

Appendix J1

Coastal Water Project EIR Analysis:
MPWMD 2006 Estimate of Long-
Term Water Needs Compared with
Growth Anticipated in Jurisdictions
General Plans

APPENDIX J1

Coastal Water Project EIR Analysis: MPWMD 2006 Estimate of Long-Term Water Needs Compared with Growth Anticipated in Jurisdictions General Plans

[This appendix reproduces Section 8.2.4.1 (pages 8-11 to 8-40) of the *CalAm Coastal Water Project Final Environmental Impact Report*, as certified December 17, 2009. The section presents an analysis of consistency between the level of growth anticipated in the general plans of service area jurisdictions and water for growth proposed to be provided by the Coastal Water Project.]

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8.2.4 Demand Projections and Consistency with General Plans in the Areas Served

8.2.4.1 CalAm Service Area

Future Demand Projections

The CalAm service area component of the Phase 2 Project would provide approximately 4,500 afy to meet projected future demands. MPWMD prepared estimates of future demand for the jurisdictions and unincorporated county land within MPWMD boundaries based on information provided by the jurisdictions. In addition to water needed for anticipated growth, the future demand estimates include water to meet anticipated demand for residential remodeling projects that have been deferred due to restrictions imposed in response to Order 95-10 (such as restrictions on bathroom additions) and a 20 percent contingency factor to address unanticipated water needs or the expected relaxation of current conservation practices and water use restrictions (required to comply with Order 95-10 until a replacement supply is provided) when additional water supply becomes available (MPWMD, 2006b). MPWMD's Technical Advisory Committee, which includes representatives of the affected jurisdictions, recommended, and the MPWMD Board of Directors approved, using build-out of the adopted general plans of the jurisdictions within the MPWMD boundary as the basis for estimating future water needs. To collect the general plan information, MPWMD asked each jurisdiction to provide the following information (MPWMD, 2004):

- A breakdown of potential new single-family and multi-family dwelling units; new non-residential square footage; an estimate of new irrigated park acreage; an estimate of the number of fixture units anticipated for use in remodels, and the amount (in percent) of contingency requested.
- An explanation of the rationale used for calculating the figures submitted in response to the above request.
- General plan information, including the year of the last general plan update and duration and the year the general plan housing element was updated, its duration, and the number of housing units it projects to be built.

The information submitted by the jurisdictions varied considerably, perhaps due to the variability of the general plans and the information presented in them. Most jurisdictions included information on expected number of new single family units, multifamily units, secondary units, and residential remodels for their residential demand and information on the area available for non-residential development. Information on non-residential development sometimes included a breakdown of demand for commercial, industrial, public, and other land uses. Based on the development information provided by the jurisdictions, MPWMD prepared water demand projections using water use factors for the various types of anticipated water uses. The use factors were developed and agreed upon by the MPWMD's Water Demand Committee based on current usage data.

Table 8-5 summarizes MPWMD's estimates of additional long-term water needs by jurisdiction. **Table 8-6** presents current consumption information for each jurisdiction as well as estimates of total current production with which to compare the jurisdictions' projected additional demands. The

**TABLE 8-5
ESTIMATED LONG-TERM WATER DEMANDS BY JURISDICTION (afy^a)**

Jurisdiction	Future Single Family Residential Demand (afy^a)	Future Multi-Family Residential Demand (afy^a)	Future Second Units Demand (afy^a)	Subtotal: Future New Residential Demand (afy^a)	Future Residential Remodels (afy^a)	Future Non-Residential Demand (afy^a)	Other Future Demand^b (afy^a)	Total Additional Future Demand (afy^a)
City of Carmel	19	56	25	100	120	20	48	288
City of Del Rey Oaks	5	0	0	5	5	30	8	48
City of Monterey	46	426	0	472		123	110	705
City of Pacific Grove	73	376	298	747	43	260	214	1,264
City of Sand City	48	68	0	116		210	60	386
City of Seaside	133	21	44	298	4	283	97	582
Monterey County (Unincorporated)	892	0	0	892	37	10	196	1,135
Monterey Peninsula Airport District	0	0	0	0	0	115	23	138
Total				2,530	209	1,051	755	4,545

^a afy = acre-feet per year.

^b Other demand consists of a 20 percent contingency applied to each jurisdiction and residential retrofit credit repayments for several jurisdictions.

SOURCE: MPWMD, 2006b.

TABLE 8-6
ESTIMATED CURRENT AND FUTURE WATER DEMANDS BY JURISDICTION (afy^a)

Jurisdiction	A	B	C	D	E	F
	Current Consumption (afy ^a) ^b	Current Unaccounted -For-Water ^c (afy)	Current Production ^d (afy ^a)	Total New Future Demand ^e (afy ^a)	New Demand as Percent of Current Production (%)	Jurisdiction New Demand as Percent of Total New Demand (D/4,545) (%)
City of Carmel	760	95	854	288	34%	6%
City of Del Rey Oaks	158	20	178	48	27%	1%
City of Monterey	3,922	488	4,411	705	16%	16%
City of Pacific Grove	1,564	195	1,758	1,264	72%	28%
City of Sand City	107	13	121	386	319%	8%
City of Seaside	1,866	232	2,098	582	28%	13%
Monterey County (Unincorporated)	4,218	525	4,743	1,135	24%	25%
Monterey Peninsula Airport District	See note f	See note f	See note f	138	See note f	3%
Total	12,595	1,568	14,163	4,545	32%	100%

^a afy = acre-feet per year.

^b Existing consumption for CalAm jurisdictions is the annual average based on consumption data for water years 2003 through 2007 provided by CalAm to MPWMD. Consumption refers to the total water *delivered* to CalAm's customers; it does not include unaccounted-for water.

^c Unaccounted-for water is typically defined as the difference between total water produced and total water billed (or consumed), and includes water delivery system leaks, water not billed or tracked in the system, such as water used for fire fighting and system flushing, and any unauthorized use. The estimated unaccounted-for water shown in this table is based on the average percent unaccounted-for water for the CalAm main Monterey water system as a whole for water years 2003 through 2007 (11.1 percent) applied to each jurisdiction.

^d Jurisdiction production was calculated based on the jurisdiction-specific consumption estimates shown here and an assumed unaccounted for-water factor of 11.1 percent of total production.

^e From Table 8-5.

^f Background documentation used for this analysis do not show separate consumption information for the Monterey Peninsula Airport District; the airport district's existing demand is included with Monterey County (Unincorporated).

SOURCE: CalAm, 2006; CalAm, 2007, MPWMD, 2006b. MPWD,2007.

current consumption estimates are the average of the past five years of consumption data (the most recent for which data are available, for water years 2003 through 2007)¹. Unaccounted-for- water² shown in Table 8-6 is based on the average percent unaccounted-for water for the CalAm main Monterey water system as a whole for water years 2003 through 2007 (11.1 percent) applied to each jurisdiction. The portion of new demand that would be used by each jurisdiction is also shown.

¹ Based on consumption data provided by CalAm to MPWMD.

² Unaccounted-for water is the difference between total water produced and total water billed to customers (water consumed) and typically includes fire fighting use, maintenance requirements, system flushing, leaks, and any unauthorized use.

Jurisdiction Projections

This section presents a summary of each jurisdiction's projected demand and compares the information on development potential submitted to the MPWMD for development of water demand projections with information contained in the jurisdiction's general plan or related planning documents.

Table 8-7 summarizes the estimates of existing and projected population and housing units presented in the jurisdictions' planning documents. As shown, few included projections of future population; the documents (especially the Housing Elements) provided more specific information on existing and planned housing within the jurisdictions. Since the plans vary in age and not all provide estimates of existing population and housing, that data from the 2000 census is also provided, for informational purposes.

**TABLE 8-7
GENERAL PLAN EXISTING AND PROJECTED POPULATION AND HOUSING ESTIMATES
AND 2000 CENSUS INFORMATION**

Jurisdiction	U.S. Census 2000	General Plan Existing	General Plan Buildout	Percent Change from Existing: General Plan Estimates
POPULATION				
City of Carmel	4,081	4,081	N/A	See note e
City of Del Rey Oaks	1,650	1,692 ^a	N/A	See note e
City of Monterey	29,674	30,350	34,658	14%
City of Pacific Grove	15,522	N/A	N/A	See note e
City of Sand City	261	261	1,295	396%
City of Seaside	31,696	31,696	N/A	See note e
Monterey County (Unincorporated)	101,414	21,813 ^b	N/A	See note e
HOUSING UNITS				
City of Carmel	3,334	3,433	N/A	See note e
City of Del Rey Oaks	727	N/A	N/A	See note e
City of Monterey	13,383	13,420	15,555	16%
City of Pacific Grove	8,032	7,702	13,133	71%
City of Sand City	87	90	587	552%
City of Seaside	11,005	11,005	15,483 ^c	41
Monterey County (Unincorporated)	37,139	10,706 ^d	25,439 ^d	138%

N/A = Not available: not specified in general plan or general plan CEQA document.

^a Del Rey Oaks population in 1996 according to the 1997 General Plan.

^b 1980 population for the unincorporated portion of the Monterey Peninsula subarea of the 1982 General Plan (the currently adopted general plan for the County). According to the 1982 plan, the 1980 population for the entire unincorporated area of the county was 84,497; the population for the Monterey Peninsula subarea (unincorporated land only) was 21,813, and the population of the North County subarea (unincorporated) was 29,163. (The General Plan also provides population estimates for six other subareas that are outside the project vicinity.)

^c Number of housing units in Seaside at buildout is based on the 2000 census estimate of 11,005 units plus buildout for the total city of 4,478 (maximum potential for North Seaside and Seaside Proper shown in Housing Element Technical Appendix Table 33); potential additional buildout in Seaside Proper, the part of the City served by CalAm, is 415. Information on existing units for Seaside Proper only is not provided.

^d General Plan existing and projected housing units are not comparable to the 2000 census estimate, which is for the entire unincorporated area of the County; the General Plan existing and projected housing units shown here are for the unincorporated area of the Monterey Peninsula, from the 1984 Greater Monterey Peninsula Area Plan (a component of the General Plan).

^e Cannot be calculated from information in the General Plan.

SOURCES: City of Carmel, 2003a; City of Del Rey Oaks, 1997; City of Monterey, 2004; City of Pacific Grove, 1994; City of Sand City, 2002; City of Seaside, 2003; Monterey County, 1982; U.S. Census Bureau, 2000; California Department of Finance, 2008.

Each jurisdiction summary provides the following:

- The date of the general plan and general plan housing element and their respective build-out or planning horizon years
- A summary of the information on development potential based on general plan buildout submitted by the jurisdiction to MPWMD (the basis for the projected water demands)
- Revisions, if any, to the submitted information reflected in MPWMD's final demand estimates. The discussion is based on a comparison of the buildout estimates submitted by the jurisdiction, MPWMD's June 2005 draft estimate of long-term water needs (which includes MPWMD's assumptions about residential and non-residential development; water use factors; and other components of demand) (MPWMD, 2005) and MPWMD's final demand estimate (Exhibit 1-C at the May 18, 2006 MPWMD Board workshop and presented in Table 8-5, above) (MPWMD, 2006b), which shows only the water demand estimate for each demand component. The purpose of this discussion is to disclose any changes in assumptions regarding expected future development that may be reflected in MPWMD's water demand estimates compared to the development assumptions submitted by the jurisdiction. Any revisions made subsequent to the jurisdictions submittal resulted from communications between the jurisdictions and MPWMD (Pintar, 2009),
- The estimated total new (future) demand and the subtotal of future demand for new residential and new non-residential development
- A discussion of the consistency of the submitted information with information presented in the jurisdiction's general plan, housing elements, and other related general plan documents and CEQA analyses.
- Recognizing the critical role of water in development considerations on the Monterey Peninsula in recent years, a summary of the existing constraints on planned development posed by existing water supplies as described in the general plan is also included.

City of Carmel

General Plan and Housing Element dates and planning periods

- Carmel's General Plan was adopted June 3, 2003 and has a planning period of 20 years.³
- The Housing Element was last updated July 2003 and covers the planning period of July 2002 through June 2007.

Buildout information submitted by City (City of Carmel, 2004)

- Potential new single-family dwellings: 69 units
- Potential new multi-family dwellings: 257 units, including:
 - 165 units in the city's multifamily residential district (35 units) and three commercial districts (130 units)
 - 92 units potentially constructed on city-owned property
- Second units: None indicated

³ Specifically, the General Plan states (p. I-10) "Twenty years is a reasonable time horizon for the General Plan but it should be reevaluated in detail after ten years. This General Plan has been developed as a working Plan and its evaluation should be a continuing process." The City's submittal to MPWMD indicates a planning period of 20 years.

- Non-Residential square footage: 292,351 square feet (sf); including:
 - 268,946 sf (total) in Central Commercial and Service Commercial Districts
 - 23,405 sf in Residential and Limited Commercial District
- Remodels: 13,277.5 fixture units (1 bathroom per dwelling, 2,825 dwellings, 4.7 fixture units per bathroom)
- Carmel suggested a 10 percent contingency factor; ultimately 20 percent was used for all jurisdictions.

Revisions reflected in the MPWMD demand estimate (MPWMD, 2005; 2006b)

- The demand estimate includes 25 afy for approximately 282 second units, which were not shown in Carmel's submittal.
- Assumes 2,543 existing dwelling units for purposes of calculating remodel demand; Carmel's submittal indicated that there were 2,825 dwelling units in the R-1 District and assumed one new bathroom for each.

Demand summary

- The estimated future (additional) demand for Carmel is 288 afy, including 100 afy for new residential development, 120 afy for remodels, and 20 afy for new non-residential development.

Consistency of Growth Assumptions with General Plan

- *Residential development potential.* The estimate of 69 single family units is consistent with the General Plan Housing Element, which indicates the potential development of 69 additional single family residences (City of Carmel, 2003b). The estimate of 165 multifamily units in the multi family and commercial districts is consistent with the General Plan Housing Element, City of Carmel, 2003b) which shows development potential of 165 units within the element's 2002-2007. Although the Housing Regarding multi-family units within the housing element timeframe (2002-2007), the Housing Element shows development potential of 165 units of multi-family housing, which is 92 fewer units than the 257 units indicated in the City's submittal to MPWMD. This difference is due, however, to the element's short time horizon. The element indicates that existing zoning allows for the theoretical development of 2,002 additional multi-family units, but that several practical considerations necessitate the reduction of this estimate, resulting in the figure of 165 considered feasible within the housing element timeframe. The largest reduction was by 589 units to account for sites "that were unlikely to be redeveloped or have significant additions within the [Housing Element's] five-year planning horizon." Among these sites are ones that are currently occupied by essential public services and sites occupied by relatively new structures that are unlikely to be redeveloped at higher densities in the near term. The City's submittal to MPWMD states that "staff has identified the potential for 92 additional housing units that could be located on City-owned properties (Sunset Center, Public Works, etc.)" consistent with the housing element characterization of some of the parcels identified as having redevelopment potential. The housing element also includes a policy (Policy P3-35) and program (Program 7) to consider use of surplus public land for opportunities to develop low-cost senior housing, although the potential development of such sites is not quantified. Therefore, the City's submittal appears to be consistent with relatively long term development potential anticipated in the General Plan. It should be noted, however, that the Housing Element acknowledges that previous Housing Element also included policies calling for development of housing on surplus public land, but that such development did

not occur in the timeframe of the previous housing element. Nevertheless it is reasonable to assume 92 of 589 units (16 percent of the units considered to have longer term development potential) could in fact be developed or redeveloped within the timeframe of general plan buildout.

- Second units:* Although Carmel's submittal to MPWMD did not indicate development potential for second units, MPWMD includes 25 afy for second units in Carmel. The City has an ordinance that allows second units on larger parcels (City of Carmel, 2003b) and the Housing Element discusses the potential for development of subordinate housing, which includes second units and guest housing on parcels with an existing dwelling. However, the Housing Element estimates far less potential for developing second units -- a total of 45 (25 subordinate units and 20 guest units) compared with MPWMD's estimate. Based on MPWMD's water use factor for second units (0.087), the District's estimate of 25 afy would allow for development of up to 287 units⁴.
- Remodels.* The City's submittal estimates that each of the 2,825 dwelling units in the City's R-1 (single-family residential) district will add a new bathroom. MPWMD's estimate revises the estimated number of dwellings to 2,543 (MPWMD, 2005). Both estimates are generally consistent with information in the Housing Element and AMBAG's estimate of the number housing units in Carmel. According to the Housing Element, 83 percent of Carmel's households are in the R-1 district, AMBAG estimates that Carmel had a total of 3,349 housing units in 2005. Eight-three percent of 3,349 is 2,780 units that would be in the R-1 district, based on the foregoing information, which is fairly close to both estimates, though somewhat closer to that submitted by the city than to MPWMD's (approximately 2 percent lower than the City's and 9 percent higher than MPWMD's).
- Non-residential future development:* Information on commercial development potential in the General Plan is much less specific than the information on residential development contained in the Housing Element discussed above. The City's submittal to the MPWMD, which states that there are approximately 40 acres in the City's three commercial districts is consistent with the Land Use and Community Character Element which indicates that the City's commercial area occupies 39 acres. The General Plan discusses the types of development included in the commercial districts, the importance of limiting the extent of the total commercial district to its 1982 boundaries, and the importance of the districts surrounding the core commercial (CC) district in providing a buffer and transition between the commercial core and the residential neighborhoods. The plan also recommends review of the current uses in these "buffer" districts (designated residential/commercial [RC] and R-4 districts), and states that future development in these areas should be used to achieve a smooth transition to the R-1 districts in both design and land use. However, the discussion does not indicate how much land in the commercial districts may be underdeveloped or otherwise available for future development. The City's submittal indicates that the development areas identified (approximately 0.54 acres in the RC district and 6.5 acres of floor area in the CC and Service Commercial [SC] Districts) are limited to the existing commercial districts and do not assume the expansion or change of the commercial district boundaries, consistent with general plan policy. The submittal indicates that the estimate is based on detailed staff assessment of the commercial districts, likely utilizing background information that would not be expected in a general plan. However, because the general plan does not specifically indicate the potential for new development in these districts, the submittal's estimate of nonresidential development could potentially be inconsistent with general plan buildout.

⁴ MPWMD's May 2005 draft estimate indicates 282 second units; the May 2006 final estimate does not indicate number of units.

Water

The General Plan clearly acknowledges that the existing water shortage is a constraint on planned development. The Housing Element states that “[t]he City is primarily built out and is severely constrained by the lack of water to accommodate new development,” and that “[t]he primary environmental constraint to the development of housing in Carmel is the lack of water. In the August 2002 surveys of property owners in the commercial and residential districts, the lack of water was identified as the greatest impediment to the development of housing. This lack of an available water supply has limited growth in Carmel and throughout the Monterey Peninsula region over the last ten years.”

The plan’s Open Space and Conservation Element state the following under the topic, Water Resources:

A major concern in Carmel is the availability of water for current land use and growth as defined in this Plan. The conservation, development and utilization of water resources is essential to Carmel and its environs....

The element outlines City policies to protect and conserve its water resources. The per capita consumption data presented, which includes information on other cities on the peninsula, is for 1980 and 1981, and therefore may not reflect current consumptions rates which would likely be more efficient today due to state plumbing code requirements and regional and/or local conservation programs.

City of Del Rey Oaks

General Plan and Housing Element dates and planning periods

- Del Rey Oaks’ General Plan is dated January 1997 and has a planning period of approximately 20 years (City of Del Rey Oaks, 1997).
- A draft update of the Housing Element was prepared in August 2006; however, as of October 2008 it has not been adopted; therefore the applicable planning document for the City is the 1997 General Plan.

Buildout information submitted by City (City of Del Rey Oaks, 2005)

The City submitted the following buildout information:

- Potential new single-family dwellings: 17 lots of record for residential housing
- Potential new multi-family dwellings: None specifically indicated (see single family information above)
- Non-Residential: 300 room hotel and mixed use development on City-owned 17 acre parcel and revitalization of City-owned 10-acre golf driving range
- Remodels: 100 residential remodels - bathroom units
- Other: None indicated
- Del Rey Oaks suggested a 10 percent contingency factor; ultimately 20 percent was used for all jurisdictions.

The submittal expressly excludes development on lands located within the former Fort Ord army base, which has another water supply source (MCWD).

Revisions reflected in the MPWMD demand estimate (MPWMD, 2005; 2006b)

- None (although specific assumptions for commercial demand are not shown).

Demand summary

- The estimated future (additional) demand for Del Rey Oaks is 48 afy, including 5 afy for new residential development and 30 afy for new non-residential development.

Consistency of Growth Assumptions with General Plan

- Residential development potential. The submittal estimate of 17 lots of record for residential housing is inconsistent with the 1997 General Plan, which indicates the potential for developing 5 additional single family residential units (City of Del Rey Oaks, 1997). It is noted that the estimate is more consistent with the Final Review Draft of the Del Rey Oaks Housing Element, dated August 10, 2006, which indicates the potential for 23 additional residential units to be developed within Del Rey Oaks (Del Rey Oaks, 2006). However, the draft Housing Element has not been adopted and therefore is not a valid, adopted plan; the 1997 General Plan is the currently adopted land use planning document for the City.
- Remodels. The City's estimate of 100 residential remodels (bathroom units) would represent about 14 percent of the total of 727 housing units in Del Rey Oaks, according to the 2000 census.
- Non-residential future development. Information regarding the 300-room hotel and mixed use development on a 17-acre City-owned parcel is generally consistent with the General Plan. The section of land between Highway 218 and North South Road designated general commercial -visitor-serving is approximately 17 acres⁵ and is assumed to be the parcel referenced in the submittal. The general commercial visitor serving districts accommodate motels, hotels and restaurants among other commercial land uses. Table 1 of the General Plan lists two potential hotels, one of which (with 316 rooms) would be on Fort Ord Reuse Authority (FORA) land the City is planning to annex; since FORA lands have another water supply source it would not be included in the submittal to MPWMD. (As noted, the submittal explicitly states that development on FORA parcels is not included.) The other hotel development listed in General Plan Table 1, for a parcel within the existing City boundary (i.e., not part of FORA lands), is part of an office park/hotel development which indicates a 205-room hotel. While the submittal's hotel and mixed use land uses are generally consistent with the office park/hotel designation, the general plan indicates a 205-room hotel rather than a 300-room hotel. Thus, while the mixed use development indicated in the submittal is assumed to be equivalent to the office park development indicated in General Plan Table 1, the City's submittal to MPWMD reflects a more intensive hotel development (111 more rooms with the estimated 316-room hotel, compared with the 205-room hotel indicated in the 1997 general plan).

The submittal does not elaborate on what is meant by revitalization of the 10-acre driving range on City-owned parcel but MPWMD appears not to have allocated water for it; the commercial demand of 30 afy presumably reflects 300 hotel rooms (consistent with the City's submittal) times the MPWMD's water use factor for hotel rooms of 0.10 af per room.

⁵ Estimate of size is based on the Final Review Draft Housing Element, which includes a figure showing the size of parcels; the parcel between Highway 218 and North-South Road is shown as 16.09 acres.

Water

The 1997 General Plan addresses the need for water to support future growth, stating that “[w]ater is a paramount concern for all jurisdictions on the Monterey Peninsula. The recent drought led to water conservation measures throughout the Monterey Peninsula. Although 1994/1995 and 1005/1996 were relatively wet years, other events [voter rejection of a ballot measure to construct a desalination plant and issuance of SWRCB Order 95-10] have magnified concern regarding the availability of water to support additional growth.”

City of Monterey

General Plan and Housing Element dates and planning periods

- Monterey’s General Plan was adopted in January 2005 and has a long-range planning period of 10 to 20 years.⁶
- The Housing Element is included as part of the General Plan (adopted January 2005) and, based on the implementation schedule of its goals and programs, its planning period extends through 2007.

Buildout information submitted by City (City of Monterey, 2005a)

- Potential new single-family dwellings: 163 units
- Potential new multi-family dwellings: 500 units in areas designated for multi-family dwellings and 1,302 units in areas designated for mixed use
- Potential new military quarters at the Defense Language Institute and Naval Postgraduate School: 170
- Non-Residential square footage: 398,574 sf, combined total for the Downtown/East Downtown, North Fremont, Lighthouse/Wave, and Cannery Row districts; assumes
 - 60 percent in each district would be low water use (MPWMD Group I category of non-residential use)
 - 40 percent would be high water use (MPWMD Group II category of non-residential use)
- Remodels: None indicated
- Other: None indicated
- Monterey suggested a 20 percent contingency factor, which was ultimately adopted for all jurisdictions.

Buildout information submitted by Department of the Army for the Presidio of Monterey (U.S. Department of the Army, 2005)

- The Presidio submitted a separate estimate of future growth at the facility, as follows (summary of detailed listing):
 - New non-residential: 23.03 afy
 - Net demand for new barracks (new demand minus demand for barracks planned for demolition)⁷: 25.19 afy

⁶ The General Plan states (p. 4) that it includes both intermediate (5 to 10 years) and long range (10 to 20 years).

⁷ Demand for barracks included in the Presidio’s submittal is included in MPWMD’s estimate of nonresidential demand for the City.

- Total new demand: 48.22 afy

Revisions reflected in the MPWMD demand estimate (MPWMD, 2005; 2006b)

None pertaining to residential development potential; new military quarters for Defense Language Institute and Naval Postgraduate School included in the City's submittal are combined with Monterey multifamily dwellings for a total of 1,972 units. (Monterey had included different water use factors for residential uses that were lower than the standard factors used by MPWMD to calculate demand.⁸)

The City estimated that additional nonresidential demand would be 49 afy, whereas MPWMD estimate is 75 afy⁹. This may but does not necessarily reflect a change in nonresidential development assumptions from those in the City's submittal. The City's estimate that 49 afy would be needed for future non-residential development was based on the assumption of a 60 percent - 40 percent split between low- and high-water-use commercial land uses on 398,574 square feet available for future commercial development, and use of MPWMD's standard water use factors (0.00007 af/sf for low-use¹⁰ and 0.0002 af/sf for high use¹¹). As noted, the final MPWMD demand estimate indicates non-residential use of 75 afy for the City. Assuming the same total area of new commercial development estimated by the City (398,574sf), MPWMD's estimate implies an average water use factor of 0.0002 -- MPWMD's use factor for Group II - high-water-use land uses. MPWMD's list of Group II land uses consists of the following: bakery, pizza, dry cleaner, deli, coffee house, supermarket and convenience shop, and sandwich shop. While it is reasonable to assume that some of these types of land uses would be developed, no rationale is provided to explain why other lower water-use development would not also be expected to occur in part of the remaining area (as the City's submittal suggests).

Demand summary

- The estimated future (additional) demand for Monterey is 705 afy, including 472 afy for new residential development and 123 afy for new non-residential development.

Consistency of City of Monterey Growth Assumptions with General Plan

- *Residential Development Potential.* The estimate of 163 single family units is consistent with the estimate shown for single family use in the General Plan (City of Monterey, 2005b) and General Plan Final EIR (City of Monterey, 2004). The estimate of 500 units in designated multi-family areas and 1,302 multi-family units in designated mixed-use areas is consistent with the estimates shown in the General Plan and General Plan Final EIR. The estimate of 170 units for the Defense Language Institute and Naval Postgraduate School is consistent with estimate shown in the General Plan and General Plan Final EIR.
- *Non-residential future development.* There is no quantitative information on non-residential area or development potential in the General Plan or General Plan EIR by which to verify that the City assumes its commercial districts are 90 percent developed (or, conversely, that

⁸ The MPWMD's Technical Advisory and Water Demand committees worked to develop the approach to estimate future demands (which was then approved by the Board of Directors), which included use of standard water use factors for all jurisdictions for different types of water use. Therefore, jurisdictions were not asked to submit water use factors with their build-out estimates, although some (including Monterey) did.

⁹ Based on background materials (MPWMD's May 20, 2005 draft demand estimates) this analysis assumes that MPWMD's final estimate of 123 afy for non-residential use for Monterey includes 48 afy for the Presidio of Monterey and 75 afy for the City.

¹⁰ This is MPWMD's standard water use factor for low-to-moderate (Group I) non-residential water uses (Regulation II, Rule 24, Table 2).

¹¹ This is MPWMD's standard water use factor for high (Group II) non-residential water uses (Regulation II, Rule 24, Table 2).

about 10 percent of the total commercial development potential remains and would be developed in either the General Plan or CWP planning horizons) as implied by the calculations submitted by the city (described below). Qualitative discussion of development potential in both the General Plan and General Plan EIR focuses on residential development potential. The General Plan EIR states that “[c]ommercial development will continue to occur in the City’s existing areas...,” indicating that some additional commercial development is expected (City of Monterey, 2004).

The City’s estimate of new development in its commercial areas was estimated based on (1) the total area of each of four commercial districts (Downtown/East Downtown, North Fremont, Lighthouse/Wave, and Cannery Row); (2) the lot coverage standard for the districts (50 percent for three districts and 100 percent for one); and (3) the assumption that new (future) development represents 10 percent of total allowable development within the four districts. The City’s estimate includes “anticipated development,” which refers to total development area (calculated from the total area times the allowable lot coverage), and “anticipated new development” which is 10 percent of the total anticipated development. By this approach, total new development for the four districts combined was estimated to be 398,574 square feet, the basis for the City’s estimate of water demand. The City estimated that 60 percent of the new development would be low-water uses (use factor of 0.00007) and 40 percent would be high water uses (use factor of 0.0002), resulting in total new non-residential demand of 48 afy. As discussed above, MPWMD’s final estimate, 75 afy, suggests that the higher water use factor was applied to the entire area.

The City’s estimate of the total size of its districts is assumed to be factual. However, the City’s basis for assuming that 10 percent of its commercial districts are yet to be developed is not indicated in the submittal and is neither supported nor contradicted by information in the General Plan, since there is little specific information on development or development potential in the commercial districts. Given that some additional non-residential development is expected, although the City is largely built out, an estimate of 10 percent is reasonably conservative for purposes of estimating future water demands. As noted above, MPWMD revised the estimate of future nonresidential demand from that included in the City’s submittal. Although the basis for this revision is not indicated in memoranda and background materials (provided in Board of Directors and Committee meeting packets and presentations) on the future demand estimates, the revised estimate is consistent with an assumption of the same area of new nonresidential development estimated by the City but with Group II (water use rate) land uses. While it may be reasonable to expect that at least some of the new nonresidential development would include low water-use (Group I) land uses (as the City’s submittal indicated), the difference between the two estimates (26 afy) relative to Monterey’s size and overall water demand is minor (less than 1 percent of the City’s current consumption) and would not constitute excess capacity that could substantially fuel growth that is unforeseen in the City’s estimate.

Consistency of Presidio of Monterey Growth Assumptions with Presidio Master Plan

The last adopted master plan for the Presidio was adopted in 1982. The development and future water needs estimate provided to MPWMD was based on a water supply assessment that had been prepared prior to the submittal. Planning at the facility is not currently operating under an approved or adopted land use plan, and projects have been required to receive approval by headquarters “on an exception basis ... based on draft development plans (which can evolve fairly rapidly)” (Elliott, 2008a). Presidio staff are currently working on a new Master Plan, which cannot be approved prior to completion of an

environmental impact statement (EIS) on the draft plan. The EIS is expected to be completed within 19 to 24 months (Elliott, 2008a).

In addition, the Presidio's recent planning efforts have resulted in a revised estimate of development at the Presidio and future water needs from that included in the submittal to MPWMD. The Presidio's current "working" estimate is 67 afy [compared to the 48.22 afy estimate submitted to MPWMD in 2005] which includes a 25 percent reserve for unforeseen projects (Elliott, 2008a). The Army has existing water rights at the former Fort Ord Army Base and is considering what potential there may be, if any, to tap some portion of those rights to meet new demands at the Presidio (Elliott, 2008b).

Water

According to the General Plan Conservation Element (City of Monterey, 2005b), "[l]ack of available water is a primary obstacle to meeting General Plan goals; therefore, it must be the goal of the City of Monterey and this Plan to obtain a long-term, sustainable water supply, including evaluation of water supply options outside the present Monterey Peninsula Water Management District (MPWMD) framework.... Monterey has reached the limits of its allocation and has very little water available to meet housing, economic, and public facility goals. The MPWMD has not provided a stable, long-term source of water, and many of the alternatives proposed by the District would provide only enough water for short-term needs. This Plan requires actions to provide adequate water supplies...."

City of Pacific Grove

General Plan and Housing Element dates and planning periods

- Pacific Grove's General Plan was adopted in 1994 and has a planning horizon of 2010 (City of Pacific Grove, 1994).
- The Housing Element was adopted in December 2003; based on timeline information for its goals and programs it appears to cover the period 2003 through 2007. AMBAG's housing needs estimate included in the element are for the period 2000 to 2007 (City of Pacific Grove, 2003).

Buildout information submitted by City (City of Pacific Grove, 2005)

- Potential new single-family dwellings: 262 units, including:
 - 133 units on building sites on multiple lot parcels
 - 61 units in new subdivisions
 - 68 units on vacant sites
- Second units: 3,426 units
- Potential new multi-family dwellings: 1,743 units, including
 - 1,128 units in commercial districts
 - 566 units on under-utilized multi-family sites
 - 12 units on building sites derived from multi-family sites in R-2 districts
 - 37 units on vacant sites
- Non-Residential square footage: 1,270,000 sf of commercial use and 318 rooms for visitor accommodation, including
 - 635,000 sf in low to moderate water use commercial uses
 - 635,000 sf in high water use commercial uses

- visitor accommodation includes 270 rooms for one downtown block occupied by the Holman Building and a net gain of 48 motel rooms on four site in the R-3-M zone
- Remodels: 924 including
 - 362 residences adding one full bath
 - 362 residences adding two full baths
 - 200 demolition/rebuild projects between 2005 and 2025
- Other: 25 acre feet for public water requirements
- Pacific Grove suggested a 20 percent contingency factor, which was ultimately adopted for all jurisdictions.

In its submittal, the City emphasized that its estimates were based on the General Plan and subject to change, and that the City assumed the requested information was for purpose of estimating long term need and not as a basis for future allocations (City of Pacific Grove, 2005).

Revisions reflected in the MPWMD demand estimate (MPWMD, 2005; 2006b)

None pertaining to residential development. With respect to non-residential land uses, MPWMD does not show a separate listing for Pacific Grove's stated public water requirements of 25 afy, which is assumed to be included in the estimate for future non-residential demand of 260 afy. This is slightly lower than the City's combined estimate for non-residential and public water use totaling 263. The City used MPWMD Group I and Group II use factors for its estimates of demand for low-to-moderate and high water use demand. The assumptions underlying MPWMD's estimate of 260 afy are not shown, but are minor and assumed roughly the same level of nonresidential development indicated in the City's submittal.

Demand summary

- The estimated future (additional) demand for Pacific Grove is 1,264 afy, including 747 afy for new residential development and 260 afy for new non-residential development.

Consistency of Growth Assumptions with General Plan

- **Residential Development Potential.** The estimate of 262 new single family units -- including the breakdown shown above -- is consistent with information on residential development potential (maximum potential additional units) presented in Figure 2-4 of the General Plan (City of Pacific Grove, 1994). The estimate of 3,426 second units also is consistent with the information presented in Figure 2-4. With respect to construction of second units, the General Plan states that second units are being added at a slower pace than the total permitted potential suggests, as follows:

Of the 5,431 new units possible in the theoretical build-out projection for Pacific Grove, 3,426 are new secondary units on sites with existing single-family dwellings. However, over the past 10 years during which zoning has allowed secondary units, only 42 have been built. Leaving aside the lack of water, this experience suggests that there will be a steady trickle of new secondary units, but not a flood of thousands. All other sources of new units—intensification of use on current sites, subdivision of lots, development of buildable lots, and vacant lots—would produce at most 2,000 units, and again, past trends lead to the conclusion that new development will occur at a measured pace (City of Pacific Grove, 1994).

- The estimate of 1,743 multi-family units -- including the breakdown shown above -- is consistent with information on development potential presented in Figure 2-4 of the General Plan.
- Non-residential future development. The estimate of 1,270,000 square feet of additional commercial development is consistent with information presented in the General Plan. (City of Pacific Grove, 1994). The estimate of 48 new motel rooms in the R-3-M zone is consistent with the General Plan, which states that “replacing existing motels with motels developed to the maximum density allowed in the R-3-M district would result in a net gain of 48 units on four sites” (City of Pacific Grove, 1994). Development of the Holman Building for hotel use is consistent with the General Plan information, which indicates that City voters passed a ballot measure in 1994 to allow condominium and hotel use in the Holman’s block of Downtown (City of Pacific Grove, 1994) and with General Plan Policy 18, which states: “Support hotel development in the former Holman’s block of the Downtown, as allowed by adoption of an initiative measure by city’s voters in June 1994” (City of Pacific Grove, 1994).
- Additional considerations. Although the City’s estimates of future residential and non residential development submitted to the MPWMD are in fact consistent with information presented in the adopted general plan, several points should be noted:

First, the new development estimates presented in General Plan Figure 2-4 -- which are the same as those included in the City’s submittal -- are estimates of “maximum potential additional” development. As the text on residential development excerpted from the general plan above indicates, rather than development at the maximum potential allowed under planning and zoning, development rates in the City suggest that the maximum development potential may not be reached, suggesting in turn that the new development estimates in the submittal are higher than would reasonably be expected.

Second, although the City’s General Plan was adopted in 1994, the 2005 submittal to MPWMD does not make any adjustments to account for the development foreseen in 1994 that subsequently occurred over the ensuing 10 years. That is, all the future development anticipated in 1994 is still assumed to be future additional development in the City’s 2005 submittal. Ordinarily it would be reasonable to assume that some of the development foreseen 10 or 11 years earlier would have already occurred, in which case such development would already be served by existing water supplies and should be excluded from current estimates. However, the General Plan states that additional water would be needed to support much of the growth anticipated in the plan (see discussion under Water, below). Given the constraints on supply and the effect this has had in limiting development potential, the 1994 plan would remain a reasonable source for future demand projections.
- Remodels. According to the City’s submittal, the estimate of the number of residential remodels is based on the average annual rate for the preceding four years, applied to the next 20 years (2005 to 2025), a reasonable approach to take for this estimate. (MPWMD applied the standard remodel water use factor to the estimated number of remodels, which revised the suggested use factors included in the City’s submittal. As noted previously, use factors were not requested by MPWMD, and common use factors were used for all jurisdictions.)

Water

The General Plan summarizes the constraints placed by the existing water supply limitations on the level of development envisioned in the plan as follows: “The theoretical build-out

projections, while necessary to define the maximum development potential of this General Plan, point to much greater development than can be supported by recent trends. The Monterey Peninsula Water Management District's moratorium on new construction in response to the prolonged drought of 1987 through 1992 curtailed new construction in the city. Because there are few sources of new water for development on the Monterey Peninsula, the limited water supply will continue to shape land use in this area in the future.... Realistically, the potential for new development in Pacific Grove will not be realized unless additional new sources of water become available" (City of Pacific Grove, 1994).

City of Sand City

General Plan and Housing Element dates and planning periods

- The Sand City General Plan 2002-2017 was adopted in 2002 and covers the planning period shown in the title¹².
- The Housing Element was adopted April 1, 2003 and covers the period from 2002 to 2007.

Buildout information submitted by City (City of Sand City, 2005):

- Potential new residential dwellings: a total of 587 dwellings would eventually exist in Sand City, all small, at small-lot residential/multi-family densities; the City does not differentiate between single-family and multi-family dwellings
- Non-Residential square footage: commercial buildout of 3 million sf
- Remodels: None indicated
- Other: None
- Sand City suggested a 20 percent contingency factor, which was ultimately adopted for all jurisdictions.

The City's submittal to MPWMD includes a memo (to the City's mayor and city council from the director of the community development department) outlining four potential buildout scenarios that had been prepared by City staff for consideration. The buildout estimates summarized above reflect a combination of two scenarios that was selected by the City Council to submit to MPWMD. The memo outlining the buildout scenarios notes that Sand City's planned desalination plant will have a design capacity of 300-acre feet per year (City of Sand City, 2005).

Revisions reflected in the MPWMD demand estimate (MPWMD, 2005; 2006b)

Although MPWMD's estimate of water demand does not indicate the specific growth assumptions that underlie it, based on the standard water use factors that were used to calculate future demand, the estimate is consistent with the stated assumptions in the City's submittal that "a total of 587 dwellings would eventually exist in Sand City." The MPWMD demand estimate includes 48 afy for new single family residential land uses; 68 afy for new multi-family residential uses; and 210 afy for new nonresidential land uses. Based on MPWMD's single family and multi-family water use factors (0.28 and 0.216 respectively), the resulting final demand figures for these categories indicate that 171 new single family and 315 new multi-family units, or a total of 486 new housing units, are

¹² The circulation element covers the planning horizon years 2015 to 2020 (City of Sand City, 2002).

assumed at buildout. Given that there are approximately 100 existing housing units¹³ in Sand City, the MPWMD estimate of 486 new units is consistent with the expectation of a total of 587 housing units in the City at buildout.

It is noted that the attachment included with the City's submittal (the memo cited above to the mayor and city council outlining four buildout scenarios) suggests that 587 *new* units are expected -- i.e., in addition to existing units-- in which case the MPWMD demand estimate would differ from the City's estimate by the approximately 100 existing housing units. It must also be noted, however, that this memo contains several anomalies (e.g., the number of housing units and water factor shown are inconsistent with the estimated water demand shown). Further, because the City's letter to MPWMD (quoted above) unambiguously states that 587 refers to the total number of housing units in the City, and this, in turn, is consistent with the City's General Plan, this analysis assumes that the City considers 587 the total number of existing and projected additional units, consistent with MPWMD's demand estimate.

Regarding future non-residential land uses, MPWMD's estimated demand for non-residential use is 210 afy. Assuming a use factor of 0.00007 acre-feet per square foot (af/sf), MPWMD's standard ("Group I") use factor for low-to-moderate water-use non-residential land uses, MPWMD's estimate is consistent with the City's submittal: 210 afy would serve 3,000,000 commercial square feet, which is the City's estimate. (The City included an estimate of future nonresidential demand that is higher than MPWMD's because the City assumed a higher use factor than the .00007 cited here, the apparent basis for MPWMD's estimate.) Given that the use factors used by MPWMD were agreed upon by all the participating jurisdictions, it is reasonable to rely on MPWMD's estimate.

Consistency of Growth Assumptions with General Plan

- **Residential development potential.** The submittal estimate of a total of 587 housing units at buildout is consistent with the information presented in the General Plan, which also indicates residential buildout totaling 587 units (City of Sand City, 2002, p. 2-9).
- **Non-residential future development.** The buildout estimate of 3 million additional square feet is the high-end estimate of the range of nonresidential buildout potential (1 to 3 million square feet) estimated by City staff that the City Council selected as the estimate to submit to MPWMD. According to the submittal, approximately one third of this buildout is expected to result from intensification of existing uses or new nonresidential uses. The additional buildout potential is expected to result from an evolution of nonresidential land uses, with some older industrial uses leaving the area over the planning period and being replaced by higher density commercial uses consistent with current land use designations (Pooler, 2008). The General Plan includes a table showing the holding capacity allowed by the general plan for various land use designations;¹⁴ this table indicates that more than 9.2 million square feet (which excludes space needed for parking) would be allowed for commercial and nonresidential land uses. The General Plan does not quantify information on existing levels of non residential development against which to evaluate the City's submittal.

¹³ Sand City had a total of 87 housing units in 2000 according to the U.S. Census, and approximately 106 units in 2006, the year MPWMD finalized its demand estimates, according to the California Department of Finance (DOF, 2008 http://www.dof.ca.gov/research/demographic/reports/estimates/e-5_2001-06/documents/E-5_2008%20Internet%20Version.xls)

¹⁴ The table is presented on pp. 2-29 and 2-30 of the General Plan; p. 2-26 refers to it as Table 2-4, General Plan Holding Capacity.

Water

Regarding the existing constraints on water supply, the General Plan Circulation and Public Facilities Element states the following:

Due to the shortage of water on the Monterey Peninsula, the availability of water for new development is limited. This condition will continue until a long-term source of water is developed for the region or desalination plants are constructed. As of 2001, Sand City had essentially allocated all of its presently available water supply to specific development parcels.

The discussion of the water supply shortage states that Sand City has initiated a program to investigate ways to augment its limited water supply and that the primary option under investigation is construction of a reverse osmosis desalination plant within the City limits. The plant could initially produce 300 acre-feet of potable water per year and would be expandable to 450 acre-feet of annual capacity....(City of Sand City, 2002, p. 3-27). Sand City has continued to pursue construction of the desalination plant, which is taken into account in estimates of supplies to meet water demands in the CalAm service area.

City of Seaside

General Plan and Housing Element dates and planning periods

The Seaside General Plan was adopted August 5, 2004, and covers a planning period of approximately 20 years,¹⁵ except for the Housing Element, which covers the period 2002-2007.

Buildout information submitted by City (City of Seaside, 2005)

- Potential new single-family dwellings: 475 net new
- Potential new multi-family dwellings¹⁶: 565 net new
- Non-Residential square footage: 2,760,000 sf, including:
 - Community Commercial: -104,000 sf
 - Regional Commercial: 971,000 sf
 - Heavy Commercial: 853,000 sf [this includes net of -236,000 for heavy commercial presented on a row separate from group I or II with no other identifier]
 - Recreational Commercial: -36,000 sf
 - Vacant/Underutilized Mixed Use Commercial: 1,076,000 sf
- Seaside also provided itemized information for MPWMD Group III commercial uses totaling 10 mgd¹⁷.
- Remodels: 3.67 af. The submittal indicates that this estimate for remodels is based on Exhibit E-10 of MPWMD Board of Directors packet for the September 20, 2004 Board meeting. The relevant table in that exhibit, however, shows the seven-year average of all MPWMD jurisdictions for residential remodels is 3.67 percent of total average demand. The average water usage for remodels for all jurisdictions over this seven-year period was

¹⁵ The estimated General Plan planning period is based on information in the Land Use Element (City of Seaside, 2004, pp. LU-21 and LL-39).

¹⁶ The City's submittal does not use the term "multi-family" to describe its housing categories. Based on water use factors used in the City's submittal, as well as MPWMD's estimates, this analysis assumes that the housing categories other than "low density single family" and "medium density single family" are multi-family housing.

¹⁷ Water demand for Group III uses are calculated based on per unit water use factors for such units as restaurant seats, laundry washers, and gas station pumps rather than on a square footage basis. The City used MPWMD Group III use factors.

5.91 af. Based on information presented in this table, Seaside's seven-year average for remodels was 2.72 af.

- Other:
 - Public Institutional: -148,000
 - Parks Open Space: 5,000
- Seaside suggested contingency included 26.417 af reflecting the difference between the current water usage factor for various land uses and water usage without conservation totaling 216.68 af; anticipated system losses and water for fire fighting totaling 26.417 af; and a contingency factor of 10 percent of its projected residential and non-residential development. Ultimately, 20 percent was used as the contingency factor for all jurisdictions.

Revisions reflected in the MPWMD demand estimate (MPWMD, 2005; 2006b)

The MPWMD retains the number of single family and multi-family dwelling units assumed in the City's submittal and also uses the same estimates of water demand for nonresidential land uses and remodels that were submitted by the City. Because the MPWMD's residential water use factors are slightly different from those included in the City's submittal, however, MPWMD's estimate of residential demand is slightly lower (9.5 af) than the City's.¹⁸ MPWMD excludes both the City's contingency estimates of 216.68 af relating to the potential loss of savings from conservation measures and 26.417 af for system losses, and uses a 20 percent contingency factor, rather than the 10 percent suggested in the City's submittal.

Demand summary

- The estimated future (additional) demand for Seaside is 582 afy, including 154 afy for new residential development and 283 afy for new non-residential development.

Consistency of Growth Assumptions with General Plan

For the most part, the estimate of buildout in the City's submittal to MPWMD is not directly comparable to development estimates in its General Plan (City of Seaside, 2004a) because the submittal estimates do not include North Seaside, the part of the city that was formerly part of the former Fort Ord army base and is not served by CalAm¹⁹ (City of Seaside, 2004a). Consequently, the development levels submitted are equal to or less than the levels anticipated in the General Plan. The estimates of existing development for the city as a whole presented in the January 2004 General Plan FEIR, and for the part of the city served by CalAm presented in the MPWMD submittal (i.e., excluding North Seaside) are shown in **Table 8-8**.

The technical appendix for the General Plan housing element provides, for the component to development expected to occur on vacant/underutilized lands, a breakdown for "North Seaside" and "Seaside Proper" (City of Seaside, 2003), which allows a direct comparison

¹⁸ MPWMD used the factor 0.28 to calculate single-family residential demand, compared to 0.30 used by the City, resulting in a demand estimate that is 9.5 af lower than the City's. MPWMD used the factor 0.216 to calculate all categories of multi-family demand, compared to 0.22 and 0.20 used by the City for different categories, resulting in a demand estimate that is 4.3 af higher than the City's. Overall, MPWMD's estimate of 154 af for new residential demand is about 5.2 af lower than the City's estimate.

¹⁹ The Del Monte Heights area of the central core of the city is served by the Seaside Municipal System from three existing wells. The buildout estimates in the city's submittal are limited to the area served by CalAm.

TABLE 8-8
EXISTING SEASIDE DEVELOPMENT ESTIMATES: ENTIRE CITY AND AREA SERVED BY CalAm

Land Use	General Plan Final EIR Existing Land Uses	Submittal to MPWMD Existing Land Uses (Excludes North Seaside)	Difference
Open Space and Recreation	(sf)	(sf)	(sf)
Parks and Open Space	19,000	19,000	0
Recreational Commercial	1,450,000	53,000	-1,397,000
Residential Designations	(dwelling units)	(dwelling units)	(dwelling units)
Low Density Single Family	5,992	3,655	-2,337
Medium Density Single Family	1,023	1,023	0
Medium Density Multi-Family	187	187	0
High Density Multi-Family	3,120	1,892	-1,228
Mixed Use Residential	3	0	-3
Total Residential Units	10,325 ^a	6,757	-3,568
Commercial Designations	(sf)	(sf)	(sf)
Community Commercial	1,951,000	772,000	-1,179,000
Regional Commercial	3,107,000	2,907,000	-200,000
Heavy Commercial	313,000	312,000	-1,000
Public/ Institutional Designations	(sf)	(sf)	(sf)
Public/Institutional	6,178,000	992,000	-5,186,000
Special Designations	(sf)	(sf)	(sf)
Mixed Use Commercial	16,000	0 ^b	-16,000

^a The Housing Element Technical Appendix cites the 2000 U.S. Census determination there were 11,005 housing units in City in 2000. Information from the FEIR is used here, however, because the breakdown of housing types in the FEIR analysis is comparable to the breakdown submitted by the City to MPWMD.

^b The City's submittal indicates area within the mixed use commercial designation as existing use; however it is under the category of "vacant/underutilized" land. Therefore it is assumed to be expected future development and is included.

SOURCE: City of Seaside 2004b; City of Seaside, 2005.

with the City's submittal to MPWMD for that component, and indicates the two projections are consistent. Specifically, estimated buildout of vacant/underdeveloped presented in the City's submittal includes a total of 415 new residential units, which is shown for "Seaside Proper" in the technical appendix (Table 33), and a total of 1,076,000 sf of new commercial development in mixed-use district (861,000 sf in the Group I water-use category and 215,000 sf in the Group II water-use category), which can be derived from information presented for "Seaside Proper" in the technical appendix (Table 33) and the City's assumed 80 percent-20 percent split of Group I and Group II water users. New non-residential development in the vacant/underdeveloped areas accounts for 103 afy of Seaside's total estimate of 283 afy for future non-residential demand, and new residential development in vacant/underdeveloped areas accounts for approximately 96 afy of the City's total estimate of 160 afy for new residential development. No other projected development information that includes a breakdown for Seaside Proper and North Seaside is provided in the General Plan or the General Plan EIR.

The differences between overall buildout projected in the Seaside General Plan and the buildout projections submitted by the City to MPWMD are shown in **Table 8-9**.

**TABLE 8-9
FUTURE SEASIDE DEVELOPMENT ESTIMATES:
SEASIDE GENERAL PLAN BUILDOUT AND MPWMD SUBMITTAL**

Land Use	A	B	C	D	E	F
	General Plan: Projected Non-Residential Area (sf ^a)	Submittal to MPWMD: Total Buildout (sf ^a)	Difference (B-A) (sf ^a)	General Plan: Projected Dwelling Units (dwelling units)	Submittal to MPWMD: Total Buildout (dwelling units)	Difference (E-D)
Open Space and Recreation						
Parks and Open Space	59,000	24,000	-35,000			
Recreational Commercial	1,913,000	17,000	-1,806,000			
Residential Designations						
Low Density Single Family				4,648	2,468	-2,180
Medium Density Single Family				3,381	2,685	-696
Medium Density Multi-Family				1,246	630	-616
High Density Multi-Family				2,825	983	-1,842
Commercial Designations						
Community Commercial	838,000	668,000	-170,000			
Regional Commercial	6,298,000	3,878,000	-2,420,000			
Heavy Commercial	90,000	1,165,000	1,075,000			
Subtotal: Commercial Designations	7,226,000	5,711,000	-1,515,000			
Public/ Institutional Designations						
Public/Institutional	5,985,000	844,000	-5,141,000			
Special Designations						
Mixed Use	4,332,000	1,076,000	-3,256,000	937	897	40

^a sf = square feet

SOURCE: City of Seaside 2004a; City of Seaside, 2005.

The differences between the general plan and MPWMD submittal are assumed to result primarily from the differences in the area served by CalAm and the area as a whole, although some differences will inevitably result from the concentration of different kinds of land use development in different areas. Substantially more heavy commercial development, for example, is expected within the area served by CalAm compared to the City as a whole, as Table 8-8 indicates. The buildout estimates in the City's submittal to MPWMD reflect extensive field work by City staff to assess the types and intensity of current development within the area served by CalAm and the assessment of future development in the area based on the anticipated evolution of land use types and increase in development intensity consistent with general plan designations (Ingersoll, 2008).

Water

Regarding water supply, the Seaside General Plan states that “[h]istorical use of the area’s groundwater resources has exceeded safe yield and resulted in lowering of water levels and in saltwater intrusion. Constrained water supply will continue to be a significant factor in the growth locally and regionally (City of Seaside, 2004a), and includes the following Land Use Goal: “Goal LU-5: Collaborate with local and regional water suppliers to continue to provide water supply and treatment capacity to meet community needs.”

Monterey County

General Plan and Housing Element dates and planning periods

- Monterey County’s currently adopted General Plan was adopted in 1982 and has a planning horizon of 20 years (Monterey County, 1982). The County is currently updating the plan, a process that has been underway since 1999 and produced four draft plan updates between 2002 and 2006; the current draft update (“GPU5”) was released for public review in November 2007 and the draft environmental impact report for it was issued in September 2008.
- The Greater Monterey Peninsula Area Plan (Monterey County, 1984a), a part of the General Plan, was adopted in 1984.
- The Carmel Valley Master Plan (Monterey County, 1986), a part of the General Plan, was adopted in 1986 and has a 20 year planning horizon.
- The Del Monte Forest Local Coastal Program Land Use Plan (Monterey County, 1984b), a component of the General Plan, was adopted by the County Board of Supervisors in 1984.
- The Housing Element was adopted in October 2003 and covers the planning period 2002 to 2008 (Monterey County, 2003).

Buildout information submitted by County (Monterey County, 2004)

- Potential new single-family dwellings: 2,115 units, including:
 - 1,231 undeveloped residential parcels
 - 884 major pending residential projects, including
 - 75 parcels - approved tentative maps, final maps not recorded
 - 562 parcels - subdivision applications in various stages of the planning process
 - 247 affordable housing units, including
 - 229 units/parcels with applications in various stages of the planning process and
 - 18 rental units not yet constructed
- Second units: none indicated
- Potential new multi-family dwellings: 9 existing undeveloped multifamily residential parcels
- Existing Undeveloped Commercial Parcels: 300 (size of parcels not indicated), including
 - 120 parcels with various commercial designated land uses including general commercial, mixed use, medical office, visitor-serving, service station/car wash, public utilities, religious institution, schools, convalescent home and mining or quarries
 - 180 publicly owned parcels that are assumed to continue in passive recreational use

- Non-Residential square footage: 211,600 sf classified as major pending commercial (or similar projects) including:
 - projects totaling 90,000 sf are described as exempt from MPWMD water allocation
 - projects totaling 51,600 sf are described as having no net increase in water use
 - one project totaling 70,000 sf, for a self-storage facility, which does not indicate an exemption or no net increase in water
- Non-residential acreage: 239.95 acres for golf-related uses including
 - 213.95-acre golf course
 - 17-acre driving range
- Remodels: 250 fixture units per year resulting in water use of 2.5 afy (information provided by MCWRA)
- Monterey County suggested a 15 percent contingency factor; ultimately 20 percent was used for all jurisdictions.

Revisions reflected in the MPWMD demand estimate (MPWMD, 2005; 2006b)

- MPWMD shows a total of 2,124 single family units and no multi-family units (i.e., the 9 multi-family units indicated in the County's submittal are combined with the 2,115 single family units).
- MPWMD shows a total of 145,000 sf of commercial land use with a water use factor of 0.00007. (This is slightly more than twice the area of the only nonresidential component in the County's submittal (70,000 sf) that the County characterizes as constituting new water demand for CWP/MPWMD planning purposes.)
- MPWMD shows 795 remodels, with the use factor (used for all jurisdictions) of 0.047 for a total of 37 af.

Demand summary

- The estimated future (additional) demand for unincorporated Monterey County within the CalAm service area is 1,135 afy, including 892 afy for new residential development and 10 afy for new non-residential development.

Consistency of Growth Assumptions with General Plan

The County's submittal to MPWMD does not indicate the location of the parcels and projects listed, except to state that they are located in the part of the county within the MPWMD boundary. Three area plans of the Monterey County General Plan address land use planning for unincorporated areas lying partly or entirely within the MPWMD boundary: the Greater Monterey Peninsula Area Plan (Monterey County, 1984a), the Carmel Valley Master Plan, (Monterey County, 1986) and the Del Monte Forest Local Coastal Program Land Use Plan (Monterey County, 1984b). This analysis therefore focuses on the information in these components of the general plan. Because the Monterey County General Plan itself (Monterey County 1982) covers a much larger area of the county than the MPWMD boundary, its growth assumptions would not be comparable to the County's submittal except insofar as the plan addresses applicable subareas of the County.

Greater Monterey Peninsula Area Plan. The Greater Monterey Peninsula Area Plan encompasses the Monterey Peninsula (which separates Monterey and Carmel Bays), Carmel Valley, and a portion of the Salinas Valley in the northernmost corner of the

planning area (Monterey County, 1984a). The planning area overlaps the area served by MPWMD and CalAm, extending somewhat south of the MPWMD boundary in Carmel Valley and slightly north of MPWMD boundary along the coast north of Marina. The planning area encompasses the incorporated cities of Monterey, Carmel, Seaside, Pacific Grove, Marina, Sand City, and Del Rey Oaks and the former Fort Ord military reservation²⁰. The Greater Peninsula Area Plan provides information on population trends at the time the plan was prepared; information on land uses within the unincorporated part of the planning area; and an estimate of the combined existing development and potential development allowable under the Monterey County General Plan. The plan defines the combined existing and potential development as the plan area's holding capacity.

According to the Area Plan, the incorporated cities within the planning area grew dramatically in the 1940s (61 percent) and 1950s (40 percent) and slowed somewhat in the 1960s to about 5 percent by the 1970s. For the planning area as a whole, the population growth rate was about 19 percent in the 1960s declining to -0.03 percent between 1970 and 1980. The plan cites an AMBAG projection of 183,293 people within the planning area by the year 2000. This would represent an average annual growth rate of 1.84 percent per year, a forecast that the plan indicates was not necessarily accepted by a citizens' advisory group. Based on recent growth trends, the plan suggested that growth was likely to be slower.

Land uses within the planning area include public and quasi-public land uses; vacant/unimproved land; agricultural, grazing, and range land; residential uses; roadways and railroads; and commercial uses. About 5,029 acres of the area's residential development is located in the unincorporated area. The unincorporated area had about 10,706 existing housing units and a holding capacity of 25,439 total units, a difference of 14,733 units. Based on 1980 census data on population per household, the population in the unincorporated area at General Plan buildout was estimated to be about 66,000. The plan acknowledges that this estimate represents a maximum holding capacity that could be reduced as a result of environmental constraints and General Plan policies (such as a slope density policy).

The Area Plan indicates that the unincorporated area includes 511 acres designated for commercial development, and that, although the cities had much more existing commercial development than the unincorporated area, the unincorporated area had about twice the cities's potential for future commercial development in terms of land planned and available for commercial uses (Monterey County, 2004a).

Carmel Valley Master Plan. The 1986 Carmel Valley Master Plan (amended through 1996) covers a 28,000-acre planning area and has a 20 year planning horizon. Land uses consist primarily of rural residential development and small-scale agriculture, with several more concentrated residential areas that include condominiums or visitor accommodation facilities. About 6,900 acres, or one-fourth of the valley, has been developed. The population for the area covered by the master plan in 1986 was estimated to be 10,600, and there were approximately 5,300 dwelling units. The Carmel Valley Master Plan establishes residential development potential of 1,310 existing and newly created vacant lots for the 20-year life of the plan. Of the 1,310 lots, 572 buildable vacant lots of record could be built at any time, and for the remaining 738 lots an annual allocation of 37 lots per year (738 divided by 20) was established for the purpose of regulating residential building activity.

²⁰ At the time the plan was prepared Fort Ord was an active military base.

Thus, the plan provides for the development of all identified new and potential lots within the expected 20-year life of the plan.

According to the master plan, which cites 1970 and 1980 Census data, the population for Carmel Valley grew at a rate of about 4 percent per year while the housing inventory grew at the rate of about 8 percent per year, indicating decreasing family size. The master plan also notes that Monterey County Transportation Studies and background studies for the Carmel Sanitary District Areawide Facilities Plan found that projections indicated declining rates of growth for both housing and population, with trends of housing starts and population at about 3 percent per year in the sanitary district study and just under 4 percent in the transportation study. The master plan notes that that state and regional growth trends are likely to bring increased demand for housing in the valley. The 1990 and 2000 Census data for Carmel Valley Village (which is located within the Carmel Valley planning area) indicates a more recent annual population growth rate of 0.6 percent and a household growth rate of 1.7 percent.

According to the draft environmental impact report prepared for the update of the General Plan currently underway, creation of new lots in the Carmel Valley area is capped at 266 new lots (Monterey County, 2008). This information is presented for informational purposes only since the current update is not an adopted plan.

Regarding commercial development, master plan policy favors expansion of existing hotels, motels, and lodges over development of new projects, and specifies that new visitor accommodations not exceed 175 units in the area west of Via Mallorca and not exceed 250 new units in the area east of Via Mallorca.

Del Monte Forest Area Land Use Plan – Monterey County Local Coastal Program. The Del Monte Forest Area Land Use Plan, a Monterey County Local Coastal Program, includes policies that are intended to provide for orderly development balanced with resource conservation. Land use planning proposals for the Del Monte Forest are guided by goals of the California Coastal Act to protect, maintain, and, where feasible, enhance and restore the overall quality of the Coastal Zone environment; assure orderly, balanced utilization and conservation of Coastal Zone resources; maximize public access to and along the coast and maximize public recreation consistent with sound resource conservation principles and constitutionally protected rights of private property owners; and assure priority for coastal-dependent and coastal-related development over other development on the coast. The basic categories of land use designated in the Del Monte Forest are residential, commercial and open space.

The plan establishes densities for residential land uses in the eight planning areas within the Forest and specifies that units in excess of the density allocated by the plan for each planning area shall not be approved.

The plan includes three commercial use designations: visitor-service commercial, general commercial, and institutional. The open space category encompasses all areas considered critical to maintenance of the natural systems of the Forest, including environmentally sensitive habitat areas, the sites of endangered species, riparian areas, wetland areas, and sensitive coastal strand areas.

According to the LUP, the long-term historic rate of residential development in the Del Monte Forest Area is about 60 dwelling units per year; the LUP attributes this modest

growth rate (as characterized in the LUP) in part to the attitude of the Pebble Beach Company toward land management and in part to market demand. The plan considers an overall growth rate control or phasing program necessary to meet Coastal Act criteria with respect to residential uses within the Del Monte Forest Area. The plan provides for the continuation of residential development in a manner compatible with the normal availability and extension of utility and public service facilities, and as housing market demand requires, within the constraints of available water allocations, sewerage capacity and the County growth management policy. According to the plan the capacity of the Carmel Sanitary District's (CSD) treatment plant was, at the time the plan was prepared, a greater constraint to development in the Del Monte Forest than was water availability through the CalAm Water Service Company. Therefore, sewerage capacity is recognized as the primary constraint on the amount of new development in this area.

The remaining uncommitted water allocation (1,228.83 af at the time the land use plan was prepared) of the total 6,501 AF allotted by MPWMD to the County, provided the basis for six levels of priority for use of the uncommitted water adopted by the Board of Supervisors. The Del Monte Forest Area LCP/LUP adopted priorities for water use within the Forest consistent with and included in the Board's area-wide priority levels. The LUP provides a breakdown of residential units in the different planning areas for priority levels 1 through 5. The breakdown does not distinguish between private residential single family and multi-family dwelling units and visitor accommodation (e.g., hotel and motel) units; the term units is assumed here to refer to these three types of units. The first priority for the water use is for existing legal lots of record, of which there were 341 in forest area at the time of the allocation. The second priority is for visitor serving facilities including recreation, namely the NCGA golf course and the Spanish Bay Complex; the second priority level includes 542 units. The third and fourth priorities are for commercial and residential development; these levels include 307 and 157 units, respectively. Priorities one through four allocate all of the water allotted by the MPWMD. The fifth and sixth priorities are for additional residential development in Del Monte Forest, for which no water was available in the foreseeable future. The fifth priority level includes 482 units; no specific breakdown of units is provided for the sixth priority level. Given that the fifth priority level development was not covered by existing allocation, it is reasonable to assume that this level of future development (i.e., 482 units) would be served by additional supply provided by the CWP-Plus-Future alternative, and that the other units, for which water was assumed to be available, have been developed in the 24 years since the LUP was adopted.

The LUP provides very little quantified information on commercial development, indicating only that current commercial development projects that would be permitted if water were the only infrastructure constraint include a combined total of 163 units in developments in three of the forest's planning areas.

Conclusion based on the three Area Plans. Only the Greater Monterey Peninsula Area Plan covers generally the same unincorporated area encompassed by the CalAm service area and the MPWMD. The Carmel Valley Master Plan and Del Monte Forest Land Use Plan cover much smaller areas. Because the Greater Monterey Peninsula Area Plan was prepared in 1984, it does not provide a current estimate of the housing units within the planning area, to which the number of units in the County's submittal to MPWMD might be added to compare with the plan's estimated holding capacity. However, existing residential development in the plan area (and by extension the MPWMD and CalAm service area) can be estimated based on the number of units in the plan area in 1980

presented in the 1984 plan and an estimated average annual growth rate. Census information for unincorporated Monterey County for the years 1980, 1990, and 2000 indicates an average annual growth rate between 1980 and 2000 of 1 percent. Assuming 10,706 units in 1980 (as stated in the Area Plan) and a continued 1 percent annual growth rate, in 2008 the plan area would have 14,146 existing residential units. Based on a total holding capacity of 25,439, this level of development would easily accommodate the 2,115 new single-family units and 9 multi-family units included in the County's submittal. Even if some of the theoretically potential units assumed under maximum buildout could not be developed due to environmental or policy constraints, it appears that the County's residential submittal is consistent with (or less than) the level of growth anticipated in the Greater Monterey Peninsula Area Plan.

Combined Carmel Valley and Del Monte Forest Area planned future development.

Based on development planned in the adopted Carmel Valley Master Plan, if development proceeded at the annual rate that was assumed in the plan, there would currently be no remaining residential development potential. If, on the other hand, only existing lots of record have been developed, 738 additional residential parcels would remain to be developed. Based on the priority levels established in the Del Monte Forest Area LUP, it is likely that 482 units foreseen in that plan remain undeveloped. Together, assuming none of the potential parcels identified in the Carmel Valley Master Plan and none of the parcels identified in fifth priority level in the Del Monte Forest Area have been developed these plans allow for development of 1,220 additional units. This does not, of course, include potential development on other unincorporated lands within the MPWMD boundary.

Monterey Peninsula Airport District

Master Plan and planning periods

- The Monterey Peninsula Airport Master Plan Update Final Report (Master Plan) (MPAD, 1992) is the applicable land use planning document covering the airport development activities (Stuth, 2008). The goals of the Master Plan are to address airport requirements over a 20 year planning period; 2010 is cited as the horizon year for specific aspects of the plan including projected airport activity and facility requirements.

Buildout information submitted by Airport District (MPAD, 2004)

- Non-residential building square-footage only:
 - North Side Business Park (Group I water-use category): 1,108,602 sf (approximately 25 acres)
 - Aviation Hanger Storage (Group III water-use category): 1,780,664 sf (approximately 41 acres)
 - Non-Aviation Self Storage (Group III water-use category): 75,000 sf (approximately 2 acres)

Revisions reflected in the MPWMD demand estimate (MPWMD, 2005; 2006b)

The MPWMD estimate for the Airport District -- 115 afy in the nonresidential category and 23 afy based on the 20 percent contingency factor, for a total demand of 138 afy (MPWMD, 2005; 2006b) -- does not indicate the underlying assumptions regarding square footage, types of non-residential uses, or water use factors that might indicate any divergence from the development assumptions submitted by the Airport District. As indicated in the demand buildout summary above, the Airport District's submittal indicates

that the business park would have Group I water usage (which has a use factor of 0.00007 af per square foot) and that the other two components are in the Group III water use group. Based on the Group I water use factor, water demand for the 1,108,602 square-foot North Side Business Park area would amount to 77.6 afy. The MPWMD's Group III covers miscellaneous uses and provides specific use factors for the listed land uses. However, the list of Group III uses (available via the Rules and Regulations link at MPWMD's website) does not include airport hangars or hangar storage, and only provides a use factor per-storage unit (rather than per square foot) for self-storage facilities. Based on MPWMD's estimate of 115 afy for the entire Airport District and the estimate of 77.6 afy needed for the business park, 37.4 afy would be needed for the aviation hangar storage and non-aviation self-storage components of the anticipated development, indicating an (implied) average water use factor of 0.00002 for these land uses. Therefore, the Airport District's assumptions about future growth appear to have been retained in the MPWMD estimate.

Demand summary

- The estimated future (additional) demand for the Airport District is 138 afy, consisting of 115 afy for non-residential land uses and 23 afy for the 20 percent contingency.

Consistency of Growth Assumptions with Master Plan

The North Side Business Park and hangar storage components of the Airport District's submittal are consistent with planned development included in the Monterey Peninsula Airport Master Plan Update (Master Plan Update) (MPAD, 1992). The Master Plan identifies aviation facility requirements, considers three concepts or alternatives (A, B, and C) for the terminal area, the west end of the airport, and the northside of the airport, and recommends adoption of Concept C for each of these three components.

The submittal estimate of 1,780,664 square feet (roughly 40 acres) for aviation hangar storage is reasonably consistent with the estimates contained in the Master Plan as additional area needed for general aviation, which includes conventional hangars, executive hangars, and related general aviation facilities (including ramp/tie downs, fixed base operator facilities, and other aviation tenants) totaling 38.7 acres (MPAD, 1992, Table 6-1). Each of the three Northside concepts included in the Master Plan designate part of the Northside area as office/research and development (office/R&D) space; Concept A calls for 45 acres to be devoted to office/R&D, Concept B calls for 64.5 acres to be devoted to this type of land use, and Concept C development similar to that outlined in Concept B (with some elements reconfigured). The Airport District's submittal indicating development of an approximately 25-acre business park in the Northside is within the parameters of each of the concepts considered in the Master Plan. The third component included in the Airport District's submittal, approximately 1.7 acres for non-aviation self storage is not specified in the Master Plan.

Overall, therefore, the submittal is consistent with provisions of the Master Plan. Although non-aviation self-storage is not specified in the plan, this is a very minor part (2.5 percent by area) of the development assumed in the Airport District's submittal, and a small area for non-aviation self storage is not inconsistent with the land uses specifically anticipated in the plan.

Conclusion: CalAm Service Area Jurisdictions' Growth Projections

The decision by MPWMD and its constituent jurisdictions to use the jurisdictions' adopted general plans as the basis for future growth by which the water supply projections were estimated is consistent with state law summarized in Section 8.1, above, requiring coordination between land use and water supply planning agencies.

As the forgoing jurisdiction summaries indicate, there is considerable variation in the submittals and the degree to which the applicable general plans contain comparable specific information. With a few exceptions the estimates of residential growth are consistent with that contained in the general plans or general plan housing elements. By contrast, in most cases the nonresidential build-out information needed to project water demand (provided by the jurisdictions to MPWMD) is more specific than that presented in the general plans. In many cases the jurisdictions' assessments of future growth potential entailed considerable field work and/or record research to assess existing levels of development, potential for infill and densification of existing land uses, and the potential for the evolution of nonresidential land use types, as well as densities, to occur consistent with adopted land use plans.

In considering the indirect impacts of potential growth related to the Phase 2 Project, it is important to consider that the jurisdictions' approved planning documents have already been subjected to environmental review under CEQA. In adopting the applicable general plans and general plan elements, the local decision-making bodies have adopted measures to mitigate adverse impacts associated with the growth that will occur under the plans and have adopted statements of overriding considerations associated with impacts that cannot be reduced to an insignificant level.

Chapter 8 Reference Section

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