12-19-2018

2010 - Excerpt from Master Response 4 - Water Supply re Salinas Valley Water Supply (10-28-10)

ATTACHMENT E

Excerpt from Master Response 4: Water Supply re: Salinas Valley Water Supply (10/28/10)

The following is an excerpt from Master Response No. 4, Water Supply from the Final Environmental Impact Report for the General Plan relevant to the analysis of the Salinas Valley water supply. The text reflects the revised text for this response as included in the Final EIR certified by the Monterey County Board of Supervisors on October 26, 2010. In addition, tables and figures referenced in the Master Response No. 4 relevant to the analysis of the Salinas Valley water supply are included in their complete revised format at the end of this response. References cited in this excerpt are noted at the end of this document.

The following text is not shown in tracked changes format as it reflects the final text in the EIR. Minor edits were made for the readability of this excerpt where: (1) necessary to reference location of table or figure (for example - at the end of this document instead of referencing a separate part of the Final EIR); (2) to make clear whether the DEIR or the FEIR is being referenced; (3) to reference the final policy number in the adopted General Plan; (4) to make clear what citation is being made; or (5) to reflect renumbering of tables W-3 through W-5. Minor formatting changes were also made for readability. No changes to the substance of the text were made.

As this material in this excerpt is derived from the Final EIR. However, citation to this material should instead be to the Final EIR itself which contains the verbatim document. This document is an informational document only to provide a summary of the information relative to the Salinas Valley water supply analysis contained in the Final EIR.

Master Response 4: Water Supply

Numerous comments were provided concerning water supply policies and water supply-related analysis in the EIR. The following is a general outline of this excerpt from the Master Response.

- 4.1.9 Summary of EIR Significance Conclusions on Water Supply, Infrastructure, Groundwater Overdraft, and Seawater Intrusion

4.2 Salinas Valley

- 4.2.1 Salinas Valley Water Demand
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This Master Response provides response to these broad water supply issues, but does not provide a specific response to every comment that has been received on water supply. Individual comments are addressed in the Chapter 3 of the General Plan FEIR. Please also see Chapter 4 of the General Plan FEIR, Changes to the Text of the DEIR.

4.1.9 Summary of EIR Significance Conclusions on Water Supply, Infrastructure, Groundwater Overdraft, and Seawater Intrusion

Some commenters asked for clarification of the significance conclusions regarding water supply, especially since the four impacts identified in the EIR (WR-4 through WR-7) are in many ways interrelated. In order to provide a succinct summary of the conclusions and the rationale for the conclusions, Table W-1 provides that clarification.[1]

[1] For the Salinas Valley only in this excerpt. For other basins, consult the FEIR.

Table W-1. Summary of Significance Conclusions for Water Supply (2030 and 2092)[2]		
Impact	**Significance Overall**	**Salinas Valley**
All conclusions below presume implementation of proposed 2007 General Plan policies including: Unless otherwise noted, conclusions apply to both 2030 and 2092.		
Impact WR-4: Water Supply	Less than Significant to 2030. Less than significant with mitigation to 2092	**Overall significance:** Less than Significant to 2030. Less than significant with mitigation to 2092. **Salinas Valley groundwater basin:** Less than significant impact due to effect of SVWP to 2030. Less than significant with mitigation to 2092 due to mitigation measure WR-2. **Granite Ridge/Highlands South:** Less than significant because SVWP brings balance to basin overall and revised Policy PS-3.4 will address localized individual well effects on water quality, well interference, and localized overdraft. Granite Ridge supply project will also assist to help address local issues. **El Toro Creek sub-basin:** Less than significant because Policy T-1.7 will constrain residential subdivision in residentially designated areas within the El Toro Creek subbasin and Policy PS-3.4 will address localized individual well effects on water quality, well interference, and localized overdraft.
Impact WR-5: Infrastructure	Significant and Unavoidable (see column to the right for specific conclusions)	Impacts due to new water infrastructure in many cases can be mitigated to less than significant through application of proposed 2007 General Plan policies, through 2007 General Plan mitigation measures, and through project-level review and mitigation. However, impacts are considered significant and unavoidable, including to biological resources.
Impact WR-6: Groundwater Overdraft	Less than Significant to 2030. Less than significant with mitigation to 2092.	**Overall significance:** Less than significant to 2030. Less than significant with mitigation to 2092. **Salinas Valley groundwater basin:** Less than significant impact due to effect of SVWP on halting further overdraft compared to baseline to 2030. Less than significant with mitigation to 2092 with mitigation measure WR-2. **Granite Ridge/Highlands South:** Less than significant because SVWP addresses overall basin overdraft and revised Policy PS-3.4 will address localized individual well effects on water quality, well interference, and localized overdraft. Granite Ridge supply project will also assist to help address local issues. **El Toro Creek sub-basin:** Less than significant because Policy T-1.7 will constrain residential subdivision in residentially designated areas within the El Toro Creek subbasin and Policy PS-3.4 will address localized individual well effects on water quality, well interference, and localized overdraft.
Impact WR-7: Seawater Intrusion	Less than significant to 2030. Significant and Unavoidable (to 2092)	**Overall significance:** Less than significant to 2030. Significant and unavoidable to 2092. **Salinas Valley groundwater basin, (including Granite Ridge/Highlands South):** Less than significant impact due to effect of SVWP in halting seawater intrusion relative to current baseline to 2030. Significant and unavoidable for 2092 due to future uncertainty. **El Toro Creek sub-basin:** No impact. Seawater intrusion not an issue in the sub-basin.

References:

Geosyntec Consultants. 2007. El Toro Groundwater Study. Prepared for: Monterey County Resource Management Agency. Salinas, CA. July.

[2] Modified to delete basins other than Salinas Valley.

4.2 Salinas Valley

4.2.1 Salinas Valley Water Demands

Urban and Agricultural Water Demand

Comments raised the following issues concerning the calculations of urban and agricultural water demand in the Salinas Valley:

- Whether or not the SVWP EIR "1995 Baseline" water demand estimate adequately represented the baseline of water demand in the Salinas Valley.
- Whether or not the General Plan EIR baseline water demand estimate adequately represents baseline water demand.
- Whether or not the SVWP EIR 2030 forecasted urban demand adequately represents future water demand in the Salinas Valley Benefit Assessment Zone 2C (Zone 2C).
- Whether or not the General Plan EIR adequately forecasted 2030 urban and agricultural water demands within Zone 2C.
- Whether or not the General Plan EIR adequately analyzed water supply impacts for areas outside of Zone 2C.

Each of these concerns is addressed below.

In the DEIR, Section 4.3, Water Resources concluded that development and agricultural expansions allowed by the General Plan would result in a level of water demand for 2030 in the Salinas Valley that would be approximately the same as the 2030 water demand amount studied in the SVWP EIR and for which the SVWP EIR concluded there would not be further lowering of groundwater levels and further seawater intrusion. With the revisions described below, this conclusion is unchanged as the projected 2030 demand is within 0 to 1 percent of that studied in the SVWP EIR. This is considered an insignificant difference.

Regarding areas outside of Zone 2C, as discussed below, with the implementation of General Plan policies, impacts to water supply, groundwater overdraft, and seawater intrusion due to new water demands in these areas are expected to be less than significant.

Salinas Valley Water Project EIR "1995 Baseline"

Several concerns were raised concerning whether the SVWP EIR "1995 Baseline" might underestimate baseline urban and agricultural demands due to: 1) differences between groundwater extraction data for the 1995 calendar year and the "1995 Baseline"; 2) differences between the historical average for groundwater extractions for the years prior to 1995 and the "1995 Baseline"; and 3) questions about how the demands for areas outside of the Benefit Zones 2/2A but within Benefit Zone 2C are accounted in light of data collection limitations.

It is important to note that the General Plan EIR did not use the SVWP 1995 baseline as the baseline estimate of use for the General Plan in the Salinas Valley. As discussed below, the General Plan EIR used a combination of groundwater extractions reports and other estimates to disclose the baseline water demands in the Salinas Valley.

Differences between Calendar Year 1995 Groundwater Extraction data and the SVWP EIR's "1995 Baseline"

Comments assert that the SVWP EIR agricultural use baseline for 1995 (see Table 4.3-6) is inaccurate because it is lower than the actual groundwater extraction for 1995 calendar year indicated in MCWRA data. The SVWP EIR stated that 1995 baseline model conditions were 418,000 afy for agricultural demand[3]. MCWRA data indicates 1995 calendar year agriculture extractions were 462,268 af, indicting a difference of 44,268 afy with the 1995 modeled baseline condition. As explained in a technical memorandum prepared by MCWRA (Weeks, 2010a), the SVIGSM modeled 1995 baseline value for the SVWP EIR represents an average pumping demand for 45 years of Salinas Valley hydrology (1949 to 1994) using the land use in place in 1995. According to the SVWP EIR, this was the longest period that adequate, consistent, and reliable information is available on hydrologic data (precipitation and streamflow), as well as groundwater level data. The period contains extreme hydrologic conditions, such as the critically dry periods of 1976-77 and 1989-91, as well as wet periods. This allows the analysis of the performance and operation of the proposed project through the full range hydrologic periods. Thus, the "1995 baseline" in the SVWP EIR is not a calendar year. Agricultural water demand varies substantially from year to year depending on climatic conditions, including temperatures, precipitation, and the timing of temperatures and precipitation. MCWRA used a long-term period of hydrologic conditions to identify what the demand of 1995's agriculture would be under a long-term average climatic conditions. This is an appropriate approach for modeling water use as the use of a single year would not be sufficiently representative.

Differences between Historic Groundwater Extraction Averages and the SVWP EIR's "1995 Baseline"

Comments assert that the SVWP EIR 1995 baseline groundwater extraction of 463,000 AF for 1995 (see Table 4.3-6) is an "historic average" and that therefore the SVWP EIR used the wrong baseline because the average historic groundwater extraction from 1969 to 1994 was actually 519,400 AF/year (per Montgomery-Watson 1997). These comments confuse the use of long-term average climate conditions for the SVWP 1995 baseline with long-term average extractions. As described above, the SVWP EIR 1995 Baseline is based on the water uses in 1995 averaged over 45 years of climatic cycles – not the average groundwater use over the prior 45 years or the prior 25 years. So, the comparison of the historic average prior to 1995 is not an appropriate comparison to the SVWP EIR 1995 baseline estimate.

Adequacy of Groundwater Monitoring Data for Zone 2C

Comments assert that the 1995 SVWP EIR baseline is too low because it did not include water use from portions of Zone 2C that are outside of Zone 2A due to lack of monitoring data and did not include Fort Ord (see MCWRA, 2003 for a map of Zones 2A and Zone 2C).

Zone 2 was the benefit zone originally defined for the Nacimiento Reservoir, which was built in 1957. Zone 2A was the benefit zone defined for the San Antonio Reservoir, which was built in 1967. Zone 2/2A was expanded to include Fort Ord and Marina in the 1990s. Zone 2B is the benefit area for the CSIP project near Castroville. Zone 2C is the benefit zone defined for the Salinas Valley Water Project

[3] The modeled 1995 baseline is referenced as acre-feet per year, because it represents the annual demand of the 1995 land use baseline averaged over 45 years of hydrology/climatic conditions.

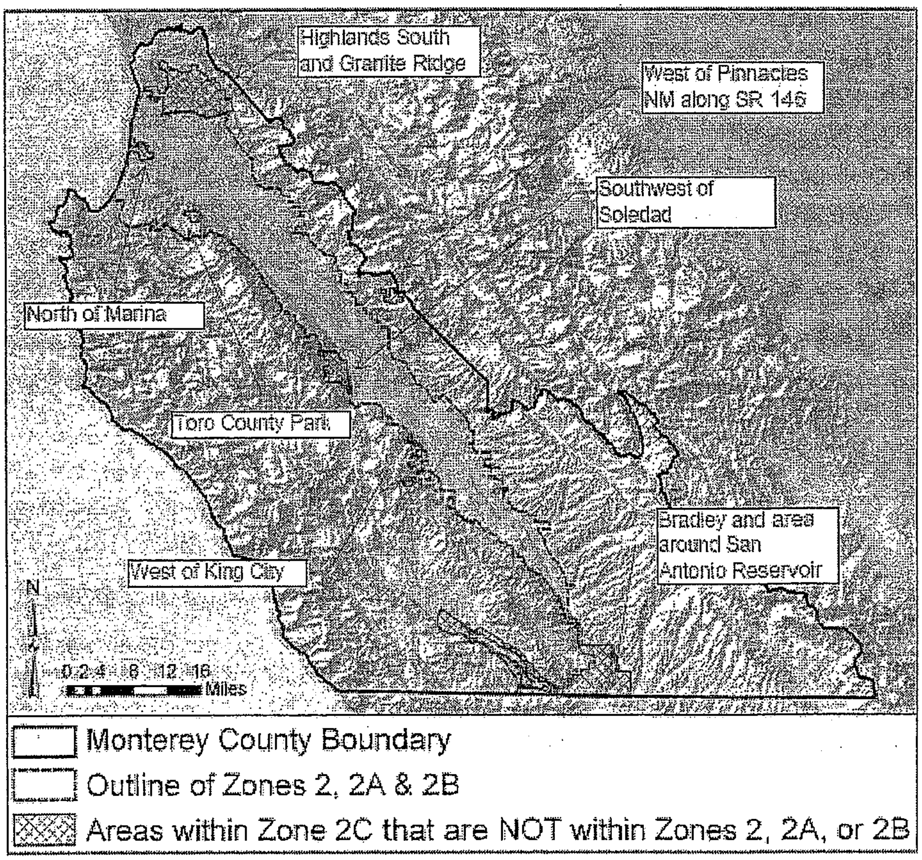
and reservoir operations and has replaced Zones 2/2A. Areas outside of Zones 2/2A/2B are not included in the groundwater extraction reports because MCWRA is not currently authorized to collect data in these areas (Weeks 2010b). There are a number of distinct areas that are in Zone 2C but are outside Zone 2/2A/2B and these are shown in Figure W-1 and described in Table W-2.

Highlands South/Granite Ridge, the southernmost part of Zone 2C (including the area around Bradley and around San Antonio Reservoir), and several other small areas in the Salinas Valley watershed are within Zone 2C are outside Zones 2/2A/2B (see Figure W-1 and Table W-2) are thus not included in the groundwater extraction reports because MCWRA is not currently authorized to collect such data (Weeks 2010b). MCWRA intends to request authorization seeking to collect data for these additional areas. (Weeks 2010b).

Although some of these areas are not included in the groundwater extraction data, as discussed below (see Figure W-2 and Table W-2), some of these areas, including Fort Ord, were actually included in the SVIGSM model for the SVWP EIR and were thus included in the SVWP EIR 1995 Baseline.

The boundary of the SVIGSM model used for the SVWP EIR (see Figure W-2 below) in general follows the limits of Zone 2/2A with two additions: 1) a portion of the area along SR68; and 2) the portion of the North County areas known as Highlands South and Granite Ridge (MCWRA 2001).

Figure W-1: Portions of Salinas Valley Benefit Assessment Zone 2C that are outside of Benefit Assessment Zones 2/2A/2B



Source: Barber, Adelia. 2010. GIS Analysis of MCWRA Assessment Zones. Prepared for Julie Engell, September 18. Markup of different geographical areas added by ICF for purposes of reference only.

Figure W-2: Salinas Valley Groundwater Basin SVIGSM Subareas

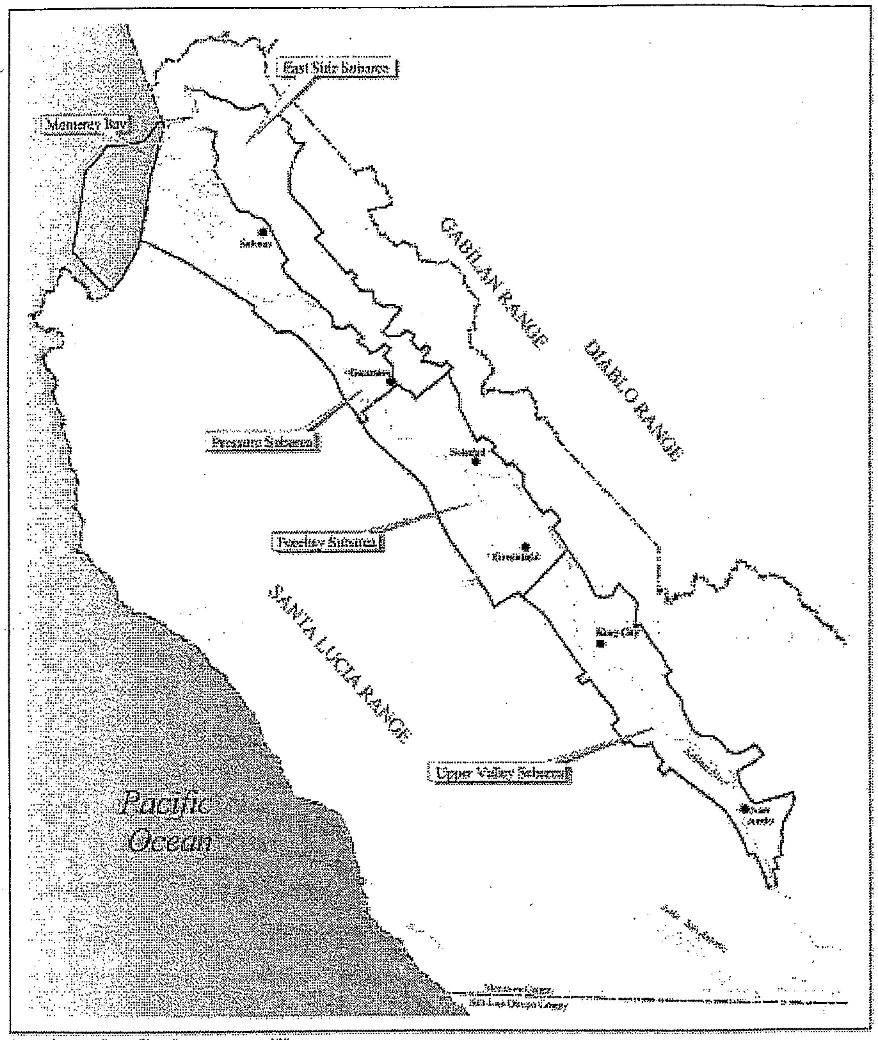


Figure 3-2

Salinas Valley Ground Water Basin SVIGSM Subareas

Salinas Valley Water Project EIR/EIS

Source: MCWRA, 2001. Salinas Valley Water Project EIR/EIS

Table W-2: Review of Areas of MCWRA Benefit Assessment Zone 2C that are outside of Assessment Zones 2/2A relative to Analysis of Water Supply in the General Plan EIR

Area	MCWRA GW Extraction Reports, SVIGSM Modeling for the SVWP EIR, and SVWP EIR	General Plan EIR Analysis
Highlands South/Granite Ridge areas in North County	Not in GW extraction reports. Included in SVIGSM model for the SVWP EIR Included in SVWP EIR baseline and 2030 forecast.	EIR baseline (urban and agricultural) adjusted to include demand in this area based on Fugro, 1995 estimate adjusted to 2005. Urban use added to 2030 forecast. Agricultural use already included in 2030 forecast because within SVIGSM model area for SVWP EIR.
North of Marina south of the Salinas River along SR-1	Not in GW extraction reports. Included in SVIGSM model for the SVWP EIR Included in SVWP EIR baseline and 2030 forecast.	EIR baseline adjusted to include demand from 263 acres of farmland in 2008 (= 2008 FMMP farmland) in Zone 2C outside of Zone 2/2A. Area has limited urban use so no adjustment for urban baseline made. 2030 forecast included urban growth in unincorporated areas. Agricultural use already included in 2030 forecast because area within SVIGSM model area for SVWP EIR.
Toro County Park	Not in GW extraction reports. May be outside SVIGSM model used for the SVWP EIR and thus would be accounted in model boundary conditions (note demand likely minimal).	Baseline not adjusted due to minimal demand. 2030 forecast not adjusted due to minimal demand.
West of Pinnacles National Monument along SR 146 (Chalone)	Area is not within the SVIGSM model area but accounted for in model boundary conditions.	Baseline not adjusted as extraction to support existing farmland is done within Zone 2/2A and then pumped to location, so likely included in groundwater reporting. As conservative worst case approach for General Plan EIR, 2030 forecast adjusted to include 439 acres of farmland (= 2008 FMMP farmland) because area is outside of SVIGSM model area for SVWP EIR. Potential agricultural expansion included in overall forecast of 10,253 acres.
Southwest of Soledad north of Arroyo Seco	Not in GW extraction reports. Outside SVISGM model boundary for SVWP EIR but accounted for in model boundary conditions.	Baseline adjusted to include demand from ~ 957 acres of farmland as of 2008 (= 2008 FMMP farmland) in Zone 2C outside of Zone 2/2A. As conservative worst case approach, General Plan EIR 2030 forecast adjusted to include existing farmland as area is outside of SVIGSM model area for SVWP EIR. Potential agricultural expansion already included in overall 10,253 acre agricultural forecast.
Several small areas west of King City	Not in GW extraction reports. Possibly outside SVISGM model boundary for SVWP EIR but accounted for in model boundary conditions.	Baseline adjusted to include ~168 acres of farmland as of 2008 (= 2008 FMMP farmland). As conservative worst case approach, General Plan EIR 2030 forecast adjusted to include existing farmland assuming area is outside SVIGSM model area for SVWP EIR. Potential agricultural expansion already included in overall 10,253 acre agricultural forecast.
Bradley area and adjacent to the San Antonio Reservoir	Not in GW extraction reports. Outside SVISGM model boundary for SVWP EIR but accounted for in model boundary conditions	Baseline updated to include ~575 acres of farmland as of 2008 (= 2008 FMMP farmland) but accounted as separate area from that included in SVIGSM model area for SVWP EIR. Existing farmland included in 2030 forecast for area outside of main basin. Potential agricultural expansion already included in overall 10,253 agricultural forecast.

NOTE: The General Plan EIR 2030 analysis used a worst-case conservative approach by adding in demand from agriculture in the Chalone area, southwest of Soledad, and several areas west of King City. Areas outside the SVIGSM modeled area were addressed in SVIGSM for the SVWP EIR through consideration of boundary flows. However, the General Plan EIR's analysis conservatively added the agricultural demands in these areas to the 2030 demand estimated within the SVIGSM modeled area (e.g. the main basin from near San Ardo to Monterey Bay) for the SVWP EIR. Bradley/San Antonio Reservoir area accounted separately because it is located in groundwater basin separate from the modeled basin in the SVIGSM for the SVWP EIR.

Relative to the SVWP 1995 EIR baseline, the responses above clarify what was included or not included in the 1995 baseline. As the SVWP 1995 EIR baseline was not used to establish baseline for the General Plan EIR baseline, this is not ultimately a concern for this EIR.

General Plan Salinas Valley Baseline Water Demand

Several concerns were raised concerning whether the General Plan EIR baseline water demand might underestimate baseline urban and agricultural demands due to: 1) exclusion of demand from incorporated cities in the Salinas Valley; and 2) limitations on MCWRA groundwater extraction monitoring data in Zone 2C.

Inclusion of Incorporated City Demands

As noted above, some commenters requested that the estimate of water demand include the demands of the incorporated cities. This has been done, as shown in Table 4.3-9c. The urban water demand has also been updated to take into account the mandatory 20 percent reduction in per capita urban use required by SBX7 7 (Steinberg).[4]

Adequacy of Baseline Water Demands for Zone 2C

Comments suggested that the baseline demand (for both urban and agricultural use) in the Salinas Valley groundwater basin (defined in the DEIR as including Upper Valley, Forebay, East Side, the 180 foot/400 foot aquifer – also referred to as the Pressure Zone, and the Langley Area in North County as shown in Exhibit 4.3-3) is incomplete because the MCWRA monitoring data only includes Zones 2/2A/2B and excludes other areas within Zone 2C including Highland South/Granite Ridge in North County, the southernmost part of the County, and several other areas.

The baseline urban demand shown in Table 4.3-9c is based in part on MCWRA groundwater extraction data (for 2005), which does include all of Zones 2/2A/2B as well as Fort Ord (Weeks, 2010b). The baseline urban demand has been updated to include an estimated baseline urban demand for Highland South/Granite Ridge based on estimates from Fugro, 1995 adjusted, as appropriate to 2005 (see Table W-2 above). Because the baseline urban demand was used to estimate the 2030 urban demand (along with new demand and City demand), the 2030 urban demand estimate was also updated (see discussion below). The urban demand baseline was not updated for the other parts of Zone 2C that are outside Zones 2/2A/2B as these areas have limited urban uses and urban water demands

The General Plan EIR baseline estimate of agricultural demand was updated to include the agricultural demands in areas outside of Zones 2/2A/2B that are within Zone 2C, with two exceptions (Bradley/San Antonio Reservoir area and Chalone, explained below). Due to the lack of monitoring data in these areas outside of Zone 2C, baseline agricultural demand was estimated by determining the amount of farmland (using FMMP mapping) in each of these areas (for 2008) and then calculating water demand using the 2002-2009 average agricultural acreage reported in MCWRA groundwater reports. The Bradley/San Antonio Reservoir area is within Zone 2C but is not included in the SVIGSM modeled area used for the

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[4] Sustainable Water Use and Demand Reduction Act (Water Code Section 10608, et seq.) will require a 20 percent reduction in statewide water use by 2020 (compared to current per capita levels defined as a 10-year period ending between 2005 and 2010), including water use at the local level. The 20% goal applies to urban water users, but the legislation also requires agricultural water suppliers to implement a menu of "critical efficient management practices" (Water Code Sec. 10608.48, et seq.). This comes from last year's SBX7 7 (Steinberg) signed by the Governor as part of the Delta legislation package in November 2009.

SVWP EIR, which covers an area beginning north of Bradley.[5] The Bradley/San Antonio Reservoir area benefits from recharge relative to the Salinas Valley Water Project, but draws from a separate basin than the portions of the Salinas Valley groundwater basin in the SVIGSM model used for the SVWP EIR. As such, water demands for this area are not included in the baseline accounting for the main groundwater basin, but they are included in the General Plan EIR baseline for areas outside of the main groundwater basin (see Table 4.3-9b). The Chalone area along SR-146 currently uses water that is extracted from the Salinas Valley floor (e.g. within Zone 2/2A) and them pumped to this area outside the Valley proper – as such the baseline extraction is already included in MCWRA groundwater reporting. Thus, the baseline agricultural demand estimate, as updated, uses reasonably available data to disclose current agricultural water use.

Each of the areas that are within Zone 2C, but outside Zones 2/2A/2B is reviewed in relevance to the baseline demand in the General Plan EIR in Table W-2 above. As set forth in Table W-2, the EIR adequately discloses baseline urban and agricultural water demand in Zone 2C appropriately.

SVWP EIR 2030 Forecasted Water Demand

Comments questioned whether the General Plan EIR accurately presented the SVWP EIR's water demand estimate for 2030 and whether the SVWP EIR's 2030 water demand was representative due to: 1) differences in cited urban demand total; 2) population projections; 3) questions about accounting for agricultural growth.

SVWP EIR Urban Demand Estimates for 2030

Comments suggest that the General Plan EIR misrepresents the SVWP 2030 estimate of urban demand because it notes a total (88,897 AF) that is larger than that cited in the SVWP EIR (85,000 AF). The March 2010 FEIR Table 4.3-9d explained in a footnote that the 88,897 came from urban water demand estimates made in 1998 and that the 2001 SVWP EIR used 85,000 AF total, reflecting minor adjustments in calculation post-1998. The March 2010 FEIR version mistakenly referred to the 1998 source as an RMC document when, in fact, the data came from MCWRA; this has been corrected to MCRWA 1998[6] in the FEIR. The FEIR accurately reports the source data and the assumptions used in the SVWP EIR modeling.

SVWP EIR Population Projections for 2030

Comments questioned whether the SVWP EIR population projections were complete. These comments assert that the SVWP EIR population projections for the Salinas Valley groundwater basin were only 355,829 (based on SVWP EIR Table 7-1). However, as noted on SVWP EIR Table 7-1, this total is only for the incorporated city areas and built-up portions of the unincorporated area (e.g., Castroville). As shown in MCWRA 1998, MCWRA actually included all unincorporated areas along with the built up areas, to derive a total population estimate in the Salinas Valley groundwater basin of 425,611. Thus the EIR presents the correct population assumptions for the SVWP EIR and its associated water demand.

[5] Surface and subsurface flows from the Bradley/San Antonio area are included in the model as boundary conditions. Boundary conditions are the interactions (e.g. water flows) between areas inside the model domain and areas outside the model domain. In this instance there are surface and subsurface flows from the Bradley/San Antonio area to the Upper Valley sub-basin north of Bradley and the Upper Valley sub-basin is in the SVIGSM model domain.

[6] Monterey County Water Resources Agency (MCWRA). 1998. Salinas River Basin Management Plan. 2030 Land Use and Water Needs Conditions. May 1998. Available on CDROM at the front counter. [NOTE: This reference was formerly referred to in the March 2010 FEIR version as RMC 1998, but this is actually a MCWRA document].

Accounting for 2030 Agricultural Demand

Some commenters have asserted that the future agricultural water demand in the Salinas Valley has been underestimated in the SVWP EIR, and by reference, the DEIR for the General Plan. Projected Salinas Valley agricultural demand for the SVWP EIR was based on the records and projections of the MCWRA in development of the SVWP As noted below, the General Plan EIR added additional demand from projected agricultural expansion to the SVWP 2030 agricultural forecast.

General Plan 2030 Water Demand Assessment within Zone 2C

Comments questioned whether the General Plan EIR's water demand estimate for 2030 was adequate due to: 1) differences in population assumptions with the SVWP EIR; 2) questions about the per capita factor used to estimate urban demand; 3) questions about whether water conservation could actually achieve a 20 percent reduction per SBX7 7; 4) assertions that agricultural growth between 1995 and 2008 is not included in the forecast; 5) assumptions about agricultural growth; 6) questions regarding adequacy of water demand data for portions of Zone 2C outside the SVIGSM model used for the SVWP EIR; 7) assumptions about agricultural efficiency improvements over time; and 7) the need to account for potential water demands in American Viticultural Areas (AVAs) and designated wine corridors.

Differences in Population Assumptions

Comments also questioned how the EIR's 2030 water demand estimate for the Salinas Valley groundwater basin could end up with the same result as the SVWP's 2030 water demand estimate despite different assumptions about levels of urban growth. The SVWP EIR used a population level of 425,611 for the Salinas Valley groundwater basin (cities and County) in 2030 (see MCWRA 1998) whereas this EIR now estimates the population to be approximately 454,160. Although this EIR projects population higher than the SVWP EIR, this does not correspond into a higher water demand because this EIR and the SVWP EIR used different methodologies and assumptions to estimate water demand. This EIR uses a per capita water demand (for 2005 using a factor from DWR) and the EIR population projections and then adjusted overall demand (both from existing development and new development) to reflect the reduction in per capita water use required by 2020 in compliance with SBX7 7 (Steinberg). This state law was not in effect when the SVWP EIR was completed. Thus, due to the different methodologies and the application of recent state law, this General Plan EIR estimates a lower urban demand for 2030 than the SVWP EIR.

The March 2010 FEIR estimated in Table 4.3-9c that total 2030 population for the Salinas Valley for the unincorporated County was 135,375. However, that population estimate was actually for the entire unincorporated County, not just for that the unincorporated portion of the Salinas Valley. Thus, the total 2030 population shown for the Salinas Valley overall (517,888) was an overstatement. Table 4.3-9c has been revised to include the corrected total 2030 population estimate of 454,160 for the cities and unincorporated County areas within the Salinas Valley groundwater basin. Current population in Zone 2C was estimated based on 2000 census data adjusted by County growth factors to 2005. New County population due to new development for unincorporated areas is based on the General Plan. AMBAG 2004 projections for the cities were used to estimate 2030 population in the cities. This revised total is approximately 30,000 more than that assumed by the SVWP EIR.

Rationale for 181 gallon per day (gpd) per capita urban demand factor

The 181 gpd per capita factor used in the EIR is a conservative estimate. In fact, the California Water Service Company, which is the largest urban water provider to Salinas, the most populous City in the Salinas Valley, commented on the General Plan Draft EIR that the EIR's 181 gpd per capita was too high for the Salinas Valley. They noted that their average use was more like 146 gpd per capita and they expected lower levels in smaller communities outside Salinas that are more dominated by residential use. A copy of their letter (Comment Letter I-2) is included in the FEIR.

The data in the MCWRA 1998 memorandum (2030 Land Use and Water Needs Conditions) and the SVWP EIR roughly matches the estimated municipal and industrial (M&I) per capita demand estimate used in the General Plan EIR. Using the total population and demand in Table 4.3-9d, the average factor would be 186 gpd per capita, which is within 2 to 3 % of 181 gpd per capita.

While alternative factors could be utilized, the factor used for the EIR remains a reasonable factor for use in the analysis.

See also Response to Comment 0-21k.157.

Justification for Urban Water 20% Reduction Per SBX 7 7

Landwatch questioned the validity of a 20% reduction assumption for urban demand per SBX 7 7.

The comment is correct that the SBX7 7 reduction mandate is limited to urban retailers with more than 3,000 end users (or that supply more than 3,000 AF per year) and thus will not be a mandate on all urban retailers or urban uses in the Salinas Valley. However, the SBX7 7 requires qualified urban retailers to reduce use by 20% by 2020 whereas the General Plan EIR assumed a 20% reduction in urban use per capita *by 2030*. There may be additional reductions in urban water use in the County in areas served by these retailers from 2020 to 2030 (although the General Plan EIR does not account for this potential reduction).

Landwatch uses the example of Highlands South/Granite Ridge as an example of an area in which a substantial portion of the population is not served by an urban retailer subject to SBX7 7. While it is correct that more dispersed areas outside of urban built-up areas are less likely to be served by an urban retailer subject to SBX7 7, the vast majority of people in the Salinas Valley groundwater basin live now and will live in 2030 in the incorporated Cities. As shown in Table 4.3-9c, in 2030, population in cities will account of 84% of overall County population in the Salinas Valley groundwater basin, with only 16% expected in unincorporated areas. Based on a list of urban water retailers (DWR, *Summary of the Status of 2005 Urban Water Management Plans,* 2006), the cities of Salinas (served by California Water Service and Alco Water Service both with well over 3,000 end users), Soledad (served by the City of Soledad with an urban water management plan submitted, which indicates a retailer with over 3,000 end users), and Marina (served by MCWD which has well over 3,000 end-users) are all served by public or private urban water retailers currently subject to SBX7 7. These cities alone would account for 66% of the population in the Salinas Valley groundwater basin in 2030 (per Table 4.3-9c). Some of the urban water retailers for these cities also serve adjacent unincorporated areas. The other three cities (King City, Greenfield, and Gonzales) do not appear to be served by urban water retailers subject to SBX 7 7 at present but are all projected for substantial growth by 2030 (see Table 4.3-9c). King City is provided water by Cal-Am (LAFCO 2006b), has an estimated 3,470 housing unit in 2010 (AMBAG 2008) plus other users and is projected to grow to a population of 23,000 by 2030 (FEIR Table 4.3-9c). Greenfield is provided water by the City of Greenfield (LAFCO 2006b), has an estimated 3,700 housing units in 2010 (AMBAG 2008) plus other users and is projected to grow to a population of approximately 30,000 people by 2030 (FEIR Table 4.3-9c). Gonzales is provided water by the City of Gonzales (LAFCO 2006b) with an estimated 2,512 housing units in 2010 (AMBAG 2008) plus other users and is expected to grow to a population of over 29,000 people by 2030 (FEIR Table 4.3-9c). Given their projected future size, all three cities appear likely to be provided by public or private urban water retailers that will, in time, be subject to SBX7 7. Thus, the vast majority of urban water use in the Salinas Valley is likely to be subject to the requirements of SBX7 7.

It is highly unrealistic to assume no water conservation will occur over the next 20 years whatsoever in areas without an urban retailer subject to SBX7 7. The General Plan includes policies that encourage and mandate urban water conservation and efficient water use (including PS-3.8, PS-3.11, and PS-3.12). Water purveyors both public and regulated will utilize rate structures to achieve conservations goals and objectives across municipal, industrial and commercial uses. Given the applicability of SBX7 7 to the vast majority of urban use in Salinas Valley now and in the future, the effect of General Plan policies and the continued efforts at conservation by water districts, water retailers (of all sizes), and individual users, it is considered reasonable to assume a 20 percent reduction in per capita urban water demand use by 2030.

Agricultural Expansions between 1995 and 2008

Landwatch asserted that the FEIR Supplement belatedly revises 2030 agricultural water demand to include additional water demand for some agricultural conversions projected to occur between 2008 and 2030, but ignores the additional demand for the substantial conversions that occurred between 1995 and 2008, demand that was not projected by the SVWP EIR.

The General Plan EIR does not use the SVWP EIR's 1995 baseline. The General Plan EIR derived a separate estimate of baseline demand. For 2030, the General Plan EIR only used the SVWP EIR's 2030 agricultural estimate as a starting point, and then adjusted the agricultural demand upward to reflect potential agricultural growth.

The amount of 2030 irrigated acres for the Salinas Valley groundwater basin was estimated by using the SVWP EIR's projection of irrigated acres in 2030 (194,508 acres) and then adjusting to include potential agricultural expansion projected in the General Plan EIR (net addition of 9,531 acres compared to the SVWP projection) and an additional 1,564 acres for Chalone, SW of Soledad, and West of King City for a total of 205,603 acres. The SVWP EIR 2030 estimated agricultural average demand per acre (slightly over 1.84 AF/Acre) was then used to derive the estimate of 378,415 AF (for the scenario of all expansions placed in Zone 2C). The 2030 agricultural water demand was estimated, in part, by assuming that the net acreage of agricultural expansion between 2008 and 2030 would correspond on a 1:1 basis to an increase in irrigated agricultural acreage. This is a reasonable and conservative approach for estimating the new demand for the future.

Landwatch raises a concern that agricultural expansions between 1995 (the year of the SVWP EIR baseline) and 2008 are not included in the General Plan EIR's calculation. The comment is correct that no additional acreage was added for agricultural expansions in this period. DEIR Table 4.9-6 indicates that an estimated 8,209 acre of habitat was converted to farmland between 1996 and 2006 and DEIR Table 4.2-7 indicates a loss of important farmland in this period of 2,837 acres due to urban conversion acres. Taking both into account, there would have been a net gain of farmland of 5,684 acres between 1996 and 2006. However, the purpose of the analysis of agricultural expansions in Section 4.9 in the DEIR was to determine the amount of wildlife and plant habitat that might be disturbed by agriculture expansion, not to project the amount of irrigated acreage. According to MCWRA groundwater reports and as shown in Table W-3[7] below, the amount of irrigated acreage reported between 1995 and 2009 has not actually increased; the trend is actually a small decline (a declining trend is also indicated if adjusting the data by the reporting percentage). While there was additional land converted from habitat to farmland between 1995 and 2008, there was not a consistent or proportional increase in water demand. However, the EIR used the more conservative approach, i.e., increase in demand for the 2008 to 2030 period to conservatively estimate new agricultural demand.

Table W-3[8]: Irrigated Acres Reported to MCWRA (1995 to 2009)

Year	Irr. Ag Acres reported	% reporting	Adjusted acres (1)
1995	161,574		
1996	173,158		
1997	172,387	88%	195,894
1998	165,186	87%	189,869
1999	165,073	82%	201,309
2000	158,849	72%	220,624
2001	153,001	72%	212,501
2002	134,294	75%	179,059
2003	162,072	79%	205,154
2004	164,738	90%	183,042
2005	163,610	90%	181,789
2006	171,284	97%	176,581
2007	169,726	94%	180,560
2008	173,664	94%	184,749
2009	169,721	95%	178,654
Average (1995 -2009)	**163,889**	**86%**	**191,522**
1995 - 2001 average	164,175		204,039
2002 - 2009 average	163,639		183,698
Change (1995/2001 to 2002/2009)	-537		-20,341

Source: MCWRA Groundwater Extraction reports, 1995 – 2009
(1) Adjusted by inflating reported acres by the percent of reports missing

Accounting for Agricultural Expansions and related water demands to 2030

As discussed in the DEIR for the SVWP, the MCWRA projected that agricultural water use will decrease in the future due to the limited expected growth in irrigated acres overall and the increase in efficiency of water use over time. The SVWP EIR estimated that agricultural acres would decline by 2030 by approximately 1,849 acres. As explained in MR-3[9], the General Plan is expected to result in an expansion of agriculture by 10,253 acres by 2030. City development and unincorporated area development due to occur under the General Plan is expected to result in a loss of 2,571 acres of farmland by buildout (DEIR, Section 4.2); most of this loss is expected to occur by 2030 due to the expansion of incorporated cities and due to focused growth area development. Thus, as a rough estimate, there may be a net expansion of agricultural acres by 7,682 acres. The exact location of agricultural expansion was not predicted for this EIR, however the majority of expansion is likely to occur in the Salinas Valley watershed. The worst-case

[7] Was Table W-5 in Final EIR
[8] Was Table W-5 in Final EIR.
[9] Chapter 2 of the Final EIR.

estimate of agricultural water demand for 2030 for this EIR assumes that all of the agricultural expansion acres will occur in the Salinas Valley watershed and will draw on the Salinas Valley groundwater basin. This is an overstatement, but is a worst-case assumption. Applying all of these acres to the Salinas Valley, results in a net change in agricultural acres of 9,531 acres compared to the SVWP EIR assumption. Thus, the agricultural water demands (see Tables 4.3-9b and 4.3-9c and below in Table W-5[10]) in the Salinas Valley are higher than that included in the SVWP EIR.

Commenters also asked for a forecast of future agricultural water demand (and overall water demand) using available MCWRA groundwater extraction data for the Salinas Valley. Table W-4[11] presents a 2030 forecast based on 1995 to 2009 groundwater extraction data. As shown in Table W-4, agricultural use averages have declined from the early part of the reported period (1995 to 2001) to the later part of the period (2002 to 2009).

Using only the reported MCWRA data, and making no other adjustments, the 2030 forecasted demand would be 477,029 AF. Of note, this trend forecast shows substantial decrease in agricultural water use overall. Taking into account a 20 percent reduction in current per capita urban water demand per SBX7 7 (Steinberg), but not adjusting the agricultural demand, the 2030 adjusted forecast would be 464,214 AF which is about 4 percent more than this EIR's estimate (see Table 4.3-9c) of 443,168. This adjusted trend forecast shows an even more pronounced reduction in agricultural water use over time than the unadjusted trend forecast. Given the scale of the Salinas Valley, this forecast using actual data (and state mandates) is reasonably similar at a basin scale compared to the General Plan EIR estimate. As noted above, the MCWRA data is not 100 percent complete for Zone 2C, and thus any trend forecast would be lower than actual demand due to the exclusion of certain areas currently not included in the groundwater extraction reports.

However, as indicated in Table W-4, the MCWRA data is not 100 percent complete due to the lack of reporting of all wells in the groundwater basin, which introduces a substantial amount of uncertainty into a forecast based on trend. For this reason, the forecast using MCWRA data was not used as the basis for estimating water demand in 2030. To illustrate how sensitive forecasting can be when data is incomplete, Table W-4 includes a 2030 forecast with correction for the incomplete data.

The reported water demand for 1995 to 2009 was adjusted upward by the reporting percentage (e.g. if the percent reporting was 98 percent in a particular year, then the urban and agricultural water demand was adjusted to account for the non-reporting 2 percent, assuming an equivalent amount of water demand for the missing wells for that year). Using the adjusted data for the forecast and accounting for the SBX7 7 (Steinberg) reduction in per capita urban water demand, the adjusted 2030 forecast would be 446,461 AF, which is only 0.7 percent more than the General Plan EIR estimate. This adjusted forecast is not used in the General Plan EIR due to the uncertainty in accounting for missing data, but it illustrates how sensitive a forecast can be when utilizing less than complete data sets. As noted above, the MCWRA groundwater extraction data does not include certain parts of Zone 2C, and thus any trend forecast would also need to account for the areas of missing data.

[10] Was Table W-4 in the FEIR.
[11] Was Table W-3 in the FEIR.

Table W-4.[12] Salinas Valley Groundwater Basin Extraction Data (1995-2009) and 2030 Trend Forecasts (acre-feet)							
Year	% reporting	Urban Water	Adjusted AF	Ag Water	Adjusted AF	Total	Adjusted Total
1995	98%	41,884	42,739	462,628	472,069	504,512	514,808
1996	96%	42,634	44,410	520,804	542,504	563,438	586,915
1997	93%	46,238	49,718	551,900	593,441	598,139	643,159
1998	93%	41,527	44,653	399,521	429,592	441,048	474,245
1999	91%	40,559	44,570	464,008	509,899	504,567	554,469
2000	89%	42,293	47,520	442,061	496,698	484,354	544,218
2001	82%	37,693	45,967	403,583	492,174	441,276	538,141
2002	93%	46,956	50,490	473,246	508,867	520,202	559,357
2003	97%	50,472	52,033	450,864	464,808	501,336	516,841
2004	97%	53,062	54,703	471,052	485,621	524,114	540,324
2005	98%	50,479	51,509	443,567	452,619	494,046	504,129
2006	96%	49,606	51,673	421,634	439,202	471,240	490,875
2007	97%	50,440	52,000	475,155	489,851	525,595	541,851
2008	97%	50,047	51,595	477,124	491,880	527,171	543,475
2009	97%	45,717	47,131	465,707	480,110	511,224	527,241
Average (1995 -2009)	**94%**	**45,974**	**48,714**	**461,524**	**489,956**	**507,484**	**538,670**
1995 - 2001 average	92%	41,833	45,654	463,501	505,197	505,333	550,851
2002 - 2009 average	97%	49,597	51,392	459,794	476,620	509,366	528,012
Change (1995/2001 to 2002/2009)	5%	7,765	5,738	-3,707	-28,577	4,033	-22,839
2030 Trend Projection		64,845	64,173	412,338	395,123	477,029	459,296
Difference w/ 2002/2009 avg.		15,248	12,781	-47,456	-81,497	-32,337	-68,716
2030 Trend Projection with SBX7 7		51,876	51,338	412,338	395,123	464,214	446,461
Difference with 2002/2009 average		2,279	-53	-47,456	-81,497	-45,152	-81,550
2030 GP EIR Estimate (see Table 4.3-9c)		67,631	67,631	375,537	375,537	443,168	443,168

Note: 2030 Trend projections made based on 1995 - 2009 trend
Source for 1995 to 2009 data = MCWRA 2008b, 2010a. Groundwater Extraction Summary Reports 1995-2009. Available on the web: http://www.mcwra.co.monterey.ca.us/index.html. Look under "Available Data and Reports." Look under "Groundwater Extraction Summary Reports" and then look by individual year.
Note: Data collected in the Salinas Valley for Zone 2/2A/2B only and Fort Ord because MCWRA not currently authorized to collect such data. Thus, the extractions shown above do not include the areas noted in Table W-2 that are within Zone 2C but outside of Zones 2/2A/2B.

[12] Was Table W-3 in the FEIR.

Accounting for Demands within Zone 2C that are outside the SVISGM Model Boundary

The General Plan EIR 2030 forecast was updated to include the demands within Zone 2C that would affect the Salinas Valley groundwater basin but that may have only been accounted in the SVWP EIR SVIGSM modeling effort for 2030 as model boundary conditions, including the Chalone area along SR 146, the area southwest of Soledad north of Arroyo Seco, and the area west of King City. Agricultural water demands for these areas were estimated by identifying the amount of farmland in FMMP mapping in 2008 and then calculating water demand for 2030 using the SVWP EIR estimated average agricultural use average in 2030. This amount has been added to the 2030 forecast in Table 4.3-9c. As to the area around Bradley and San Antonio Reservoir, much of this land is owned by the military and/or MCWRA and there is very limited agricultural use at present. Further, as noted above, this area overlies a groundwater basin that is separate from the portion of the Salinas Valley groundwater basin within SVIGSM modeled area for the SVWP EIR. Thus the water demand for this area is separate from and beyond the 443,000 AFY demand estimated in the SVWP EIR for 2030 for the main groundwater basin (e.g. north of Bradley). Thus, exclusion of this area from the 2030 forecast for the area in the main groundwater basin (e.g. north of Bradley) would not change the conclusions of the EIR.

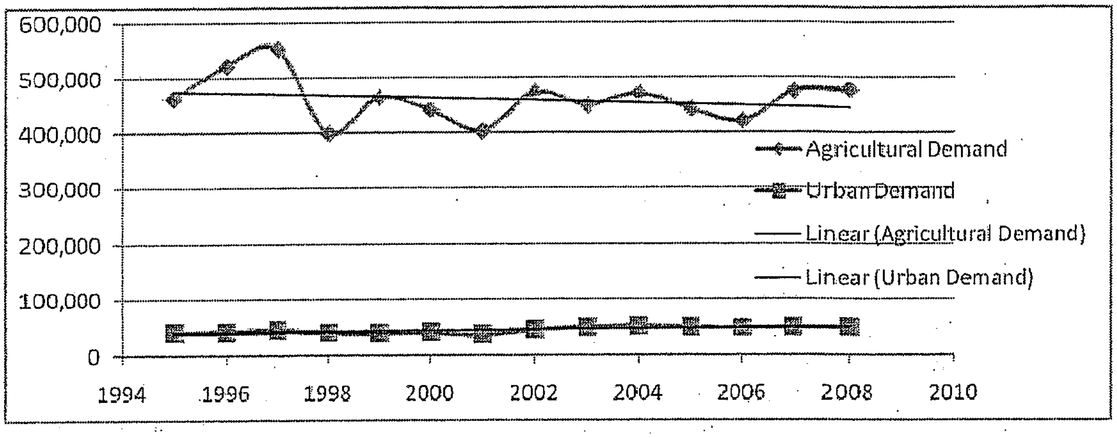
Therefore, while the MCWRA agricultural groundwater extraction data does not include all of Zone 2C, the SVWP EIR 2030 forecasted agricultural demand has been adjusted for the General Plan EIR to cover the potential projected demands from areas outside the SVWP EIR modeled area that could affect the Salinas Valley groundwater basin and is an appropriate basis for the General Plan EIR's estimated 2030 agricultural demand. This is a conservative approach as the SVWP EIR modeling did account for the effect of adjacent areas through the defined boundary conditions (e.g., the model accounts for flows from areas surrounding the modeled area into the modeled area).

Each of the areas that are within Zone 2C, but outside Zones 2/2A/2B is reviewed in relevance to the 2030 water demand in the General Plan EIR in Table W-2 above. As shown there, the EIR adequately discloses 2030 urban and agricultural water demands in Zone 2C appropriately and conservatively.

Agricultural Efficiency Improvements over Time

Regarding the increase in efficiency of agricultural water use over time, as shown in Table 4.3-5, agricultural pumping has slightly declined from 1995 to 2008. This is graphically shown with trend lines in Exhibit W-1 below.

Exhibit W-1. Salinas Valley Groundwater Basin Extraction Data, 1995 to 2008 (Acre-Feet)



Source: Monterey County Water Resources Agency 2008b

The SVWP EIR estimate of agricultural demand took into account this trend which is likely influenced by both the increased efficiency in water user in the agricultural sector, as well as crop selection. Exhibit W-1 includes data from the MCWRA's 2006, 2007, and 2008 Groundwater Summary Reports, and updates the information relied upon in the DEIR.

Changes in agricultural practices have resulted in improved water conservation. The MCWRA's "2008 Groundwater Summary Report" illustrates the change in irrigation methods between 1993 and 2009. In 1993, approximately 3,227 acres in the Salinas Valley were furrow irrigated (water is run down furrows and allowed to sink into the ground) and 86,435 acres were irrigated using sprinkler and furrow irrigation (water is applied to the furrows by sprinkler). These methods are relatively high water users. By 2009, these numbers had shrunk to 143 acres being furrow irrigated and 34,895 acres being irrigated by the sprinkler and furrow method. In contrast, water-conserving drip irrigation acreage has increased from about 25,080 acres in 1993 to 95,032 acres in 2009. (Monterey County Water Resources Agency 2009)

Thus, in response to questions raised by commenters regarding the methodology of estimating agricultural water demand, the County has concluded that the evidence used in the SVWP remains a solid basis by which to evaluate future water demands in the EIR for the General Plan Update. Therefore, the DEIR is correct in its projections of agricultural water demand.

Commenters also cite MCWRA groundwater summary reports as reporting current agricultural use averages for 2000 to 2008 as 1.8 to 2.77 af/acre/year, whereas the SVWP EIR has an average of 1.84 af/acre/year assumption for agricultural use for 2030. The comments suggest that there is no trend of declining agricultural water use per acre based on the 2000 to 2008 data and thus that the SVWP EIR's estimate for agricultural water use per acre 2030 may not be reliable. However, the cited 8-year sample for water use per acre is too small to predict a trend and the changes in water use over such a short period are heavily influenced by weather, climate, crop types or soil type changes over the period. Thus, 8 years of data on reported per acre water use is not considered to be a reliable predictor of long-term trends. The SVWP EIR methodology for estimating future agricultural use is explained in MCWRA 1998 and the per-acre averages from the SVWP EIR are still considered appropriate for use in this EIR. The overriding concern is about overall agricultural water use and the General Plan EIR provides evidence, based on MCWRA data reports of declining aggregate agricultural use over time (see discussion of trend projections above). Thus, although some may question whether or not a declining trend of agricultural water use per acre exists in the most recent 8 year period, aggregate agricultural water use has shown a decline based on the available data and thus the citation of a limited data set is not considered sufficiently robust data to question the developed methodology for forecasting future agricultural use per acre averages in the SVWP EIR.

Accounting for Water Demands in American Viticultural Areas and the designated Wine Corridors

Comments assert that the EIR underestimates the amount of future agricultural water demand because there are large portions of designated American Viticultural Areas (AVAs) and/or large portions of the proposed wine corridors in the AWCP that are not cultivated at present. The mere inclusion of areas within an AVA or of a wine corridor does not indicate that such area will be developed into new vineyards. Vineyard development is done based on consideration of soils, water availability, slope, microclimate, access, and other considerations. For example, a comparison of the AVAs (see Figure AWCP-2 in the General Plan) or the wine corridors (see Exhibit 3.3 in the FEIR) to the remaining areas with suitable soils in the Salinas Valley watershed (see Figure AG-1 in Chapter 2 in the FEIR) reveals that only a portion of the AVAs and the wine corridors actually contain uncultivated areas with suitable soils for agricultural expansion. Water availability and other concerns will limit the amount of agricultural expansion within the AVAs and AWCP as well. See Master Response No. 3 for further discussion of the EIR's approach to estimating the amount of agricultural expansion. There is no perfect way to predict the exact amount and location of agricultural expansions for the future. The EIR's use of historical trends to estimate future agricultural expansions, in terms of extent, combined with considerations of soils and water availability in terms of location, remains a reasonable approach by which to complete the EIR's analysis of impacts on water supply, biological resources, water quality, and other subject areas.

Overall Conclusion about Adequacy of 2030 Water Demand Estimate

Thus, in response to questions raised by commenters regarding the methodology of estimating urban and agricultural water demand, the County has concluded that the evidence used in the SVWP remains a solid basis by which, in part, to evaluate future water demands in the EIR for the General Plan, as revised.

Overall Demand within the Salinas Valley Groundwater Basin

The critical issue is whether this EIR's identification of water demand overall is greater than the SVWP EIR and thus whether the SVWP EIR's analysis of the effect of water demand in 2030 on groundwater levels and seawater intrusion reflect physical conditions with growth allowed by the General Plan by 2030.

Table W-5 below summarizes the adjusted 2030 Salinas Valley Groundwater Basin water demand estimates described in detail above.

As shown in Table W-5 and in revised Table 4.3-9c, when assuming all agricultural expansions occur within the Salinas Valley groundwater basin (or drawing water from it), the updated estimate of water use (both urban and agricultural use) is within 1 percent of that estimated during planning for the Salinas Valley Water Project. Given the scale of groundwater extractions within the Salinas Valley (~443,000 AFY), the difference between the two estimates is statistically insignificant because it would not substantially change overdraft, seawater intrusion, or biological conditions and because it is within the margin of error for the SVIGSM groundwater model used for the SVWP EIR (e.g. modeling of such small differences would not result in a statistically valid difference in groundwater outcomes). Thus, the conclusions about water supply, seawater intrusion, and groundwater overdraft in the Salinas groundwater basin in the SVWP EIR would also hold true for the General Plan development to approximately 2030 due to the General Plan. For the alternative scenario, assuming approximately 25 percent of agricultural expansions occur in the Salinas Valley watershed outside of the Salinas Valley groundwater basin and 75 percent inside main basin (or drawing water from it), the updated estimate would be within 0.01 percent of that estimated during planning for the Salinas Valley Water Project. For assessment of water supply outside the main groundwater basin, see the separate discussion below.

There is no perfect method for forecasting water demand. However, this EIR's approach of using land use projections from the General Plan, estimates of agricultural acreage expansion, and accounting for state regulations and changes in urban and agricultural efficiency over time provides substantial data and evidence to enable decision makers and the public to intelligently evaluate the impacts of the General Plan on water demand and remains an appropriate basis for the water supply analysis.

Table W-5[13]. Salinas Valley Groundwater Basin, 2030 Water Demand Estimates (Acre-Feet)

Version	Urban Demand	Agricultural Demand	Total Demand	Population	Notes
Salinas Valley Water Project EIR	85,000	358,000	**443,000**	425,611	Urban demand estimated based on water use efficiency as of 1998 and land use projections at the time. Agricultural demand estimated based on projected increase in water efficiency, change in crops and reduction of irrigated agricultural acreage by 1,849 acres.
March 2010 GP FEIR	84,458	358,000	**442,458**	517,288	Urban demand estimated using General Plan land use projections and DWR 2005 per capita demand. Agricultural demand from SVWP EIR used. Population total cited in Table 4.3-9c was in error as it included population for all of the unincorporated County, not just the portion in the Salinas groundwater basin. The population total cited was not actually used to derive water demand which was instead calculated based on existing urban demand plus new demand due to population growth.
October 2010 GP FEIR				454,160	Urban demand adjusted to include Highland South/Granite Ridge areas within Zone 2C but outside Zone 2A and to exclude Pleyto/Lockwood/Bradley rural centers. Urban demand adjusted to include 20 percent reduction in urban per capita use per SBX7 7 (Steinberg). SVWP agricultural demand adjusted to include net agricultural expansion of 7,682 acres (10,253 acre expansion offset by 2.571 acre loss of farmland to urban use). This represents a net increase of 9,531 acres of agricultural compared to SVWP EIR using SVWP average agricultural use per acre for 2030. Agricultural demand also includes areas within Zone 2C outside of Zone 2A that would affect groundwater basin.
Assuming all agricultural expansions draws from the Salinas Valley groundwater basin	69,339	378,415	**447,754**		
Assuming 75% of agricultural expansions draw from the main basin and 25% do not	69,339	373,461	**442,970**		

Sources:

For SVWP population = MCWRA, 1998. Salinas River Basin Management Plan. 2030 Land Use and Water Needs Conditions. May

For SVWP Water Demand = MCWRA 2001. Monterey County Water Resources Agency (MCWRA). 2001. Draft Environmental Impact Report/Environmental Impact Statement for the Salinas Valley Water Project. June.

For General Plan = FEIR Table 4.3-9c (March and October 2010)

[13] Was Table W-4 in the FEIR.

General Plan Water Supply Analysis for Areas outside of Zone 2C

Comments raised concern about the adequacy of the EIR's analysis of water supply in areas outside of Zone 2C.

The DEIR was not able to account for all potential water demand in the Salinas Valley watershed outside of Zone 2C due to 1) the lack of existing urban uses in these areas at present, 2) the lack of substantial new urban development forecasted in such areas, and 3) the lack of detailed information on water supplies and water uses in such areas. The DEIR did, however, assess the El Toro Creek groundwater subbasin (see p. 4.3-9 and p. 2-76 in the DEIR and Master Response WR-4 in the FEIR), which is the only area outside of Zone 2C with substantial residential development.

In order to more fully disclose potential water demands in these areas, the amount of existing and potential future agricultural demand was estimated for areas of the Salinas Valley watershed outside of Zone 2C. Existing agricultural use was estimated using FMMP farmland mapping and the 2002 – 2009 average agricultural use per acre in MCWRA groundwater reports. The amount of future agricultural expansion in areas in these areas is difficult to predict. Using FMMP farmland mapping for 1984 (4,429 acres important farmland) and 2008 (7,316 acres important farmland), a long-term trend of 120 acres/year of agricultural expansion was identified. Forecasting from 2008 to 2030, if this trend were to continue, there could be 2,600 acres of new agriculture by 2030 in areas outside of Zone 2C. Water supply (see Table 4.3-9c) impacts are assessed in the General Plan EIR for two different scenarios: (1) assuming all new agricultural expansions (10,253 acres) occur in Zone 2C (worst-case impact on the Salinas Valley groundwater basin); and (2) assuming the trend noted above for the areas outside of Zone 2C continues to 2030 and 2,600 acres of expansion occurs outside of zone 2C and the remainder (7,653 acres) occurs inside Zone 2C. As agricultural growth was predicted for the County as a whole using all-County data, growth in areas outside of Zone 2C is included in the 10,253 acre estimated overall.

With the implementation of the General Plan, new water demands in areas outside of Zone 2C within the Salinas Valley watershed would result in less than significant impacts for the following reasons:

- **Development of the Pleyto and Lockwood Rural Centers** – As noted in Table 4.3-9c, expected new demands at 2030 for these areas total 192 AFY. This amount would be derived from local groundwater sources (Pleyto RC) or the Lockwood Valley aquifer (Lockwood RC). All new discretionary development would be subject to Policy PS-3.1 (without exception as these areas are outside Zone 2C) and PS-3.2 for demonstrating long-term sustainable water supply, including consideration of impact on adjacent wells and instream flows (as appropriate). All new domestic wells would be subject to Policy PS-3.3 requiring assessment of supply and quality. With these policies, new water demand for development in this area is not expected to result in a significant impact to water supply, groundwater overdraft, or biological resources.

- **Dispersed development in other parts of the watershed outside Zone 2C** – There would be limited development in other parts of the watershed outside of Zone 2C. Given the limited development, no estimate of demand for 2030 was developed. Such development would be dependent on local groundwater sources. Discretionary development would be subject to Policies PS-1, PS-2, and PS-3 as noted above, and impacts would thus be less than significant.

- **Agricultural expansions in other areas including the Lockwood area, the Hames Valley area and other dispersed areas -** A review of current aerial photography indicates dispersed agricultural development outside of the Hames Valley and the Lockwood Area. Agricultural uses in the Lockwood[14] and the Hames Valley areas are supported by local groundwater aquifers (Monterey County 1987)[15] that are separate from the Salinas Valley groundwater basin (which begins north of Bradley). Outside of the Lockwood area and the Hames Valley, relatively flat lands outside Zone 2C are limited in extent and groundwater sources may be limited to support substantial agricultural expansion. The exact amount of agricultural expansion that might occur specifically in the Lockwood or Hames Valley area or other dispersed areas has not been estimated. However, as shown in Figure AG-1 and Table AG-1 in the Chapter 2 in the FEIR[16], there are limited dispersed areas of suitable soils, designated for agriculture, outside of Zone 2C (~56,000 acres in the entire watershed) overall and the areas that are not uncultivated already in the Hames Valley and Lockwood area are limited in extent. Where agricultural expansions occur in the Lockwood Area, the Hames Valley, or other areas outside of Zone 2C, such expansion would be dependent on local groundwater sources. All new high-capacity agricultural wells would be subject to Policy PS-3.4, requiring assessment of impacts on nearby wells and on in-stream flows (as appropriate). As a result, impacts to water supply, overdraft, and biological resources due to dispersed agricultural expansion and associated water demand is expected to be less than significant.

As mentioned above, the area around Bradley and San Antonio Reservoir is within Zone 2C, but is not within the Salinas Valley groundwater basin. This area benefits from recharge from the SVWP, which is why it is included in Zone 2C. This area is predominantly public land owned by the military (around Bradley) and by MCWRA (around the reservoir). As of 2008, there were approximately 575 acres of important farmland in this area; using the 2002-2009 average per acre demand from MCWRA groundwater extraction reports, this could correspond to a current demand of 1,431 AF. Future demand would include limited agricultural expansion and the Bradley Rural Center. The Bradley Rural Center, as shown in Table 4.3-9a would result in an estimated new demand of 154 AF in 2030. Demands in this area would be met by local aquifer sources separate from the Salinas Valley groundwater basin proper, which starts north of this area near San Ardo. Discretionary development would be subject to Policies PS-1, PS-2, and PS-3 as noted above, and impacts would thus be less than significant. All new high-capacity agricultural wells would be subject to Policy PS-3.4, requiring assessment of impacts on nearby wells and on in-stream flows (as appropriate).

[14] The Lockwood Valley groundwater basin is described in Bulletin 118 (California Department of Water Resources, 2004). Lockwood Valley Ground Water Basin is comprised of a northwesterly trending valley in the Coast Range Mountains of Monterey County west of the Salinas Valley. The basin extends from Lake San Antonio in the southeast to the Camp Hunter Liggett gate in the northwest. About the western one half of the basin is within the Hunter Liggett Military Reservation and is used as an artillery firing range. The primary water bearing formations are unconsolidated alluvium along the San Antonio River and Quaternary terrace deposits from the river floodplain to the basin boundary. The primary area of groundwater recharge is from the San Antonio River and the basin margins. Bulletin 118 indicated that no groundwater level hydrographs were identified as available and no information to provide an estimate of this basin's budget.

[15] Monterey County 1982 in FEIR, but actual reference is Monterey County 1987.

[16] And included at end of this document.

AWCP/Winery Demands

Some commenters asserted that water demand of wineries or other ancillary uses in the Agricultural Wine Corridor were not fully evaluated in the DEIR.

Regarding certain comments asserting that the growth in wineries would be far greater than estimated in the DEIR, please see the Master Response on Agriculture, which explains that the amount of estimated winery growth corresponds to the best estimates of the wine industry and is in line with the estimated growth in vineyards out to 2030.

The water demand for new wineries was summarized in Table 4.3-11 and is included in the overall estimate of demand in revised Table 4.3-9a. The methodology by which the winery demand estimates were made is found on page 4.3-120. This analysis represents a good faith effort at estimating future winery use, based on the conservative assumption that all 10 full-scale and all 40 artisan wineries allowable in the ACWP would actually be built during the 2030 planning horizon. The water use of existing wineries is the baseline condition and is not a result of the proposed Draft General Plan. Therefore, it is included in the estimates of existing use and not in estimates of future demand.

Comments questioned the factor used for winery water demand and the referenced source of the factor. The DEIR referenced a Napa County study (West Yost Associates, 2005) as the source of the 7-gallons of process water per gallon of wine factor used in Table 4.3-11[17]. As comments pointed out, the West Yost actually concluded that the Napa County wineries in the studies used more than 7-gallons of water per gallon of wine. The 7-gallon factor should have been referenced to the water analysis required by Napa County in vineyard applications (Napa County 2009)[18]. The Napa County reference also included a factor for landscaping at wineries; this has been added to the water analysis such that it now include 7.0 gallons of process water/ gallon of wine plus an additional 1.6 gallons of water to account for landscaping and domestic requirements for a revised factor of 8.6 gallons of winery water use per gallon of wine. The DEIR estimate of winery water use was 224 acre-feet; this has been revised to 310 acre-feet (a change of 86 acre-feet). It should also be noted that it is common practice for wineries to recycle their process wastewater for use in irrigating their adjacent vineyards (MCVGA 2010)[19]. Thus, although the Table 4.3-11[20] shows an increase in water use relative to the new wineries (without taking into account recycling), in practice, the recycling of winery wastewater will partially offset vineyard water demands and won't actually represent a net 100 percent increase. As noted above, agricultural water demands were accounted for separate from winery water demands.

It is correct that the specific water use of ancillary uses (other than wineries) allowed in the ACWP were not evaluated in the DEIR. The DEIR estimated new water demand for non-agricultural uses on a per capita basis using Department of Water Resources (DWR) per capita factors that are appropriate for a broad scale assessment in a programmatic evaluation such as the Program EIR for the General Plan Update. However, in the interest of full disclosure, an estimate of potential demand for the estimated

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[17] Typo in FEIR referred to 4.9-11. Should be 4.3-11.

[18] Napa County. No Date. Phase 1 Water Availability Analysis. Available on the web at: http://www.co.napa.ca.us/GOV/Departments/29000/Forms/ATTACHMENT_D_WATERANLYS.SPECS.pdf. Reference is to 2.15 AF process water/100,000 gallons of wine = 7.00 gallons of process water/ gallon of wine plus 0.5 AF landscaping and domestic water use/100,000 gallons of wine = 1.63 gallons landscape/domestic water use/gallon of wine, for a total of 8.63 gallons of winery water use/gallon of wine.

[19] Gollnick. 2010. Memorandum from Kurt Gollnick to Carl Holm re: Winery wastewater. January 12.

[20] Typo in FEIR referred to 4.9-11. Should be 4.3-11.

allowed non-winery demands in the AWCP has been added to Table 4.3-11[21] (see Chapter 4, Changes to the Text of the DEIR). Based on Table 3-15which indicates the potential for 10 winery tasting rooms (assumed to be equivalent to a 20-seat restaurant), 3 restaurants (each assumed to have 50 seats), 5 delicatessens (each assumed to be 1,500 SF) and 8 inns (each inn assumed to have 10 rooms), the total demand of these ancillary uses is 17 AF.

Including the revised winery water use estimate and the ancillary uses, the water demand of these uses in the AWCP is estimated at 326 acre-feet (an increase of 102 acre-feet from that in the DEIR). Although this is a slightly higher amount than identified in the DEIR, the addition of this amount does not substantially alter the water supply-demand situation overall in the Salinas Valley as shown in Table 4.3-9c.

Other ancillary land uses in the ACWP could include produce stands and limited guesthouses, residential units and employee housing. Produce standards do not use large amounts of waters. Residential growth overall is already included in the residential assumptions for the planning areas in which the wine corridors occur and thus no additional demand has been added to the overall demand estimate.

4.2.2 Salinas Valley Water Project, Phase 1

Commenters have raised questions about the SVWP's ability to halt seawater intrusion in the upper aquifers of the Salinas Valley water basin, as well as its ability to reduce groundwater overdraft. The commenters have also taken issue with the DEIR's statement that the SVWP is a water supply project.

The SVWP is an approved project of the MCWRA that will provide water for both agricultural and municipal uses within the Salinas Valley from careful management of the Salinas River. The EIR/EIS for the SVWP (MCWRA 2001) describes its purpose and need as follows:

> MCWRA is the public agency charged with the long-term management and preservation of water resources in the Salinas Valley. As such, MCWRA has analyzed the substantial challenges of managing the Basin's resources and has developed the proposed action as a mechanism for meeting some of these challenges. The purpose of the proposed action is to address the critical issues facing the management and longevity of the Basin's water resources by meeting the following objectives:
>
> 1. Stopping seawater intrusion.
> 2. Providing adequate water supplies to meet current and future (year 2030) needs.
> 3. Improving the hydrologic balance of the groundwater basin in the Salinas Valley (Basin).

A primary objective of the SVWP is to halt further groundwater degradation and seawater intrusion by bringing aquifer pumping and recharge rates into balance. The SVWP does this through a series of improvements to the upriver storage capacity, changes in the operations of the upriver dams, and groundwater recharge activities. The approved SVWP specifically includes the following improvements (MCWRA 2001):

- *Modification of the Nacimiento spillway.* The existing spillway would be modified by replacing a section with an inflatable rubber dam or radial gates that are capable of passing the probable maximum flood event (PMF). This modification will increase the spillway capacity and allow the

[21] Typo in FEIR referred to 4.9-11. Should be 4.3-11.

reservoir to store a higher volume of water throughout the wet season. The surface elevation would not change.

- *Reoperation of Nacimiento and San Antonio Reservoirs.* Due to the ability to store more water through the wet season, Nacimiento can be reoperated to release less water in the wet season and release it during the irrigation season. San Antonio reservoir will also be re-operated to store more water in the wet season and release it during the irrigation season. This will allow for a greater level of groundwater recharge and will allow diversion of water at the lower Salinas River for direct delivery. Water will be in the Salinas River year round, except during droughts. As a result, existing channel maintenance activities may need to be modified.
- *Surface Diversion/Impoundment.* A seasonal diversion structure would be constructed on the northern reach of the Salinas River to divert an average of 9,700 acre-feet per year for irrigation during April through October. The diversion structure would be equipped with pneumatically-operated gates. Outside the diversion season, the gates would be lowered to lay flat on a concrete sill on the bed of the river. During the diversion season, the gates would be raised to create an impoundment from which water would be diverted. The gates would be comprised of multiple panels that may be raised and lowered independently to facilitate fish passage and control the water level in the impoundment. The maximum depth of the impoundment would be 9 feet at the diversion structure. The impoundment would extend approximately 4.5 miles upstream. The diversion structure would also include a fishway and fish screens to provide for fish passage when the dam is raised. A pump station with a capacity of 85 cfs would discharge the diverted water into the existing CSIP pipeline and co-mingle with water from the Monterey County Regional Wastewater Treatment Plant. If the amount of diverted water needs to be increased in the future (see cost discussion below), an expanded delivery and distribution system will be required.
- *Delivery.* The diversion structure would be constructed near the current point where the CSIP pipeline crosses the Salinas River. The CSIP pipeline delivers recycled water to agricultural users in the CSIP service area. The pipeline has sufficient capacity to deliver project water to the CSIP area also. Hydrologic modeling shows that the project may not halt seawater intrusion in the long-term future (year 2030). If this were to occur, additional distribution capacity will be created in a new pipeline and water would be delivered outside the CSIP area to ensure project objectives are met and seawater intrusion is halted.
- *Pumping Limitations.* In areas where project water is delivered, groundwater pumping would be limited to peaking capacity and deliveries during drought.

Physical changes to the spillway at Lake Nacimiento allow the reservoir to retain approximately 30,000 acre-feet per year (AFY) of additional storage, in round numbers. At the time the DEIR was released for review, the spillway was under construction -- this work is now complete. Changes in the operation of both Lake Nacimiento and Lake San Antonio will both improve flood control and allow larger releases during the irrigation season. Larger flows in the Salinas River translate to about an additional 10,000 AFY of recharge through infiltration into the riverbed. Water infiltrates into the riverbed as a result of increased deliveries from the SVWP. This recharges the groundwater supply and thereby raises groundwater levels (MCWRA 2001).

To clarify the discussion on page 4.3-131 of the DEIR, the new surface diversion dam will divert 9,700 AFY of Salinas River water to the existing Castroville Seawater Intrusion Project (CSIP) system for delivery to the CSIP service area for agricultural irrigation. The diversion dam was under construction at the time the DEIR was released for review and, as of this writing, is now expected to be completed in the spring of 2010 (Weeks 2009). The diverted river water will be blended with recycled water from the regional wastewater treatment plant and will distributed through the CSIP system to replace existing groundwater pumping in the CSIP service area. The CSIP system provides water to approximately 12,000 acres of farmland.

As illustrated by Exhibit W-1 above, the overall trend of agricultural water demand is slowly downward, as discussed on page 4.3-34 of the DEIR. Keep in mind that yearly demand may vary, depending upon climate conditions. During dry years, water demand is higher than in wetter years because soil moisture levels are lower. For example, the MCWRA's 2006, 2007, and 2008 "Groundwater Summary Reports" show agricultural water use as 421,634 AFY in 2006, 475,155 AFY in 2007 (as the current drought set in), and 477,124 AFY in 2008. This is still substantially below the 1997 high point in demand shown on Exhibit W-1 (Monterey County Water Resources Agency 2008c, 2008d, 2009).

Commenters have asked whether the SVWP projections can be relied upon and whether the DEIR's projections for water demand are consistent with those of the SVWP.

The Salinas Valley Integrated Ground and Surface Water Model (SVIGSM) was used as a planning tool in the development of the SVWP, and subsequently as the analytical tool in determining potential hydrologic impacts. The SVIGSM was developed specifically to model the Salinas Valley groundwater basin and has proven to be a reliable method of estimating the results of the SVWP. The SVIGSM has been calibrated based on 50 years of data from the basin and 25 years of well data. It is the fundamental tool for projecting future conditions within the groundwater basin and is also used by the Marina Coast Water District and the Seaside Basin Watermaster as the foundation for developing their own, more specific groundwater models. It was also utilized to model future flows on the Salinas River by the National Marine Fisheries Service (NMFS) in the June 21, 2007 Biological Opinion on the South-Central California Coast Steelhead NMFS issued for the SVWP (the model output was augmented with more site-specific stream gage data in the final Biological Opinion). The SVIGSM is continually updated to improve its results.

Some commenters specifically assert that the SVIGSM is flawed and that the County has known this since 2000. According to Curtis Weeks, P.E., General Manager of the Monterey County Water Resources Agency, the SVIGSM is the primary planning tool used to evaluate the Salinas groundwater basin and was updated during the preparation of the SVWP EIR. The memoranda and documents attached to Landwatch's letter do not support a conclusion that the model is flawed; they simply reflect early (2000-2001) internal agency process during the SVWP EIR preparation. The Final SVWP EIR, certified in June 2004, used updated model runs performed by agency consultants that included agency requested documentation upgrades and refinements. The issues raised in the 2000-2001 correspondence were adequately addressed by the subsequent model runs done for the SVWP EIR.

The SVIGSM anticipates that overall, as time passes there will be a reduction in the overall demand for agricultural water and an increased demand for municipal water (including the future demands of the Salinas Valley cities). The reasons for this expected shift are described in Section 3.2.4 of the DEIR/EIS prepared for the SVWP:

> "Total urban needs are projected to increase from 45,000 AFY in 1995 to 85,000 AFY in 2030 (a 90% increase) based on projected growth. A large amount of this growth is expected to occur in the northern end of the valley.
>
> "Agricultural needs, which make up a far greater share of water use, are projected to decrease by approximately 51,700 AFY (a 13% reduction) as a result of several factors, including increased irrigation efficiencies, changes in crops (i.e., increase in lower water-demand grape production), and some

conversion of land from agriculture to urban uses. Although some agricultural land will be converted to urban uses, some of this acreage will be replaced by conversion of non-agricultural or non-irrigated land to irrigated uses. An overall slight net reduction in agricultural land uses would be expected. Because the agricultural portion of the total existing water needs in the Basin is approximately 90% of the total, and agricultural water use reductions would be substantial, an overall reduction of 17,000 AFY in basin-wide water use in 2030 is projected."

The SVWP estimated the increase in urban water use in the Salinas Valley from 1995 to 2030 to be approximately 45,000 AFY (see Table 4.3-6). The EIR tables show an urban water use increase in the Salinas Valley groundwater basin of approximately 27,066 AFY (2008 to 2030) both combined city and county demands. However, what really matters is the total demand projected under the SVWP and with the General Plan. As shown in Table 4.3-9 , the total demand projected for 2030 in the SVWP EIR and the total demand projected with the General Plan are within 0 to 1 percent (443,000 to 448,000 AFY for the General Plan vs. ~443,000 AFY in the SVWP EIR). While the two analyses used somewhat different methodologies, they both result in a similar estimate of 2030 demand.

Comments asserted that EIR claims that the CSIP and the initial SVWP actions have already resulted in increases in the water table are not shown in MCWRA data from 2003 to 2009 for the end of the water year (e.g. September). The EIR's reference to rising groundwater levels near the coast is based on a comparison of current (2007 is latest year available) groundwater level contours with groundwater level contours in 1994 and 1995. Groundwater pumping conditions change from year to year depending on variations in demand which vary depending on climatic conditions. As such, comparison of groundwater levels is best done over the long-term as smaller interval changes may reflect individual year variations more than long-term groundwater conditions. MCWRA's 2009 4th quarter monitoring report (MCWRA 2010b) includes historical data which show that August usually has the lowest groundwater levels across the different parts of the Salinas groundwater basin (particularly in the Pressure Area and East Side area) , and September groundwater levels often rise from their August low. For this reason, MCWRA's groundwater level maps are based on the August elevations.

A comparison of August 1994 (MCWRA 2010c) and August 1995 (MCWRA 2010d) groundwater level contour maps with August 2007 (MCWRA 2010e) groundwater level contour maps shows a clear increase in the groundwater levels near Castroville in both the shallow (180-foot) and the deep (400-foot) aquifers. Accordingly, the EIR's statement (Weeks, 2009) that coastal area groundwater levels in 2007 were higher than previously is supported by evidence on the record and demonstrates that the CSIP and initial SVWP actions are having a positive effect in the coastal areas. The 1994, 1995, and 2007 groundwater level contour maps have been added as references to the EIR.

4.2.3 Salinas Valley Water Project, Phase 2

Commenters have criticized the DEIR for the General Plan Update for not analyzing in more detail the potential impacts of Phase 2 of the SVWP. For purposes of the General Plan DEIR, "Phase 2" of the SVWP generally refers to additional infrastructure that may be installed in the future to expand the area to which SVWP water can be delivered (the SVWP EIR/EIS assumes that deliveries would be limited to the Zone 2C area of benefit). Phase 2 was analyzed at a general level in the SVWP's EIR/EIS because it has not been designed and the specific size and locations of any future distribution system is currently unknown. Whether Phase 2 of the SVWP is needed will depend upon the continued success of the SVWP in meeting its objectives of halting seawater intrusion and reducing groundwater overdraft.

In conclusion, the specific components of the Phase 2 expansion of the SVWP are not reasonably foreseeable at this time, given that the SVWP has not been in operation for a sufficient length of time to determine whether there is a need for its expansion and what form that expansion might take. Further, there is insufficient information about the location and design of Phase 2 to allow a meaningful analysis of its potential impacts. CEQA Guidelines Section 15004 states that an EIR "should be prepared as early as feasible in the planning process…, yet late enough to provide meaningful information for environmental assessment." There is insufficient information to proceed with a detailed environmental analysis of Phase 2. CEQA Guidelines Section 15145 provides that if an agency finds that an impact is too speculative for evaluation, it should terminate the discussion of the impact.

The DEIR broadly disclosed the potential types of water infrastructure that might be needed and disclosed that impacts of new infrastructure on biological resources and other subjects under Impact WR-5, and that further evaluation would be needed when these projects are actually conceptualized and proposed. The impact analysis under WR-5 acknowledges that water storage, treatment and conveyance facilities would result in impacts to biological resources (see DEIR page 4.3-135, 4.3-137, 4.3-138, 4.3-139, including discussion of "ESA-listed fish species" on page 4.3-144. Impacts WR-5 was determined to be significant and unavoidable for the 2030 horizon year and buildout in 2092 (See DEIR Pages 4.3-145 and 146).

This conclusion would not necessarily apply to steelhead in the Salinas River, which a number of commenters raised as a potential concern for the SVWP, Phase 2. The SVWP's Biological Opinion for steelhead resulted in a non-jeopardy finding from the National Marine Fisheries Service. Whether Phase 2 would result in a changed finding would depend on a number of factors, including whether Phase 2 would require a change in the operating regime of the River, timing of any releases into local rivers and water bodies, flow rates, water temperatures, the location of spawning areas, and spawning times. Phase 2 would involve changes in distribution, not any additional water. It is not known at this time whether Phase 2 would include any changes in the water regime that are outside the Biological Opinion and there is no site specific or project specific operational details are known which would allow analysis of impacts to individual species such as the steelhead after the 2030 horizon year. Please also see Mitigation Measure BIO-2.3 in DEIR Section 4.9 which addresses impacts to the steelhead from new water diversions or new wells.

For the foreseeable future, the SVWP will operate within the restrictions of the Biological Opinion. Keep in mind that the SVWP is more than the diversion structure and additional water being supplied to the CSIP. It also involves a change in operations in the upstream reservoirs and the release of additional water to the Salinas River that will percolate into the groundwater system. So, the recovery of groundwater levels and provision of water to users upstream of the CSIP service area is not dependent upon the diversion structure or the CSIP distribution system.

4.2.4 Seawater Intrusion through 2030

Commenters have asserted that seawater intrusion will not be halted in the Salinas Valley, noting that the DEIR for the General Plan Update states that intrusion may be halted by 2030. The DEIR focuses upon impacts to existing conditions (see CEQA Guidelines Section 15125). With implementation of the SVWP project the rate of sea water intrusion will decrease in comparison to baseline. Furthermore, the DEIR states that the components of the SVWP are believed to be sufficient to halt seawater intrusion in the short term, but *may* not be sufficient through the year 2030. The SVWP DEIR/EIS states (based on the results of the SVIGSM runs) that "on a long-term basis, there would be an average annual rate of subsurface outflow to the ocean after implementation [of the SVMP]." As a result, the SVMP DEIR/EIS concludes that "seawater intrusion would be effectively reversed during normal and greater than normal rainfall years, and would occur at a rate less than current and Future Baseline (2030) conditions under drought conditions. The net effect, considering all rainfall years, would be no additional seawater intrusion." (Section 5.3, SVMP DEIR/EIS) This conclusion is essentially unchanged in the FEIR/EIS. (Monterey County Water Resources Agency 2002).

The DEIR for the General Plan Update uses the term *may*, because the SVIGSM, like all models, has a margin of error. As explained in section 3.2.4, *Distribution/Delivery of Water*, of the SVMP DEIR/EIS:

> "For the year 2030, modeling indicates seawater intrusion may be 2,200 AFY [acre-feet/year] with surface water deliveries only to the CSIP area. This is substantially less than the 10,500 AFY of intrusion that would occur without the project. It is important to note that, given the dynamics of the hydrologic system, the uncertainties of whether future demands will occur as projected, and the limitations of any modeling effort, it is not known if this level of seawater intrusion will occur. The project could potentially fully halt intrusion in 2030 with deliveries only within the CSIP system. As discussed in Section 3.2.7, a monitoring program will be implemented to determine the success of the project."

The 2,200 AFY in question is within the SVIGSM's margin of error. While there is a degree of uncertainty over the SVWP's efficacy in halting seawater intrusion, given that the average outflow of the Salinas River would be 249,000 AFY with the SVWP, the level of uncertainty is very low, at less than 1 percent. As further explained in section 3.2.4, *Distribution/Delivery of Water*, of the SVMP DEIR/EIS:

> "SVIGSM modeling does demonstrate that delivery of an average [of] 18,300 AFY of SVWP water in combination with recycled water to CSIP and agricultural uses outside of the CSIP area would fully halt seawater intrusion.
>
> "Diversion from the Salinas River would be increased from an average of 9,700 AFY to 18,300 AFY. Of this total diversion, 14,300 AFY would be delivered outside the CSIP delivery area. CSIP deliveries would shift in their composition. An average of 4,000 AFY would be provided by Salinas River diversions. Recycled water deliveries would increase to 16,000 AFY. Supplemental pumping of groundwater wells up to 2,800 AFY would provide the balance of water needed to meet water use demands (approximately 23,000 AFY) in the CSIP area."

To clarify the discussion in the DEIR (see page 4.3-35), the MCWRA and the MRWPCA have two major capital projects to better manage groundwater quality while halting the long-term trend of seawater intrusion and groundwater overdraft. The MCWRA operates the SVWP, which is described above. In addition to the diversion facility that directly feeds the Castroville Seawater Intrusion Project (CSIP), the SVWP provides additional releases of water to the Salinas River upstream which will percolate into the groundwater aquifers. This increases the amount of subsurface water pushing downstream against the seawater that is attempting to enter the aquifers. The MRWPCA operates the Salinas Valley Reclamation Plant (SVRP), a water recycling facility at its Regional Wastewater Treatment Plant with the capacity to produce 29.6 million gallons per day of recycled water. The SVRP supplies the CSIP, a distribution system including 45 miles of pipeline and 22 supplemental wells that is operated cooperatively with the MCWRA. The CSIP retards the advance of seawater intrusion by supplying irrigation water to nearly 12,000 acres of farmland in the northern Salinas Valley. The water provided to farms by the CSIP, including that which will be supplied from the SVWP, avoids the need to remove a like amount of water from the subsurface aquifers. This counteracts the seawater attempting to move into the aquifers.

In conclusion, seawater intrusion into the aquifers of the Salinas Valley is expected to be halted by 2030. The rate of seawater intrusion will be decreased in comparison to the baseline year for the SVWP by the addition of substantial new water into the groundwater basin from the SVWP and the CSIP (which replaces groundwater that would otherwise be used by farmers). In other words, based on the results of the SVIGSM and observed changes in groundwater levels, fresh water will push into the aquifers now contaminated with seawater and there will be subsurface flow to the ocean. (MCWRA 2001) As a result, the extent of seawater intrusion will not expand in future years and will be effectively halted from moving further eastward. This is a less than significant effect.

4.2.5 Groundwater Overdraft in the Salinas Valley

Commenters have asserted that existing groundwater overdraft conditions in the Salinas Valley will not be improved by the SVWP. That assertion ignores the fact that one of the key objectives of the SVWP is to reduce groundwater overdraft. As described in more detail in the EIR/EIS for that project, the Salinas River surface diversion facility would divert river water to the CSIP system to augment the supply of CSIP project water and thereby further reduce current levels of groundwater pumping in the 12,800-acre CSIP service area. In addition, the diversion facility would form a shallow impoundment of water upstream of the facility that would provide direct groundwater recharge.

The SVWP's spillway modifications at the Nacimiento and San Antonio reservoirs would change the reservoirs' operations in order to provide the source water for the SVWP, while continuing to assure adequate flood control capacity during the flooding season. The modified operation would increase the amount of water available for recharge and diversion in the Salinas Valley during the irrigation season (Monterey County Water Resources Agency 2003a).

In conclusion, the increased recharge and aquifer storage resulting from the SVWP are expected to increase the groundwater elevation in all of the Salinas Valley's hydrologic subareas. In addition, groundwater balance will be improved by an increase in groundwater storage – reversing the pre-SVWP conditions (Monterey County Water Resources Agency 2002). The commenters have not provided any evidence that the SVWP is not feasible nor that it cannot achieve its objectives.

4.2.6 Granite Ridge and Highlands South

Commenters assert that the Granite Ridge and Highlands South areas of the North County do not benefit from the Salinas Valley Water Project even though they are in Zone 2C and that thus the DEIR's conclusion that there is adequate water supply in the Salinas Valley overall is in question. This assertion is contrary to the SVWP Engineer's Report prepared for the Zone 2C Proposition 218 proceeding. The 2003 Engineer's Report describes the reasoning, in detail, that supports the conclusion that the alluvial portion of the Granite Ridge area and all of the Highlands South area benefit from the SVWP. In brief, the benefit relates to a reduction in the hydrologic gradient between the Salinas Valley and the higher Granite Ridge and Highlands South areas. By raising groundwater levels in the Salinas Valley, the SVWP reduces the gradient and thereby reduces the impetus for the movement of groundwater from Highland South and a portion of Granite Ridge into the Salinas Valley. This is a direct benefit to these areas.

As discussed in the DEIR on page 4.3-16, that portion of the Granite Ridge area that is underlain by granitic formations experiences water supply and water quantity problems. This area would be served by the SVWP through the installation of a water distribution system to meet water quality and quantity requirements. Those portions of the area underlain by alluvium have fewer problems and have not been included in the supply project described below. In areas underlain by rock, well yields are generally low. Further, approximately 25 percent of the water systems and an unknown number of individual wells are currently experiencing problems with their water (i.e., water shortage and/or contamination with nitrates and naturally occurring arsenic). The County Environmental Health Bureau estimates that 22 water systems (serving 159 homes) currently exceed the Maximum Contaminant Level (MCL) for nitrates, nine additional water systems are close to the MCL, 11 water systems (serving 171 homes) currently exceed the MCLs for arsenic, and an additional two water systems (serving 8 homes) are close to this level. (County of Monterey Environmental Health Bureau 2009a).

Since the release of the DEIR, additional progress has been made toward providing a water supply to the Granite Ridge and portion of the Highlands South areas that are underlain by granitic formations. The County has established the North County Regional Ad Hoc Water Committee to explore potential solutions to the water supply and water quality problems of North County areas, including portions of Granite Ridge and Highlands South. Providing water that meets water quality standards to existing residents of the area will require a mix of the following actions: replacement of existing contaminated wells, installation of a treatment system to remove contaminants, consolidation of connections and water systems away from contaminated wells, and installation of the proposed Granite Ridge Water Supply Project (called the Granite Ridge Distribution Facilities in the DEIR). The latter is discussed in more detail below (County of Monterey Environmental Health Bureau 2009a).

An Engineer's Report has been prepared in anticipation of creation of a benefit assessment district to finance at least a portion of the cost of the system. The Engineer's Report identifies the costs, direct benefits to the involved parcels, and estimated assessments, as required by Proposition 218. This proposed potable water system would be based on retrofitting an existing well of the Monterey County Park and Recreation District and installing a new, high-capacity well elsewhere. Two new storage tanks, two pump stations, and approximately 87,000 to 91,000 linear feet of water mains would complete the system. It would have the capacity to serve up to 119 mutual water systems and 507 individual well users. Up to 1,238 individual parcels would be served by the project. The estimated cost in 2012 dollars for construction, based on the conceptual design, ranges from $26.1 to $26.5 million; operations and maintenance are estimated at between $328,000 and $330,000 annually. (Monterey County Water Resources Agency 2008e) On December 15, 2009 the Board of the MCWRA directed that an EIR be prepared for this project in anticipation of a Proposition 218 ballot proceeding to levy a benefit assessment to finance the water supply system.

The DEIR disclosed both the water supply and water quality issues associated with the Granite Ridge and Highlands South areas. For the FEIR, the significance conclusions have been clarified as follows:

- *Highlands South (which is in Zone 2C) and the portion of Granite Ridge that is within Zone 2C are both part of the Salinas Valley groundwater basin.* The SVWP will balance the basin overall in terms of overdraft compared to baseline conditions taking into account 2030 new demands (MCRWA 2001). There are local water quality issues including nitrate in shallow zones and arsenic in deeper zones. In the Granite Ridge area, water is found in fractured zones with limited storage capacity which is a localized supply issue. Policy PS-3.4 will require evaluation of water quantity and quality for all new wells. Impacts on water supply and overdraft for these areas are considered less than significant in light of Policy PS-3.4 (which requires new wells to address water quality and quantity concerns) and the SVWP (which will balance the basin overall in regards to overdraft). The Granite Ridge project being considered by the County would benefit portions of Granite Ridge and Highland South to help address the existing constraints by utilizing a well source with acceptable water quality and a pipeline distribution system.

- *Areas of Granite Ridge that are not in Zone 2C (on the eastern and northern sides of Granite Ridge) and are in fractured rock or hard rock areas.* Water availability in these areas is limited, discontinuous, and unpredictable. A discretionary permit will be required pursuant to Policy PS-3.4 to provide for detailed review of new development. New wells will thus need to address water quality and localized overdraft pursuant to the requirements of Policy PS-3.4. Thus, impacts on water supply and overdraft for these areas are thus considered less than significant in light of PS-3.4 (which requires new wells to address water quality and local well interference).

The impacts of potential new infrastructure in these areas were already disclosed in the DEIR.

4.2.7 El Toro Creek Groundwater Subbasin

One commenter (Omni Phelps, Comment I-14) asserted that the DEIR mischaracterizes the available groundwater in the El Toro Creek Groundwater Sub-basin due to reliance on one (Geosyntec, 2007) report and that there is actually water available to support new development beyond the first single-family residence on lots of record in the B-8 constrained area. Another commenter (TOMP, Comment O-21k) questioned the DEIR's description of a relation between the Toro Area and the Salinas Valley watershed and asked for clarification of the significance of impact of new development in the Toro Area plan relative to water supply and groundwater overdraft. Both of these comments are responded to in detail in the individual responses. The summary of those responses are provided herein to provide clarification to support the summary of impacts presented earlier in this master response.

Regarding the accuracy of the Geosyntec (2007) report, this is the most recent evaluation of the groundwater basin which considers many of the prior evaluations cited by the commenter. The commenter did not provide technical substantiation for the asserted criticisms of the Geosyntec report and thus the County finds that this report remains an adequate basis for characterization of the groundwater basin. As such, the expansion of the B-8 constrain zone as recommended in the Geosyntec report is still included in the Toro Area Plan to properly constrain growth until water supply issues are resolved.

Regarding the connection of the Toro Area Plan to the Salinas Valley groundwater basin, the Toro Planning area contains two distinct areas. The eastern side of the Plan Area is within the Salinas Valley groundwater basin and the western side is within El Toro Creek Groundwater Sub-basin (see Exhibits 4.3-3 and 4.3.10 in the DEIR). The eastern side is within the Salinas Valley groundwater basin itself and thus recharge in this area enters the basin directly. The DEIR describes the El Toro Creek Groundwater Basin (on p. 4.3-35) based on the 2007 Geosyntec Consultants report. That report clearly states that the El Toro watershed drains to Toro Creek which flows northeastward into the Salinas River, thus establishing an indirect hydrologic connection.

Regarding the impact significance for development on water supply and groundwater overdraft for the Toro Area Plan, the EIR has been updated in Chapter 4, Changes to the Text of the DEIR, to describe the following: (1) For development within the portion within the Salinas Valley groundwater basin proper, the conclusions in the DEIR apply; (2) for discretionary development in the El Toro Creek groundwater subbasin, General Plan policies (including, but not limited to Policy PS-3.1, 3.3, and T-1.7) will delay development (other than single-family residential development on lots of record that do not require a discretionary permit for other reasons) where long-term water supplies do not exist and thus avoid significant impact to water supply and groundwater overdraft due to discretionary development; (3) For ministerial development in the El Toro Creek groundwater subbasin, the minor amount of new well demand (estimated as around ~97 acre-feet due to 194 vacant lots of record) is considered to have a less than significant impact on groundwater overdraft relative to recharge in the basin of 2,000 to 3,000 AFY with implementation of Policy PS-3.4 to assess well water quality and avoid well interference. More specifically, Policy T-1.7 will constrain residential subdivision in residentially designated areas within the El Toro Creek subbasin and Policy PS-3.4 will address localized individual well effects on water quality, well interference, and localized overdraft.

4.2.8 Water Supply for Future Fort Ord Development

Some commenters questioned the availability of water to supply future development at Fort Ord and asked for clarification of potential supplies.

Fort Ord is currently supplied by the Marina Coast Water District which derives its water from the Deep Zone in the Salinas River groundwater basin. Fort Ord itself overlies the Salinas groundwater basin and the Seaside aquifer but it is unlikely to derive any water from the adjudicated Seaside aquifer and thus the adjudication is not relevant. A note has been added to Table 4.3-4 and to Table 4.3-10 to clarify that Fort Ord does not derive water from the Seaside aquifer nor is expected to in the future.

Potential water sources for future growth at Fort Ord include the Salinas Valley groundwater basin and regional water supply projects.

Page 4.3-119 of the DEIR has also been revised to clarify the source of additional water supply to Fort Ord and to describe that future development would not derive its water from the Coastal Water Project which is limited from providing water for future growth (see Chapter 4, Changes to the Text of the DEIR).

Regarding the 6,600 AFY mentioned on 4.3-119, the Fort Ord Reuse Authority (FORA) Board retains the authority to allocate Salinas Valley groundwater supplies as provided for under an agreement between the federal government and the Monterey County Water Resources Agency (MCWRA) dated September 1993 (MCWD 2005). This agreement provides for groundwater extraction rights of 6,600 AFY, an amount consistent with the former average groundwater use at Fort Ord while under military operation (MCWD 2005).

The additional 2,400 AFY identified in the Fort Ord Reuse plan as needed for future development would have to come from an additional supply project such as Regional Project Alternative described in the CPUC FEIR for the Coastal Water Project.

TABLES REFERENCED IN EXCERPT FROM MASTER RESPONSE NO. 4

Table AG-1. Areas of Potential Agricultural Expansion in the Salinas Valley Watershed

Factor	Acreage	Notes
Undeveloped/Uncultivated Area	1,258,539	Area assumed to contact intact natural land covers
..of which agriculture allowed	849,313	Designated for farmland, grazing or resource conservation
...of which, contain soil capability categories I through V	77,339	Areas suitable for agriculture
...of which, are located within Zone 2C of the Salinas Valley Water Project	21,798	Areas that are suitable for agriculture and can obtain water from the Salinas River groundwater basin
...of which are on slopes < 25%	21,375	Areas that are not prohibited from agricultural conversion by OS 3-5

Note: From FEIR, Chapter 2.

Table 3-15. Agricultural Winery Corridor Development Potential

Development Type	River Road Segment	Metz Road Segment	Jolon Road Segment	Total
Artisan Winery	24	4	12	**40**
Full-Scale Winery	5	2	3	**10**
Winery Tasting Rooms	5	2	3	**10**
Restaurant	1	1	1	**3**
Delicatessen (at winery)	3	1	1	**5**
Inns	5	1	2	**8**

Source: Monterey County Planning and Building Inspection Department, Agricultural Winery Corridor Plan, March 6, 2007.

NOTE: From DEIR, Chapter 3.

Table 4.3-4. Community Area Groundwater Basins and Water Suppliers

Community Area	Planning Area	Groundwater Basin	Management Authority	Water Supplier
Pajaro	North County	Pajaro Valley basin	PVWMA	Pajaro/Sunny Mesa Community Services District
Castroville	North County	Salinas Valley basin (180-Foot/400-Foot Subarea)	MCWRA	Castroville Water District
Boronda	Greater Salinas	Salinas Valley basin (180-Foot/400-Foot Subarea)	MCWRA	California Water Service Co., Salinas District
Chualar	Central Salinas	Salinas Valley basin (180-Foot/400-Foot Subarea)	MCWRA	Cal-Am Water Company, Monterey District
Fort Ord	Greater Monterey Peninsula	Salinas Valley basin (Seaside and Corral de Tierra Subareas)	MPWMD (and Fort Ord Reuse Authority), MCWRA, and Seaside Groundwater Basin Watermaster	Marina Coast Water District and Cal-Am

(Note: Fort Ord does not derive water from the Seaside aquifer nor is expected to in the future)

Table 4.3-5. Salinas Valley Groundwater Basin Extraction Data, 1995–2009 (acre-feet)

Year	Urban Pumping	Percent	Agricultural Pumping	Percent	Total
1995	41,884	8	462,628	92	504,512
1996	42,634	8	520,804	92	563,438
1997	46,238	8	551,900	92	598,139
1998	41,527	9	399,521	91	441,048
1999	40,559	8	464,008	92	504,567
2000	42,293	9	442,061	91	484,354
2001	37,693	9	403,583	91	441,276
2002	46,956	9	473,246	91	520,202
2003	50,472	10	450,864	90	501,336
2004	53,062	10	471,052	90	524,114
2005	50,479	10	443,567	90	494,046
2006	49,606	11	421,634	89	471,240
2007	50,440	10	475,155	90	525,595
2008	50,047	9	477,124	91	527,171
2009	45,717	9	465,707	91	511,224
Average	**44,891**		**462,114**		**507,004**
1995-2001	41,833		463,501		505,333
2002-2009	49,597		459,794		509,366
Change between 1995/2001 and 2002/2009	*+7,765*		*-3,707*		*+4,033*

Sources: Monterey County Water Resources Agency 2008b, 2010a

NOTE: Extractions are based on reported water use. Percent reporting wells ranged from 82 percent to 98 percent over the 15 year period. Average in first 7 years was 92 percent; average in last 8 years was 97 percent. Changes between the periods may reflect, in part, changes in the amount of reporting.

Note: Data collected in the Salinas Valley for Zone 2/2A/2B only and Fort Ord due as MCWRA not currently authorize to collect data outside these areas. Thus, the extractions shown above do not include certain areas that are within Zone 2C but outside of Zones 2/2A/2B. For the analysis in this EIR, baseline was adjusted to include these areas (see Table 4.3-9c).

Table 4.3-6. Estimated 1995 Baseline and Future Water Conditions in the Salinas Valley Groundwater Basin from the Salinas Valley Water Project EIR (AFY)

Parameter	Baseline (1995) Conditions[1]	Projected Future (2030) Baseline Conditions[1]
Groundwater Pumping	463,000	443,000
Urban	*45,000*	*85,000*
Agricultural	*418,000*	*358,000*
Basin Overdraft (Does not include Seawater Intrusion)[2]	17,000	14,000
Seawater Intrusion[3]	8,900	10,300
Salinas River Outflow to Ocean	238,000	249,000

Notes:

[1] Baseline (1995) and Future Baseline (2030) Conditions assume that deliveries from MCWRP are being made. Under 1995 conditions, approximately 13,300 AFY are delivered; under the 2030 conditions, 15,900 AFY are projected for delivery.

[2] Basin overdraft is defined as the average annual rate of groundwater extraction over and above the total recharge to the groundwater basin.

[3] Seawater intrusion is defined as the average annual rate of subsurface flow from the Monterey Bay into the 180-Foot and 400-Foot aquifers in the 100-Foot/400-Foot Subarea.

Source: Monterey County Water Resources Agency 2001.

Table 4.3-9a. Monterey County 2007 Estimated New Water Demand from Urban Uses and New Wineries (2030 and Beyond) Estimated and Projected 2030 Water Demand

	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (3)	Buildout New Population (2)	Buildout New Water Demand (3)	Notes
Salinas Valley Groundwater Basin							
Chualar CA	1,500	492	1,429	290	4,224	856	Calculated based on population
Fort Ord CA	8,610	2,823	8,201	1,663	24,246	4,916	Calculated based on population
Boronda CA	726	238	691	140	2,044	414	Calculated based on population
Castroville CA	1,632	535	1,554	315	4,596	932	Calculated based on population
Pine Canyon RC	1,704	559	1,624	329	4,798	973	Calculated based on population
San Lucas RC	169	55	160	32	476	96	Calculated based on population
San Ardo RC	480	157	456	92	1,352	274	Calculated based on population
River Road RC	389	128	372	75	1,095	222	Calculated based on population
Hwy 68/Reservation AHO	930	305	886	180	2,619	531	Calculated based on population
Cachagua	66	9	26	5	186	38	Assumed 50/50 split between Carmel River and Salinas watershed basins
Central Salinas Valley	456	61	177	36	1,284	260	Calculated based on population
Greater Salinas	1,395	187	542	110	3,928	796	Calculated based on population
Butterfly Village (4)	1,147	1,147	3,332	-25	3,332	-25	Based on Addendum to FEIR for project
North County (5)	1,956	262	760	154	5,508	1,117	Assumed 60/40 split between Salinas River and Pajaro River
South County	939	125	363	74	2,644	536	Calculated based on population
Toro	4,046	540	1,569	318	11,393	2,310	Calculated based on population

	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (3)	Buildout New Population (2)	Buildout New Water Demand (3)	Notes
Subtotal	*26,145*	*7,662*	*22,144*	*3,789*	*73,726*	*14,247*	
Wineries and Ancillary in AWCP				326		326	Assumes all 40 artisan and 10 large-scale wineries built by 2030
INLAND Unincorporated Total	**26,145**	**7,622**	**22,144**	**4,115**	**73,726**	**14,574**	
Revised INLAND Unincorporated Total				*3,292*		*11,724*	*Taking into account reduction from current per capita levels for all urban demand (excluding wineries/ancillary uses) by 2020 per SBX7 7 (Steinberg)*
Salinas Valley Watershed (Outside Salinas Valley Groundwater Basin)							
Lockwood RC	221	72	209	42	622	126	Calculated based on population
Pleyto RC	160	52	151	31	451	91	Calculated based on population
Bradley RC	800	262	761	154	2,253	457	Calculated based on population
INLAND Unincorporated Total	**1,181**	**386**	**1121**	**227**	**3,326**	**674**	
Revised INLAND Unincorporated Total				*182*		*539*	*Taking into account reduction from current per capita levels for all urban demand (excluding wineries/ancillary uses) by 2020 per SBX7 7 (Steinberg)*
Carmel River and Seaside Aquifer							
Greater Monterey Peninsula	4,011	536	1,557	316	11,295	2,290	Calculated based on population
Carmel Mid-Valley AHO	390	128	372	75	1,098	223	Calculated based on population
Hwy 68/Airport AHO	2,550	836	2,429	492	7,181	1,456	Calculated based on population
Cachagua	66	9	26	5	186	38	Assumed 50/50 split between Salinas and Carmel River basins.

	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (3)	Buildout New Population (2)	Buildout New Water Demand (3)	Notes
Carmel Valley	758	101	294	60	2,135	433	Calculated based on population
INLAND Unincorporated Total	**7,775**	**1,610**	**4,678**	**948**	**21,894**	**4,439**	
Pajaro Groundwater Basin							
Pajaro CA	676	222	645	131	1,904	386	
North County	1,304	174	507	103	3,672	744	New demand in N. County planning area split 60/40 between Salinas/Pajaro basins.
INLAND Unincorporated Total	**1,980**	**396**	**1,151**	**233**	**5,576**	**1,130**	
Monterey County Unincorporated Areas							
Total	**37,081**	**10,015**	**29,094**	**5,525**	**104,522**	**20,817**	New Demand from calculations above.
Revised INLAND Unincorporated Total				*4,656*		*17,833*	*Taking into account reduction from current per capita levels for all urban demand in the Salinas Valley by 2020 per SBX7 7 (Steinberg), but does not adjust urban demand in other basins.*

Notes:

(1)Assumes persons/housing unit = 2006 to 2030 average (2.91 from DEIR Table 3-5 for unincorporated county for 2030).

(2)Assumes person/housing unit = 2006 to Buildout average (2.82 from DEIR Table 3-5 for unincorporated county for buildout horizon)

(3) Assumes per capita water use [urban applied water (including residential, commercial, industrial, and landscape uses) for Central Coast Region] of 181 gpd per California Water Plan Update 2005 for all area total and first total in Salinas Valley. As noted in table, the revised total assumes a reduction in per capita urban water use by 20 percent by 2020 in the Salinas Valley per SBX7 7 (Steinberg). Urban water demands were not adjusted for the Carmel River/Seaside Aquifer or the Pajaro groundwater basin.

(4) Butterfly Village water demand based on Project FEIR Addendum (Monterey County, 2008b).

(5) 60/40 split based on Fugro West, Inc. 1995. North Monterey County Hydrogeologic Study. Prepared for Monterey County Water Resources Agency.

Table 4.3-9b. Water Supply and Projected Water Demand for 2030, Monterey County (acre feet)[22]

Groundwater Basin	Salinas Valley Groundwater Basin (1,2)	Salinas River Watershed (Outside Salinas Valley Groundwater Basin) (3)
Existing Demand	500,952	19,991
Projected City New Demand in 2030	23,361	0
Projected County New Demand in 2030	16,188 to 20,972	182 to 4,966
Projected Total Demand in 2030	**442,970 to 447,754**	**14,701 to 19,485**
Estimated 2030 Supplies	443,000	NA
Balance in 2030	30 to -4,754	NA

Sources: See Tables 4.3-9c through 4.3-9d.

Notes:

1. Salinas Valley demand declines by 2030 due to reduction in agricultural demand (due to gains in efficiency, taking into account agricultural expansions and due to reduction in per capita urban use per SBX7 7 (Steinberg). See Table 4.3-9c. Range shown for 2030 is for two difference cases: 1) 100% of new agricultural expansions (10,253 acres) assumed in Zone 2C; 2) 75% of new agricultural expansions in Zone 2C and 25% new agricultural expansions in Salinas Valley Watershed outside of Zone 2C.
2. Salinas Valley supply = groundwater. As discussed in text, with SVWP implementation, the expectation is that this amount can be provided without further lowering of groundwater tables or increased seawater intrusion compared to baseline levels.
3. Existing demand includes agricultural demand based on FMMP farmland mapping for 2008 for areas outside of Zone 2C plus Bradley/San Antonio area within Zone 2C (outside of 2A) and average agricultural use per acre in MCWRA groundwater extraction reporting (for Zone 2/2A) for 2002-2009. Existing non-agricultural demand not estimated due to lack of data . New County Demand includes new growth in Bradley, Pleyto and Lockwood Rural Centers. Range shown for 2030 is for two difference cases: 1) 100% of new agricultural expansions (10,253 acres) assumed in Salinas Valley groundwater basin proper (demand shown of 182 AFY is only for the three new rural centers); and 2) 75% of new agricultural expansions in Salinas Valley groundwater basin and 25% of new agricultural expansions outside Salinas Valley groundwater basin plus Bradley/Pleyto/Lockwood rural center growth.

[22] Abridged from FEIR to exclude basins other that Salinas Valley

Table 4.3-9c. Salinas Valley Watershed Estimated and Projected 2030 Water Demand

	Existing Demand	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (2)	2030 Total Population	2030 Total Demand	Notes
Unincorporated Urban Water Demand in Salinas Valley Groundwater Basin								
Chualar CA		1,500	492	1,429	290			Calculated based on population
Fort Ord CA		8,610	2,823	8,201	1,663			
Boronda CA		726	238	691	140			
Castroville CA		1,632	535	1,554	315			
Pine Canyon RC		1,704	559	1,624	329			
San Lucas RC		169	55	160	32			
San Ardo RC		480	157	456	92			
River Road RC		389	128	372	75			
Hwy 68/Reservation AHO		930	305	886	180			
Cachagua		66	9	26	5			Assumed 50/50 split between Carmel River and Salinas watershed basins
Central Salinas Valley		456	61	177	36			Calculated based on population
Greater Salinas		1,395	187	542	110			Calculated based on population
Butterfly Village (3)		1,147	1,147	3,332	-25			Based on Addendum to FEIR for project
North County (4)		1,956	262	760	154			Assumed 60/40 split between Salinas River and Pajaro River
South County		939	125	363	74			Calculated based on population
Toro		4,046	540	1,569	318			Calculated based on population
Wineries/Ancillary in AWCP					326			Assumes all 40 artisan and 10 large-scale wineries and ancillary uses built by 2030

Table 4.3-9c. Salinas Valley Watershed Estimated and Projected 2030 Water Demand

	Existing Demand	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (2)	2030 Total Population	2030 Total Demand	Notes
Inland Subtotal		*26,145*	*7,622*	*22,144*	*4,115*			
North County-Coastal		585	164	477	97			Calculated based on population
Total		**26,730**	**7,786**	**22,620**	**4,212**	**71,747**		Total Population includes estimated 49,126 existing population as of 2005 in GW basin Zone 2C plus new population
Revised Total					*3,435*			*Takes into account 20 % reduction by 2020 (SBX7 7 Steinberg)*
City Urban Water Demand in Salinas Valley Groundwater Basin								
Gonzales				19,916	4,038	29,145		Calculated based on population
Greenfield				14,757	2,992	29,854		
King City				10,475	2,124	23,360		
Marina				12,185	2,470	35,357		
Salinas				66,376	13,457	213,063		
Soledad				21,987	4,458	51,634		
Total				**145,696**	**29,539**	**382,413**		
Revised Total					*23,631*			*Takes into account 20 % reduction by 2020 due to SBX7 7 (Steinberg)*
Total Urban Water Demand in Salinas Valley Groundwater Basin								

Table 4.3-9c. Salinas Valley Watershed Estimated and Projected 2030 Water Demand

	Existing Demand	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (2)	2030 Total Population	2030 Total Demand	Notes
Total	**52,841**			**168,316**	**33,751**	**454,160**	**86,592**	Existing Demand = 2005 within Zone 2/2A (DEIR Table 4.3-1) (including Fort Ord) of 50,479 along with estimated Granite Ridge/Highland South 2005 demand estimate of 2,362 AF. See Note 5.
Revised Total					*27,066*		*69,339*	***Takes into account 20 % reduction by 2020 due to SBX7 7 (Steinberg)***
Agricultural Demand in Salinas Valley Groundwater Basin								
Existing Agricultural Demand	448, 111						360, 878	Existing = 2005 extraction (DEIR Table 4.3-1) of 443,567 within Zone 2/2A plus agriculture withdrawals in Highland South/Granite Ridge of 3,156 AF; 2030 = from SVWP EIR plus 2,878 AF due to Chalone, area SW of Soledad, and area west of King City. See note 6.
Potential New Agricultural Demand					12,753 - 17,537		12,753 - 17,537	See note 7
Total	**448,111**				**12,753 - 17,537**		**373,631 - 378,415**	
Total Water Demand in Salinas Valley Groundwater Basin								
Total	**500,952**	**26,730**	**15,408**	**168,316**	**39,819 -**	**454,160**	**442,970 -**	2030 = Existing Urban Demand (2005) + New

Table 4.3-9c. Salinas Valley Watershed Estimated and Projected 2030 Water Demand

	Existing Demand	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (2)	2030 Total Population	2030 Total Demand	Notes
					44,603		**447,754**	U~~u~~rban Demand (2030) [taking into account 20 percent reduction per SBX7 7 (Steinberg)) + Forecasted Agricultural Demand (2030).
SVWP EIS/EIR						*425,611*	*443,000*	See Note 8.

Sources: California Department of Water Resources, 2005 California Water Plan Update.

Fugro West, Inc. 1995. North Monterey County Hydrogeologic Study. Prepared for Monterey County Water Resources Agency. October.

Monterey County. 2008b. Addendum #2 to the Final Environmental Impact Report for the Rancho San Juan Specific Plan and HYH Property EIR, SCH No. 2002121142. July 17.

Monterey County Water Resources Agency (MCWRA). 2001. Draft Environmental Impact Report/Environmental Impact Statement for the Salinas Valley Water Project. June.

MCWRA, 1998. Salinas River Basin Management Plan. 2030 Land Use and Water Needs Conditions. May.

Notes:

(1) Assumes persons/housing unit = 2006 to 2030 average (2.91 from Table 3-5 for unincorporated county for 2030).

(2) Per capita water use [urban applied water (including residential, commercial, industrial, and landscape uses) for Central Coast Region] = 181 gpd (CA Water Plan Update 2005), except for butterfly village. Agricultural new demand calculated per Note 7.

(3) Butterfly Village water demand based on Project FEIR Addendum (Monterey County, 2008b)

(4) 60/40 split based on Fugro West, 1995.

(5) Urban demand for Highlands South/Granite Ridge from Fugro, 1995 inflated to 2005 by County population growth.

(6) Existing agricultural demand for Highlands South/Granite Ridge from Fugro, 1995. Amount shown is from 1995. Based on overall trend of declining agricultural demand, this amount was not adjusted for the 2005 baseline estimate. For 2030, water demand for three areas outside of one 2/2A/2B estimated based on acreage and 1.84 AF/Acre (from SVWP EIR for 2030).

(7) 2030 estimate calculated using 1.84 AF/Acre (from SVWP EIR for 2030) and 9,531 acre increase relative to SVWP EIR. SVWP EIR assumed 1,849 acre decrease whereas General Plan EIR assumed 7,682 acre increase [= 10,253 acre increase from EIR Table 4.9-8 minus 2,571 acre of farmland conversion from EIR Table 4.2-9]. Assumes all new agricultural land and all farmland conversion occurs within the Salinas Valley watershed, which are both an overstatement. Assumes all new farmland conversion is for irrigated agriculture, which is also an overstatement. Range shown is for two cases: 1) 75% of all agricultural conversions occur in Zone 2C; and 2) 100% of all agricultural conversions occur in Zone 2C.

(8) MCWRA 2001 and MCWRA 1998. SVWP forecast used 1995 urban water use factors which does not take into account improvement in water use efficiencies.

Table 4.3-9c. Salinas Valley Watershed Estimated and Projected 2030 Water Demand

	Existing Demand	Potential Buildout Units	Potential 2030 Units	2030 New Population (1)	2030 New Water Demand (2)	2030 Total Population	2030 Total Demand	Notes
Salinas Valley Watershed Outside of Salinas Valley Groundwater Basin								
Agricultural Demand (9)	19,991				0 – 4,784		**14,519 – 19,303**	Range is for two difference scenarios; 2030 includes urban and agricultural efficiency
Urban Demand (10)								
Pleyto Rural Center		221	72	209	42	NA	NA	Using 2005 per capita factor
Lockwood Rural Center		160	52	151	31	NA	NA	Using 2005 per capita factor
Bradley Rural Center		800	262	761	154	NA	NA	Using 2005 per capita factor
Subtotal		*1,181*	*386*	*1,121*	*227*	*NA*	*NA*	Taking into account SBX7 7
Reduced Subtotal					182			
Total	**19,991**				**182 – 4,966**	**NA**	**14,701 – 19,485**	Partial estimate only due to data limitations

Notes:

9. Existing demand based on FMMP farmland mapping and 2002-2009 agricultural use average per acre in MCWRA groundwater extraction reporting. 2030 new demand range is for two scenarios: 1) 100% agricultural expansions go into Salinas Valley groundwater basin (or draw from it) and none use water outside the main basin 2) 25% of agricultural expansions use water from outside of the main groundwater basin and remainder draws from the main basin. 2030 demand calculated based on acreage and SVWP EIR 1.84 AF/year agricultural use/acre average. Reduction in demand is due to assumed improvements in agricultural water use efficiency over time.

10. No data found for non-agricultural water use in areas outside of Zone 2C at present. There are dispersed residents in this area. Limited future growth expected outside of Bradley, Pleyto or Lockwood, and thus no estimate prepared for areas outside the rural centers.

Table 4.3-9d. Water Demands for Salinas Valley Groundwater Basin Estimated in the 2001 Salinas Valley Water Project EIR

	Population 2030	Water Demand (AF)
Cities		
Marina	24,913	4,400
Salinas	194,407	33,722
Gonzales	14,361	7,862
Soledad (w/ prison)	33,639	7,794
Greenfield	15,027	3,374
King City	29,024	10,851
City Subtotals	311,371	68,003
County		
Castroville	7,088	1,022
Fort Ord	37,370	6,600
Pressure		3,592
Toro/Ft. Ord		1,113
East Side	49,400	3,286
Forebay		1,120
Upper Valley		1,212
North County[1]	20,382	3,039
County Subtotals	114,240	20,984
TOTAL URBAN WATER DEMAND[2]	*425,611*	*88,987*
TOTAL URBAN WATER DEMAND[3]		*85,000*
Agricultural Demand		358,000
Total Demand		**443,000**

Sources: Monterey County Water Resources Agency (MCWRA). 2001. Draft Environmental Impact Report/Environmental Impact Statement for the Salinas Valley Water Project. June 2001.
MCWRA, 1998. Salinas River Basin Management Plan. 2030 Land Use and Water Needs Conditions. May.
Fugro West, Inc. 1995. North Monterey County Hydrogeologic Study. Prepared for Monterey County Water Resources Agency. October.

1 No population estimate provided for North County portion (Highlands South and Granite Ridge) in SVWP EIS/EIR. Fugro West (1995) study used to estimate forecast for 2030 units, then converted to population using 2.91/household.

2 Total Urban Water Demand shown above from MCWRA 1998.

3 DEIR for SVWP used 85,000 AF total, likely reflecting minor adjustment in calculation post-1998.

Table 4.3-10. Water Supply Issue Summary for Community Areas

Community Area	Groundwater Basin	Water Supplier	Potable Water Availability Issues
Pajaro	Pajaro Valley basin	Pajaro/Sunny Mesa Community Services District	Overdraft; seawater intrusion; nitrate and arsenic contamination
Castroville	Salinas Valley basin (180-Foot/400-Foot Subarea)	Castroville Water District	Overdraft, seawater intrusion; conversion of agricultural land
Boronda	Salinas Valley basin (180-Foot/400-Foot Subarea)	California Water Service Company, Salinas District	Overdraft; seawater intrusion into 180-foot aquifer within 1 mile of Cal-Water's closest well (diverting production)
Chualar	Salinas Valley basin (180-Foot/400-Foot Subarea)	Cal-Am Water Company, Monterey District	Overall supply severely short, but Chualar wells are managed independent of larger basins and represent small fraction of District demand
Fort Ord	Salinas Valley basin (Seaside and Corral de Tierra Subareas)	Marina Coast Water District	Seawater intrusion; supply adequate unless Fort Ord Reuse Authority growth limits lifted (imbalance of 2,548 AFY)

(Note: Fort Ord does not derive water from the Seaside aquifer, nor is expected to in the future)

Table 4.3-11. Projected AWCP Winery and Ancillary Use Yearly Water Demand

New Wineries						
Type of Winery	Cases per winery	Number of Wineries	Cases	Water Demand per Winery (gallons)	Water Demand per winery (acre-feet)	Total Demand (acre-feet)
Artisan (25K cases per year)	25,000	40	1,000,000	580,500	2	71
Full-scale (75K cases per year)	75,000	5	375,000	1,741,500	5	27
Full-scale (175K cases per year)	175,000	2	350,000	4,063,500	12	25
Full-scale (375K cases per year)	375,000	1	375,000	8,707,500	27	27
Full-scale (750K cases per year)	750,000	1	750,000	17,415,000	53	53
Full-scale (1.5M cases per year)	1,500,000	1	1,500,000	34,830,000	107	107
Total Water Demand—all wineries (acre-feet)		50	4,350,000	67,338,000	207	310
Ancillary Uses						
Ancillary Use	Units	Size	Number	Demand per Unit	Source	Total Demand
Winery Tasting Rooms	seats	20	10	0.02	MPWMD, restaurant	4
Restaurants	seats	50	3	0.02	MPWMD, restaurant	3
Delicatessens	Square feet	1,500	5	0.0002	MPWMD, deli	2
Inns	rooms	10	8	0.1	MPWMD, hotel	8
Subtotal						17
Total Water Demand						
Total Winery and Ancillary Uses						326

Sources for Factors: Winery water demand from Napa County. No Date. Phase 1 Water Availability Analysis worksheet. Includes both process water, landscaping, and domestic use.
Ancillary use factors from MPWMD. No. Date. Non-Residential Water Release Form and Water Permit Application.

FIGURES REFERENCED IN MASTER RESPONSE NO. 4

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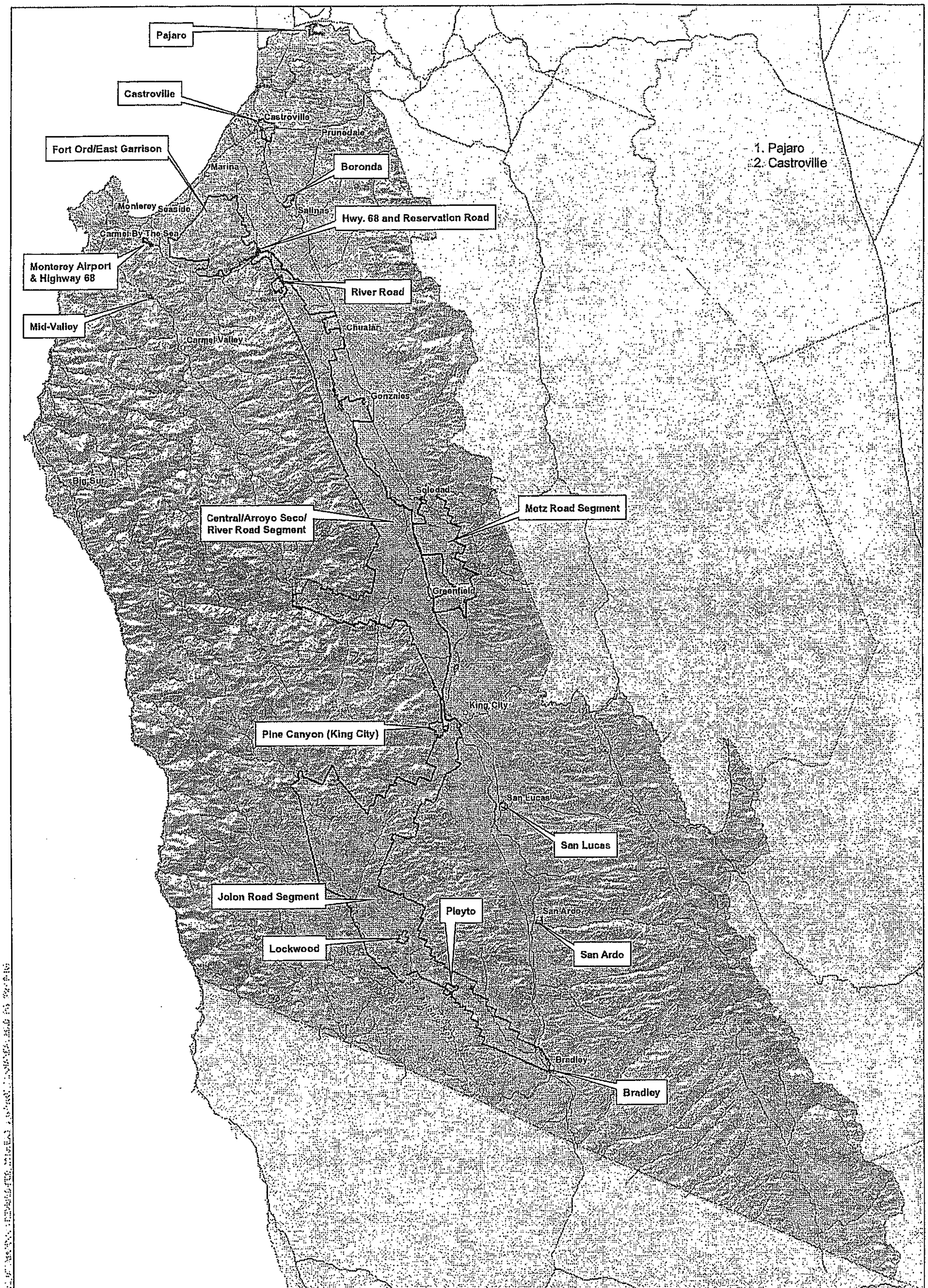

Planning Areas

- Community Planning Areas
- AHO Areas
- Rural Centers
- Wine Corridor
- Highways
- Streams

0 2.5 5 10 Miles

ICF Jones & Stokes

Sources:
County of Monterey; California Spatial Information Library

Exhibit 3.3
Community Areas, Rural Centers, Affordable Housing Overlay Districts and Agricultural Winery Corridor Plan Map

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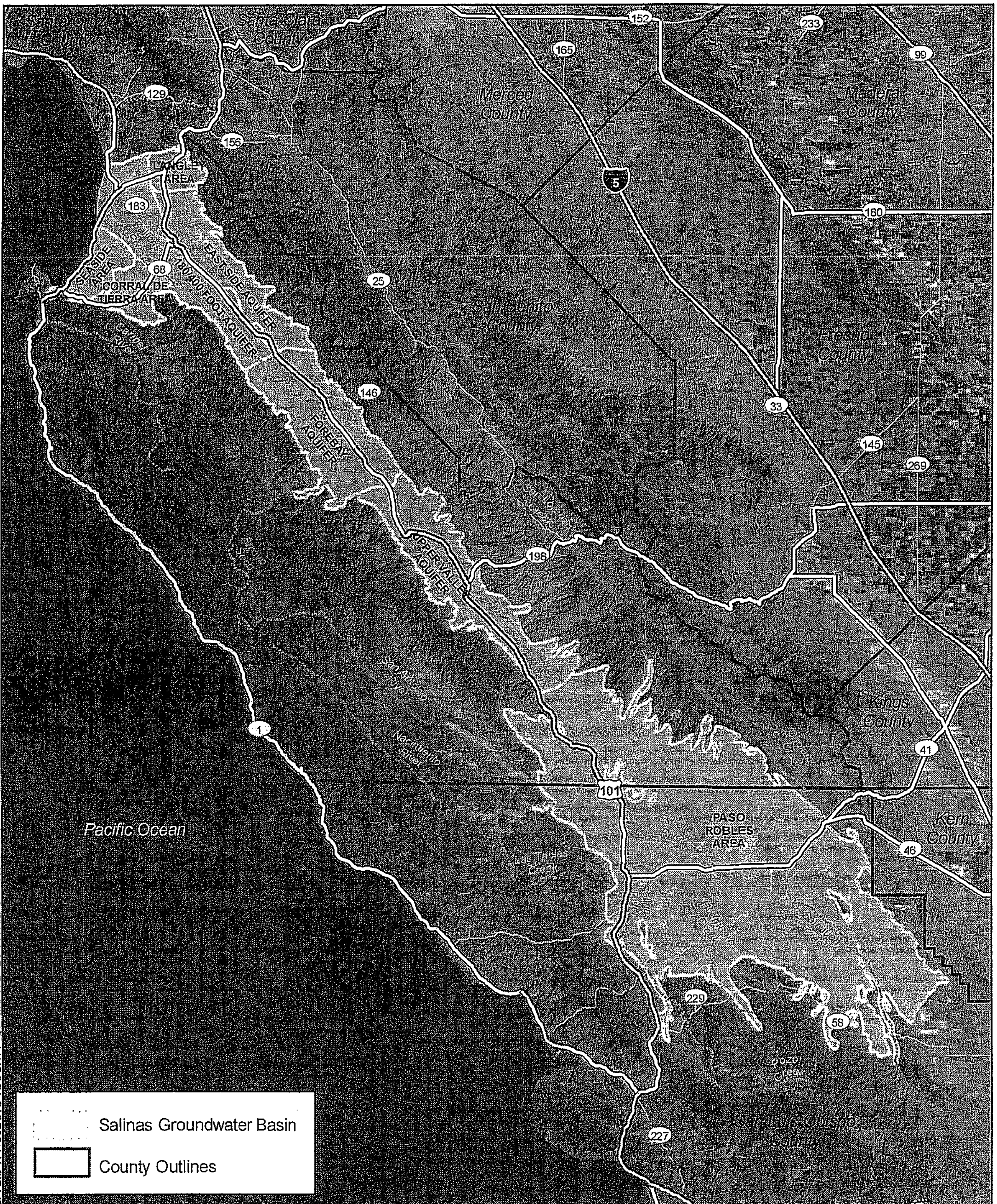

SOURCE: ESRI Imagery, DWR (http://www.groundwater.water.ca.gov/bulletin118/basin_maps/index.cfm)

ICF Jones & Stokes
an ICF International Company

N
0 5 10 20 Miles

Exhibit 4.3.3
Salinas Valley Groundwater Basin

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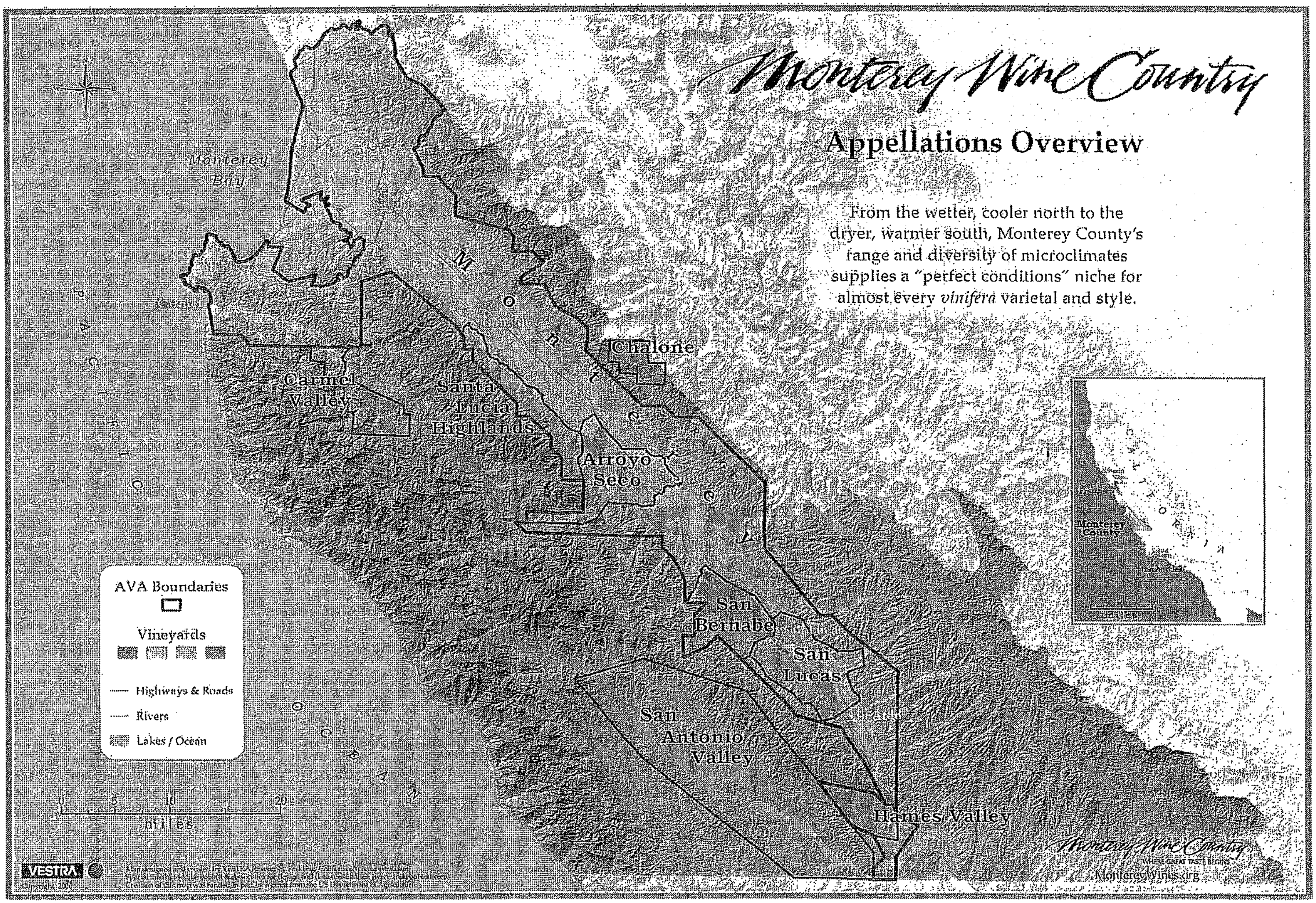

Figure **#AWCP2** Map courtesy of Monterey County Vinters and Growers Association. Used by permission.

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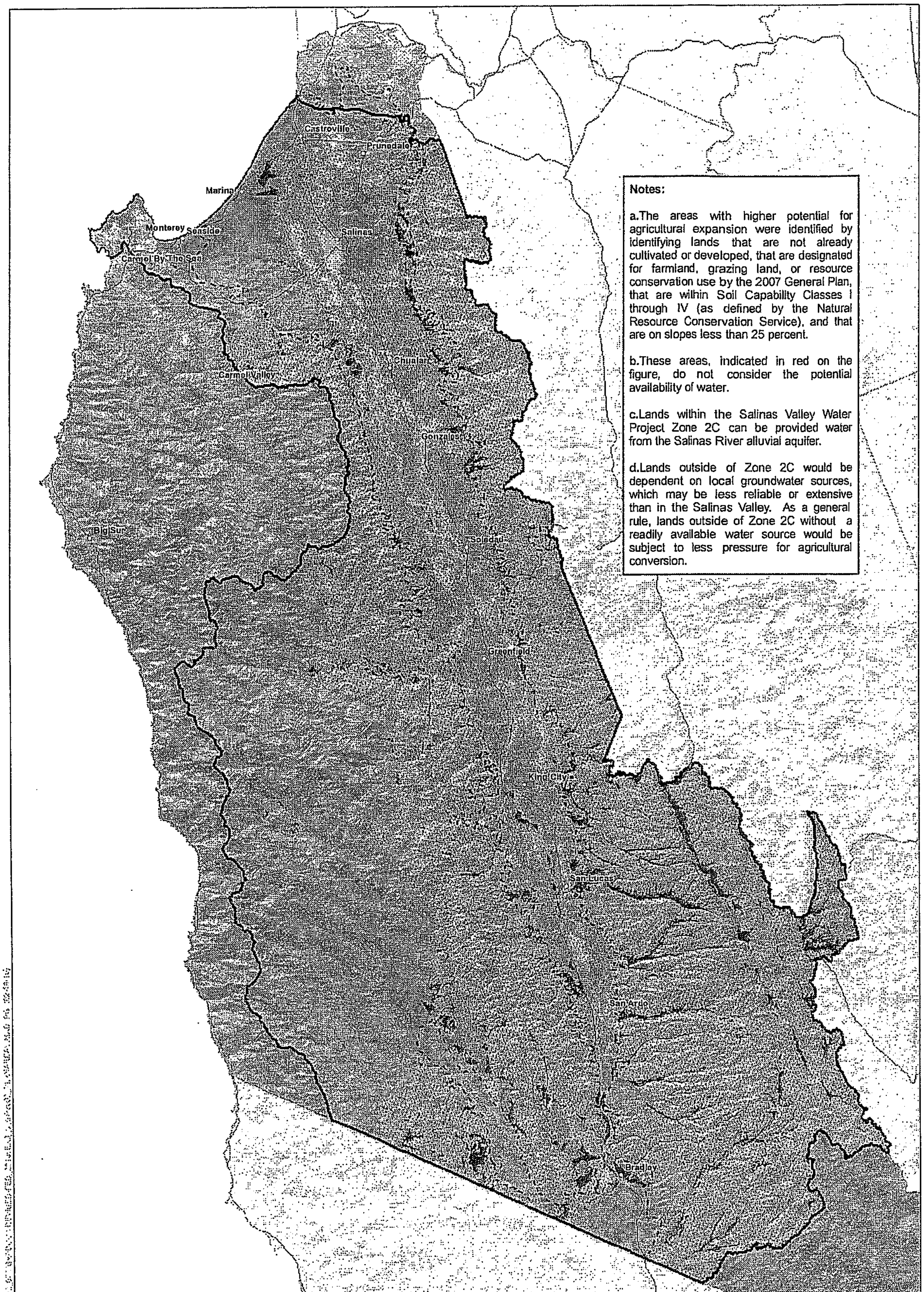

N

0 2.5 5 10 Miles

Areas with Higher Potential for Agricultural Expansion

Uncultivated land, designated for agriculture in Soil Class 1 through 4, less than 25% slope

Screening Criteria

- Salinas Valley Watershed Boundary
- Zone 2C Boundary
- Undeveloped and Uncultivated Land
- 2007 General Plan: Agricultural Use Allowed
- Soils: Class 1-4

ICF Jones & Stokes

Exhibit AG-1

Areas with Higher Potential for Agricultural Expansion in the Salinas Valley Watershed

Sources:
County of Monterey, California Spatial Information Library.
USDA SSURGO Soils Data, USGS 30-meter Digital Elevation Model.

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Curtis Weeks and Bill Phillips, MCWRA, December 28, 2009 – Personal Communication with Terry Rivasplata, ICF International and Wendy Strimling, County of Monterey

1. Seawater Intrusion
   i. MCWRA has more recent seawater intrusion maps online than shown in DEIR. They update the maps about every two years.
2. Recycled water
   i. In Pajaro Basin, PVWMA augments groundwater supply with recycled water from Watsonville treatment plant.
   ii. Other recycled water projects include the MPWMD and Pebble Beach recycling project. The ASR project in Seaside.
3. Groundwater in the Salinas Valley.
   i. The 2008 groundwater summary report is now available on MCWRA's website.
   ii. The Table 4.3-6 in the DEIR reflects modeling results, not extraction. The SVIGSM is the source. It's the 1995 baseline for the SVWP.
   iii. There has not been a large change in the water demand in the Salinas Valley.
4. SVWP
   i. The SVWP creates about 30,000 AF of new water/year. SVWP water will help reduce groundwater use in Salinas.
   ii. The MCWRA has about 160,000 AF/year available for recharge. The SVWP adds about another 20,000 AF through increased releases from the upstream reservoirs. With the SVWP, the MCWRA can continue releases during times they had previously not released water. About 10,000 AF of this amount goes to the groundwater through infiltration in river. About another 10,000 AF is diverted to the CSIP and is blended with water from the regional plant and provided to farms.
   iii. The remaining 10,000 AFY is not committed. Of this, a portion must be reserved for environmental flows per the BO from NOAA.
5. SVWP and basin balance.
   i. There is currently a positive outflow of groundwater to the ocean, at least during wet months. Groundwater levels are rising in the Salinas Valley according to groundwater monitoring, per the SVIGSM predictions. Levels in 2006 and 2007 were higher in coastal areas than they have been previously.
   ii. This halts seawater intrusion, but due to mixing of salty water with fresh in the aquifer, pushing seawater back is less simple. An estimated 1,000 AFY is outflowing to the ocean, but this carries only small amounts of saltwater with it.
   iii. MCWRA has a comprehensive groundwater monitoring program, with over 500 wells participating. This provides data for project development and the SVIGSM. The groundwater conditions reports are one example of the info gathered.
6. CSIP and SVWP
   i. Recycled water from the regional treatment plant, plus diversion water from the SVWP go to blending pond. Then sent to Castroville area farmers for irrigation.
   ii. About 13,000 AFY being provided to farmers.
   iii. The SVWP improvements: the Nacimiento spillway is completed. The SVWP dam is in place and is expected to begin operation in April 2010. The spillway will be in operation this year.
7. North County study area.
   i. Highlands South and Granite Ridge are within Salinas River watershed and are hydrogeologically connected to the basin. So, less extraction from the Valley floor

means a smaller pressure gradient and less pull of water from those areas into the lower elevations of the Salinas groundwater basin.

ii. Portions of Granite Ridge underlain by granite have a recharge problem. The Granite Ridge area includes portions on alluvium as well. The alluvium connects to the Salinas Valley, the granite-underlain portion does not.

iii. Springfield Terrace, Highlands North, Pajaro are within the Pajaro River watershed and are administered by PVWMA. They are in severe overdraft and no solution in sight.

   1. Pajaro/Sunny Mesa CSD provides water to portions of the area.
   2. PVWMA manages the groundwater basin.

iv. Note that only the PVWMA has the authority to import water from outside the County and it does not do so.

v. Granite Ridge has a water distribution system in the planning stages. A Prop 218 Engineer's Report is available (went to County Board of Supervisors Dec 14, 2009) and is available.

vi. The SVWP has a validated Prop 218-consistent benefit assessment district in place ("Zone 2C").

vii. The North County "watersheds" are more appropriately called basins. Watershed applies to surface water, while basin refers to an area where groundwater is stored. Main watersheds in the County are Pajaro, Salinas, and Carmel. The Seaside basin is within the Salinas watershed.

8. Seaside Basin

   i. This is a sub-basin defined by the court in the adjudication (defined as a basin by the court). Current analysis does not indicate that there is seawater intrusion.

   ii. A watermaster controls water use. See the Superior Court decision.

9. Regional Project

   i. See the Coastal Water Project FEIR for the latest version.

   ii. The regional project is under discussion by agencies under the MOU and is evolving from the version in the CWP FEIR.

   iii. The prior "Water for Monterey County Coalition" is done with its work – primarily run through Division of Rate Payer Advocate at CPUC to work on an alternative to the CWP. That provided the basis for the regional project in the CWP DEIR. Note that the Final EIR has a more refined regional project.

   iv. Regarding MCWD: Marina Coast Water Dist has a small de-sal plant, but it's not currently in operation. The Dist has an EIR for a larger plant, and is participating in the regional project discussions. The Dist has a variety of wells drawing from the 400-foot and deep zone aquifers. They don't draw exclusively from the deep zone.

      1. The mechanism for recharge of the deep zone is not well known.
      2. Research is needed in order to determine whether using it is a commitment of an unrenewable resource.
      3. In Weeks' opinion, the impact's overstated in the DEIR. It's not a major water source.

10. SVIGSM and drought.

   i. The model is based on 50 years of data. This includes wet and dry years.

   ii. Model includes dry year considerations.

11. Water use.

   i. Agriculture is becoming increasingly efficient at using water. See the 2008 Groundwater Summary report.

ii. The 181 gpd per capita estimate used in the DEIR is "very conservative in today's world." There's no data available that firmly offers an estimate of per capita water use in Monterey County. With today's construction and higher standards for water conservation, the number is probably lower than 181 gpd. Note that there is a new state law that mandates water conservation in landscaping.