were uncertain when CalAm submitted its application for the MPWSP, CalAm proposes a 9.6-mgd desalination plant (proposed project), but also seeks authorization to reduce the size of the desalination plant to 6.4 mgd (Alternative 5a) and purchase water from the MRWPCA and MPWMD. The MRWPCA certified the Final EIR for the GWR project and approved the project in October 2015. The CPUC authorized CalAm's entry into a water purchase agreement in September 2016. However, while the CPUC has authorized CalAm's entry into a water purchase agreement, given the possibility that the GWR project could run into financing or permitting obstructions, CalAm continues to seek approval of the 9.6-mgd desalination plant in the event that the GWR project is not developed. CalAm is not proposing a 9.6-mgd desalination plant plus the GWR water purchase and this analysis does not consider the growth inducement potential of such a combination. Refer to Chapter 5, Alternatives, for more information about the 6.4-mgd desalination plant (Alternatives 5a and 5b) and to Chapter 4, Section 4.1, Overview, for more information on the GWR project and how it is considered in this EIR/EIS.

6.3.5.3 Growth Trends and Planning Agency Projections

In evaluating the potential environmental effects of growth, a key consideration is whether the growth induced or supported by a project would be planned growth – i.e., growth that is anticipated in the adopted planning documents of the jurisdictions served by that project. This section presents census data indicating recent growth trends in service area jurisdictions, the projections of future growth prepared by the regional planning agency, and growth trends and planned development anticipated in the general plans of service area jurisdictions, and compares water supply that would be provided by the MPWSP and potentially available to serve future development with estimates of water supply needed for general plan buildout.

Service Area Growth Trends 1990-2010

Table 6.3-6 shows population and housing data from the U.S. census for the years 1990, 2000, and 2010. Except for Sand City, population in all of the cities in the service area declined between 1990 and 2000; population in the service area cities as a whole decreased by about 9 percent. The decrease in population slowed between 2000 and 2010, decreasing by 3 percent for the cities as a

TABLE 6.3-6
SERVICE AREA AND MONTEREY COUNTY GROWTH TRENDS 1990-2010
POPULATION AND HOUSING

	Population							Housing Units						
Jurisdiction	**1990 Census**	**2000 Census**	**2010 Census**	**Change 1990-2000**	**Percent Change 1990-2000**	**Change 2000-2010**	**Percent Change 2000-2010**	**1990 Census**	**2000 Census**	**2010 Census**	**Change 1990-2000**	**Percent Change 1990-2000**	**Change 2000-2010**	**Percent Change 2000-2010**
Carmel-by-the-Sea	4,241	4,081	3,722	-160	-3.8%	-359	-8.8%	3,325	3,334	3,417	9	0.3%	83	2.5%
Del Rey Oaks	1,661	1,650	1,624	-11	-0.7%	-26	-1.6%	733	727	741	-6	-0.8%	14	1.9%
Monterey (city)	31,954	29,696	27,810	-2,258	-7.1%	-1,886	-6.4%	13,497	13,383	13,584	-114	-0.8%	201	1.5%
Pacific Grove	16,117	15,522	15,041	-595	-3.7%	-481	-3.1%	7,916	8,032	8,169	116	1.5%	137	1.7%
Sand City	192	261	334	69	35.9%	73	28.0%	86	87	145	1	1.2%	58	66.7%
Seaside	38,826	33,097	33,025	-5,729	-14.8%	-72	-0.2%	11,214	11,005	10,872	-209	-1.9%	-133	-1.2%
Subtotal: Cities	***92,991***	***84,307***	***81,556***	***-8,684***	**-9.3%**	***-2,751***	**-3.3%**	***36,771***	***36,568***	***36,928***	***-203***	**-0.6%**	***360***	**1.0%**
Unincorporated Monterey County[a]	100,461	101,414	100,213	953	0.9%	-1,201	-1.2%	34,342	37,139	38,296	2,797	8.1%	1,157	3.1%
Monterey County (Total)	355,660	401,762	415,057	46,102	13.0%	13,295	3.3%	121,224	131,708	137,910	10,484	8.6%	6,202	4.7%

NOTES:

a Data are for the entire unincorporated county.

SOURCE: California Department of Finance, 2007; 2013.

whole. Sand City's population increased in both decades, by 36 percent (69 new residents) between 1990 and 2000 and 28 percent (73 new residents) between 2000 and 2010. The total number of housing units in service area cities decreased by 0.6 percent between 1990 and 2000 and increased by 1 percent between 2000 and 2010. Information shown for the unincorporated county is for the entire county, not just the part in CalAm's service area. Population in unincorporated Monterey County stayed about the same over these two decades, increasing by about 1 percent between 1990 and 2000 and decreasing by about 1 percent between 2000 and 2010, while the number of housing units increased.

AMBAG Projections

In 2014, AMBAG adopted its current forecast of population, housing and employment, and its Metropolitan Transportation Plan/Sustainable Communities Strategy for the region. **Table 6.3-7** shows the growth forecast to the year 2035 for the cities in the CalAm service area and unincorporated Monterey County. Unlike AMBAG's previous forecast, which it adopted in 2008, the current forecast takes into account the 2010 census, the Sustainable Communities Strategy requirements of SB 375, and the effects of the economic downturn that occurred between 2008 and 2012. Development of the forecasts involved substantial input and feedback from the jurisdictions in the AMBAG region (AMBAG, 2014a). Although population, housing, and jobs in the service area cities and in unincorporated Monterey County were lower in 2010 than had been projected in AMBAG's 2008 forecast, AMBAG now projects faster population and housing growth rates in the service area cities over the 2010-2035 planning period compared to the previous forecast. As **Table 6.3-7** shows, the population of each service area city is projected to increase over the 2010-2035 projection period, although Carmel is projected to lose population between 2010 and 2020 before beginning to grow again. In terms of percentage increase, Sand City is projected to grow the fastest although, because of its small size, its net population increase over the 25-year projection period is smaller than that of several other service area cities. Seaside is projected to have the largest net increase in population over the projection period. Overall, the population of service area cities is projected to increase by 21 percent between 2010 and 2035. Housing stock in the cities is projected to grow at a slower pace, increasing by 12 percent over the projection period. Employment in service area cities as a whole is projected to grow faster than population, with the number of jobs increasing by almost 30 percent by 2035. Projections shown in **Table 6.3-7** for unincorporated Monterey County are for the entire unincorporated area, much of which is outside CalAm's service area. Population in the unincorporated areas of the county is projected to grow by 4 percent over the projection period, while the number of housing units is projected to increase by 2 percent, and the number of jobs is projected to increase by 9 percent.

Growth Trends and Projections in Jurisdiction Land Use Planning Documents

As discussed above in Section 6.3.5.1, the MPWSP would provide more water than needed to meet existing demand and demand associated with existing businesses. In other words, there would be water to serve additional development – water for growth. The land use plans of the jurisdictions served by CalAm establish land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate public services and

TABLE 6.3-7
AMBAG POPULATION, HOUSING, AND EMPLOYMENT PROJECTIONS

Jurisdiction	2010	2020	2025	2030	2035	Percent Change 2010–2035
POPULATION						
Cities – CalAm Service Area						
Carmel	3,722	3,541	3,661	3,789	3,917	5%
Del Rey Oaks	1,624	1,889	2,345	2,806	3,468	114%
Monterey	27,810	28,004	28,839	29,743	30,647	10%
Pacific Grove	15,041	15,394	15,914	16,472	17,030	13%
Sand City	334	1,048	1,198	1,414	1,550	364%
Seaside	33,025	36,120	40,260	41,308	42,256	28%
Total - CalAm Cities	**81,556**	**85,996**	**92,271**	**94,533**	**98,868**	**21%**
Unincorporated County[a]	100,213	102,847	103,147	104,028	104,304	4%
Monterey County (Total)	415,057	447,516	463,884	479,487	495,086	19%
HOUSING UNITS	**2010**	**2020**	**2025**	**2030**	**2035**	
Cities – CalAm Service Area						
Carmel	3, 417	3,417	3,417	3,417	3,418	0%
Del Rey Oaks	741	898	1,035	1,246	1,521	105%
Monterey	13,584	13,665	13,695	13,750	14,001	3%
Pacific Grove	8,169	8,169	8,169	8,274	8,478	4%
Sand City	145	439	496	586	629	334%
Seaside	11,335	12,556	12,907	13,311	13,664	21%
Total - CalAm Cities	**37,391**	**39,144**	**39,719**	**40,584**	**41,711**	**12%**
Unincorporated County[a]	38,971	39,337	39,633	39,730	39,735	2%
Monterey County (Total)	139,048	147,106	150,260	154,585	157,992	14%
EMPLOYMENT (JOBS)						
Cities – CalAm Service Area						
Carmel	2,282	2,645	2,716	2,793	2,875	26%
Del Rey Oaks	414	640	602	592	573	38%
Monterey	26,934	31,249	32512	33,597	34,828	29%
Pacific Grove	8,792	10,161	10,499	10827	11,194	27%
Sand City	1,561	1,839	1,873	1,908	2,500	60%
Seaside	7,790	8,828	9,092	9,344	9,628	24%
Total - CalAm Cities	**47,773**	**55,362**	**57,294**	**59,061**	**61,597**	**29%**
Unincorporated County[a]	58,071	62,998	63,795	63,955	63,443	9%
Monterey County (Total)	182,000	205,977	211,218	216,486	222,137	22%

NOTES:
[a] Projections are for all unincorporated areas of Monterey County.

SOURCE: AMBAG, 2014a.

infrastructure. A project that would induce growth that was inconsistent with those plans and policies could result in adverse environmental impacts not previously addressed in the CEQA review of those plans. Therefore, the general plans of jurisdictions that would be served by the MPWSP were reviewed.

This section briefly summarizes expected growth in service area jurisdictions contained in the jurisdictions' general plans and related planning documents. The summaries include the jurisdictions' housing need allocation identified through the Regional Housing Need Allocation (RHNA) process, since that represents potential residential growth planned for in the jurisdictions' general plan housing elements. To the extent the general plans describe the jurisdiction's approach to allocating its water supply (from the allocation administered by MPWMD), that information is noted.[24] The summaries include estimates of current and projected population and housing to the extent this information is provided.

According to the general plans, except for the former Fort Ord lands that several cities have annexed,[25] most jurisdictions in the service area are largely built out, and infill development and intensification of land uses is a means of accommodating additional growth. All of the jurisdictions cite limited water supply as a key factor limiting planned development within their boundaries. Most of the general plans were adopted before the start of the 2008 economic recession and therefore do not reflect or anticipate its effects. The general plan housing elements were adopted more recently, between 2010 and 2016.

City of Carmel-by-the-Sea

- The City of Carmel-by-the-Sea adopted its General Plan, in 2003 and adopted its 2015-2023 Housing Element in December 2015 (City of Carmel, 2003, 2015a).
- Citing the U.S. Census and California Department of Finance, the Housing Element states that the city's population decreased by 11.6 percent between 1990 and 2015, and that there was a net increase of 83 housing units between 2000 and 2015.
- Noting that AMBAG's Regional Housing Need Allocation for 2014 to 2023 identified a housing need in Carmel of 31 additional housing units, the Housing Element identifies the capacity to accommodate a total of 164 additional residential units.
- The Housing Element identifies the lack of water as the primary infrastructure constraint to the development of housing in Carmel, and states that the lack of an available water supply continues to limit growth in Carmel and throughout the Monterey Peninsula region. The City allocates its share of Monterey Peninsula water supply based on policies in the General Plan's Land Use and Community Character and Housing Elements, which affirm the City's commitment to housing. Residential uses have high priority and the largest water allocation. Existing subdivided lots zoned for housing are first in line for limited water resources, except when this would preclude development of essential public services, recreational uses or facilities, or visitor-serving uses consistent with the Coastal Act. The

[24] CalAm has not proposed how the jurisdictions should allocate MPWSP water to serve vacant lots of record, for example, nor does the MPWMD dictate to the jurisdictions how they must manage the water allocated to them. To the extent the general plans included information on how the jurisdiction currently allocates its water supply, such information may provide insight on how the jurisdiction would allocate its MPWSP supply.

[25] The former Fort Ord lands are served by another water provider, Marina Coast Water District, not CalAm; therefore development planned for these lands is not a focus of this analysis.

City limits new subdivisions of land until existing subdivided lots have a secure water supply, and endorses the concept of distributing the limited water resources across many properties to prevent any single project from consuming a disproportionate share of available water, and to maximize the number of units that can be built or approved.

- According to the Housing Element, the City is close to expending its water allocation from MPWMD: the City has about 3.251 af of available water, of which about 1.67 af are in the City's reserves. The City supports efforts by the MPWMD and other agencies to expand the water supply, and it has a representative on both the MPWMD Technical Advisory Committee and the Policy Advisory Committee. Housing Element Program 3-5.6 b, Water Conservation, recognizes the need to conserve and manage the City's water resources to accommodate regional housing need. The City's Municipal Code includes specific requirements for water conservation in existing and new developments. New development projects and existing structures needing a building permit for substantial proposed construction must meet the City's water conservation requirements. The Housing Element noted that several projects were under discussion as options for providing a new water supply for the Monterey Peninsula in response to SWRCB Orders 95-10 and 2009-0060, and that a more immediate supply may be available to the city from the amendment of the Eastwood Trust water rights license. This supply is described in Chapter 2, Section 2.4.6.2, Malpaso Water Company, LLC.

City of Del Rey Oaks

- The City of Del Rey Oaks General Plan was adopted in 1997 and has a planning period of approximately 20 years (City of Del Rey Oaks, 1997a). A draft update of the Housing Element was prepared in August 2006 but not adopted. The California Department of Housing and Community Development indicates that the City has not submitted a housing element for the 2015-2023 planning period to the department for certification (California Department of Housing and Community Development, 2016).

- The General Plan estimates that the City had a population of 1,692 in 1996, and provided about 321 jobs in the City's commercial and institutional sectors. The 2010 census indicates the city had a population of 1,624 in 2010; AMBAG's 2014 forecast estimates that the city had 414 jobs in 2010.

- Buildout under the General Plan of the part of the city served by CalAm – that is, the area within the city limits before the former Fort Ord land was annexed – would result in five additional residential units, and the development of 43,500 gross square feet of retail/commercial land uses and a 205-room hotel. General Plan policies call for expanded and new revenue-generating businesses on visitor-serving and commercially zoned parcels in the City, development of commercial uses at the City's Highway 68/218 entrance, intensification of existing development, and the annexation of former Fort Ord land to provide additional sites for economic development.

- Buildout under the General Plan of the part of the city served by another water provider (i.e., the former Fort Ord land that was annexed to the city and is served by water provided via the Fort Ord Reuse Authority [FORA] and the Marina Coast Water District [MCWD]), includes development of a conference center, hotel, golf course, retail shops, a fitness center, office park, and corporate office center.

- AMBAG's Regional Housing Need Allocation for the 2014-2025 period states that Del Rey Oaks needs 27 additional housing units.[26]
- The General Plan indicates that the City had about 5.8 af of water for new land uses remaining in its allocation from MPWMD as of June 1995, but according to MPWMD's November 2013 monthly allocation report, Del Rey Oaks has no water remaining in its allocation (MPMWD, 2013b.)
- The General Plan identifies water as a paramount concern for all of the jurisdictions on the Monterey Peninsula, and states that setbacks in providing additional supply, along with SWCRB's requirement that CalAm decrease withdrawals from the Carmel River, have magnified concern about the availability of water to support growth. General Plan policies call for the City to develop a water allocation program to prioritize water connections; work with the appropriate water management districts to encourage water conservation, retrofitting, education, reclamation, and reuse; consider water usage and conservation in all land use decisions; adopt and enforce a water conservation ordinance; and condition development plan approval on verification of available water service for projects.

City of Monterey

- The City of Monterey General Plan was adopted in 2005 and includes amendments through March 2016, including incorporation of the action program of the City's 2016 housing element. The City of Monterey Housing Element 2015-2023 was adopted March 16, 2016 (City of Monterey, 2016a, 2016b).
- The General Plan EIR (City of Monterey, 2004) projected that the city would have a population of about 34,660 residents at buildout, which is a 14 percent increase from the city's population in 2003 of about 30,350. As shown in **Table 6.3-7**, the 2010 census indicates that the City's population that year was 27,810; the California Department of Finance estimates that the City's population in 2015 was 28,576.
- The Housing Element states that the city is almost entirely built out and that future residential development is expected to occur through infill development – that is, through the recycling of existing sites and a limited amount of vacant land.
- AMBAG's Regional Housing Need Allocation for 2014-2023 states that Monterey needs 650 additional units. According to the City of Monterey 2015-2023 Housing Element, the City had issued permits or entitlements for 113 units since January 2015, so it needs 537 more. The Housing Element identifies a total capacity to develop 715 units based on an inventory of vacant and underutilized sites.
- The lack of available water is a primary obstacle to meeting General Plan goals; therefore, it is the goal of the City of Monterey and the General Plan to obtain a long-term, sustainable water supply. Among other things, the City is evaluating water supply options outside the present MPWMD framework (City of Monterey 2016a). The Housing Element states that all of the City's water allocation from the MPWMD has been allocated to projects. (City of Monterey, 2016b).

[26] This housing need allocation is substantially lower than the 150 units identified for Del Rey Oaks in the previous regional housing need allocation. AMBAG's RHNA for 2007-2014 did not explain the relatively high number of units allocated to Del Rey Oaks for that period.

Presidio of Monterey

- The Presidio of Monterey is an active installation of the U.S. Department of the Army. While it is located within the Monterey city limits, the City does not govern it. Water used at the Presidio is part of MPWMD's overall allocation to the City. In 2013, the Army completed an EIS for the Presidio's Real Property Master Plan (U.S. Army, 2013a, 2013b), which replaces the 1983 Presidio of Monterey Master Plan.

- The Master Plan proposes short-range and long-range project building renovations or upgrades to be implemented over a 20-year planning horizon. The short-range project consists of Phase I of a multi-phase barracks complex project at the Presidio. The long-range projects include access control point upgrades, classroom renovations, and demolition and construction of three barracks complex projects and several instructional buildings. The EIS evaluated the environmental consequences of the short-range project at a project level of detail and the long-range projects were evaluated at a programmatic level. As the long-range projects move forward, they may need additional NEPA review.

- The Master Plan alternative selected for implementation locates most improvements within the Presidio, with some support facilities at the Ord Military Community site in the former Fort Ord military base. The EIS and Record of Decision for the EIS (U.S. Army, 2013a, 2013b) conclude that, over the Master Plan's 20-year planning horizon, the long-range projects would increase water demand at the Presidio by an estimated 34 afy. Water for the short-range project would be provided through the Presidio's existing permit. To meet demand for the long-range projects, the EIS identifies a total of 36.9 afy from water currently used at outdated barracks that are scheduled to be demolished as part of the long-range projects, and from water credits that the Presidio has from the MPWMD. While the EIS concludes that both action alternatives of the overall Master Plan development project would have a less than significant impact with respect to water supply, it notes that future developments concerning the Cease and Desist Order and the March 2011 moratorium on water service connections could affect water supply in the Monterey Region; the EIS therefore identifies mitigation measures to reduce future water demand. Measures include conserving more water, implementing best management practices at all new facilities, and installing rainwater collection systems and purple piping (in anticipation of the availability of future recycled water supply) in all new buildings. The EIS states that the Army could also consider additional measures to ensure long term water supply at the Presidio and Ord Military Community, like contracting with current water providers for additional water along with the development of future regional water supply projects.

City of Pacific Grove

- The City of Pacific Grove adopted its General Plan in 1994, and adopted its Housing Element 2015-2023 in March, 2016 (City of Pacific Grove, 1994, 2016).

- The Housing Element states that the city has experienced a small decline in population over the past 25 years, from 16,177 in 1990 to 15,388 in 2015. The size and composition of the city's housing stock changed very little over that period, with a net increase of about 270 units. The City is almost fully built-out, with very little vacant land available for new housing development. By the 1980s, the City had recognized that further growth would occur only as infill development on vacant lots and through the intensification of existing development.[27] The 1994 General Plan estimates that a maximum of 5,431 additional residential units could be built within the city limits. Most units would be accommodated through the intensification of existing development, including almost 3,500 secondary units

[27] The General Plan did not contemplate the City annexing any unincorporated land except for a three-acre parcel (the Mission Linen parcel) on unincorporated county land entirely surrounded by city lands.

attached to existing single family homes. Vacant lots could accommodate a total of 105 new single-family or multi-family units. Notwithstanding this estimate, the General Plan notes that in the 10 years preceding its publication, only 42 secondary units had been built, and that this actual rate of development suggested that, apart from water supply constraints, new secondary units would be added slowly and would not number in the thousands. Past trends suggested that the other identified residential capacity also would be developed slowly. The General Plan projected that commercially-zoned vacant parcels could accommodate an estimated 270,000 square feet of commercial development, and that more than 1 million square feet of commercial development could theoretically be added by intensifying existing uses.

- AMBAG's Regional Housing Need Allocation for 2014-2023 states that Pacific Grove needs 115 additional housing units. The City's 2016 Housing Element identifies a realistic potential for 148 new units to be built on vacant parcels and a total potential for 210 new units to be built on vacant and underutilized sites and sites with second unit potential.

- The Housing Element identifies the lack of available water as the greatest constraint on the production of new housing in Pacific Grove, stating that lack of water supply has resulted in very little new housing construction for over a decade. It is the City's policy to continue working aggressively with MPWMD and other Monterey Peninsula cities to find long-term solutions to the water problem, to increase the water available for residential uses, and to provide for drought protection. The City is working on projects to reduce the use of potable water where feasible, such as at the city's golf course and cemetery, consistent with Housing Element Program 3.1. In 1994, when it prepared the General Plan, the City had less than 8 af of its water allocation remaining. In 2008, the City had 5 af left, and the City Council distributed most of that 5 af, which enabled construction of more than 50 residential and non-residential projects. Most of the City's allocation has been distributed and the City has established a new water wait list. As of July 2015, 12 single family dwellings were on the wait list. The Housing Element states that without a new water allocation, the City will be unable to permit any new housing construction, except for the few properties that have sufficient onsite water credits for second units.

- The 2016 Housing Element notes that although additional water supply needed to meet demand associated with buildout of the 1994 General Plan was previously estimated to be 1,264 afy, this estimate was based in part on the maximum potential for second units and that long-term demand is now expected to be less. In testimony provided to the CPUC on the MPWSP, a City representative revised the future demand estimate the City had provided MPWMD in 2006, from 1,264 afy to 500 afy (as shown in **Table 2-5** of Chapter 2).

Sand City

- The Sand City General Plan: 2002-2017 was adopted in 2002 and the City of Sand City Housing Element Update 2009-2014 was adopted in 2010 (City of Sand City, 2002, 2010).

- Describing the city's historic growth rates, the General Plan states that the city's population reached 600 in the 1960s, but then declined as industrial and commercial land uses displaced housing. Between 1970 and 2000, the city's population fluctuated, ranging from a low of 182 in 1980 to a high of 261 in 2000. As shown in Table 6.3-5, the city continued to grow over the past decade, to a population of 334 in 2010.) Due to the city's commercial and industrial land uses, its daytime population of employees and shoppers increased to almost 10,000 (LAFCO of Monterey County, 2011).

- The 2002 General Plan projects a buildout population of 1,295, and points out that this city-generated estimate is lower than the population of approximately 1,800 that had been forecasted in AMBAG 's then-current 1997 forecast. AMBAG, in turn, had based its forecast in part on the city's 1984 General Plan. The 2010 Housing Element cites AMBAG's 2008 forecast projecting that the city's population would grow dramatically between 2010 and 2015 (from 447 to 1,498) and would not change further between 2015 and 2035. The Housing Element confirms that population growth beyond what AMBAG had projected for 2015 was unlikely due to the city's small size. As shown in Table 6.3-6, AMBAG's most recent forecast also projects substantial growth for the city, especially between 2010 and 2020, and now projects that the city will reach the earlier population estimate of about 1,500 residents between 2030 and 2035. The 2002 General Plan focuses on achieving a vision for the community that includes economic diversification; active redevelopment; enhanced community appearance and image; organized and well-planned growth; elimination of land use conflicts; and cohesive residential neighborhoods.

- AMBAG's Regional Housing Need Allocation for 2007-2014 identified a housing need in Sand City of 120 additional units.[28] According to the City's 2010 Housing Element, 31 units had been built between January 2007 and February 2009, and an inventory of vacant and underutilized sites identified the capacity to accommodate a total of 277 additional units on those sites. The City expects that 60 additional units will be produced by the end of 2014 (City of Sand City, 2010).

- The General Plan states that the critical shortage of water on the Monterey Peninsula limits the availability of water for new development, and that this condition is expected to continue until either a long-term source of water is developed for the region or until Sand City develops a desalination facility as its own water supply. As of 2001, Sand City had allocated essentially all of its available water to specific development parcels. Since the General Plan was prepared, Sand City completed construction of a 300 afy desalination plant, which is operated by CalAm. While water from the desalination plant is delivered to the CalAm system, Sand City is entitled to 206 afy to support its future development: MPWMD Ordinance 132, in consideration for the delivery of 300 afy of potable water from this plant to the CalAm system, establishes a water entitlement of 206 afy from the CalAm system for Sand City, separate from the city's current water allocation; the ordinance indicates that the remaining 94 afy is permanently added to the broader CalAm's system.

Seaside

- Seaside adopted its General Plan in 2004, and adopted its General Plan Housing Element in 2011 (City of Seaside, 2004a, 2011a).

- According to the General Plan, the city will have a total of about 12,300 dwelling units, 19,800 square feet of non-residential development, and a population of about 43,000 at buildout of the General Plan, assuming the average levels of development allowed under the plan. While the General Plan's estimate does not indicate how much of this overall development is existing development and how much represents expected future growth, a comparison of the buildout estimates for housing and population with 2010 census data for Seaside indicates that under General Plan buildout the city expects to add almost 1,500 new housing units and 10,000 new residents. The General Plan identifies the need for more employment opportunities and tax-generating land uses to improve the overall quality of life in the City, and includes policies to encourage regional commercial and visitor-serving

[28] AMBAG's RHNA for the 2014-2023 period (AMBAG, 2014b), which the next version of jurisdictions' Housing Elements will cover, identified a housing need in Sand City of 55 units.

commercial development, community-serving retail development, fuller use of underutilized properties, development that helps increase the City's ratio of jobs to housing, and provision of a variety of housing types that complement employment opportunities in the community.

- AMBAG's Regional Housing Need Allocation for 2007-2014 states that Seaside needs 589 additional units.[29] The City's 2011 Housing Element says that the City can accommodate 1,113 additional units on vacant and underutilized residential and mixed use properties.

- The 2011 Housing Element states that lack of adequate water supply is one of the three primary environmental constraints to the development of housing in Seaside. The other constraints are environmental hazards on former Fort Ord lands and significant biological resources in the eastern portion of the city. General Plan policies call for cooperating with regional and local water providers to ensure that adequate water supply is available to meet the needs of existing development and future growth; encouraging the production and use of recycled water; protecting and enhancing local and regional groundwater and surface water resources; eliminating long-term groundwater overdraft as soon as feasible; and reviewing development proposals to ensure that adequate water supply, treatment, and distribution capacity is available to meet the needs of the proposed development.

- For the part of the city served by CalAm, which is the area that had been within the City boundaries before the City annexed the former Fort Ord lands to the north and east,[30] the portion of MPWMD's allocation that the City's had allotted for residential use has been exhausted and the City has established a waiting list pending the allocation of future supply. Part of the allocation the City had reserved for economic development in mixed use projects is still available. In a comment on the 2015 MPWSP DEIR, the City stated that a water supply assessment prepared in 2008 for the West Broadway Urban Village Specific Plan determined that water credits for the commercial areas and residential units that were being redeveloped would supply some but not all of the water needed for the specific plan, and that a net increase of 80 afy was estimated above exiting water use to accommodate full buildout of the specific plan (City of Seaside, 2015). This information refines the estimated demand for general plan buildout that was provided to MPWMD in 2006 (shown as "Future Supply Needs (2006 Estimate)" in Table 6.3-7). Therefore, Seaside's estimate of future water supply needs, shown in Table 6.3-7 and in Table 2-6 in Chapter 2, increased by 80 afy. Water for former Fort Ord lands annexed to the city is provided via the FORA and MCWD, not CalAm.[31]

Monterey County

The facts and figures presented in this section pertain to the County as a whole (or the unincorporated County as a whole, as noted), although CalAm does not serve the whole County.

[29] AMBAG's RHNA for the 2014-2023 period (AMBAG, 2014b), which the next version of jurisdictions' Housing Elements will cover, identified a housing need in Seaside of 393units.

[30] The part of the city that had been within the city limits prior to the annexation of former Fort Ord lands, which is also the part of the city within the jurisdiction of the MPWMD, is variously referred to in the general plan as the southwestern portion of the city, southwest Seaside, the central core of the city, and Seaside proper. Part of this central core of the city is also served by the City-operated Seaside Municipal System, which operates three groundwater wells that serve the Del Monte Heights neighborhood.

[31] Seaside was allocated 748 af of the FORA's total supply to serve the Fort Ord annexation lands in North Seaside. The City does not expect this allocation to increase in the near future, and the General Plan identifies the use of recycled water for golf courses and other non-potable uses in North Seaside as the best option for expanding the availability of the North Seaside allocation for economic development and residential uses.

- The *2010 Monterey County General Plan* (Monterey County, 2010a) was adopted in October 2010 and the *County of Monterey 2015-2023 Housing Element* (Monterey County, 2016) was adopted in January 2016. The General Plan has a 2030 planning horizon, while the EIR prepared for the General Plan (Monterey County, 2010b, 2010c) considers conditions under the plan in 2030 and under plan buildout, estimated to occur in 2092.

- The County's population increased from 247,450 in 1970 to an estimated population of 425,756 in 2014. The decade with the fastest growth was 1980-1990, during which the population increased by 22 percent. Data from the 2010 census indicate that the County's population increased by 3 percent between 2000 and 2010. The California Department of Finance's estimate of county population in 2014 (presented in the Housing Element) represents a 2.5 percent increase from 2010. The proportion of the county's population living in unincorporated areas has gradually decreased, from 29 percent in 1980 to 24 percent in 2010.

- Growth assumptions for the General Plan's 2030 planning horizon are based on AMBAG's 2004 population growth forecast, which projected that the county would grow from an estimated population of 464,847 in 2010 to 602,731 in 2030, a 30 percent increase. AMBAG projected that the population in unincorporated county areas would grow from 105,485 in 2010[32] to 135,375 in 2030, a 28 percent increase. The General Plan EIR notes that, in allocating the projected growth within the County, AMBAG considered growth trends and the availability of water among other factors. The Monterey Peninsula was projected to accommodate much lower levels of growth than the Salinas Valley due to the peninsula's greater water constraints.

- AMBAG's Regional Housing Need Allocation for 2014-2023 states that the unincorporated Monterey County needs 1,551 additional housing units. The 2016 Housing Element indicates that, since January 1, 2014, 185 units had been built, and another 2,955 units had been approved. Because those units do not completely meet the RHNA targets for affordable units, however, the County still needs 208 units of very low, low, and moderate income housing. The County determined that the remaining allocation of 208 very low, low, and moderate income units could fit within areas covered by adopted community and area plans including the Castroville Community Plan, the North County Land Use Plan, the Central Salinas Area Plan, (Chualar, King City, and San Lucas Areas) and the South County Area Plan (Bradley and San Ardo areas).

- According to the General Plan EIR, implementing the plan would increase water demand over the planning period. When the EIR was published, although CalAm's Coastal Water Project was forecasted to meet the then-current demand on the Monterey Peninsula, the General Plan EIR anticipated that new or expanded water supply facilities and new or expanded water entitlements would be needed to meet future demand on the peninsula. The General Plan prohibits new development that requires a discretionary permit, and that will use water, unless there is proof that a long-term, sustainable water supply is available to serve the development. The General Plan also requires that tentative subdivision maps be denied until the applicant provides evidence of a long-term sustainable water supply for all of the proposed lots. To ensure the accuracy and consistency of water supply evaluations, the Monterey County Health Department must coordinate with the MCWRA to develop guidelines and procedures for conducting water supply assessments and determining water availability. Other policies call for the County to work with all of the agencies responsible for managing existing and new water resources. As a mitigation measure, the General Plan

[32] 2010 census data indicate that the County's population in 2010 was 415,057, somewhat lower than the 2004 forecast anticipated; according to the census the population of the unincorporated county in 2010 was 100,213.

EIR added a General Policy stating that the County will participate in regional coalitions to identify and support a variety of new water supply projects, water management programs, and multiple agency agreements that will provide additional domestic water supplies for the Monterey Peninsula and the Seaside basin. According to this new policy, the County's general objective is to complete the cooperative planning of these water supply alternatives within five years of adoption of the General Plan and to implement the selected alternatives within five years of that. The County recognizes, though, that timing will depend on the dynamics of the regional group. Other General Plan policies encourage the use of gray water and cisterns for commercial and multi-family residential landscaping; the use of recycled water as a potable water offset; and the establishment of ordinances that identify conservation measures to reduce demand for agricultural water and potable water.

- The Greater Monterey Peninsula Area Plan encourages development projects to get their water from public utilities or mutual water companies. If this is not possible, the County should consider the cumulative effects of the development's water use on wildlife, fish, and plant communities, and the supply available to existing users.

- The Carmel Valley Master Plan requires that pumping from the Carmel River aquifer be managed consistent with the Carmel River Management Program and that all beneficial uses of the total water resources of the Carmel River and its tributaries be considered in planning decisions. Other policies support water projects designed to address future growth in the Carmel Valley and encourage the establishment of regulations limiting development in Carmel Valley to vacant lots of record and already-approved projects, unless additional water supplies are identified.

Monterey Peninsula Airport District

- The Monterey Peninsula Airport District is developing a new master plan, a process that is expected to take two years. A draft plan has been prepared, but CEQA documentation has not been completed and the new plan has not been adopted. Until a new master plan is adopted, the Airport District's 1992 Monterey Peninsula Airport Master Plan Update Final Report (Master Plan) (Monterey Peninsula Airport District, 1992) is the applicable land use planning document for airport development activities (Johnston, 2013).

- The goals of the 1992 Master Plan are to address airport requirements over a 20-year planning period. 2010 is the horizon year for specific aspects of the plan including projected airport activity and facility requirements. Based on anticipated changes in the fleet mix and projected growth in the number of passengers, annual operations (take-offs and landings), and general aviation aircraft based at the airport, the Master Plan was intended to meet the identified need for additional terminal areas, general aviation hangars, and aviation fuel storage, an expanded fire station, a larger maintenance building, and vehicle access improvements. The Master Plan includes three concepts each for the terminal area, the west end of the airport, and the northside of the airport, and recommends adoption of one of them, called "Concept C", for each of the three components. Each of the concepts would increase the area for the terminal ramp, the size of the terminal building, the number of parking places, the number of hangars, and the amount of space available for fixed-base operators, other tenants, and airport support facilities.

- Master Plan Appendix B, Utilities Inventory and Pavement Plan, reviews water service to the airport. The review states that past cases before the CPUC that concerned the adequacy of the water supply system for the Monterey Peninsula may restrict CalAm from serving new territory until additional supplies are assured, or until additional impounding reservoirs are built. The discussion concludes, however, that the airport lies completely within the

water company's existing service area, that service to the airport property is long-standing, that airport water use is not excessive, and that curtailment of water for use by the Airport is not expected.

- In a discussion of past studies related to the airport, the Master Plan states that the environmental document for the 1983 Airport and Runway Development Program concluded that development of the northside industrial area would require water service that was not currently allocated to the Airport District, and that the District would need to work with MPWMD to resolve the issue to the extent possible. The Master Plan also discusses a 1987 EIR for the Comprehensive Land Use Plan for the Monterey Peninsula Airport which identified water resources as an area of controversy (Monterey Peninsula Airport District, 1992).

Comparison of Proposed Water Supply Capacity with MPWMD Estimate of Future Supply Needs

The project supply components that would provide water for future development (e.g., water for lots of record and Pebble Beach water entitlements) do not directly compare to the levels of growth planned for and described in the jurisdictions' general plans. To relate the portion of MPWSP supply that would support future development to the growth anticipated in jurisdictions' adopted general plans, the MPWSP supply is compared with the estimate of future water supply needs that the MPWMD prepared in 2006 (MPWMD, 2006).[33]

The 2006 MPWMD estimate was a comprehensive assessment of long term water needs of customers in CalAm's Monterey District main distribution system based on information obtained from the service area jurisdictions. It included demand associated with expected remodels within the jurisdictions, and with anticipated development of single-family and multi-family residences, secondary units, and non-residential development expected to occur under buildout of each jurisdiction's general plan. The MPWMD translated the growth estimate provided by the jurisdictions into water demand using water use factors for different land use categories. The estimate also included repayment of any water credits owed to property owners for implementing water-saving retrofits, and a 20 percent contingency to address unforeseen water requirements. Based on this assessment, the estimated future water supply needs to support growth anticipated in the general plans of the jurisdictions in the CalAm service area totaled 4,545 afy.[34] The 2009 EIR prepared for CalAm's proposed Coastal Water Project evaluated in detail whether the growth assumptions underlying MPWMD's 2006 demand estimate were consistent with growth anticipated in the jurisdictions' general plans, and confirmed that, overall, the MPWMD's

[33] As noted in Section 2.5.3.4 of Chapter 2, Water Demand, Supplies, and Water Rights, the MPWMD plans to collaborate with CalAm and the service area jurisdictions to evaluate the added water supply capacity needed to meet general plan buildout projections. Given that this new MPWMD process has not yet started and that most of the general plans considered in the 2006 evaluation are still in effect, this EIR uses the 2006 MPWMD analysis, adjusted as noted below, as the basis for comparison.

[34] Because the jurisdictions' general plans were prepared in different years and covered different planning periods, MPWMD did not characterize its estimate of future demand as accommodating growth over a given period of time or to a given year. The estimate was intended, however, to accommodate growth reasonably expected by each jurisdiction consistent with its adopted general plan.

estimate of future demand was consistent with growth under the general plans.[35] That analysis is included in **Appendix J1** for reference.

Since the 2006 estimate was prepared, the future water needs of four jurisdictions have been revised, reducing the total estimate of future water needs from 4,545 to 3,526 afy. The new Monterey County General Plan, adopted in 2010, is the basis for one of the revisions; the City of Pacific Grove provided another revision, reducing its original 2006 estimate of future demand in testimony that the City provided regarding the MPWSP; the City of Seaside provided a revision that increased its estimate of future water demand; and the water entitlement that Sand City has from construction of its 300-afy desalination plant would cover roughly half of Sand City's 2006 estimated future demand. Refer to the discussion of general plan buildout in Chapter 2, Water Demand, Supplies, and Water Rights, Section 2.5.3.4, for more information on the revised estimates.

California Water Code Section 10608 requires water suppliers to reduce per capita water consumption 20 percent by 2020, relative to baseline demand calculated under Department of Water Resources guidelines. According to CalAm's 2010 UWMP, current per capita consumption in CalAm's Monterey District is already below its 20 percent reduction target (WSC, 2012). Nevertheless, conservatively assuming that the Water Code 20 percent reduction target could apply to the water use assumptions MPWMD used in its 2006 estimate, the revised estimate of future water needs discussed above, reduced by an additional 20 percent, would be 2,820 afy. **Table 6.3-8** shows these estimates of future water supply needs.

As discussed in Section 6.3.5.1 and shown in Table 6.3-4, during the 25-year Seaside Groundwater Basin replenishment period, the portion of the water supply provided by the MPWSP and other supply sources that would be available for future development – including the future development assumed for the MPWSP shown in Table 6.3-3 – would range from 2,154 afy to 535 afy after meeting estimated SVGB return water obligations of 6 percent to 12 percent, respectively. Assuming a 6 percent SVGB return water obligation, the 2,154 afy of supply that would be available to meet future needs would represent 61 percent of 3,526 afy, the 2006 estimate of future water supply needs as revised based on updated information. This 2,154 afy of available supply would represent 76 percent of 2,820 afy, the 2006 estimate of future demand as updated and reduced by an additional 20 percent. Thus, assuming a 6 percent SVGB return water obligation, available supply would meet more than half the estimated future water supply needs of the service area. Assuming a 12 percent SVGB return water obligation, during the Seaside Groundwater Basin Replenishment period, the 535 afy of supply that would be available to meet future needs would represent 15 percent of 3,526 afy and 19 percent of 2,820 afy, the two updates of MPWMD's 2006 estimate of future water supply needs discussed above. Thus, based on the updates of future demands and these return water assumptions, the portion of the water supply

[35] The analysis determined that with a few exceptions, the estimates of residential growth were consistent with estimates contained in the general plans or general plan housing elements. Estimates of non-residential development were more difficult to compare because of substantial differences in the levels of detail in information submitted by jurisdictions to the MPWMD compared with information included in the general plans; to the extent the development potential could be compared, the estimates were determined to be consistent.

TABLE 6.3-8
FUTURE WATER DEMAND AND AVAILABLE SUPPLIES: TWO RETURN WATER SCENARIOS
(acre-feet per year)

Future Demands and Supplies	Jurisdiction Total
Future Supply Needs (2006 Estimate)	4,545
Future Supply Needs (Revised)[a]	3,526
Future Supply Needs (Revised and Reduced by 20%)[b]	2,820
MPWSP Supply for Future Development[c] Assuming 6% SVGB Return	2,154
MPWSP Supply for Future Development[c] Assuming 12% SVGB Return	535
MPWSP Supply for Future Development[c] as % of Future Supply Needs (Revised)[d]	15 to 61%
MPWSP Supply for Future Development[c] as % of Future Supply Needs (Revised and Reduced)[d]	19 to 76%

NOTES: SVGB = Salinas Valley Groundwater Basin

[a] Future supply needs revised based on changes in future demand estimates in four service area jurisdictions (discussed in more detail in Section 2.5.3.4 of Chapter 2).

[b] Estimated future supply needs reduced by an additional 20 percent based on the conservative assumption that water reduction requirements of Water Code Section 10608 may apply. CalAm's Monterey District 2010 UWMP indicates that the service area has already met the 20 percent reduction target.

[c] Supply available for future development consists of MPWSP supply and CalAm's other supplies, shown in Table 2-4 of Chapter 2, minus existing demand and minus estimated SVGB return water obligations shown in Table 6.3-4.

[d] Lower percentage of supply available to meet future development needs assumes 12 percent SVGB return water obligation; higher percentage assumes 6 percent SVGB return water obligation

SOURCES: Table 2-4, Table 2-5, Table 6.3-4.

provided by the MPWSP that would be available to support future development would supply 15 to 76 percent of the water demand associated with planned growth, depending primarily on the return water obligation. Table 6.3-8 summarizes these estimates.

The 1,755 afy of MPWSP supply that is proposed for anticipated development, shown in Table 6.3-3, is about half of 3,526 afy, the 2006 estimate of future demand as revised based on updated information and about 60 percent of 2,820 afy, the 2006 estimate of future demand as updated and reduced by an additional 20 percent.

As discussed above in this section, MPWMD's 2006 estimate of future water supply needs was generally consistent with the level of growth planned for in the adopted general plans of service area jurisdictions. The MPWSP would provide less water for growth than the 2006 estimate of future water supply needs as revised based on updated information (3,526 afy, or 2,820 afy if further reduced by 20 percent). The smaller MPWSP supply that would be available to support future development would similarly be consistent with the service area's planned growth.

6.3.5.4 Delivery of SVGB Return Water To Castroville

Delivery of SVGB Return Water to Castroville Community Services District

The community of Castroville, located north of the desalination plant and outside of CalAm's service area, would receive Salinas Valley Groundwater Basin (SVGB) return water (see **Section 2.5.1** in **Chapter 2, Water Demand, Supplies, and Water Rights, and Section 3.2.3.9** in **Chapter 3, Description of the Proposed Project**. The water would flow to the Castroville

Community Services District (CCSD) for domestic use in lieu of groundwater pumping. The SVGB return water supply would only be used to replace, or offset, CCSD's current use of groundwater (approximately 800 afy), under the terms of the Return Water Settlement Agreement (CalAm et al., 2016b). Thus, the water provided by the desalination plant would not remove water supply constraints as an obstacle to additional development in the Castroville area and therefore would not induce growth. The pipeline that would be built to convey the desalinated product water to the CCSD system would be sized to accommodate the 800 afy volume of return water. Although increased pumping pressure can increase a pipeline's capacity, as discussed above in Section 6.3.5.2, the use of the pipeline to the CCSD would be limited to providing return water to offset CCSD's current groundwater use. Therefore, pipeline capacity is not anticipated to expand in the future, and building this pipeline would not remove an obstacle to growth in the Castroville area.

Delivery of SVGB Return Water to the Castroville Seawater Intrusion Project

Under the proposed project, the MPWSP would deliver the first 800 afy of SVGB return water to the CCSD and deliver the remaining return water to the Castroville Seawater Intrusion Project (CSIP). The CSIP provides recycled water to farmers in the Castroville area to irrigate crops, thereby enabling reduced pumping of seawater-tainted groundwater. SVGB return water in excess of that needed for the CCSD would supplement the recycled water currently available to CSIP from the Monterey Regional Water Pollution Control Agency. Return water provided to the CSIP would be used to offset groundwater use for agricultural production; it would not contribute to domestic water supply and therefore would not be growth-inducing.

6.3.6 Secondary Effects of Growth

Impact 6.3-1: Secondary effects of planned growth.

The MPWSP would support a degree of planned growth in the jurisdictions served by the proposed project. In general, development planned and approved through the general plan process in the CalAm service area would have environmental impacts. The environmental consequences of this planned growth have been largely addressed in local plans and the associated CEQA review as well as in other, project-specific documentation. Some of the identified indirect effects of growth are significant and unavoidable; others are significant but can be mitigated.

Although most of the general plan EIRs reviewed for this EIR/EIS were prepared prior to the passage of the California Global Warming Solutions Act of 2006, and do not include assessments of impacts of greenhouse gas emissions, it is expected that planned growth in the area could contribute to significant and unavoidable increases in greenhouse gas emissions (e.g., from increased fossil fuel use for transportation and construction, increased industrial and commercial activities, residential energy use, operation of power plants, and oil refining).

The following environmental documents for city and county general plans and general plan elements were reviewed in order to identify the significant impacts associated with planned growth in the area:

- City of Carmel-by-the-Sea, 2015b. *Addendum to Initial Study/Negative Declaration, City of Carmel-by-the-Sea 2015-2023 Housing Element and Related Zoning Amendments,* November 18, 2015. (Addendum to *City of Carmel-by-the-Sea 2007-2014 Housing Element Public Review Draft Initial Study / Mitigated Negative Declaration*, April 2010.)
- City of Del Rey Oaks, 1997b. *Final Environmental Impact Report for the General Plan Update Project*, May 16, 1997.
- City of Monterey, 2004. *City of Monterey General Plan Update Draft Environmental Impact Report* and *Final Environmental Impact Report, State Clearinghouse No. 2003081011*, October 11, 2004.
- City of Sand City, 2001. *Expanded Environmental Impact Study and Proposed Negative Declaration, General Plan Update 2001-2016*, October 12, 2001.
- City of Sand City, 2009. *Sand City 2009 Housing Element Initial Study and Negative Declaration,* December 16, 2009.
- City of Seaside, 2004b. *Final Seaside General Plan EIR*, January 2004.
- City of Seaside, 2010. *Public Review Draft Initial Study/Proposed Negative Declaration for the of Seaside Local Coastal Program,* August 2010.
- City of Seaside, 2011b. *Public Review Draft Initial Study/Proposed Negative Declaration: City of Seaside Housing Element Update 2009-2014,* September 2010, adopted by the Seaside City Council January 27, 2011.
- Monterey County, 2010b, 2010c. *Monterey County General Plan Final Environmental Impact Report, SCH No. 2007121001*, March 2010, and *Revised Supplemental Materials to the Final EIR (October 15, 2010),* October 2010.
- Monterey County Resource Management Agency, 2010. *Initial Study: Housing Element 2009-2014,* April 19, 2010.
- U.S. Department of the Army, 2013a. *Final Environmental Impact Statement, Real Property Master Plan, Presidio of Monterey, California*, February 2013.

Copies of these documents are available for review at the respective city and county planning departments.

Table 6.3-9 summarizes the environmental effects associated with planned growth in the project area, as identified in the general plan EIRs for the jurisdictions in the CalAm service area. Because the table reflects the determinations of multiple jurisdictions, some impacts are listed as both significant and unavoidable and significant but mitigable, reflecting differences among the jurisdictions in the service area. In addition, one EIR evaluates general plan impacts over two time periods: the planning horizon for the plan and buildout. As a result, some impacts were identified as significant and unavoidable, and significant but mitigable, depending on the timeframe. Under CEQA Guidelines Section 15130, the EIRs prepared for the jurisdictions' general plans evaluate the potential for development under the respective plans to contribute to cumulative impacts on the environment; significant cumulative impacts identified in the general plan EIRs are also shown in the table. **Appendix J2**, **Table J2-1** presents a more detailed summary of the growth impacts and mitigation measures identified in the EIRs for general plans

in the CalAm service area. These environmental impacts are the indirect effects of growth that would be supported in part by the proposed project.

TABLE 6.3-9
SIGNIFICANT IMPACTS ASSOCIATED WITH PLANNED GROWTH IN THE PROJECT AREA

Significant and Unavoidable Impacts

- Degradation of visual character or quality of the area and surroundings
- Substantial new sources of light and glare
- Cumulative impacts on aesthetics, light and glare
- Conversion of farmland to non-agricultural use and cumulative loss of farmland
- Construction-related air quality impacts
- Net change in ozone precursor and particulate matter emissions
- Cumulative air quality impacts
- Effects on special status species
- Effects on riparian habitat and other sensitive natural communities
- Cumulative impacts on biological resources
- Potential effects on archaeological, paleontological, or historic resources
- Cumulative exposure to wildland fire hazard
- Increased demand for water supply and/ or water storage, treatment, and conveyance facilities and associated secondary effects[a]
- Substantial depletion of groundwater supply[b]
- Increased demand on groundwater in areas experiencing or susceptible to saltwater intrusion[b]
- Cumulative impacts on groundwater quality[c]
- Cumulative indirect impacts of water supply projects[a]
- Increased flood hazard and impacts from flooding
- Increases in traffic noise
- Induced population growth
- Effects on adjacent land uses of operation of new or expanded schools
- Local and regional traffic impacts
- Impacts of cumulative development on traffic
- Demand for water resources that exceed available water supply[d]
- Cumulative impacts on water supply[d]
- Contribution to cumulative greenhouse gas emissions and global climate change

Significant but Mitigable Impacts

- Adverse effects on scenic vistas
- Adverse effects on scenic or historic resources within a state scenic highway
- Degradation of visual character or quality of the area and surroundings
- Construction-related air quality impacts
- Transportation-related air quality impacts
- Exposure to increased diesel exhaust
- Emission of objectionable odors
- Effects on special-status species
- Effects on riparian habitat and other sensitive natural communities
- Effects on federally protected wetlands
- Conflicts with local policies or ordinances protecting biological resources
- Effects on a variety of biological resources
- Interference with migratory patterns or wildlife corridors
- Potential effects on migratory birds and raptors
- Introduction of exotic species
- Potential effects on archaeological, paleontological, or historic resources

TABLE 6.3-9 (Continued)
SIGNIFICANT IMPACTS ASSOCIATED WITH PLANNED GROWTH IN THE PROJECT AREA

Significant but Mitigable Impacts (cont.)

- Exposure of new development to potential seismic or geologic hazards
- Creation of or exposure of new development to hazards related to soil erosion or expansive soils
- Exposure of new development to tsunami or seiche hazards
- Potential exposure of people and development, including schools, to hazardous materials releases
- Increased risk of hazardous materials releases
- Safety hazards from development near airports
- Increased flood hazard and impacts from flooding
- Exposure of structures to increased risk of wildland fires
- Cumulative wildfire hazard exposure
- Impacts on water quality, including groundwater quality[c]
- Impacts on hydrology and surface water
- Substantial depletion of groundwater supplies[b]
- Increased demand on groundwater in areas experiencing or susceptible to saltwater intrusion[b]
- Inconsistency with zoning code
- Conflicts between incompatible land uses
- Impacts on open space areas
- Exposure of existing and new sensitive land uses to increased noise
- Increases in construction, traffic, stationary, and/or airport noise
- Potential conflicts between new development and existing or expanded recreational uses
- Effects of park construction and degradation of parks or recreational facilities
- Demand for new or expanded parks and recreational facilities
- Increased demand for law enforcement and/or fire protection services
- Effects of school construction to accommodate new development
- Local and regional traffic impacts
- Decreased parking capacity
- Increased demand for transportation alternatives
- Demand for water resources that exceed available water supply[d]
- Require construction of new water supply and treatment facilities[e]
- Increased demand for additional sewer or stormwater drainage infrastructure
- Increased demand for and Impacts of new or expanded public utilities and facilities
- Exposure of property and persons to otherwise avoidable physical harm due to climate change

NOTES:

[a] While the County General Plan EIR impact analysis identifies the impacts of providing additional water supply as *secondary* or indirect effects, Chapter 4 of this EIR/EIS evaluates the *direct* effects of constructing and operating the MPWSP in addition to the indirect effects of growth described in this chapter.

[b] The MPWSP is intended to provide sufficient supply for CalAm to reduce pumping from the Seaside Groundwater Basin to no more than CalAm's adjudicated right, and to "repay," over a 25-year period, the amount of water CalAm has pumped in excess of its adjudicated right since the adjudication, while meeting the water demands shown in Table 6.3-1.

[c] The effects of the proposed project on surface water and groundwater quality, including cumulative effects, are evaluated in Sections 4.3 and 4.4, respectively, of Chapter 4 of this EIR/EIS. As stated above in Note b, the proposed project would help eliminate the need for over-pumping of the Seaside Groundwater Basin in order to meet current demand, thereby helping to mitigate impacts on groundwater quality caused by seawater intrusion.

[d] The MPWSP would provide sufficient supply to enable CalAm to comply with the SWRCB Order 95-10 and Cease and Desist Order and the Seaside Groundwater Basin Adjudication while meeting current water demands and a degree of additional demands, as shown in Table 6.3-1 and discussed in this chapter. The MPWSP is not sized, however, to meet anticipated water demand under full buildout of the service area jurisdictions' general plans.

[e] This impact was identified in the Mitigated Negative Declaration prepared for the Sand City General Plan; since then, after completing required CEQA review Sand City constructed a desalination plant that is providing the City and the CalAm service area new source of water supply. The impacts of constructing the MPWSP are evaluated in this EIR.

SOURCES: City of Del Rey Oaks, 1997b; City of Monterey, 2004; City of Sand City, 2001; City of Seaside, 2004b; Monterey County, 2010b, 2010c; U.S. Army, 2013a.

6.3.6.1 MPWSP Role in Addressing the Indirect Effects of Growth

Three jurisdictions in the area served by the proposed project – the City of Monterey, City of Seaside, and Monterey County – identified demand for, or impacts related to, water supply, including groundwater supply, as significant and unavoidable impacts of planned growth; other service area jurisdictions identify similar significant but mitigable impacts. In general, these impacts identify insufficient supply to meet demands associated with development that is planned for in the jurisdictions' general plans. Some EIRs address impacts associated with supply limitations, such as the potential risk of over-pumping groundwater resources and seawater intrusion, and many acknowledge the limitations on current supply sources imposed by SWRCB Order 95-10. With respect to the impacts of potential over-pumping of the Seaside Groundwater Basin and the associated threat of seawater intrusion, the MPWSP is sized to enable CalAm to "repay" to the groundwater basin, over a 25-year period, the amount of water it has pumped in excess of its adjudicated right since the groundwater basin was adjudicated. (Refer to Section 2.2.4 in Chapter 2, Water Demand, Supply, and Water Rights, for more information.) The supply to be provided by the MPWSP would thus help address the potential impacts of over-pumping the Seaside Groundwater Basin. The MPWSP would provide some water beyond that needed to meet existing demand (discussed above in Section 6.3.5.1) but not the full amount identified in MPWMD's 2006 assessment of future supply need, as adjusted by more recent information (discussed above in Section 6.3.5.3). The MPWSP would thus help address impacts related to a supply that does not meet current and projected future water supply needs within the service area jurisdictions. The MPWSP is not expected to fully meet projected future demands, however. With respect to the physical effects of providing additional water supply – that is, building and operating the proposed infrastructure – this EIR/EIS evaluates the potential impacts of the MPWSP and identifies mitigation measures to reduce those impacts to the extent feasible.

6.3.6.2 Authority to Mitigate Effects of Growth

CalAm, the CPUC, and MBNMS do not have the authority to make land use decisions or to approve growth. As described in Section 6.3.2, the authority to regulate growth, and by extension to mitigate the environmental effects of growth, resides primarily with land use planning agencies. **Table 6.3-10** identifies the agencies with the authority to implement measures to avoid or mitigate the environmental impacts of growth in the area served by the proposed project;[36] the agencies generally fall into two categories, as discussed below.

- Agencies with primary authority over land use planning and CEQA lead agency status for approval of land use plans, permits and other approvals.
- Agencies responsible for stewardship of environmental resources.

[36] While MBNMS does not have authority to make land use decisions, NOAA does have authority to mitigate impacts on biological resources through Section 7 and Section 10 consultation requirements, as shown in Table 6.3-9.

TABLE 6.3-10
AGENCIES WITH THE AUTHORITY TO IMPLEMENT OR REQUIRE IMPLEMENTATION OF MEASURES TO AVOID OR MITIGATE GROWTH-RELATED IMPACTS

Agency	Authority
Planning Agencies	
Cities within the Area Served by Project	***Planning and Enforcement.*** Responsible for planning, land use, and environmental protection of the area within the city's jurisdictional boundaries and adoption of the general plan governing this area. Responsible for enforcing city environmental policies through zoning and building codes and ordinances.
	CEQA. Cities typically act as the lead agency for CEQA compliance for development projects in incorporated areas; as such they bear responsibility for adopting measures to mitigate the project's significant direct and indirect impacts on the environment and programs to ensure that mitigation measures are successfully implemented.
Monterey County	***Planning and Enforcement.*** Responsible for planning, land use, and environmental protection of unincorporated areas and adoption of the general plan governing unincorporated county lands. Responsible for enforcing County environmental policies through zoning and building codes and ordinances.
	CEQA. Counties typically act as the lead agency for CEQA compliance for development projects in unincorporated areas; as such they bear responsibility for adopting measures to mitigate the project's significant direct and indirect impacts on the environment and programs to ensure that mitigation measures are successfully implemented.
Local Agency Formation Commission	Empowered to approve or disapprove all proposals to incorporate cities, to form special districts, or to annex territories to cities or special districts. Also empowered to guide growth of governmental service responsibilities.
California Coastal Commission	Issues Coastal Development Permits for development in the Coastal Zone, except where the local jurisdiction has an approved Local Coastal Program. Retains coastal development permit authority over development on the immediate shoreline, tidelands, submerged lands, and certain public trust lands, and over major public works projects.
U.S. Environmental Protection Agency	Responsible for writing regulations and setting national standards to implement a variety of federal environmental protection and human health laws. In California, EPA has delegated much of the authority to enforce the Clean Air Act, Clean Water Act and Drinking Water Quality Act to state agencies, but it retains some oversight. EPA also comments on the environmental review of projects by participating in the NEPA process.
Water Resources	
State Water Resources Control Board (SWRCB)[a]	Shares responsibility with the regional water quality control boards (RWQCBs) to protect and restore water quality; approves regional basin plans; provides support to regional boards; and administers surface water rights. Develops water quality control plans and polices where water quality issues cross regional boundaries or have statewide application.
Central Coast RWQCB	Shares responsibility with SWRCB to protect and restore water quality. Formulates and adopts water quality control plans. Implements portions of the Clean Water Act when EPA and SWRCB delegate authority, as is the case with issuance of NPDES permits for waste discharge, reclamation, and storm water drainage.
California Department of Public Health	Responsible for ensuring the purity and potability of domestic water supplies. Assists the SWRCB and the RWQCBs in setting quality standards.
Monterey Peninsula Water Management District	Responsible for managing water resources on the Monterey Peninsula. Allocates water to jurisdictions; issues permits for new or expanded water distribution systems and water connections; and adopts water conservation ordinances.
Air Resources	
California Air Resources Board[a]	Responsible for adopting and enforcing standards, rules, and regulations for the control of air pollution from mobile sources throughout the state. Also responsible for developing plans and regional reduction targets for greenhouse gas emissions.
Monterey Bay Unified Air Pollution Control District	Adopts and enforces local regulations governing stationary sources of air pollutants within the North Central Coast Air Basin. Issues Authority to Construct Permits and Permits to Operate. Provides compliance inspections of facilities and monitors regional air quality. Develops Clean Air Plans in compliance with the Clean Air Act.

TABLE 6.3-10 (Continued)
AGENCIES WITH THE AUTHORITY TO IMPLEMENT OR REQUIRE IMPLEMENTATION OF MEASURES TO AVOID OR MITIGATE GROWTH-RELATED IMPACTS

Agency	Authority
Biological Resources	
National Oceanic and Atmospheric Administration (NOAA)	Under NOAA's National Marine Sanctuary Program requirements, authorization by the Monterey Bay National Marine Sanctuary's superintendent is required for any permit, lease, license, approval, or other authorization issued or granted by a federal, state, or local agency for activities within the sanctuary.
National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries)	Requires consultation under Section 7 or Section 10 of the Endangered Species Act for projects that could impact endangered or threatened species under the purview of NOAA Fisheries. Prepares biological opinions on the status of species in specific areas and potential effects of proposed projects. Approves reasonable and prudent measures to reduce impacts and establishes Habitat Conservation Plans.
U.S. Fish and Wildlife Service (USFWS)	Requires consultation under Section 7 or Section 10 of the Endangered Species Act for projects which could impact endangered or threatened species. Prepares biological opinions on the status of species in specific areas and potential effects of proposed projects. Approves reasonable and prudent measures to reduce impacts and establishes Habitat Conservation Plans.
U.S. Army Corps of Engineers	Issues permits to dredge or place fill in waters of the United States, including wetlands, under the Clean Water Act. Required to consult with USFWS and NMFS regarding compliance with the federal Endangered Species Act.
California Department of Fish and Wildlife	Issues Stream Bed Alteration Agreements for projects potentially impacting waterways. If specific criteria are met, issues incidental take permits for projects that would take species listed the California Endangered Species Act. Under the Natural Community Conservation Planning Act, provides oversight for the development of regional Natural Community Conservation Plans, which aim to balance ecosystem protection and land use.

NOTE:

[a] These agencies fall under the umbrella of the California Environmental Protection Agency.

SOURCE: ESA

Implementation of Environmental Protection Measures by Land Use Planning Agencies

Cities and counties (for unincorporated areas) have the greatest authority over land use decisions within their jurisdictions, through implementation of their general plans, locally adopted ordinances and regulations to manage growth, and development approval processes. Some ordinances and policies adopted at the local level (e.g., ordinances establishing urban growth limit lines, protecting natural resources such as riparian habitat, or establishing resource conservation easements) are intended to avoid or reduce environmental impacts.

In their capacities as lead agencies under CEQA (California Public Resources Code Section 21002 and Section 21067), cities and counties also have the authority and responsibility to evaluate the environmental impacts that would result from the implementation of plans and individual development projects within their jurisdictions, and to adopt measures to mitigate any significant adverse impacts. Cities and counties must identify mitigation measures in the CEQA documents for these plans and projects, must adopt feasible measures within their authority, and must adopt programs to monitor and report on their implementation, as conditions of approval.

Implementation of Environmental Protection Measures by Resource Management Agencies

Mitigation of impacts relating to specific resource categories generally falls under the responsibility of resource-specific agencies at the federal, state, and regional levels through the regulatory processes summarized in **Table 6.3-10**. Through their permitting authority, these agencies mitigate the impacts of proposed land uses and enforce the provisions of adopted resource protection plans (e.g., water basin plans and air basin plans). For example, the Central Coast Regional Water Quality Control Board identifies specific requirements and water quality standards for facilities by issuing waste discharge requirements, and the Monterey Bay Unified Air Pollution Control District addresses the effects of pollutant emissions by issuing permits to build and operate stationary sources of air emissions.

Conclusion

Significant and Unavoidable. The MPWSP would not directly contribute to the creation of additional housing or jobs within the area it serves as it is limited construction and operation of water supply facilities and infrastructure. But the proposed project would indirectly support growth by removing some water supply limitations as an obstacle to growth, thereby enabling a degree of growth under the approved general plans within the area served by the MPWSP.

The cities and county in the area served by the proposed project have the authority to approve or deny development projects and to impose mitigation to address significant environmental impacts associated with development projects within their respective jurisdictions. In addition, numerous federal, state, regional, and local agencies are specifically charged with protecting environmental resources, and ensuring that planned development occurs in a sustainable manner. Together, these agencies exercise the authority to reduce the effects of development on the environment. Some unavoidable impacts would still, however, be expected to occur.

6.3.7 Growth Inducement Potential of Cumulative Water Supply Projects

This section considers the indirect growth inducement potential of the cumulative projects identified in **Table 4.1-2**. The geographic scope for the cumulative analysis of indirect growth inducement consists of the CalAm service area jurisdictions and other areas of Monterey County that could experience similar indirect growth inducement. The baseline environmental setting against which the MPWSP is being analyzed includes the effects of existing, operational water supply projects identified in Table 4.1-2 such as the Seaside Groundwater Basin Aquifer Storage and Recovery projects (Nos. 29 and 30), and Sand City Coastal Desalination Plant (No. 6), which are assumed in water supply planning undertaken for the proposed project (as discussed in Chapter 2, Section 2.4 and shown in Table 2-4). The CalAm Slant Test Well at CEMEX (No. 47) is assumed to be used for production of the proposed MPWSP supply.

Several of the planned future cumulative projects identified in Table 4.1-2 would provide new sources of potable water supply in Monterey County. The Monterey Bay Regional Water Project (DeepWater Desal) (No. 34) would provide water to the City of Salinas as well as parts of Santa

Cruz County. If both the MPWSP and DeepWater Desal were approved, water from DeepWater Desal could be used to support growth in other nearby areas such as northern Monterey County. The RUWAP Desalination Element (No. 31) would serve the Marina Coast Water District's Ord Community with approximately 1,000 afy of potable supply. Through an agreement with FORA and the MRWPCA, an additional 1,400 afy of potable supply from the Pure Water Delivery and Supply Project (RUWAP #35 in Table 4.1-2) would meet the build-out needs of the Ord Community (which is contiguous with CalAm's service area). The Granite Ridge Water Supply Project would increase water supply availability for the area of northern Monterey County that it would serve. The Interlake Tunnel project would reduce the amount of water spilled at Nacimiento Dam by allowing water from Nacimiento Reservoir to be stored at San Antonio Reservoir for later use. This project would enhance flood control, provide environmental benefits, and offset groundwater pumping. Because this project would provide groundwater recharge, this analysis assumes it could indirectly augment supply available for groundwater users, including municipal supply that could serve additional growth. Although the primary purpose of the Salinas Valley Water Project Phase II (No. 1) is to combat seawater intrusion by providing a new source of surface water to offset groundwater consumption, the availability of a reliable surface water supply provided by this project could induce growth by removing supply reliability limitations as an obstacle to urban development.

Growth induced by one or more of these cumulative water supply projects in combination with the proposed project would result in secondary effects of growth in Monterey County that are similar to, but would likely be more severe and widespread than, those summarized above in Table 6.3-9; these impacts including increased traffic, noise, and air pollution and loss of open space and biological resources.

Other water projects listed in Table 4.1-2, including the RUWAP Recycled Water Project (No. 35), West Broadway Stormwater Retention Project (41), Del Monte Boulevard Dry Weather Diversion project (44), Pacific Grove Local Water Project (No. 22), Pacific Grove Recycled Water Project (No. 23), and Monterey Pacific Grove Area of Special Biological Significance (ASBS) Stormwater Management Project (No. 45) would either provide non-potable recycled water supply or enhance groundwater recharge. Projects providing recycled water could offset demand for potable supply that is currently used for non-potable uses, thereby making that potable supply available for other uses including growth. Projects capturing and diverting stormwater runoff to enhance groundwater recharge would primarily improve surface water quality and help stop seawater intrusion, but may overtime increase the availability of groundwater supply. These projects could contribute to the growth-inducing impacts of the cumulative potable supply projects described above by increasing the availability of existing potable supplies and groundwater.

As stated in Table 4.1-2, because the Peoples' Project would serve the same customers as the MPWSP, it is not reasonably foreseeable as a cumulative project but instead is considered an alternative to the MPWSP. The Pure Water Monterey Groundwater Replenishment (GWR) Project is not a cumulative project in the context of the proposed project or any alternative that includes a 9.6-mgd desalination plant built and operated by CalAm, because if the GWR is implemented, CalAm would not need to construct a 9.6-mgd desalination plant. The GWR

Project is a cumulative project in the context of Alternatives 5a and 5b, which evaluate a 6.4-mgd desalination plant. The cumulative growth inducement of implementing the GWR and Alternative 5a or 5b and the other water supply projects discussed here would be similar to the cumulative growth inducement of the proposed project because water supply available to the CalAm service area with implementation of the GWR project plus Alternative 5a or 5b would be similar to the supply provided by the proposed project.

6.4 Project Consistency with Monterey Bay National Marine Sanctuary Desalination Guidelines

In 2010, MBNMS, in collaboration with the California Coastal Commission, California Central Coast Regional Water Quality Control Board, and NOAA Fisheries, published Guidelines for Desalination Plants in Monterey Bay National Marine Sanctuary which implement the desalination action plan included in the MBNMS Final Management Plan (described in Section 4.5, Marine Biological Resources) (MBNMS, 2010). These non-regulatory guidelines were developed to help ensure that any future desalination plants in the sanctuary would be sited, designed, and operated in a manner that results in minimal impacts on the marine environment. They address numerous issues associated with desalination including site selection, construction and operational impacts, monitoring and reporting, plant discharges, and intake systems.

General provisions in the Guidelines outline the desired approach for developing desalination projects, demonstrating project need, designing alternatives, and complying with NEPA, including the following:

- Desalination plant proponents should pursue collaborations with other water suppliers and agencies currently considering water supply options in the area to evaluate the potential for an integrated regional water supply project. This should include an evaluation of other potential desalination locations and alternatives, as well as other forms of water supply;
- Desalination should only be considered when other preferable alternatives for meeting water needs, such as increased conservation and wastewater recycling are maximized or otherwise determined not feasible, and it is clear that desalination is a necessary component of the region's water supply portfolio;
- Project proponent should provide a complete evaluation of the need for a desalination plant. This should include a background of the water supply situation and discussion and evaluation of alternatives that have been considered to obtain the necessary volume of water; including the potential to use other economically and environmentally preferable alternatives including increased conservation, brackish water desalination, and wastewater recycling to meet some or all of the water needs of a proposed project; and
- Desalination plant proponents should provide a thorough analysis of the potential impacts on the coastal ecosystem for the proposed desalination plant and all project alternatives and plans to mitigate any potential impacts, or recover any resources that may be disturbed during construction.

The scope of this EIR/EIS analysis complies with Guideline provisions outlining the required elements of impact analysis. The key guidelines with specific recommendations that are relevant

to the proposed project are listed in the following table, along with summaries of the proposed project's consistency with each guideline. Potential inconsistencies associated with the alternatives are addressed in individual issue area analyses Section 5.5.

ASSESSMENT OF PROJECT CONFORMITY WITH GUIDELINES FOR DESALINATION PLANTS IN MONTEREY BAY NATIONAL MARINE SANCTUARY

Summary of NOAA Desalination Guidelines	Summary of MPWSP Conformity with Guidelines	Section of EIR/EIS Containing Additional Information
Guidelines Regarding Cumulative Impacts (Sec. D.3, p. 5)		
Desalination plants should be designed, sited, and operated to avoid or minimize cumulative impacts. The project proponent should provide a detailed analysis on the potential cumulative effects of the proposed discharges in combination with other existing and future point sources of pollution (i.e., wastewater discharges, power plant cooling water, and other desalination plants) as well as non-point sources of pollution (i.e., large rivers and outfalls) and other seawater intakes. Where it is feasible to combine the desalination discharge with another discharge, the project proponent should compare the likely effects of the combined discharges with the two separate discharges.	**Consistent**. The proposed project would utilize the existing MRWPCA treated effluent discharge pipeline, outfall, and diffuser to discharge brine into MBNMS. The dense brine discharge would be released alone during the irrigation season, and blended with varying volumes of secondary treated wastewater during the winter months. Cumulative impacts of the brine-only and combined discharges are fully analyzed in Chapter 4 of this EIR/EIS. Impacts on MBNMS resources from the brine-only and cumulative discharges would be less than significant with implementation of the proposed mitigation. The proposed project would not contribute to a cumulatively considerable impact.	• Overview, Section 4.1 • Surface Water Hydrology and Water Quality, Sections 4.3.5 and 4.3.6 • Marine Biological Resources, Section 4.5.5 and 4.5.6 • Appendices D1, D2 and D3 (brine plume and water quality modeling)
Guidelines for Entrainment and Impingement (Sec. D.3, p. 6)		
All desalination plants should be designed and sited to avoid and minimize impingement and entrainment to the extent feasible. Project proponents should investigate the feasibility of using subsurface intakes as an alternative to traditional intake methods. Other options for consideration should include, but may not be limited to: vertical and radial beach wells, horizontal directionally drilled (HDD) and slant-drilled wells, seabed filtration systems and other structures beneath the sea floor. Where feasible and beneficial, subsurface intakes should be used. It must be ensured however, that they will not cause saltwater intrusion to aquifers, negatively impact coastal wetlands that may be connected to the same aquifer being used by the intake, and they must address the likelihood of increased coastal erosion in the future. Subsurface intakes have the potential to minimize or eliminate impingement and entrainment impacts and improve the performance and efficiency of a desalination project by providing a certain level of pretreatment.	**Consistent**. The proposed project would utilize subsurface intakes that penetrate the sea floor of MBNMS and avoid impingement and entrainment of marine biological resources. The proposed project would have a less than significant impact on groundwater supply and recharge, and subsurface intakes would facilitate the reduction of seawater intrusion in the long term. In addition, proposed slant wells would be located inland of the modeled anticipated inland extent of coastal retreat, but the rate of retreat may vary due to unforeseen changes in climate change. Therefore, the slant wells could become located on the beach within the project lifetime, a significant impact that would be reduced to a less than significant impact with Mitigation Measure 4.2-9 (Slant Well Abandonment Plan).	• Description of the Proposed Project, Section 3.2.1 • Geology and Soils, Section 4.2.5 • Groundwater Resources, Section 4.4.5 • Marine Biological Resources, Section 4.5.5 • Alternatives, Section 5.3 • Appendices C1 (Sea Level Rise) and C2 (Coastal Erosion) • Appendix E2 (North Marina Groundwater Model)

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Summary of NOAA Desalination Guidelines	Summary of MPWSP Conformity with Guidelines	Section of EIR/EIS Containing Additional Information
Guidelines for Entrainment and Impingement (Sec. D.3, p. 6) (cont.)		
Any impacts on essential fish habitat (EFH) and the biota it supports that cannot be avoided through project design or operations will require mitigation, as per NMFS' regulatory requirements. The necessary level of mitigation is to be determined through the use of a biologically based model, such as the habitat production foregone method, in order to account for all "non-use" impacts on affected biota. Mitigation projects should attempt to directly offset the impacted species or habitat (in-place, in-kind mitigation) although NOAA will work with the project proponent to identify appropriate mitigation if this is not possible.	**Not Applicable**. Essential Fish Habitat is not present in the study area. The proposed project does not include any construction activities on the sea floor; operation of the proposed slant wells and discharge of brine into MBNMS would not affect EFH.	• Marine Biological Resources, Section 4.5.5
Guidelines for Brine Discharge (Sec. D.3, pp. 6-7)		
All desalination plants should be designed to minimize impacts from the discharge. Project proponents should investigate the feasibility of diluting brine effluent by blending it with other existing discharges. The proponent should evaluate the use of measures to minimize the impacts from desalination plant discharges including discharging to an area with greater circulation or at a greater depth, increasing in the number of diffusers, increasing the velocity while minimizing the volume at each outlet, diluting the brine with seawater or another discharge, or use of a subsurface discharge structure.	**Consistent**. The proposed project would utilize the existing MRWPCA outfall and diffuser in MBNMS to discharge brine from the desalination process. Brine would generally be discharged alone during the irrigation season, and combined with intermittent flows of treated wastewater in the non-irrigation season. Brine discharge modeling evaluated salinity and water quality impacts on receiving waters for six flow scenarios. Impacts were determined to be less than significant with implementation of Mitigation Measures 4.3-4 (Operational Discharge Monitoring Analysis, Reporting, and Compliance) and 4.3-5 (Implement Protocols to Avoid Exceeding Water Quality Objectives).	• Surface Water Hydrology and Water Quality, Section 4.3.5 • Appendices D1, D2 and D3 (brine plume and water quality modeling)
The project proponent should provide a detailed evaluation of the projected short-term and long-term impacts of the brine plume on marine organisms based on a variety of operational scenarios and oceanographic conditions: • Brine plume modeling should address different types of seasonal ocean circulation patterns, including consideration of "worst case scenarios." • Modeling results should be included, to illustrate how the plume will behave during variable oceanographic conditions. • The plume model should estimate salinity concentrations at the discharge point, as well as where and when it would reach ambient ocean concentrations. The extent, location, and duration of the plume	**Consistent**. Brine plume modeling was conducted for six flow scenarios, assuming no current at the sea floor and ignoring orbital velocities from waves. Brine plume effects were evaluated for salinity levels in the pipe, adjacent to the diffuser, within the zone of initial dilution (ZID), along the sea floor to the edge of the brine mixing zone (BMZ) (+100 meters from the diffuser) and beyond. Input to the brine plume model included temperature and salinity levels within the ambient water column for three ocean circulation patterns, which encompass the range of seasonal patterns typical of this area. Brine plume effects on physical and chemical parameters, including salinity, temperature, metal concentrations, pH, and dissolved oxygen, and all constituents regulated under the Ocean Plan are addressed in Impact 4.3-4 and Impact 4.3-5. Mitigation Measures 4.3-4 (Operational Discharge Monitoring Analysis, Reporting, and Compliance) and 4.3-5 (Implement Protocols to Avoid	• Surface Water Hydrology and WQ, Section 4.3.5 • Marine Biological Resources, Section 4.5.5 • Appendices D1, D2 and D3 (brine plume and water quality modeling)

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Summary of NOAA Desalination Guidelines	Summary of MPWSP Conformity with Guidelines	Section of EIR/EIS Containing Additional Information
Guidelines for Brine Discharge (Sec. D.3, pp. 6-7) (cont.)		
where the salinity is 10% above ambient salinity should also be provided. ● Information should be provided on the physical and chemical parameters of the brine plume including salinity, temperature, metal concentrations, pH, and oxygen levels. These water quality characteristics of the discharge should conform to California Ocean Plan requirements and should be as close to ambient conditions of the receiving water as feasible.	Exceeding Water Quality Objectives) would reduce impacts on receiving waters to a less than significant impact, thus the project conforms to Ocean Plan requirements.	
A continuous monitoring program should be implemented to verify the actual extent of the brine plume, when deemed necessary (see Monitoring section below) and to determine if the plume is impacting EFH, critical habitat, or sanctuary resources. If it is, then mitigation for the EFH impact will be required.	**Consistent**. To ensure that operational discharges are in compliance with the Ocean Plan, CalAm shall implement Mitigation Measure 4.3-4 (Operational Discharge Monitoring Analysis, Reporting, and Compliance), which requires a Monitoring and Reporting Plan that includes specific water quality monitoring protocols and frequencies to assess baseline conditions and track Project compliance. Continuous monitoring is required one year prior to commencement of operational discharges and for a minimum of five years after operational discharges commence. EFH is not present within the study area.	● Surface Water Hydrology and WQ, Sections 4.3.5
Guidelines for Energy Use and Greenhouse Gas Emissions (Sec. D.3, p. 7)		
The project proponent should provide estimates of a facility's projected annual electricity use and the greenhouse gas emissions resulting from that use. Applicants should also identify measures available to reduce electricity use and related emissions (e.g., energy efficient pumps, low resistance pipes, use of sustainable electricity sources, etc.) and to mitigate for all remaining emissions (e.g., purchase of offsets and/or credits that are consistent with the policies and guidelines of the California Global Warming Solutions Act of 2006 (AB 32), etc.).	**Consistent**. Section 4.11, Greenhouse Gas Emissions, provides estimates of the proposed project's anticipated total operational emissions, including those from indirect emissions, exhaust emissions, brine degassing emissions, annual electricity demand, and disturbance of carbon sequestration. The analysis provides the net increase in electrical power demand, and greenhouse gas emissions for CO_2, N_20, CH_4, and CO_2e. The proposed project includes numerous energy conservation measures, including energy recovery using pressure-exchanger technology, which is expected to substantially reduce overall energy consumption during the reverse osmosis process. GHG emission impacts would be significant and unavoidable, even with these energy saving measures and implementation of Mitigation Measure 4.11-1 (GHG Emissions Reduction Plan) that would require employment of additional energy conservation technologies and would ensure that "clean" renewable energy sources make up 20 percent of the operational energy use requirements. The GHG analysis does not propose the purchase of offsets because the proposed	● Project Description, Chapter 3 ● Greenhouse Gas Emissions, Section 4.11.5 ● Energy Conservation, Section 4.18

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Guidelines for Energy Use and Greenhouse Gas Emissions (Sec. D.3, p. 7) (cont.)		
	project would primarily result in indirect emissions associated with electricity use from PG&E's power grid, which is fueled by power plants that are already subject to and participate in CARB's cap-and-trade program and future opportunities to purchase additional offsets are uncertain.	
Guidance for Co-location with Power Plant (Sec. D.3, p. 7)		
Desalination plants proposing to co-locate with power plant once-through cooling systems should include an assessment, during the environmental documentation phase, of the impacts that would occur when the power plant cooling system does not operate, along with an analysis of alternative intake and outfall structures that would avoid or minimize these impacts.	**Not applicable**. The proposed project is not co-located with a power plant.	Not applicable
Guidance for Co-location with Sewage Treatment Facilities (Sec. D.3, p.8)		
In consideration of recent interest by many municipalities regarding water recycling projects, the project proponent should evaluate the continued availability and reliability of that discharge in the future due to the potential for additional wastewater recycling projects. Additionally, where treated wastewater is available for recycling, proponents should determine the feasibility of using it as the source water to be desalinated for use in groundwater recharge – i.e., indirect potable reuse.	**Consistent**. MRWPCA certified the Final EIR and approved the Groundwater Replenishment Project (GWR) in October 2015. In September 2016, the CPUC authorized CalAm to purchase 3,500 afy of purified recycled water from the MRWPCA and MPWMD. If the GWR Project is successful at developing water, CalAm would build a reduced-size desalination project (6.4-mgd) and utilize the GWR Project, which would advance treat a variety of water sources including wastewater, stormwater, food industry processing water, and impaired surface waters of the State.	• Water Demand and Supplies, Section 2.4.5, Groundwater Replenishment • Overview, Section 4.1, Table 4.1-2, Cumulative Project #59 • Alternatives, Sections 5.4.7 and 5.4.8 Reduced Project Desalination Plant
The project proponent should provide a thorough analysis of the potential impacts on marine organisms resulting from the combined properties of the discharge, as well as how the addition of brine effluent would affect the dispersal/dilution of the wastewater effluent.	**Consistent**. Impacts on marine organisms from the brine-only discharge, and a discharge of brine combined with treated wastewater effluent, are analyzed in Impacts 4.5-4, 4.5-5, and 4.5-6; impacts on marine biological resources would be less than significant. Brine plume modeling included analysis of the effects of the brine on wastewater effluent dispersal/dilution.	• Surface Water Hydrology and WQ, Section 4.3.5 • Marine Biological Resources, Section 4.5.5 • Appendices D1, D2 and D3 (brine plume and water quality modeling)
The project proponent should evaluate diurnal fluctuations in wastewater discharge operations. When modeling for dilution of the brine plume, it is crucial to include a "worst case scenario" analysis of the dilution properties of the combined wastewater effluent and brine plume, during lowest expected flow rates for the treated wastewater effluent. The project proponent should include an assessment of the impacts that would occur from brine discharge if the wastewater discharge were to cease.	**Consistent**. Brine modeling evaluated and the EIR/EIS presents the impacts from six operational scenarios ranging from baseline wastewater-only discharges to "worst case" brine-only discharges. The brine-only discharge would exceed 2ppt for a very small area above the sea floor, and it would be less than 2 ppt above ambient at the edge of the ZID, the point at which the plume contacts the sea floor (less than 30 feet from the point of discharge).	• Surface Water Hydrology and WQ, Section 4.3.5 • Marine Biological Resources, Section 4.5.5 • Appendices D1, D2 and D3 (brine plume and water quality modeling)

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Summary of NOAA Desalination Guidelines	Summary of MPWSP Conformity with Guidelines	Section of EIR/EIS Containing Additional Information
Guidelines for Use of Chemicals for Treatment and Cleaning (Sec. D.3, p. 8)		
The project proponent should provide a complete list of all chemicals that may be used for the desalination facilities, as well as the quantities of chemicals and how these will be stored and disposed. They should also include an evaluation of the potential for these chemicals to cause impacts on local marine organisms. This should also include a detailed spill prevention and response plan for chemicals stored at the project site.	**Consistent**. A list of chemicals and their proposed annual usage in the desalination process is presented for the proposed project in Table 3-3 and Table 4.7-5 and includes standard treatment chemicals such as Sodium Hypochlorite, Sodium Bisulfite, Carbon Dioxide, Lime, Sodium Hydroxide, and Zinc Orthophosphate. Information regarding storage and disposal is in Impact 4.7-6. The desalination plant would be located approximately 1.75 miles from the MBNMS and chemical usage and storage at the desalination plant would not cause impacts on local marine organisms. CalAm would be required to implement the project in accordance with all applicable laws and regulations governing hazardous materials storage, handling, and disposal. Chemicals used in the pretreatment process will be disposed of as sludge in a sanitary landfill. Spent cleaning solutions and waste effluent for the RO System would be discharged into a collection sump, chemically neutralized, then pumped into tank trucks and transported offsite for disposal. Spill prevention measures and a response plan would be included in the SWPPP and the Hazardous Materials Business Plan.	• Description of the Proposed Project, Section 3.2.2.4 • Hazards and Hazardous Materials, Section 4.7.5.2
The project proponent should evaluate the feasibility of using alternative pretreatment techniques such as ozone pretreatment, subsurface intakes, and membrane filtration, aimed at reducing the use of chemicals.	**Consistent**. The proposed project would use pretreatment techniques including subsurface intakes, pressure filters or multimedia gravity filters, backwash supply and filtered water equalization tanks, backwash settling basins with decanting system, cartridge filters, filtered water pumps, and backwash supply pumps.	• Description of the Proposed Project, Chapter 3
Guidelines for other Environmental and Socioeconomic Impacts (Sec. D.3, p.9)		
Desalination plants should be designed and operated to minimize impacts on recreational and commercial activities that occur within MBNMS. The project proponent should provide a thorough evaluation of the potential impacts on recreation, public access and safety, including but not limited to potential impacts on SCUBA divers, kayakers, recreational boaters, and commercial and recreational fishermen.	**Consistent**. The MPWSP Desalination Plant itself would not be located within MBNMS; slant wells from onshore locations would extend into the submerged lands of MBNMS. The proposed project is consistent with regional and local plans and policies designed to promote and protect public safety and recreational opportunities. No construction or operational activities proposed by the MPWSP would impact divers, kayakers, boaters or fishermen.	• Land Use, Land Use Planning, and Recreation, Section 4.8 • Table 4.8-2 Applicable Regional and Local Land Use Plans and Policies Relevant to Land Use and Recreation
Desalination plants should not interfere with vertical or lateral public access to the shoreline or to coastal waters.	**Consistent**. Construction of the proposed new Transmission Main would temporarily close 1 of 3 entrances to Fort Ord Dunes State Park. Implementation of Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan), would provide continued safe access. The subsurface slant wells would be set back from the beach at a distance that would not preclude public	• Land Use, Land Use Planning, and Recreation, Section 4.8 • Traffic and Transportation, Section 4.9

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Guidelines for other Environmental and Socioeconomic Impacts (Sec. D.3, p.9) (cont.)		
	access on the beach. No other proposed components would interfere with vertical or lateral public access to the shoreline or coastal waters.	
Desalination plants in MBNMS should not contribute to coastal retreat and should not be designed to anticipate the possibility of installing coastal armoring at any time in the future to protect the plant or its infrastructure from the effects of coastal erosion, wave action, or sea level rise.	**Consistent**. The only proposed component that could become vulnerable to coastal retreat during the project lifetime is the existing test slant well. CalAm would implement Mitigation Measure 4.2-9 (Slant Well Abandonment Plan), which would require annual monitoring of the rate of coastal retreat and abandonment of the facility when necessary. CalAm would remove the susceptible facility prior to its exposure or potential contribution to coastal retreat. No coastal armoring is planned to protect the subsurface slant wells.	● Geology and Soils, Impact 4.2-10 ● Appendix C2, Analysis of Historic and Future Coastal Erosion with Sea Level Rise.
Desalination plants should be designed to minimize visual impacts on coastal resources.	**Consistent**. The MPWSP Desalination Plant would minimize coastal visual impacts on resources because of its inland location. The subsurface slant wells and associated facilities at CEMEX would be located in an area with moderate aesthetic resource value. The site's dune topography and vegetation would substantially limit views of the slant well sites from locations outside of the CEMEX property, including from the beach and from Hwy 1. Views from the beach would be nearer and longer in duration compared to roadside views, but the above ground facilities would not appear dominant relative to surrounding features and would not obstruct coastal views. As a result, these facilities would minimize visual impacts on coastal resources.	● Aesthetic Resources, Section 4.14.5
The project proponent should provide an analysis of the potential population growth-inducing impacts of the desalination project. This should be compared for consistency with projected development patterns in relevant planning documents such as Local Coastal Programs and the County's General Plan. NOAA recommends that the freshwater production capacity of all desalination projects be consistent with established local government land use policies in county and city general plans and local coastal programs.	**Consistent**. The proposed project is sized to provide existing customers with a reliable water supply, accounting for peak month demand; to accommodate tourism demand under a recovered economy; to provide supplies for vacant legal lots of record; and for Pebble Beach Entitlements. The direct effects on population and housing were determined to be less than significant. The indirect growth inducement potential of the MPWSP was evaluated in conjunction with population and housing forecasts prepared by the Association of Monterey Bay Area Governments and with projections from local General Plans or specific plans. While the MPWSP would provide sufficient supply to enable CalAm to comply with the SWRCB Order 95-10 and the Seaside Groundwater Basin Adjudication (see Table 6.3-1), it would provide some water for growth. The indirect impacts of that growth were identified in the EIRs prepared for the general and specific plans that guide that growth.	● Population and Housing, Section 4.19 ● Growth-Inducing Impacts, Section 6.3 ● Secondary Effects of Growth, Appendix J2

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Summary of NOAA Desalination Guidelines	Summary of MPWSP Conformity with Guidelines	Section of EIR/EIS Containing Additional Information
Guidelines for Plant Site Selection and Structural and Engineering Considerations (Sec. D.3, pp. 9-10)		
Desalination plant intakes should be sited to avoid sensitive habitats. For open-water intakes, areas of high biological productivity, such as upwelling centers or kelp forests or other dense beds of submerged aquatic vegetation should be avoided, since the entrainment and impingement impacts of a desalination plant are in large part dictated by the biological productivity in the vicinity of that intake.	**Consistent for MBNMS Resources; Inconsistent for Onshore Resources**. The proposed project would include subsurface intakes under the MBNMS seafloor that avoid impingement and entrainment impacts. No construction is planned on the seafloor surface. Onshore, the proposed project would use subsurface slant wells at the CEMEX sand mining property. A thorough intake alternatives analysis identified the proposed location to minimize impacts. The wellheads would be located on the inland side of the dunes; sensitive communities and critical habitat within or adjacent to the project construction area could be temporarily (9 acres) or permanently (1 acre) impacted during construction. Slant well construction would occur outside of western snowy plover critical habitat. However, conversion of the test slant well to a permanent well and construction of aboveground facilities could indirectly impact the primary constituent elements of this critical habitat if worker foot traffic extends beyond the designated construction work area, if trash and debris is left behind following construction, or if invasive plant species are introduced or spread at the site. Implementation of mitigation measures would reduce impacts on sensitive natural communities and critical habitat resulting from slant well construction to a less-than-significant level.	● Description of the Proposed Project, Chapter 3 ● Terrestrial Biological Resources, Impact 4.6-2 ● Alternatives Development and Screening Process, Chapter 5.3
Desalination plant discharges should not be located in or near ecologically sensitive areas, including Areas of Special Biological Significance as designated by the State Water Resources Control Board, EFH Habitat Areas of Particular Concern as designated by the Pacific Fishery Management Council, and Marine Protected Areas designated under the Marine Life Protection Act. These areas include: Elkhorn and Pescadero Sloughs, James V. Fitzgerald Marine Reserve, Año Nuevo, Pacific Grove Marine Gardens, Edward F. Ricketts, Carmel Bay, Point Lobos, Point Sur and Big Creek State Marine Conservation Areas and Marine Reserves, Julia Pfeiffer Burns Underwater Park, and the Ocean Area Surrounding the Mouth of Salmon Creek.	**Consistent**. The MPWSP Desalination Plant discharges would not be located in or near ecologically sensitive areas.	● Description of the Proposed Project, Chapter 3 ● Marine Biological Resources, Figure 4.5-5 Sanctuary Ecologically Significant Areas Designated in MBNMS

ASSESSMENT OF PROJECT CONFORMITY WITH GUIDELINES FOR DESALINATION PLANTS IN MONTEREY BAY NATIONAL MARINE SANCTUARY

Summary of NOAA Desalination Guidelines	Summary of MPWSP Conformity with Guidelines	Section of EIR/EIS Containing Additional Information
Guidelines for Plant Site Selection and Structural and Engineering Considerations (Sec. D.3, pp. 9-10) (cont.)		
Areas with limited water circulation such as enclosed bays or estuaries, which can "trap" the brine discharge, should be avoided, as should EFH HAPC, such as rocky substrate and kelp forests, due to their high biological productivity. As a general rule, the stronger the hydrodynamic force, the better dilution is achieved due to faster dispersal from the natural mixing action of the ocean. Desalination plant discharges should be designed and sited to minimize impacts on marine biological resources of the sanctuary.	**Consistent**. The proposed project would utilize the existing MRWPCA ocean outfall in Monterey Bay, within MBNMS. The location is on a shelf with a 1 percent slope towards the Monterey Submarine Canyon; it is not enclosed, not an estuary, and the only hard substrate is the ballast rock supporting the outfall pipe. There are no kelp beds nearby.	● Marine Biological Resources, Section 4.5, Figure 4.5-1 Identified Subtidal Habitats in Study Area
The project proponent should provide complete plans, which include detailed information on: location, depth, engineering, and configuration of intake and outfall pipes; sizing and configuration of seabed structures; proposed depth and distance from shore of the intake and discharge points; local bathymetry; and dilution zones for each discharge pipeline alternative. The pipeline placement and configuration of intake and discharge structures should be designed as to avoid sensitive biological areas in the sanctuary.	**Consistent**. The proposed project would utilize an existing outfall and diffuser, and subsurface intakes; no proposed component would be constructed or placed on the surface of the sea floor. Local bathymetry and dilution zones are provided.	● Description of the Proposed Project, Chapter 3 − Table 3-1 − Sections 3.2.1 and 3.2.2.5 − Figure 3-3a MPWSP Seawater Intake System − Figure 3-3b Illustrative Cross-Sectional View of Subsurface Slant Wells ● Geology and Soils, Section 4.2 − Figure 4.2-7 Representative Profile at Test Slant Well − Figure 4.2-8 Representative Profile at Proposed Slant Wells ● Surface Hydrology and WQ, Section 4.3 − Figure 4.3-7 Brine Mixing Zone (BMZ) and Diffuser Overview ● Marine Biological Resources, Section 4.5 − Figure 4.5-1 Identified Subtidal Habitats in Study Area − Figure 4.5-4 Essential Fish Habitat Designated in MBNMS under Federal Regulations − Figure 4.5-5 Sanctuary Ecologically Significant Areas Designated in MBNMS − Figure 4.5-6 Marine Protected Areas along the California Coast ● Appendix D1, Brine Modeling

ASSESSMENT OF PROJECT CONFORMITY WITH GUIDELINES FOR DESALINATION PLANTS IN MONTEREY BAY NATIONAL MARINE SANCTUARY

Summary of NOAA Desalination Guidelines	Summary of MPWSP Conformity with Guidelines	Section of EIR/EIS Containing Additional Information
Guidelines for Plant Site Selection and Structural and Engineering Considerations (Sec. D.3, pp. 9-10) (cont.)		
The project proponent should provide an analysis of the potential for co-location of desalination plants to make use of existing infrastructure.	**Consistent**. The proposed desalination plant would be located adjacent to the MRWPCA and would use the existing outfall pipeline and diffuser.	● Description of the Proposed Project, Chapter 3.
Guidelines for Desalination Plant Construction Phase (Sec. D.3, pp. 10-12)		
The project proponent should identify and provide a complete explanation of potential impacts from the construction process to the marine and coastal environment. They should also provide an evaluation of marine historical or archaeological resources that could be disturbed, and plans to mitigate any potential impacts, or recover any resources that may be disturbed during construction.	**Not applicable**. The proposed desalination plant would be located approximately 1.75 miles from the coast and would not impact marine and coastal resources during the construction phase.	● Description of the Proposed Project, Chapter 3.
All proposed projects should provide a stormwater pollution prevention plan (SWPPP). Stormwater runoff from the site should be managed to prevent any discharge of silt or chemical contaminants to the ocean or any other surface water body. The SWRCB General Construction Storm Water Permit for Construction Activities (General Permit) is required by the Central Coast Water Board for all construction activities that disturb at least one acre of soil, including grading and stockpiling. Local jurisdictions may require additional construction permits and SWPPPs at lower disturbance thresholds. In the case of any accidental spills or construction-related impacts on marine biological resources, MBNMS and NMFS management should be notified immediately and mitigation plans developed.	**Consistent**. Construction of the proposed project would be conducted under a General Construction Permit, which is implemented and enforced by the Central Coast RWQCB and requires project operators to prepare a SWPPP. The proposed project would include a Hazardous Materials Business plan (HMBP) that is required by the Hazardous Materials Release Response Plans and Inventory Act of 1985 for businesses and construction contractors that use and store hazardous materials. The HMBP includes information on hazardous material handling and storage, including containment, site layout, and emergency response and notification procedures (including MBNMS and NMFS) in the event of a spill or release.	● Surface Water Hydrology and Water Quality, Section 4.3.5 ● Hazards and Hazardous Materials, Section 4.7.5
Best Management Practices should be developed and adhered to in order to avoid or minimize impacts on the marine environment during the construction phase of a desalination project. This should include the use of materials and practices that minimize disturbances to the environment to the maximum extent practicable.	**Consistent**. All construction activities associated with the proposed project would occur several hundred feet inland of MHW and potential impacts on the marine environment within MBNMS would be less than significant, or no impact.	● Surface Water Hydrology and Water Quality, Section 4.3.5 ● Marine Biological Resources, Section 4.5.5
The plant construction phase should include techniques and plans to avoid impacts on maritime heritage resources of the MBNMS. This includes submerged cultural and archeological resources including shipwrecks.	**Consistent**. The proposed project would not be located near any MBNMS maritime heritage resources. The existing MRWPCA outfall would be used for the discharge of brine; no new construction activities would occur on the sea floor or in a MBNMS maritime heritage resource area.	● Description of the Proposed Project, Chapter 3 ● Cultural and Paleontological Resources, Section 4.15.5

ASSESSMENT OF PROJECT CONFORMITY WITH GUIDELINES FOR DESALINATION PLANTS IN MONTEREY BAY NATIONAL MARINE SANCTUARY

Summary of NOAA Desalination Guidelines	Summary of MPWSP Conformity with Guidelines	Section of EIR/EIS Containing Additional Information
Guidelines for Desalination Plant Construction Phase (Sec. D.3, pp. 10-12) (cont.)		
Project proponents should adhere to specific conditions for all construction activities occurring on the beach. See bulleted list on page 11 of MBNMS Guidelines.	**Consistent**. All construction activities associated with the proposed project would occur at a minimum of several feet inland of MHW; construction materials and equipment would be delivered by existing access roads, no fill material would be discharged into waters of MBNMS. A list of anticipated required permits and approvals is presented in Chapter 3. Many of these would include specific conditions for work on or near the beach. All project construction activities would comply with specific conditions of any and all authorizations, regardless of construction location.	• Description of the Proposed Project, Chapter 3. • Surface Water Hydrology and Water Quality, Section 4.3.5
Mitigation should be provided for the loss of EFH from the placement of the intake structure, delivery pipeline, and outfall structure.	**Not Applicable**. The marine biological resources study area for the proposed project does not include EFH and does not include the placement of any new structure in MBNMS. The proposed project would not affect EFH.	• Marine Biological Resources, Section 4.5, Figure 4.5-4 Essential Fish Habitat Designated in MBNMS under Federal Regulations
Monitoring (Sec. D.4, pp.12-13)		
The project proponent should develop an ongoing monitoring program to evaluate the extent of impacts from the plant's intake and discharge operations on marine biological resources. The monitoring program should focus on: a) developing a statistically acceptable baseline for the project area, b) monitoring source water for potential contaminants that may require additional treatment, c) monitoring the effluent prior to discharge to ensure it is in compliance with the California Ocean Plan d) monitoring the effects of the effluent on marine organisms within the plume, after the discharge begins, e) monitoring the impingement and entrainment effects on marine organisms, if applicable, and f) monitoring any required mitigation for unavoidable impacts to make sure the mitigation is performing as intended. The proposed monitoring system should be carried out for at least three years, with an evaluation report and cumulative impact evaluation generated each year. After the third year, the RWQCB and the MBNMS	**Consistent**. Mitigation Measure 4.3-4 (Operational Discharge Monitoring, Analysis, Reporting, and Compliance) applies to the proposed project operational discharges to ensure compliance with Ocean Plan requirements, and includes the following protocols, which are consistent with the guidelines: • To establish baseline conditions, continuously record water quality parameters of salinity and dissolved oxygen at one hour intervals at several locations in the receiving waters of the Monterey Bay for one year prior to commencement of operational discharges (consistent with a.). • Continue WQ monitoring for a minimum of five years once operational discharges have commenced to confirm compliance with Ocean Plan receiving water quality limitations. • Assess changes to the benthic community composition within the Zone of Initial Dilution (ZID) through the collection of visual observation data for the first 3 years with assessment to continue an additional 2 years (consistent with d.) • Prepare annual reports of analyses and summaries and send to RWQCB and MBNMS, and make publically available via project website. Mitigation Measure 4.3-5 (Implement Protocols to Avoid Exceeding Water Quality Objectives) would require CalAm to	• Surface Water Hydrology and Water Quality, Section 4.3.5

ASSESSMENT OF PROJECT CONFORMITY WITH GUIDELINES FOR DESALINATION PLANTS IN MONTEREY BAY NATIONAL MARINE SANCTUARY

Summary of NOAA Desalination Guidelines	Summary of MPWSP Conformity with Guidelines	Section of EIR/EIS Containing Additional Information
Monitoring (Sec. D.4, pp.12-13) (cont.)		
should determine the extent of additional water quality monitoring for the final two years of the NPDES permit, and NOAA Fisheries and MBNMS should determine the extent of additional biological monitoring that may be needed.	perform extensive water quality assessment prior to implementation of the proposed project as well as during operation of the facility to ensure compliance with MRWPCA NPDES Permit amendment process (Order No. R3-2014-0013, NPDES Permit No. CA0048551) and includes the following protocols: ● Quantify projected final design discharge volumes by month. ● Collect samples of source waters and operational discharges and analyze for constituents listed in Table 1 of Ocean Plan. (Consistent with b. and c.) ● Demonstrate compliance for the full range of regulated water quality constituents specified in the Ocean Plan and NPDES water quality requirements in the context of minimum initial dilution values at the edge of the ZID. ● If results do not meet NPDES water quality requirements and Ocean Plan limitations, then MPWSP operational discharges shall not be released as proposed and would be subject to additional design features, engineering solutions, and/or operational measures to bring water quality constituents into conformance. ● Additional design features and operational measures include additional pretreatment or source water, treatment of discharge, retrofitting the existing outfall to increase dilution, and flow augmentation. ● The intakes would be subsurface; no impingement and entrainment effects would result. (Consistent with e.) Mitigation would be monitored in accordance with the Mitigation Monitoring and Reporting Program. (Consistent with f.)	

References – Other Considerations

Association of Monterey Bay Area Governments (AMBAG), 2004. AMBAG Population, Housing Unit, and Employment Forecasts. Adopted April 14, 2004.

Association of Monterey Bay Area Governments (AMBAG), 2008. Monterey Bay Area 2008 Regional Forecast. Adopted by the AMBAG Board of Directors June 11, 2008.

Association of Monterey Bay Area Governments (AMBAG), 2013. About Us. Available online at: www.ambag.org/about-us. Accessed October 17, 2013.

Association of Monterey Bay Area Governments (AMBAG), 2014a. 2014 Regional Growth Forecast: Technical Documentation, adopted June 11, 2014.

Association of Monterey Bay Area Governments (AMBAG), 2014b. Regional Housing Needs Allocation Plan: 2014-2023, adopted June 11, 2014.

California American Water (CalAm), 2006. *Monterey District Urban Water Management and Water Shortage Contingency Plan 2006-2010*, February 2006 Revision, 2006.

California American Water (CalAm) et al., 2013. Settlement Agreement of California American Water Company, Citizens for Public Water, City of Pacific Grove, Coalition of Peninsula Businesses, County of Monterey, Division of Ratepayer Advocates, Landwatch Monterey County, Monterey County Farm Bureau, Monterey County Water Resources Agency, Monterey Peninsula Regional Water Authority, Monterey Peninsula Water Management District, Monterey Regional Water Pollution Control Agency, Planning and Conservation League Foundation, Salinas Valley Water Coalition, Sierra Club, and Surfrider Foundation, Before the Public Utilities Commission of the State of California, Application 12-04-019, July 31, 2013.

California-American Water Company, Monterey Peninsula Regional Water Authority, Monterey Peninsula Water Management District, Pebble Beach Company, City of Pacific Grove (CalAm, et al.), 2016a. Amended Application for Order Modifying State Water Board Order WR 2009-0060 (Cease and Desist Order), In the Matter of the Unauthorized Diversion and Use of Water by the California American Water Company; Cease and Desist Order WR 2009-0060, April 28, 2016, p. 18.

California American Water, Coalition of Peninsula Businesses, LandWatch Monterey County, Monterey County Farm Bureau, Monterey County Water Resources Agency, Monterey Peninsula Regional Water Authority, Planning and Conservation League Foundation, Salinas Valley Water Coalition (CalAm et al), 2016b. Joint Motion for Approval of Settlement Agreement on Desalination Plant Return Water. California American Water Company, Coalition of Peninsula Businesses, LandWatch Monterey County, Monterey County Farm Bureau, Monterey County Water Resources Agency, Monterey Peninsula Regional Water Authority, Planning and Conservation League Foundation, Salinas Valley Water Coalition, Application 12-04-019, June 14, 2016.

California, Department of Finance (DOF), 2007. E-8 Historical Population and Housing Estimates for Cities, Counties, and the State, 1990-2000. Sacramento, California, August 2007. Available online at: http://www.dof.ca.gov/research/demographic/reports/estimates/e-8/. Accessed October 20 and November 18, 2013.

California Department of Finance (DOF), 2013. E-5 Population and Housing Estimates for Cities, Counties and the State, January 1, 2011-2013, with 2010 Benchmark, Revised May 10, 2013. Available online at: http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php. Accessed October 17, 2013.

California Department of Housing and Community Development, 2016. Housing Element Review Status, Available via http://www.hcd.ca.gov/housing-policy-development/housing-resource-center/plan/he/. Accessed September 21, 2016.

City of Carmel-by-the-Sea, 2003. *Carmel- by-the-Sea General Plan/Coastal Land Use Plan*. Adopted June 3, 2003.

City of Carmel-by-the-Sea, 2015a. *City of Carmel-by-the-Sea 2015-2023 Housing Element*, December 1, 2015.

City of Carmel-by-the-Sea, 2015b. *Addendum to Initial Study/Negative Declaration, City of Carmel-by-the-Sea 2015-2023 Housing Element and Related Zoning Amendments*, November 18, 2015.

City of Del Rey Oaks, 1997a. *General Plan Update for the City of Del Rey Oaks*, January 1997.

City of Del Rey Oaks, 1997b. *Final Environmental Impact Report for the Del Rey Oaks General Plan Update Project*, May 16, 1997.

City of Monterey, 2004. *City of Monterey General Plan Update Draft Environmental Impact Report (July 14, 2004)* and *Final Environmental Impact Report, State Clearinghouse No. 2003081011*, October 11, 2004.

City of Monterey, 2016a. *City of Monterey General Plan*, Adopted January 2005; amended through March 2016.

City of Monterey, 2016b. City of Monterey 2015-2023 Housing Element, Adopted March 23, 2016.

City of Pacific Grove, 1994. *City of Pacific Grove General Plan*. Adopted October 5, 1994.

City of Pacific Grove, 2016. Housing Element 2015-2023. Adopted March 16, 2016.

City of Sand City, 2001. *Expanded Environmental Impact Study and Proposed Negative Declaration, General Plan Update 2001-2016*, October 12, 2001.

City of Sand City, 2002. *Sand City General Plan: 2002-2017*. February 2002.

City of Sand City, 2009. *Sand City 2009 Housing Element Initial Environmental Study and Negative Declaration*, December 16, 2009.

City of Sand City, 2010. *City of Sand City Housing Element Update 2009-2014*. February 2010.

City of Seaside, 2004a. *Seaside General Plan*. Adopted August 5, 2004.

City of Seaside, 2004b. *Final Seaside General Plan EIR*, Volume 1, January 2004.

City of Seaside, 2010. *Public Review Draft Initial Study/Proposed Negative Declaration for the of Seaside Local Coastal Program*, August 2010.

City of Seaside, 2011a. Housing Element Update, adopted by the Seaside City Council January 27, 2011.

City of Seaside, 2011b. *Public Review Draft Initial Study/Proposed Negative Declaration: City of Seaside Housing Element Update 2009-2014*, September 2010, adopted by the Seaside City Council January 27, 2011.

City of Seaside, 2015. Letter to Andrew Barnsdale, CPUC, from Diana Ingersoll, Deputy City Manager-Resource Management Services, City of Seaside, RE: Comments on the DEIR for the Monterey Peninsula Water Supply Project, including letter Attachment 3, Draft Water Supply Assessment of West Broadway Urban Village Specific Plan, prepared for City of Seaside by Schaaf & Wheeler in 2008. June 20, 2015.

Dean Runyan Associates, Inc., 2016. *California Travel Impacts 1992-2015p*, Prepared for Visit California, April 2016.

Johnston, Desmond, Project Manager, Planning and Environmental, Monterey Peninsula Airport District, telephone communication with Chris Mueller, ESA, November 22, 2013.

Local Agency Formation Commission (LAFCO) of Monterey County, 2011. City of Sand City 2011 Municipal Service and Sphere of Influence Review, Adopted January 24, 2011.

Monterey Bay National Marine Sanctuary (MBNMS), 2010. Guidelines for Desalination Plants in the Monterey Bay National Marine Sanctuary. Prepared by NOAA's Monterey Bay National Marine Sanctuary and National Marine Fisheries Service. Available online at http://montereybay.noaa.gov/resourcepro/resmanissues/pdf/050610desal.pdf. Accessed November 11, 2016.

Monterey County, 2010a. *2010 Monterey County General Plan*. Adopted October 26, 2010.

Monterey County, 2010b. *Monterey County General Plan Final Environmental Impact Report, SCH # 2007121001*, March 2010. (Includes *2007 Monterey County Draft Environmental Impact Report, SCH # 2007121001*, September 2008.)

Monterey County, 2010c. *Revised Supplemental Materials to the Final EIR (October 15, 2010)*, Exhibit I of the Board Package for the October 26, 2010 Board of Supervisors meeting; available online: http://www.co.monterey.ca.us/planning/gpu/GPU_2007/102610_Board_Package/102610_Board_Package.htm.

Monterey County, 2016. *County of Monterey 2015-2023 Housing Element*, Adopted January 26, 2016.

Monterey County Resource Management Agency, 2010. *Initial Study: Housing Element 2009-2014*, April 19, 2010.

Monterey Peninsula Airport District, 1992. *Monterey Peninsula Airport Master Plan Update Final Report*, September 1992.

Monterey Peninsula Water Management District (MPWMD), 2006. Estimated Long-Term Water Needs by Jurisdiction Based on General Plan Build-out in Acre-Feet, Exhibit 1C of Special Meeting/Board Workshop Agenda Item 1, MPWMD Board of Directors Packet. May 18, 2006.

Monterey Peninsula Water Management District (MPWMD), 2008. California American Water consumption data for water years 2003 through 2007; provided by MPWMD to ESA June 13, 2008.

Monterey Peninsula Water Management District (MPWMD), 2013a California American Water consumption data for water years 2008 through 2012; provided by MPWMD to ESA October 18, 2013.

Monterey Peninsula Water Management District (MPWMD), 2013b. Monthly Allocation Report Exhibit 25-A, MPWMD Board Meeting, Item 25, November 18, 2013b.

Monterey Peninsula Water Management District (MPWMD), 2015. Letter to Ken Lewis, CPUC, from David J. Stoldt, General Manager, MPWMD, Subject: MPWMD Comments on Draft EIR for Monterey Peninsula Water Supply Project, CPUC Application A. 12-04-019; Subsequent EIR to SCH# 2006101004, September 14, 2015.

Monterey Peninsula Water Management District (MPWMD), 2016a. Monthly Allocation Report: Entitlements, Reported in Acre-Feet For the month of May 2016, Agenda Item 25-B, Board of Directors Regular Meeting, June 20, 2016. Available online at: http://www.mpwmd.net/asd/board/boardpacket/2016/20160620/June-20-Agenda.htm. Accessed June 28, 2016.

Monterey Peninsula Water Management District (MPWMD), 2016b. California American Water consumption data for water years 2013 through 2015; provided by MPWMD to ESA July 11, 2016.

RBF Consulting, 2013. Memorandum from Paul Findley to Richard Svindland, California American Water, Subject Recommended Capacity for the Monterey Peninsula Water Supply Project (MPWSP) Desalination Plant, January 7, 2013.

Stoldt, David J., 2011. Letter from David J. Stoldt, 2011. General Manager, Monterey Peninsula Water Management District, to Mike Novo, Director of Planning, Monterey County Resource Management Agency, Re: Pebble Beach Company Water Entitlement, December 14, 2011. Available: http://www.co.monterey.ca.us/planning/major/Pebble%20Beach%20Company/DEIR_Comment_Letters/COMMENTb_LETOo_PLN100138_MPWMD_12-14-2011.pdf.

Stoldt, David J., 2013. Direct Testimony of David J. Stoldt Before the Public Utilities Commission of the State of California, Application No. 12-04-019, February 22, 2013.

Svindland, Richard C., 2013. Supplemental Testimony of Richard C. Svindland Before the Public Utilities Commission of the State of California, Application No. 12-04-019 (Filed April 23, 2012), January 11, 2013.

Svindland, Richard C., 2014. Memorandum to Kelly White, ESA, From Richard C. Svindland, CAW, Re: Pipeline Sizing for MPWSP, January 23, 2014.

Svindland, Richard C., 2016. Supplemental Testimony of Richard C. Svindland; ERRATA, Before the Public Utilities Commission of the State of California, Application No. 12-04-019 (Filed April 23, 2012), April 14, 2016, plus Attachment 1, Demand Scenarios.

United States Department of the Army (U.S. Army), 2013a. *Final Environmental Impact Statement, Real Property Master Plan, Presidio of Monterey, California*, February 2013.

United States Department of the Army (U.S. Army), 2013b. *Record of Decision: Presidio of Monterey Real Property Master Plan Final Environmental Impact Statement*, Monterey, California, signed September 20, 2013.

WSC, 2012. *Final 2010 Urban Water Management Plan for the Central Division – Monterey County District*, Prepared for California-American Water Company, Prepared under the Responsible Charge of Jeffery M. Szytel, California R.C.E. No. 63004, September 7, 2012.

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