

# Section 8

## The Human or Built Environment

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This section presents the human or built environment potentially affected by the 2010 Water Management Plan (WMP) Update within the Coachella Valley study area. Elements discussed are population/housing/employment, land use, agriculture and forest resources, consistency with regional planning, public services and utilities, energy resources and conservation, and Indian Trust Assets. See also Section 8 of the 2002 Program Environmental Impact Report (PEIR) for the Coachella Valley Water Management Plan and State Water Project Entitlement Transfer (MWH, 2002).

### 8.1 POPULATION, HOUSING AND EMPLOYMENT – REGIONAL PLANNING

#### 8.1.1 Environmental Setting

Section 8.2 of the 2002 PEIR discussed population, housing and employment based on adopted projections current at that time. The PEIR found that since the WMP would not control land use decisions, or the distribution, density or nature of growth and was developed to respond to demand created by others, the Valley-wide project was not growth inducing, nor would it remove an obstacle to growth. The Project was found to require no new housing nor displace any existing housing, and to have only a minor, temporary, beneficial effect on employment for facilities construction. Therefore, the effect was found to be less than significant. Potential growth inducing impacts of the WMP were also discussed in Section 11.3 of the PEIR, which concluded that the Proposed Project would not foster economic or population growth or construction in the Valley. The PEIR also found that sufficient water was available in the Coachella Valley groundwater basins to meet the demands of projected growth through at least 2035 with or without the Proposed Project.

This situation has changed in the intervening years. The Coachella Valley Association of Governments (CVAG)/Riverside County population projections adopted by those agencies in early 2007 and by the Southern California Association of Governments (SCAG) in 2008 show far higher populations throughout the Coachella Valley by 2035 than the Riverside County projections that formed the basis of planning in 2002. The County of Riverside has not yet developed land use projections to accompany the population projections, and will not until after 2011 when the updated county General Plan is adopted. The County's California Environmental Quality Act (CEQA) compliance document for the General Plan will evaluate the impacts of these projections at that time. Therefore, the Coachella Valley Water District (CVWD) has been required to make assumptions for the 2010 WMP Update about the land use changes that could result from these projections and their potential subsequent effects on projected water demands and supplies.

The County anticipates that the projected population would displace a substantial fraction of existing agriculture in the East Valley, which together with anticipated reductions in imported water supplies to the Coachella Valley from the State Water Project (SWP) and possibly the

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Colorado River (both situations beyond CVWD's control), creates a potential for substantial changes in water use patterns in the Valley and for possible future water supply limitations.

The County also has indicated that no development would be approved south of Avenue 66 unless infrastructure could be provided to support it, particularly flood control facilities (Mitra Mehta Cooper, Riverside County Planning, pers. comm., 2007). The existing system of flood control dikes that protects the Coachella Valley floor from mountain runoff does not extend into the southernmost areas of the Valley, and the District has no plans for such facilities within the next 5 years. Considering that the current planning horizon for the 2010 WMP Update is 35 years, it is probable that such facilities will be constructed within that time period if necessitated by County action.

### **8.1.1.1 SCAG and CVAG**

SCAG is the regional planning organization for six southern California counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. SCAG is mandated by both federal and state governments to plan for transportation, growth management, hazardous waste management and air quality throughout the region. As part of its mandate, SCAG develops and adopts demographic projections for each city and unincorporated community within its planning area. CVWD's service area is located in SCAG's CVAG subregion in central Riverside County.

The SCAG Regional Comprehensive Plan (RCP) is intended to serve the region as a framework for decision-making with respect to the growth and changes that can be anticipated during the next 20 years and beyond (SCAG, 2008b). Core chapters of the RCP document provide information directly related to federal and state planning requirements. Ancillary chapters address important issues facing the region and may reflect other regional plans. Bridge chapters function as links between the Core and Ancillary chapters and focus on strategy and implementation.

Projects and plans that are congruent with SCAG projections and policies are generally considered under CEQA to have less than significant impacts on population, housing and employment.

### **8.1.1.2 County of Riverside and Coachella Valley Municipalities**

Other planning considered in the 2010 WMP Update are the General Plans and elements and their CEQA documents for the County of Riverside and individual cities within the Coachella Valley: Palm Springs (2007), Cathedral City (2009), Rancho Mirage (2009), Palm Desert (2004), Indian Wells (2010), La Quinta (2002; update in progress), Indio (2004) and Coachella (in progress).

The Riverside County 2008 General Plan Update was begun in 2007 and as of the present writing has not been completed nor has the accompanying EIR been prepared. The 2003 adopted General Plan and Elements remain in force.

### 8.1.1.3 Population/Housing/Employment Projections

At the time that the 2002 WMP was prepared, the most recent population, housing and employment projections had been adopted by SCAG in 1998, and covered the period from 1994 to 2020. In 2001, SCAG released updated projections based on 1997 population estimates and extended the projections to 2025. At the time that planning began for the 2010 WMP Update, the most recent SCAG projections were those adopted in 2004 which were through year 2030 and were based in part on Year 2000 Census data.

In the interim, Riverside County and CVAG developed population, employment and housing projections that were adopted by those entities in 2006 and 2007, respectively. Accompanying County land use projections, General Plan Amendments, and accompanying CEQA documentation were not prepared at that time, but are anticipated in 2011 or thereafter. The 2007 Riverside County/CVAG projections for year 2035 are approximately 25 percent higher than the 2004 adopted projections for the CVAG area.

On May 8, 2008, the SCAG Regional Council adopted the 2008 Regional Transportation Plan (RTP): Making the Connections. The projections for Riverside County presented in the adopted RTP were those developed and adopted by CVAG/Riverside County in 2007. **Table 8-1** presents the combined SCAG 2008 population, housing, and employment projections of cities and unincorporated communities in the Coachella Valley through the year 2035. These projections were extrapolated to 2045 for the 2010 WMP Update based on the growth rate presented in the Riverside County 2006 projection. The extrapolated projections for 2045 are approximately 80 percent higher than the projections used in the 2002 WMP extrapolated to 2045.

### 8.1.2 Significance Criteria

Based on State CEQA Guidelines, Appendix G, the Proposed Project would have a significant impact on population and housing if it:

- Displaced substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- Displaced substantial numbers of people, necessitating the construction of replacement housing elsewhere
- Induced substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)
- Growth forecasts for 2040 and 2045 are extrapolated based on growth rate trends through 2035
- Imperial County population from SCAG 2008 Regional Transportation Plan projections for Imperial County by census tract.
- Population for the area outside the Whitewater River Subbasin is based on an evaluation of population growth by census tract using the SCAG 2008 projection.

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**Table 8-1  
Population Counts and Projections for the Coachella Valley – 2000 through 2045**

City	2000	2005	2010	2015	2020	2025	2030	2035	2040 <sup>1</sup>	2045 <sup>1</sup>
<b>East Valley</b>										
Bermuda Dunes	3,474	4,167	5,590	6,302	8,138	8,292	9,153	10,021	10,890	11,759
Coachella	22,781	33,267	45,448	57,708	70,864	83,663	96,571	110,195	123,818	137,442
Indio	49,116	69,479	77,967	86,887	93,115	99,477	105,873	112,019	118,166	124,313
La Quinta	23,929	37,564	45,272	50,049	52,923	54,788	56,439	57,937	59,435	60,933
Mecca	5,402	6,107	7,341	8,855	18,490	44,674	63,367	77,243	91,119	104,995
Unincorporated	22,475	24,107	29,538	52,381	91,512	130,275	163,111	215,140	267,169	319,197
Imperial County Area <sup>2</sup>	8,986	9,977	12,311	15,003	15,685	16,137	16,373	16,411	16,581	16,718
<b>Subtotal</b>	<b>136,163</b>	<b>184,668</b>	<b>223,467</b>	<b>277,184</b>	<b>350,726</b>	<b>437,306</b>	<b>510,886</b>	<b>598,966</b>	<b>687,178</b>	<b>775,357</b>
<b>West Valley</b>										
Bermuda Dunes	2,630	3,138	4,125	4,761	5,997	6,071	6,606	7,304	8,003	8,701
Cathedral City	42,647	51,302	55,746	60,293	65,221	69,431	74,052	76,837	79,622	82,407
Indian Wells	3,992	4,864	5,309	5,708	6,026	6,311	6,524	6,712	6,900	7,088
Palm Desert	44,265	49,842	54,437	59,588	64,860	67,204	70,303	73,131	75,959	78,787
Palm Springs	42,807	46,416	49,182	52,349	56,228	60,440	65,343	70,796	76,250	81,763
Rancho Mirage	13,249	16,686	18,984	22,585	26,764	32,096	32,541	32,846	33,150	33,455
Thousand Palms	5,103	5,722	6,695	7,028	11,753	13,202	16,224	18,518	20,812	23,107
Unincorporated	9,323	13,824	15,552	17,300	20,983	21,089	23,201	25,737	28,272	30,808
<b>Subtotal</b>	<b>164,016</b>	<b>191,793</b>	<b>210,030</b>	<b>229,611</b>	<b>257,834</b>	<b>275,844</b>	<b>294,794</b>	<b>311,881</b>	<b>328,968</b>	<b>346,115</b>
Area Outside Whitewater River Subbasin Boundary <sup>3</sup>	491	636	2,201	4,172	6,379	8,476	10,585	12,146	13,706	15,267
<b>TOTAL</b>	<b>300,670</b>	<b>377,097</b>	<b>435,698</b>	<b>510,967</b>	<b>614,938</b>	<b>721,626</b>	<b>816,266</b>	<b>922,994</b>	<b>1,029,912</b>	<b>1,136,739</b>

### 8.1.3 Impacts

#### 8.1.3.1 Displacement of People or Housing

Proposed Project facilities (e.g. water treatment/desalination plants, wells, recharge basins, tanks, pipelines, and pumping stations) would be sited on vacant, agricultural, or open desert land, or in streets. As a result, no individuals or housing would be displaced by implementation of the Proposed Project elements. Therefore, no impacts would occur relative to housing.

#### 8.1.3.2 Growth Inducement

Potential growth-inducing impacts of the Proposed Project are discussed in **Section 11** of this Subsequent Program Environmental Impact Report (SPEIR).

## 8.2 LAND USE

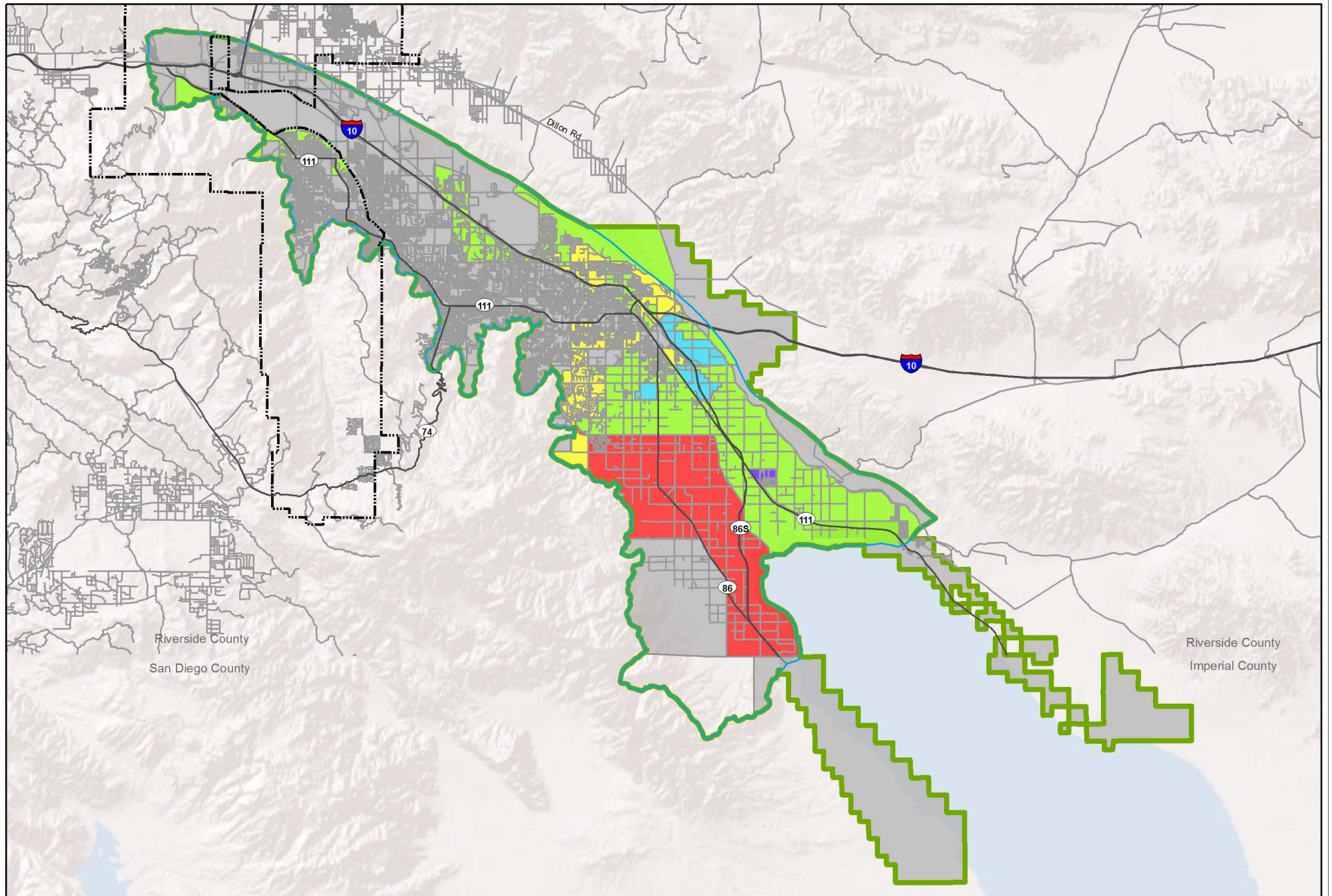
### 8.2.1 Environmental Setting

The Coachella Valley in central Riverside County encompasses an area of approximately 1.2 million acres, of which over 90 percent is designated open space (which includes East Valley agriculture). Land use impacts were discussed in Section 8.3 of the 2002 PEIR. At present (2009), as in 2002, the West Valley is characterized primarily by urban and resort development and the East Valley primarily by agriculture, although the East Valley cities of Coachella and Indio have grown dramatically in the last 7 years. In 2002, land use was not projected to change substantially. Although some agricultural land was proposed to be converted to urban use, other undeveloped land was expected to go into agricultural use with the result that the net effect by 2035 was a slight increase in total agricultural acreage over baseline (1999) conditions. Land use projections were contained in the Riverside County General Plan Eastern Coachella Valley Plan (ECVP) and Western Coachella Valley Plan (WCVP) completed in 1995.

The WCVP and ECVP were updated in 2003 and further updates through 2008 are in progress (Riverside County, 2008a and 2008b). As described in **Section 8.1** above, the County anticipates that the projected population would probably displace a substantial fraction of existing agriculture in the East Valley, which together with anticipated reductions in imported water supplies to the Coachella Valley from the State Water Project (SWPP and the Colorado River, creates a potential for substantial changes in water use patterns in the Valley and for possible future water supply limitations. **Figure 8-1** shows the projected location of population growth within the Coachella Valley. The County has indicated, however, that no development would be approved south of Avenue 66 unless flood control facilities could be developed for it.

### 8.2.2 Significance Criteria

The Proposed Project would have a significant effect on land use if it (based on State CEQA Guidelines, Appendix G):

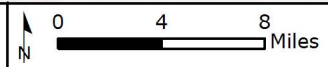


**Key to Features**

- County Boundary
- - - - - DWA Boundary
- Whitewater Sub-basin
- Study Area

**Population Growth Through 2045 (by tract)**

- 0 - 5,000
- 5,001 - 10,000
- 10,001 - 20,000
- 20,001 - 40,000
- 40,001 - 100,000
- 100,001 - 300,000



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 Date: December 2010

**Location of Projected Population Growth within Coachella Valley**

- Conflicted with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect
- Physically divided an established community
- Conflicted with any applicable habitat conservation plan or natural community conservation plan

According to the land use policies of the Riverside County Comprehensive General Plan, public facilities may be found consistent with all land use designations of the Western and Eastern Coachella Valley Plans under the following conditions:

- The project is compatible with existing and proposed land use
- The site has adequate and available circulation, water distribution, sewage collection and utility service
- The location of the proposed use will not jeopardize public health, safety, and welfare
- The project is necessary to ensure continued public safety and welfare (flood control, water and sewer service, roads, etc.)

### **8.2.3 Impacts – Consistency with Local and Areawide Planning**

#### **8.2.3.1 Consistency with Areawide Policies and Initiatives**

The 2010 WMP Update is congruent with the “Constrained Policies” and “Strategic Initiatives” of the SCAG 2008 Final RCP (SCAG, 2008b) presented in the RCP Water chapter on water resource planning and management. **Table 8-2** summarizes SCAG’s RTP, RCP and Compass Growth Vision (CGV) policies potentially relevant to the 2010 WMP Update.

Proposed Project consistency with each of these policies is discussed, as requested by SCAG in the agency’s response to the Notice of Preparation (NOP). In some cases, the policy is not applicable to CVWD activities regionally, but CVWD actions are consistent with policies for activities over which it has control. The principal water-related issues raised by these policies – protection and conservation of adequate supply – are the focus of both the 2002 WMP and the 2010 WMP Update. Therefore, the Proposed Project is consistent with SCAG policies and initiatives and there would be no impact.



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**Table 8-2  
Proposed Project Consistency with SCAG Regional Transportation Plan,  
Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

<b>Policy No.</b>	<b>SCAG Policy</b>	<b>Statement of Consistency with Coachella Valley 2010 Water Management Plan Update</b>
<b>Consistency with Regional Comprehensive Plan and Guide (RCPG) Policies</b>		
3.01	The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies shall be used by SCAG in all phases of implementation and review.	<b>Consistent:</b> Water demand projections for the Valley were based on the adopted 2007 SCAG/Riverside County population, household, and employment forecasts to 2035. Forecasts to 2040 assumed the same growth rate as 2030 to 2035. Forecasts beyond 2045 assume growth is flat (no further change).
3.02	In areas with large seasonal population fluctuations, such as resort areas, forecast permanent populations. However, appropriate infrastructure systems should be sized to serve high-season population totals	<b>Consistent:</b> CVWD, as part of standard industry practice, must and does size infrastructure to handle peak flows.
3.03	The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.	<b>Consistent:</b> Phasing and implementation of the project is discussed in SPEIR <b>Section 3</b> and will be implemented in keeping with approved growth. Phasing is unrelated to the jobs/housing balance within the Sub-region.
<b>Growth Management Chapter Policies Related to the RCPG Goal to Improve the Regional Standard of Living</b>		
3.04	Encourage local jurisdictions' efforts to achieve a balance between the types of jobs they seek to attract and housing prices.	<b>Not Applicable:</b> CVWD has no responsibility or authority in these sectors.
3.05	Encourage patterns of urban development and land use that reduce costs on infrastructure construction and make better use of existing facilities.	<b>Not Applicable:</b> CVWD has no land use authority on parcels it does not own. Land use decisions are the responsibility of Riverside County and the Coachella Valley cities.
3.06	Support public education efforts regarding the costs of various alternative types of growth and development.	<b>Consistent:</b> CVWD has education programs concerning best uses of water for development including public and private recreation.
3.07	Support subregional policies that recognize agriculture as an industry, support the economical viability of agricultural activities, preserve agricultural land and provide compensation for property owners holding land in greenbelt areas.	<b>Consistent re: recognition of the agriculture industry:</b> CVWD's service area has always been heavily agricultural. The District works with farmers extensively to assist in optimizing water use and conservation, which supports the economic viability of the industry. <b>Not Applicable re: land preservation:</b> CVWD has no authority to preserve agricultural land nor provide compensation for property owners.



**Table 8-2 (Continued)**  
**Proposed Project Consistency with SCAG Regional Transportation Plan, Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

Policy No.	SCAG Policy	Statement of Consistency with Coachella Valley 2010 Water Management Plan Update
3.08	Encourage subregions to define an economic strategy to maintain the economic vitality of the subregion, including the development and use of marketing programs, and other economic incentives, which support attainment of subregional goals and policies.	<b>Consistent:</b> CVWD actively encourages water management in arid Coachella Valley area, a significant element of maintaining the economic vitality of the subregion.
3.09	Support local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.	<b>Consistent:</b> New infrastructure considered under the Proposed Project will be designed to minimize cost to the maximum extent possible.
3.10	Support local jurisdictions' actions to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.	<b>Consistent:</b> CVWD issues permits for right-of-way encroachments, i.e. easements to farmers for encroachment on storm drains, District distribution facilities. Procedures are in place to process permits as expeditiously as possible.
<b>Growth Management Chapter Policies Related to the RCPG Goal to Improve the Regional Quality of Life</b>		
3.11	Support provisions and incentives created by local jurisdictions to attract housing growth in job-rich subregions and job growth in housing-rich subregions.	<b>Not Applicable:</b> CVWD has no land use authority on parcels it does not own. Land use decisions are the responsibility of Riverside County and the Coachella Valley cities.
3.12	Encourage existing or proposed local jurisdictions' programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.	<b>Not Applicable:</b> CVWD has no land use authority on parcels it does not own. Land use decisions are the responsibility of Riverside County and the Coachella Valley cities.
3.13	Encourage local jurisdictions' plans that maximize the use of urbanized areas accessible to transit through infill and redevelopment	<b>Not Applicable:</b> CVWD has no land use authority on parcels it does not own. Land use decisions are the responsibility of Riverside County and the Coachella Valley cities.
3.14	Support local plans to increase density of future development located at strategic points along the regional commuter rail, transit systems, and activity centers.	<b>Not Applicable:</b> CVWD has no land use authority on parcels it does not own. Land use decisions are the responsibility of Riverside County and the Coachella Valley cities.

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**Table 8-2 (Continued)**  
**Proposed Project Consistency with SCAG Regional Transportation Plan,**  
**Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

Policy No.	SCAG Policy	Statement of Consistency with Coachella Valley 2010 Water Management Plan Update
3.15	Support local jurisdictions strategies to establish mixed use clusters and other transit-oriented developments around transit stations and along transit corridors.	<b>Not Applicable:</b> CVWD has no land use authority on parcels it does not own. Land use decisions are the responsibility of Riverside County and the Coachella Valley cities.
3.16	Encourage development in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and development.	<b>Not Applicable:</b> CVWD has no land use authority on parcels it does not own. Land use decisions are the responsibility of Riverside County and the Coachella Valley cities.
3.17	Support and encourage settlement patterns that contain a range of urban densities.	<b>Not Applicable:</b> CVWD has no authority over the density of development patterns in the study area. The county and cities have land use authority.
3.18	Encourage planned development in locations least likely to cause adverse environmental impact.	<b>Not Applicable:</b> CVWD has no authority over regional or local land use or development patterns.
3.19	Support policies and actions that preserve open space areas identified in local, state and federal plans.	<b>Consistent:</b> While CVWD has no authority over the preservation of open space in local, state and federal plans, the District is a signatory to the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) and has committed to the conservation of lands.
3.20	Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands and lands containing unique and endangered plants and animals.	<b>Consistent:</b> CVWD is a CVMSHCP Permittee and has committed to protection and enhancement of wetlands, other sensitive habitats and sensitive species conservation. Future facility sites will be chosen to avoid or minimize impacts to unique and sensitive resources.
3.21	Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.	<b>Consistent:</b> Site-specific surveys for cultural resources will be conducted during preparation of second tier environmental documents once specific locations are identified. Mitigation measures to protect resources will be developed as appropriate.
3.22	Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.	<b>Consistent:</b> Project facilities will be appropriately designed to avoid or reduce applicable hazards.
3.23	Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.	<b>Consistent:</b> As appropriate, mitigation measures for these resource topics will be developed in second tier environmental documents for specific project facilities. Mitigation at a program level is discussed in the SPEIR.

**Table 8-2 (Continued)**  
**Proposed Project Consistency with SCAG Regional Transportation Plan, Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

Policy No.	SCAG Policy	Statement of Consistency with Coachella Valley 2010 Water Management Plan Update
<b>Growth Management Chapter Policies Related to the RCPG Goal to Provide Social, Political and Cultural Equity</b>		
3.24	Encourage efforts of local jurisdictions in the implementation of programs that increase the supply and quality of housing and provide affordable housing as evaluated in the Regional Housing Needs Assessment.	<b>Not Applicable:</b> CVWD has no authority over housing patterns in the study area. The county and cities have land use authority.
3.25	Encourage the efforts of local jurisdictions, employers and service agencies to provide adequate training and retraining of workers, and prepare the labor force to meet the future challenges of the regional community.	<b>Consistent:</b> CVWD ensures that its workers receive adequate training and retraining to meet existing and future water, wastewater and flood control needs of its service area.
3.26	Encourage employment development in job-poor localities through support of labor force retraining programs and other economic development measures.	<b>Not Applicable:</b> Aside from limited District employment opportunities, CVWD has no authority over employment development.
3.27	Support jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as; public education, housing, health care, social services, recreational facilities, law enforcement and fire protection.	<b>Consistent:</b> CVWD provides effective and accessible water, sewer and flood control service to all members of society within its service area. CVWD is actively promoting and implementing water conservation in an effort to develop and maintain sustainable communities with respect to water supply. CVWD has no authority over regional or local land use or development patterns.
<b>Regional Transportation Plan (RTP) Goals</b>		
RTP G1	Maximize mobility and accessibility for all people and goods in the region.	<b>Not Applicable:</b> CVWD has no authority over or responsibility for transportation systems.
RTP G2	Ensure travel safety and reliability for all people and goods in the region.	<b>Not Applicable:</b> CVWD has no authority over or responsibility for transportation systems.
RTP G3	Preserve and ensure a sustainable regional transportation system	<b>Not Applicable:</b> CVWD has no authority over or responsibility for transportation systems.
RTP G4	Maximize the productivity of our transportation system	<b>Not Applicable:</b> CVWD has no authority over or responsibility for transportation systems.
RTP G5	Protect the environment, improve air quality and promote energy efficiency	<b>Not Applicable:</b> CVWD has no authority over or responsibility for transportation systems.

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**Table 8-2 (Continued)**  
**Proposed Project Consistency with SCAG Regional Transportation Plan,**  
**Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

Policy No.	SCAG Policy	Statement of Consistency with Coachella Valley 2010 Water Management Plan Update
<b>RTP Policies (Adopted April 2004)</b>		
RTP P1	Transportation investments shall be based on SCAG's adopted Regional Performance indicators	<b>Not Applicable:</b> CVWD has no authority over or responsibility for transportation systems.
RTP P2	Ensuring safety, adequate maintenance, and efficiency of operations on the existing multi-model transportation system will be RTP priorities and will be balanced against the need for system expansion investments.	<b>Not Applicable:</b> CVWD has no authority over or responsibility for transportation systems.
RTP P3	RTP land use and growth strategies that differ from currently expected trends will require a collaborative implementation program that identified required actions and policies by all affected agencies and subregions.	<b>Not Applicable:</b> CVWD has no authority over or responsibility for transportation systems, land use, or growth strategies.
RTP P4	HOV gap closures that significantly increase transit and rideshare usage will require a collaborative implementation program that identifies require actions and policies by all affected agencies and subregions.	<b>Not Applicable:</b> CVWD has no authority over or responsibility for transportation systems or policies.
RTP P5	Progress monitoring on all aspects of the Plan, including timely implementation of projects, programs and strategies, will be important and integral component of the Plan.	<b>Not Applicable:</b> CVWD has no authority over or responsibility for transportation systems.
<b>Air Quality Chapter Core Actions</b>		
5.01	Work cooperatively with the region's air districts, ARB and EPA to develop a coordinated game plan to resolve federal/state submission problems and standard differences, and to identify socioeconomic considerations. Local jurisdictions' participation should be sought in the negotiations to resolve conflicting federal and state submittal requirements and ambient air quality standards.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.

**Table 8-2 (Continued)**  
**Proposed Project Consistency with SCAG Regional Transportation Plan,  
Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

Policy No.	SCAG Policy	Statement of Consistency with Coachella Valley 2010 Water Management Plan Update
5.02	Work with regulatory agencies to integrate requirements to the extent possible and clarify the roles and responsibilities of regulatory agencies, and thereby improve local governments' ability to first understand its options, choose from them, and then act accordingly.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
5.03	Work to implement consensus-based approaches to emission reductions from goods movement sources, using the goods movement task force process, studies, and recommendations advocated by SCAG in the 1994 South Coast Air Quality Management Plan (Appendix IV-C).	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
5.04	Work with local state, and federal agencies to streamline the conformity process and eliminate or revise provisions that are unworkable or of questionable value for ensuring conformity with the purpose of the State Implementation Plan as required by Section 176© of the Federal Clean Air Act.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
5.05	Encourage local participation in the consensus processes regarding conformity processes through SCAG's Transportation Conformity Working Group and the Modeling Task Force.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
5.06	Promote agreement in timing of requirements and sanctions.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
5.07	Determine specific programs and associated actions needed (e.g., indirect source rules, enhanced use of telecommunications, provision of demand management based programs, or vehicle-miles-traveled/emission fees) so that options to command and control regulations can be assessed.	<b>Consistent:</b> CVWD has no authority over or responsibility for transportation systems, however, CVWD encourages employee carpooling and trip reduction as feasible in the implementation of job requirements.

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**Table 8-2 (Continued)**  
**Proposed Project Consistency with SCAG Regional Transportation Plan,**  
**Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

Policy No.	SCAG Policy	Statement of Consistency with Coachella Valley 2010 Water Management Plan Update
5.08	Ensure through the Transportation Improvement Plan and conformity processes that funding priority for transportation measures identified in the attainment plans are adhered to in local decision making. In addition, support recognition of these priorities in the federal and state transportation appropriation processes.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
5.09	Work to ensure that those infrastructure projects and transportation programs identified as Transportation Control Measures in the State Implementation Plan are not sanctioned or withheld in the event sanctions are imposed.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
5.10	SCAG and the region's air districts should continue to maintain Memoranda of Understanding detailing cooperative planning relationships and requiring that regional growth forecasts be used in the development of all air district plans.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
5.11	Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, sub-regional and local) consider air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.	<b>Consistent:</b> Air quality is discussed in SPEIR <b>Section 4</b> . Land use and Transportation are discussed in SPEIR <b>Section 8</b> . Project economics are discussed in the 2010 WMP Update.
5.12	Actively reach out to both private and public sectors to assist in the development of approaches, formation of implementation strategies and identification of fiscal resources to help achieve implementation.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
<b>Hazardous Waste Management</b>		
7.01	Every county in the regional should accept responsibility for the management of hazardous wastes in the region in amount proportional to the hazardous waste generated within the county.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.

**Table 8-2 (Continued)**  
**Proposed Project Consistency with SCAG Regional Transportation Plan, Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

Policy No.	SCAG Policy	Statement of Consistency with Coachella Valley 2010 Water Management Plan Update
7.02	Regional cooperation can help ensure that counties coordinate their approaches to siting criteria to avoid one county's policies being significantly more restrictive than another county's, thereby leading to inequitable siting decisions. Through regional cooperation, general areas for facility development that meet regional needs can be identified.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
7.03	Waste reduction goals and programs should be included in each of the county plans.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
<b>Open Space Ancillary Goals</b>		
9.1	Provide adequate land resources to meet the outdoor recreation needs of the present and future residents in the region and to promote tourism in the region.	<b>Not Applicable:</b> CVWD has no authority over the type, size or number of recreation projects developed within the study area. Facilities constructed as part of the 2010 WMP Update are not suitable for dual use as recreation facilities.
9.2	Increase the accessibility to open space land for outdoor recreation	
9.3	Promote self-sustaining regional recreation resources and facilities.	
9.4	Maintain open space for adequate protection of lives and properties against natural and man-made hazards.	<b>Consistent:</b> Although CVWD has no authority over regional or local land use or development patterns, the District considers buffers against natural hazards in planning for its own facilities.
9.5	Minimize potentially hazardous development in hillsides, canyons, areas susceptible to flooding, earthquakes, wildfire and other known hazards, and areas with limited access for emergency equipment.	<b>Consistent:</b> Although CVWD has no authority over regional or local land use or development patterns, CVWD sites and designs its own facilities to minimize hazards from flooding, earthquakes, wildfire and other known hazards and ensures access for emergency equipment to its facilities during construction and operation. CVWD is also the flood control agency for the Coachella Valley and maintains a system of dikes and channels to protect properties on the Valley floor.
9.6	Minimize public expenditure for infrastructure and facilities to support urban type uses in areas where public health and safety could not be guaranteed.	<b>Not Applicable:</b> CVWD has no authority over regional or local land use or development patterns. CVWD only builds infrastructure where public health and safety can be assured.



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**Table 8-2 (Continued)**  
**Proposed Project Consistency with SCAG Regional Transportation Plan,**  
**Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

Policy No.	SCAG Policy	Statement of Consistency with Coachella Valley 2010 Water Management Plan Update
9.7	Maintain adequate viable resource production lands, particularly lands devoted to commercial agriculture and mining operations.	<b>Consistent:</b> Although CVWD has no authority over regional or local land use or development patterns, CVWD has extensive programs to assist farmers in becoming more efficient water users and in crop selection. Proposed Project facilities sites will not be near gravel mining operations in the Valley.
9.8	Develop well-managed viable ecosystems or known habitats or rare, threatened and endangered species, including wetlands.	<b>Consistent:</b> CVWD is 1) working with the Torres-Martinez tribe to enhance wetlands at the mouth of the Coachella Valley Stormwater Channel (CVSC) and 2) enhancing wetlands at District owned duck ponds. CVWD is a signatory to and an active participant in the CVMSHCP, which includes CVWD specific mitigation and enhancement actions.
<b>Water Quality Chapter Recommendations and Policy Options</b>		
11.01	Streamline water quality regulatory implementation. Identify and eliminate overlaps with other regulatory programs to reduce economic impacts on local businesses.	<b>Not Applicable:</b> These issues are outside CVWD's jurisdiction.
11.02 and 11.03	Encourage "watershed management" programs and strategies, recognizing the primary role of government in such efforts.  Coordinate watershed management planning at the sub regional level by: 1) providing consistent regional data; 2) serving as a liaison between affected local, state, and federal watershed management agencies; and 3) ensuring that watershed planning is consistent with other planning objectives (e.g., transportation, air quality, and water supply).	<b>Consistent:</b> The District is supportive of watershed management efforts. For watershed management, CVWD is the liaison among local, state and federal watershed management agencies and is the flood control agency for the Valley and recently completed with other basin entities a an Integrated Regional Water Management Plan (IRWMP).  The preparation and planned periodic updates of the WMP also provide consistent regional data for watershed management. The Valley-wide scope of the 2010 WMP Update ensures that watershed planning is consistent with other planning objectives.
11.04	Encourage opportunities for pollution reduction marketing and other market-incentive water quality programs as an alternative to command-and control regulation.	<b>Non Applicable:</b> The groundwater basin and Valley surface water are not polluted by ongoing multiple sources that would represent conditions for pollution reduction marketing.

**Table 8-2 (Continued)**  
**Proposed Project Consistency with SCAG Regional Transportation Plan, Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

Policy No.	SCAG Policy	Statement of Consistency with Coachella Valley 2010 Water Management Plan Update
11.05	Support regional efforts to identify and cooperatively plan for wetlands to facilitate both sustaining the amount and quality of wetlands in the region and expediting the process for obtaining wetlands permits.	<b>Consistent:</b> As a Permittee under the CVMSHCP, CVWD has committed to support of wetlands. Additionally, the WMP would have less than significant effects on existing or proposed wetlands at the mouth of the CVSC at the Salton Sea ( <b>Section 7</b> ). The amount and quality of wetlands in the drains and CVSC will be neither significantly enhanced nor impacted by the Proposed Project because of CVWD ongoing routine channel maintenance.
11.06	Clean up the contamination in the region’s major groundwater aquifers since water supply is critical to the long-term economic and environmental health of the region. The financing of such clean-ups should leverage state and federal resources and minimize significant impacts on the local economy.	<b>Consistent.</b> The District is committed to stopping contamination of the basin and thereby eliminating to the maximum extent possible the need for cleanup.
11.07	Encourage water reclamation throughout the region where it is cost-effective, feasible, and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increase use of wastewater should be addressed.	<b>Consistent:</b> Recycling of treated effluent is a major component of the 2010 WMP Update and is viewed as a reliable, environmentally sound, cost-effective water source, use of which protects the groundwater basin and reduces demand for imported water.
11.08	Ensure wastewater treatment agency facility planning and facility development be consistent with population projections contained in the RCPG, while taking into account the need to build wastewater treatment facilities in cost-effective increments of capacity, the need to build well enough in advance to reliably meet unanticipated stormwater demands, and the need to provide standby capacity for public safety and environmental protection objectives.	<b>Consistent:</b> CVWD wastewater treatment plant projects (expansions and new plants) are planned using population projections developed and adopted by SCAG/Riverside County in early 2007. The 2010 WMP Update includes reuse of treated effluent.
<b>COMPASS/Growth Visioning Principles</b>		
<b>Principle 1: Improve mobility for all residents</b>		
GV P1.1	Encourage transportation investments and land use decisions that are mutually supportive.	<b>Not Applicable:</b> CVWD has no authority over regional or local land use or development patterns or transportation systems.

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**Table 8-2 (Continued)**  
**Proposed Project Consistency with SCAG Regional Transportation Plan,**  
**Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

<b>Policy No.</b>	<b>SCAG Policy</b>	<b>Statement of Consistency with Coachella Valley 2010 Water Management Plan Update</b>
GV P1.2	Locate new housing near existing jobs and new jobs near existing housing.	
GV P1.3	Encourage transit-oriented development.	
GV P1.4	Promote a variety of travel choices.	
<b>Principle 2: Foster livability in all communities</b>		
GV P2.1	Promote infill development and redevelopment to revitalize existing communities.	<b>Not Applicable:</b> CVWD has no authority over regional or local land use or development patterns.
GV P2.2	Promote developments which provide a mix of uses.	
GV P2.3	Promote “people scaled” walkable communities.	
GV P2.4	Support the preservation of stable single-family neighborhoods.	
<b>Principle 3: Enable prosperity for all people</b>		
GV P3.1	Provide, in each community, a variety of housing types to meet the housing needs of all income levels.	<b>Not Applicable:</b> CVWD has no authority over regional or local land use or development patterns.
GV P3.2	Support educational opportunities that promote balanced growth.	<b>Consistent:</b> CVWD has an ongoing public education effort to promote water conservation, water recycling, and Valley-wide water management.
GV P3.3	Ensure environmental justice regardless of race, ethnicity or income class	<b>Consistent:</b> CVWD provides effective and accessible water, sewer and flood control service to all members of society within its service area without regard to race, ethnicity or income class.
GV P3.4	Support local and state fiscal policies that encourage balanced growth	<b>Not Applicable:</b> CVWD has no authority over regional or local land use or development patterns.
GV P3.5	Encourage civic engagement	<b>Consistent:</b> CVWD staff are involved actively in civic organizations throughout the Valley, and have held numerous public meetings on the 2010 WMP Update as well as a scoping meeting on the SPEIR.
<b>Principle 4: Promote sustainability for future generations</b>		
P4.1	Preserve rural, agricultural, recreational and environmentally sensitive areas.	<b>Consistent:</b> Although CVWD only has authority over land use on its own properties, the District is a signatory to and an active participant in the CVMSHCP.
P4.2	Focus development in urban centers and existing cities.	<b>Not Applicable:</b> CVWD has no authority over regional or local land use or development patterns, only on its own properties.

**Table 8-2 (Continued)**  
**Proposed Project Consistency with SCAG Regional Transportation Plan, Regional Comprehensive Plan, and/or Compass Growth Vision Policies**

Policy No.	SCAG Policy	Statement of Consistency with Coachella Valley 2010 Water Management Plan Update
P4.3	Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.	<b>Consistent:</b> The 2010 WMP Update accommodates growth projected and controlled by others in a manner to efficiently use available water resources and reduce waste — groundwater, imported water, recycled water, conserved water, etc.
P4.4	Utilize “green” development techniques.	<b>Consistent:</b> CVWD facilities will use green development techniques and requirements in their design. CVWD’s Landscape Ordinance encourages water conservation and Conservation Team work with users through the Valley.

Sources of Policies: SCAG, March 1996. Regional Comprehensive Plan and Guide; SCAG NOP response letter dated October 4, 2007 (see **Appendix C**); Fax from Jim Tebbetts, SCAG, to Janet Fahey, MWH, November 27, 2007.

GV = Growth Visioning; HOV = high occupancy vehicle

**8.2.3.2 Consistency with Adopted SCAG/CVAG Projections**

The 2010 WMP Update and SPEIR base projected population and land use on SCAG 2008 adopted population, housing, and employment projections in the RTP (SCAG, 2008a), which incorporated Riverside County/CVAG projections adopted by those agencies in 2006 and 2007, respectively. The water demands upon which the 2010 WMP Update is based therefore are consistent with the most recent SCAG projections.

Since water demands presented in the 2010 WMP Update are based on the SCAG, CVAG and Riverside County adopted population projections through 2035, extrapolated to 2045 at the same growth rate, the Proposed Project is consistent with local and areawide planning through the current target year of 2045.

**8.2.3.3 Consideration of Other Significance Criteria**

The Proposed Project would not create any new land uses that would divide an established community. Future land use effects would be site-specific and involve small sites (less than 10-20 acres) for new water treatment and desalination plants, tanks and pumping stations; pipelines would be buried in streets. Wastewater facilities would be located within the boundaries of existing plants. Recharge facilities such as Martinez Canyon could involve greater areas of land, over 100 acres, but would be on open land on the fringes of the Valley floor. The Indio Posse Park site is an existing city park site that the city proposes to develop with green areas and recharge basins. The site is on the edge of the city on a triangular parcel of land of about 60 acres in area bounded by residences on two sides and the Coachella Canal on the third. Therefore, there would be no impact with respect to dividing established communities.

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Projected land use by Proposed Project elements in the 2010 WMP Update is congruent with the CVMSHCP, to which CVWD is a signatory and Permittee and into which the 2002 WMP PEIR conservation and biological resources mitigation measures have been incorporated (see also SPEIR **Section 7 – Biology**). Proposed Project facilities will be sited in compliance with CVMSHCP requirements (such as land use adjacency guidelines), as applicable. Therefore, there would be no conflict between the Proposed Project and the CVMSHCP.

Permits/easements for siting Proposed Project facilities also will be secured from agencies and tribes, as applicable.

### **8.2.4 Mitigation Measures**

No mitigation is required.

## **8.3 AGRICULTURAL AND FOREST RESOURCES**

### **8.3.1 Environmental Setting**

#### **8.3.1.1 Forest Resources**

The study area is bordered on the west by the San Bernardino National Forest, which includes the San Jacinto Wilderness and the Santa Rosa Wilderness. To the east of the study area is Joshua Tree National Park.

The Proposed Project facilities will be located primarily on the Coachella Valley floor, which is outside existing designated forests and contains no forest resources. Evaluation of forest resources was not required for the 2002 PEIR and is not included in this SPEIR.

#### **8.3.1.2 Agricultural Resources and Farmland**

The Coachella Valley ranks within the top ten agricultural areas in California with over 59,000 acres in irrigation (CVWD Annual Review, 2010). Agricultural operations in the Coachella Valley categorize into four general types: row crops (vegetables, melons, etc.), table grapes (vineyards), citrus, and dates. These categories encompass approximately 92 percent of Coachella Valley agricultural operations by acreage (County of Riverside, 2009).

The 2002 PEIR discussed potential impacts on agricultural resources as part of the discussion of land use impacts. As in this section, agricultural land use was discussed with respect to potential for conversion of farmland and land under Williamson act Contracts, presence of prime soils, potential loss of agriculture with siting of facilities, and crop productivity. Impacts were found to be less than significant. These remain the agricultural resources considerations for the present SPEIR.

#### ***Farmland***

According to definitions of the California Department of Conservation (1994):

- **Prime Farmland** is land with the best combination of physical and chemical features able to sustain long term production of agricultural crops. The land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date. Prime farmland does not include publicly owned lands for which there is an adopted policy preventing agricultural use.
- **Farmlands of Statewide Importance** are similar to Prime Farmlands in that a good combination of physical and chemical characteristics for the production of agricultural crops is present. This land has minor shortcomings, such as greater slopes or less ability to store soil moisture than Prime Farmland. Land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date. This category does not include publicly owned lands for which there is adopted policy preventing agricultural use.
- **Unique Farmland** has lesser quality soils used for the production of specific high economic value crops (as listed in California Agriculture produced by the California Department of Food and Agriculture) at some time during the two update cycles prior to the mapping date. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Examples of crops on unique farmland include oranges, olives, avocados, rice, grapes, and cut flowers. Unique Farmland does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

The U.S. Soil Conservation Service, SCS (now the Natural Resources Conservation Service, NRCS) identifies the following soil map units as Prime Farmland in the Coachella Valley (SCS, 1980):

- **Coachella** fine sands and fine sandy loams, 0 to 5 percent slopes, if irrigated, and for some soils, if drained (map unit symbols CpA, CpB, CrA, CsA)
- **Gilman** fine sandy loams, silt loams, 0 to 5 percent slopes, if irrigated, and for some soils, if drained (map unit symbols GaB, GbA, GgcA, GdA, GeA, GfA,)
- **Indio** fine and very fine sandy loams, if irrigated, and for some soils, if drained (map unit symbols Ip, Ir, Is, It)
- **Myoma** fine sand, 0 to 15 percent slopes, if irrigated, and for some soils, if drained (map unit symbols MaB, MaD, McB)
- **Tujung** loamy fine sand, 0 to 5 percent slopes, if irrigated (map unit symbol TsB)

**Farmland Soils of Statewide Importance** in the Coachella Valley are the following:

- **Imperial** silty clay, 0-2 percent slopes (map unit symbols IeA, IfA)
- **Niland** sand 2 to 5 percent slopes (map unit symbols NaB, NbB)
- **Salton** fine sandy loam and silty clay loam (map unit symbols Sa, Sb)

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- **Tujunga** fine sand 5 to 30 percent slopes, and gravelly loamy sand 0 to 9 percent slopes (map unit symbols TpE, TrC)

The State Department of Conservation Farmland Mapping and Monitoring Program, maps virtually the entire East Valley, from Washington Street to the Salton Sea, as Prime Farmland (California Department of Conservation, 2008), with the exceptions of Indian lands and the East Valley urban communities.

### *Williamson Act Contracts*

Agricultural preserves are protected by the California Land Conservation Act (Williamson Act) of 1965. This program allows owners of agricultural land to have their properties assessed for tax purposes based on agricultural production rather than current market value. Participation is voluntary and requires 100 contiguous acres of agricultural land under one or more ownerships to file an application. The owners execute a Land Conservation Contract with the County of Riverside for 10 years, renewable. Either party may file a notice of non-renewal that limits the contract to 10 years. A number of parcels in the Coachella Valley have Williamson Act contracts, and are designated "Agriculture" on the Riverside County General Plan, ECVF (Riverside County, 2008a).

### **8.3.2 Significance Criteria**

Based on State CEQA Guidelines, Appendix G, the Proposed Project would have a significant impact on agriculture and forest resources if it:

- converted Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use,
- conflicted with existing zoning for agricultural use, or a Williamson Act contract,
- conflicted with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)),
- resulted in the loss of forest land or conversion of forest land to non-forest use, or
- involved other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.



### **8.3.3 Impacts**

#### **8.3.3.1 Forest Resources**

The Proposed Project facilities would be sited on Valley floor land, which contains no forest, or on bajada land, rather than on San Bernardino National Forest land. Therefore, there would be no impact on forest resources.

#### **8.3.3.2 Agriculture Resources**

The East Valley agriculture is situated on designated Farmland, based on soil types (SCS, 1980). Riverside County's and East Valley cities' population and land use projections, by land use decisions within their jurisdiction and control, are anticipated to result in the conversion of substantial Farmland to non-agricultural use.

The 2002 WMP assumed that agricultural land use would be displaced as growth occurs, but that vacant land would be developed for agricultural purposes, keeping total agricultural water demands more or less constant. The 2010 WMP Update assumes that agricultural demand will reduce in proportion to the increase in urban demands. The agricultural demands are based on the assumption that urban growth in the East Valley will occur equally (50 percent each) on agricultural and vacant parcels.

The Proposed Project elements themselves will not convert significant areas of Farmland to non-agricultural use. Recharge basins will be located on the edges of the Coachella Valley on desert land (e.g., Martinez Canyon) or on vacant Valley floor land in Indio already a designated city park site. No Farmland Soils of Statewide Importance occur in these areas. Some patches of MaB soil, potentially prime soil, occur along the Coachella Valley floor edges but are not prime soils unless irrigated. Once basin sites are defined the specific soil units present will be identified. Farmland soils will be avoided for recharge facilities, because they have lower percolation rates. Water treatment and desalination plants could be sited on prime soils, but would be small in area—less than 20 acres each. Upgrades to wastewater plants would be within existing plant boundaries and have no impact on agriculture.

Pipelines and pumping stations will be located primarily in roadways or edge areas of agricultural fields. Some pipelines that could be constructed as part of the Proposed Project may cross through agricultural fields, but will interfere only temporarily with their use and not affect their designation as Prime Farmland. Pipelines and pumping stations are already common in agricultural areas and the construction of additional facilities will not impact agricultural land use.

The construction of a pipeline will not conflict with property use and therefore with stipulations of a Williamson Act agricultural preserve contract. Therefore, the proposed facilities would not conflict with existing zoning, designated Prime Farmland, or Williamson Act contracts. In fact, the Proposed Project seeks to maintain existing agricultural land use where feasible.

Agricultural water conservation is an essential part of the WMP and of the Valley economy. Agriculture currently accounts for more than 40 percent of Valley water use. Agricultural

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conservation programs in the 2010 WMP Update are: grower education and training, District provided services (scientific irrigation scheduling, scientific salinity management, moisture monitoring and farm uniformity evaluations), irrigation upgrade/retrofit, and economic incentives. These measures are anticipated to increase farming efficiency, but not to affect the amount of land in agriculture or cropping patterns.

Similarly, increased use of Colorado River water and decreased use of groundwater for agricultural irrigation with implementation of the Proposed Project are not anticipated to affect cropping patterns or the amount of land in agriculture. Leaching may be required for irrigation of certain salt-sensitive plants. However, the impact of Colorado River water use is considered to be less than significant, since Colorado River water has been used for irrigation in the Valley since the completion of the Coachella Canal in 1949. Therefore, the impact of the Proposed Project on agricultural resources would be less than significant.

### **8.3.4 Mitigation**

No mitigation is required.

## **8.4 PUBLIC SERVICES, UTILITIES AND SERVICE SYSTEMS**

The 2002 PEIR evaluated potential impacts on utilities and public services: police, fire, schools, solid waste natural gas, telephone, and electricity, water supply and wastewater management. Water supply and wastewater management issues were the focus of the PEIR and discussed throughout the document. Indirect or secondary impacts on public services and utilities in the study area were found to be less than significant because the project was found not to be growth inducing nor would it remove an obstacle to growth.

Direct impacts on utilities and service providers were found to be temporary, limited to the period of construction of proposed facilities. The two exceptions to this analysis were impacts found to be potentially significant—location of facilities near schools, fire stations or police stations that could significantly impede school access or emergency response. Mitigation adopted for these potential impacts consisted of notification of schools and emergency service providers of construction locations and durations, and notification of utilities prior to pipeline construction in public roadways. The impacts were found to be less than significant with mitigation.

These utilities and services have been revisited for the present SPEIR.

### **8.4.1 Setting**

#### **8.4.1.1 Public Services and Utilities**

Public services and utilities discussed are police and fire protection, schools, solid waste, and parks, telephone, electricity and natural gas, as well as water and wastewater management and stormwater.

### *Police*

The Riverside County Sheriff's Department provides police protection for the unincorporated portions of the County. With the exceptions of Indio, Palm Springs, and Cathedral City, which have their own police departments, the Sheriff's Department also serves the incorporated cities in the Coachella Valley.

### *Fire*

The Riverside County Fire Department, under contract with the Department of Forestry, provides fire protection for all the communities within the Coachella Valley except Palm Springs, Indio and Cathedral City. There are 21 fire stations within the Coachella Valley study area.

### *Schools*

There are three principal school districts in the Coachella Valley: Palm Springs Unified School District (PSUSD), Desert Sands Unified School District (DSUSD) and Coachella Valley Unified School District (CVUSD). There are 24 schools operated under PSUSD (PSUSD, 2007), 34 under DSUSD (DSUSD, 2009), and 21 under CVUSD (CVUSD, 2011). PSUSD covers Desert Hot Springs, Palm Springs, Cathedral City, and part of Rancho Mirage. DSUSD has jurisdiction over Indian Wells, Bermuda Dunes, Palm Desert, and parts of Indio and La Quinta. School services in Coachella, Thermal, Mecca, Oasis and part of Indio are provided by CVUSD.

### *Solid Waste*

Within the Coachella Valley, the Riverside County Waste Management Department (RCWMD) operated two Class III landfills (which accept only non-hazardous municipal solid waste) and two TSs. Mecca II landfill in Mecca is open two Saturdays per year in April and October, and the Oasis landfill in Oasis is open on Wednesdays and Saturdays year round. These landfills serve the communities of Thermal, North Shore, Mecca, and Oasis (RCWMD, 2010).

There are two privately operated transfer stations (TS) open to the public. Edom Hill TS, open six days per week, is located in Cathedral City near Edom Hill Road and serves the cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert and Desert Hot Springs, and the unincorporated communities of Thousand Palms, Whitewater, Garnet, and North Palm Springs. The Coachella TS in the City of Coachella, open six days per week, serves the East Valley. Individual capacities are no longer available on line for these facilities. However, the Department indicates that it ensures that Riverside County has a minimum of 15 years of capacity, at any time, for future landfill disposal (RCWMD, 2010).

### *Telephone*

Verizon services all customers within the study area. Telephone lines are located throughout the study area and service is provided on a demand basis. Cell phone service is available from Verizon, Sprint, SBC, MCI and AT&T.

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### *Natural Gas*

Natural gas service is provided to the study area by the Southern California Gas Company (SCGC), a division of Sempra Energy. Additional information on natural gas is provided in **Section 8.5** on energy resources.

### *Electricity*

Imperial Irrigation District (IID) provides electricity to the eastern portion of the Coachella Valley; the balance of the study is served by Southern California Edison (SCE). Additional information on electricity sources and uses for the Proposed Project is provided in **Section 8.5** on energy resources.

#### **8.4.1.2 Wastewater and Recycled Water**

Agencies that provide sewer service and wastewater treatment within the Coachella Valley are: CVWD (four plants within the Proposed Project area), the City of Coachella (Coachella Sanitary District, one plant), the City of Palm Springs (one plant), Valley Sanitary District (VSD) (one plant), and Desert Water Agency (DWA) (one tertiary plant for further treatment of Palm Springs wastewater before reuse), as shown in **Table 8-3**. Some isolated farmhouses in the East Valley have septic tanks, as do portions of La Quinta, Rancho Mirage, Cathedral City and scattered properties in the Coachella Valley. The tribal-owned casinos are sewered, but the reservation communities currently are served by septic systems. The individual wastewater plants are described below. **Table 8-4** shows existing and projected wastewater flows.

**Table 8-3**  
**Summary of Wastewater Treatment Plants in the Study Area**

Agency	Treatment Plant	Plant Capacity (mgd)
CVWD		
Bombay Beach	WRP-1	0.15
North Shore	WRP-2	0.033
Thermal	WRP-4	7.0
Indio Hills	WRP-7	5.0
Palm Desert Country Club	WRP-9	0.40
City of Palm Desert	WRP-10	18 (existing), 22-24 (eventual expansion)
City of Coachella/Coachella Sanitary District (CSD)	WWTP	4.5
City of Palm Springs	WWTP	10.9 (existing), 16.9 (planned expansion)
DWA Water Reclamation Plant	WRP	5.0 (tertiary treatment for Palm Springs WWTP secondary effluent)
VSD	WWTP in Indio	11
<b>Total</b>		<b>62</b>

WRP = Water Reclamation Plant; WWTP = Wastewater Treatment Plant; DWA = Desert Water Agency

**Table 8-4  
Existing and Projected Total Wastewater Flows in the Coachella Valley (AFY)**

<b>Wastewater Treatment Plant</b>	<b>2005<sup>1</sup></b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>
Palm Springs WWTP	7,272	8,060	8,580	9,218	9,910	10,717	11,615	12,513	13,410
Coachella SD WWTP	2,412	3,509	4,614	5,800	6,955	8,118	9,350	10,583	11,815
VSD WWTP	6,172	6,969	7,825	8,398	8,898	9,519	10,103	10,687	11,271
CVWD WRP-10	12,290	13,106	14,049	15,043	15,912	16,461	16,870	17,279	17,688
CVWD WRP-4	5,055	6,162	8,148	11,783	16,783	20,597	25,237	29,877	34,517
CVWD WRP-7	2,411	3,264	3,946	5,403	5,882	6,758	7,569	8,379	9,189
CVWD WRP-9	335	335	335	335	335	335	335	335	335
<b>Total</b>	<b>35,947</b>	<b>36,322</b>	<b>41,406</b>	<b>47,499</b>	<b>55,981</b>	<b>64,675</b>	<b>72,506</b>	<b>81,079</b>	<b>89,652</b>

<sup>1</sup> Actual plant flows for the year 2005 and 2010; subsequent year flows are projected.

### ***WRP-1 Bombay Beach***

CVWD Water Reclamation Plant No. 1 (WRP-1) serves the community of Bombay Beach (population 366 in the 200 census) on the shore of the Salton Sea in Imperial County. WRP-1 has a capacity of 0.15 million gallons per day (mgd); present flow (2010) is about 0.27 mgd. The plant consists of two mechanically-aerated concrete-lined oxidation basins, two unlined stabilization basins and six evaporation-infiltration basins. Currently, disposal of all of the effluent from this facility is by evaporation-infiltration. CVWD has no plans to recycle effluent from this facility. No changes are proposed to this facility in the 2010 WMP Update.

### ***WRP-2***

CVWD WRP-2 has a capacity of 0.033 mgd; present flow (2010) is about 0.018 mgd. WRP-2 serves the North Shore resort community, located northeast of SR-111 near the north shore of the Salton Sea in Riverside County. WRP-2 has two types of treatment facilities: an activated sludge treatment plant capable of providing secondary treatment to a maximum of 0.018 mgd, and an oxidation treatment basin having a design treatment capacity of 33,000 gallons per day (gpd). The oxidation treatment basin is mechanically aerated and is lined with a single synthetic liner. The activated sludge treatment plant is used only when the maximum daily flow exceeds 33,000 gpd, otherwise the oxidation basin is used for treatment. WRP-2 is currently discharging an average of 18,000 gpd of treated secondary effluent into four evaporation-infiltration basins for final disposal. CVWD has no plans to recycle effluent from this facility. No changes are proposed to this facility in the 2010 WMP Update.

### ***WRP-4***

CVWD's WRP-4 is a 9.9 mgd capacity treatment facility located in Thermal adjacent to the Coachella Valley Stormwater Channel (CVSC). WRP-4 provides secondary treatment consisting of pre-aeration ponds, aeration lagoons, polishing ponds, and disinfection. The treated effluent is discharged to the CVSC pursuant to a National Pollution Discharge Elimination System (NPDES) permit. The annual average flow to the facility is approximately 4.75 mgd (5,325 acre-feet per year [AFY]).

### ***WRP-7***

WRP-7 is located in north Indio on Avenue 38 at Madison Street. The plant is a 5.0 mgd secondary treatment facility with a current tertiary treatment capacity of 2.5 mgd. The tertiary treated wastewater is used for irrigation of golf courses in the Sun City area. The average annual flow is currently 2.11 mgd (2,365 AFY). The plant consists of aeration basins, circular clarifiers, and polishing ponds. Recycled water not used for irrigation is percolated at on-site and off-site ponds. A plant expansion is currently under design that will increase the plant capacity to 7.5 mgd. CVWD has prepared a separate CEQA document for this project.

### ***WRP-9***

WRP-9 is located at 77-400 Fred Waring Drive in Palm Desert. Flows previously treated at this plant may be redirected to WRP-10 in the future. WRP-9 has a capacity of 0.4 mgd and treats approximately 0.33 mgd of wastewater from the residential development surrounding the Palm Desert Country Club.

The WRP consists of the following treatment units: a grit chamber, aeration tanks, secondary clarifiers, chlorine contact chamber, aerobic digester and two infiltration basins. One basin is lined for storage of treated wastewater. Raw wastewater in excess of the design capacity does enter this facility during peak flows. However, this excess influent is pumped to WRP-10.

Secondary effluent from WRP-9 is mixed with well water and used to irrigate the Palm Desert Country Club golf course.

### ***WRP-10***

WRP-10, located in Palm Desert, consists of activated sludge treatment, a tertiary wastewater treatment plant (WWTP), a lined holding basin, 6 storage basins, and 21 infiltration basins. The combined secondary wastewater treatment design capacity of the WRP is 18 mgd. WRP-10 treats an annual average daily flow of 10.8 mgd from the activated sludge plant. Just less than 60 percent of this plant's effluent receives tertiary treatment for reuse and is delivered to customers through an existing recycled water distribution system. The remaining secondary effluent is piped to a holding basin and/or the 6 storage basins, and then to the 21 infiltration basins for final disposal.

Most secondary effluent receives tertiary treatment and is used for irrigation of local golf courses. Since 2009, CVWD has blended tertiary effluent with Coachella Canal water provided by the Mid-Valley Pipeline (MVP) for distribution to golf courses. CVWD plans to expand the non-potable water delivery system, for which a

### ***Palm Springs WWTP and Desert Water Agency Water Reclamation Facility***

The City of Palm Springs provides wastewater collection and treatment service within its city limits. The City of Palm Springs operates the Palm Springs WWTP, which has a capacity of 10.9 mgd and produces primary- and secondary-treated effluent. Palm Springs percolates secondary treated water at the WWTP.

DWA provides tertiary treatment to effluent from the Palm Springs WWTP at the DWA Water Reclamation Plant and delivers recycled water to golf courses and parks in the Palm Springs area. DWA is responsible for providing wastewater service within portions of Cathedral City and unincorporated Riverside County within its Service Area.

### ***Valley Sanitary District WWTP***

The VSD owns and operates an 11 mgd capacity wastewater treatment facility that serves most of the City of Indio. The wastewater treatment system consists of preliminary, primary and



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secondary treatment processes. Secondary treatment is provided by three process trains – activated sludge (7.5 mgd), oxidation ponds (2.5 mgd) and wetlands treatment (1 mgd). Effluent from the oxidation ponds and the wetlands either is routed to pasture irrigation or blended with activated sludge effluent, disinfected, dechlorinated and discharged to the CVSC. VSD plans to increase the capacity of the activated sludge process to 10 mgd through the addition of aeration basins and secondary clarifiers. This will increase the total plant capacity to 13.5 mgd or 17.2 mgd, depending on the units constructed (Regional Board, 2006).

Growth within the VSD service is projected to increase the flow to the plant to about 11,300 AFY by 2045. The City of Indio's Water Resources Development Plan indicates that the City intends to use as much recycled water as is practical to meet future demands in its service area (Indio Water Authority [IWA], 2008).

### *Coachella Sanitary District WWTP*

The City of Coachella, through its Coachella Sanitary District (CSD), owns and operates a 4.5 mgd secondary treatment wastewater facility. The City analyzed the costs-benefits of upgrading the wastewater treatment facility to tertiary treatment to determine its feasibility. The study includes the identification of potential uses for recycled water (Coachella, 2008). The City does not have infrastructure in place to recycle water. If the treatment system upgrade feasibility study produces a favorable result and tertiary treatment is added to the facility, additional recycling would be possible. Separate, non-potable water systems for outdoor irrigation are required with approval of many larger developments.

### *Recycled Water Use*

Recycled water is a significant potential local water source that can be used to help reduce overdraft. Wastewater that has been highly treated and disinfected can be reused for landscape irrigation and other purposes; however, treated wastewater is not suitable for direct potable use. Recycled wastewater has historically been used for irrigation of golf courses and municipal landscaping in the Coachella Valley. In addition, fish farm effluent is available in localized areas of the East Valley and is recycled for reuse. Based on file data from CVWD and DWA (2009), recycled water usage in the West Valley is approximately 11,700 AFY (7,500 AFY CVWD usage, 4,200 AFY DWA usage). Recycled water usage in the East Valley is approximately 700 AFY and is mainly for agricultural irrigation, duck clubs and fish farms.

As stated above, CVWD operates six WRPs. Three of these (WRP-7, WRP-9 and WRP-10) generate recycled water for irrigation of golf courses and large landscaped areas. WRP-4 became operational in 1986 and serves communities from La Quinta to Mecca. WRP-4 effluent is not currently recycled; however, it will be recycled in the future when the demand for recycled water develops and tertiary treatment is constructed.

The DWA WRP provides tertiary treatment to effluent from the Palm Springs WWTP and delivers recycled water to golf courses and parks in the Palm Springs area. There is also potential for obtaining recycled water from the reclamation plants operated by the City of Coachella and VSD.

### 8.4.1.3 Domestic Water

The water users in the Coachella Valley receive water service from six water agencies. The service area boundaries of Valley water purveyors along with city boundaries are presented in **Figure 2-3**.

In the West Valley, there are three principal domestic water purveyors: DWA, CVWD, and Mission Springs Water District (MSWD). DWA supplies Palm Springs, a portion of Cathedral City, and areas south and west of the Whitewater River. Approximately 95 percent of DWA water supply is from wells and the remainder is runoff from the San Jacinto Mountains. CVWD provides water to those areas north and east of the Whitewater River. In addition to reliance on well water supplies, both CVWD and DWA purchase SWP water, which is exchanged for Colorado River water and conveyed in the CRA by The Metropolitan Water District of Southern California (Metropolitan). All of this water is used for groundwater recharge in the West Valley. MSWD supplies parts of Desert Hot Springs, North Palm Springs, West Palm Springs, and four other small desert communities.

In the East Coachella Valley, there are four major domestic water purveyors: CVWD, City of Coachella (Coachella Water Authority), City of Indio (Indio Water Authority), and Myoma Dunes Mutual Water Company. The cities of Coachella and Indio operate water systems within their boundaries. CVWD also supplies domestic water to some areas within Indio and Coachella. Myoma Dunes Mutual Water Company supplies water to a portion of Bermuda Dunes. CVWD supplies the rest of the study area.

Water sources and existing and projected water demands are discussed in **Section 3 – Project Description**.

### 8.4.1.4 Stormwater and Storm Drains

Regional flood control districts in the study area are the Riverside County Flood Control and Water Conservation District (RCFCWCD) and CVWD. In addition, each City is responsible for local drainage (street drainage) within its jurisdiction. RCFCWCD is responsible for local drainage within its Riverside County jurisdiction. The cities and flood control districts also jointly participate as co-permittees in NPDES and Municipal Separate Storm Sewer System (MS4) programs.

The study area is subject to alluvial-fan flash flooding from the surrounding mountain ranges. The cities and the Flood Control Districts divert runoff from storm events to the Whitewater River/CVSC, the approximately 45-mile-long backbone of the region's flood control system, a system composed of levees, debris basins, and channels. The Whitewater River/CVSC has both naturally occurring and man-made segments. The channel originates on the slopes of the San Bernardino Mountains and flows generally southeast through the region to the Salton Sea. Downstream of the Indian Wells/La Quinta boundary, the CVSC channel was constructed and later improved to safely convey storm flows to approximately Avenue 52 in Coachella. From Avenue 52 to the Salton Sea, the channel lacks bank stabilization and is in a levee condition. This means that the estimated surface elevation of Standard Project Flood (SPF) is higher than the elevation of adjacent properties. Principal tributaries discharging to the Whitewater

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River/CVSC are the San Gorgonio River, Mission Creek, Tahquitz Creek, Palm Canyon Wash, Deep Canyon Creek, and the Palm Valley Channel. The design standard for the CVSC is the SPF of 85,000 cubic feet per second (cfs).

Severe flooding has been frequently recorded in the study area since 1825. In the late 1970's, homes and businesses in several of the region's cities suffered severe flood damage. As a result, flood control infrastructure, including 16 stormwater protection channels, was constructed in the early 1980s with the help of the Army Corps of Engineers (USACE) and local funding. Several areas of the study area still lack flood control facilities and are vulnerable to devastating alluvial and riverine flooding. These areas are:

- Areas adjacent to Mission Creek in the Desert Hot Springs area,
- Sky Valley and Indio Hills,
- Thousand Palms,
- Portions of Indio north of Interstate 10 (I-10),
- The Oasis Community, extending from Avenue 66 to Avenue 86, and
- Areas adjacent to the Whitewater River – CVSC, south of Avenue 52.

The CVWD and Riverside County continue to seek funding to protect these areas.

In the 1940s, the U.S. Bureau of Reclamation (Reclamation) constructed a series of earthen dikes, 25 to 35 feet high, along the feet of the mountains on both sides of the Valley, down to approximately Avenue 66, to protect the Coachella Canal from flooding. The dikes are owned by Reclamation and are on federal land; they are operated and maintained by CVWD. Mountain runoff either accumulates behind the dikes and evaporates or is conveyed to storm channels tributary to the CVSC.

### 8.4.2 Significance Criteria

Based on State CEQA Guidelines, Appendix G, the Proposed Project would have a significant impact on public services if it:

- Resulted in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: fire protection, police protection, schools, parks, and other public facilities.

Based on State CEQA Guidelines, Appendix G, the Proposed Project would have a significant impact on utilities and service systems if it:

- exceeded the wastewater treatment requirements of the California Regional Water Quality Control Board, Colorado River Basin Region,

- required or resulted in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects,
- required or resulted in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects,
- had insufficient water supplies available to serve the project from existing entitlements and resources, or needed new or expanded entitlements,
- resulted in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing demand,
- would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs, or
- did not comply with federal, state and local statutes and regulations related to solid waste.

CVWD also considers a project's impact significant if it:

- Interfered with access for fire and police protection, or with access to school facilities without notification to affected agencies, or
- Resulted in unplanned interference with existing utility features (buried lines, etc.).

### 8.4.3 Impacts

#### 8.4.3.1 Police and Fire Protection

The Proposed Project will have no permanent effects on fire protection or police protection requirements, since it accommodates but does not induce growth (see **Section 8.1** and **Section 11**) that would increase requirements for additional service or capacity.

Recharge basins are anticipated to be on undeveloped sites; treatment plants would be on existing plant sites or other open land and would not affect response times for provision of such services.

Construction activities' effects on traffic and access (that may affect fire and police and ambulance services response times) for pipelines, tanks and treatment plants in more urbanized areas will be localized and temporary, but could be considered potentially significant during that period depending on specific location.

Mitigation for potential impacts on Police and fire protection providers will consist of prior notification of construction location and duration and development of traffic control plans, as appropriate (It is assumed that traffic control plans would be prepared by the construction contractors). Therefore, the impact would be less than significant with mitigation incorporated.

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### 8.4.3.2 Schools

The Proposed Project will have no permanent effects on schools since it accommodates but does not induce growth (see **Section 8.1** and **Section 11**) that would increase requirements for additional capacity.

Construction activities' effects on traffic and access for schools will be localized and temporary, but could be potentially significant. Facilities siting, especially for pipelines in streets, will consider access for schools. Recharge basins are anticipated to be on undeveloped sites; treatment plants would be on existing plant sites or other open land and not near schools. Mitigation for potential impacts on schools will consist of prior notification of construction location and duration and development of traffic control plans, as appropriate. Construction will be scheduled outside school sessions or weekends if immediately adjacent to a school. Therefore, the impact would be less than significant with mitigation incorporated.

### 8.4.3.3 Gas, Telephone and Electric Utilities

In general, the demand for gas, telephone and electricity services is anticipated to increase with projected population and as a result of land use decisions by the Valley cities and the County. However, the Proposed Project is growth accommodating, not growth inducing and would have no control over increased demand for energy or utilities in the study area generated by development.

Higher groundwater levels with reduced overdraft will decrease local electricity use associated with well pumping; a beneficial effect. At the same time, the Proposed Project facilities and water importation for implementation of the Proposed Project will increase energy use. Net energy use due to the Proposed Project will increase, but Proposed Project facilities will not be constructed unless required to serve growth approved by others (see **Section 8.5**). An analysis of impacts on electricity providers is provided in **Section 8.5**.

The Proposed Projects' use of natural gas will be limited to habitable buildings for heating, cooling and ventilation. Backup generators for electrical equipment in case of outages, if provided, typically use diesel fuel. An analysis of impacts on natural gas providers is provided in **Section 8.5**.

Encountering existing buried utilities during construction can have potentially significant impacts if they are damaged or located too close to proposed facilities to meet legal separation requirements. Prior to pipeline installation or any excavation, the locations and nature of existing utilities will be identified to prevent or address utility conflicts, as is standard practice. As necessary, CVWD will coordinate with the agency or agencies responsible for these utilities to address and avoid utility conflicts during construction.

### 8.4.3.4 Solid Waste and Landfills

Solid waste generated by construction of Proposed Project elements would consist of construction debris associated with site preparation for project facilities. Amounts of construction debris generated would be minor, possibly from removal of sparse vegetation and

debris, if present. Cleared vegetation and debris would be hauled offsite and deposited in an appropriate, authorized solid waste facility. Both Mecca II and Edom Hill landfills accept non-hazardous municipal waste and construction debris of this type. Water treatment plants will produce sludges requiring disposal in compliance with existing regulations. The solids would need to be tested for toxicity, but it is anticipated that silts and alum sludges resulting from treatment would be non-toxic and therefore could be disposed of in a Class II or III landfill. There are no water treatment plants in the Valley at present.

Quantitative effects of these and other facilities will be addressed in subsequent, site-specific environmental documents that tier off the SPEIR. Capacities of existing landfills are not readily available, but the Riverside County Waste Management Department has committed to having at least 15 years of capacity available at any time throughout the county. Therefore, the impact of the Proposed Project on solid waste disposal capacity is considered to be less than significant.

It is anticipated that recharge basin construction would create no excess soil for disposal, since it is expected that cut and fill would be balanced on site. Similarly, construction of other WMP facilities will create no or only minor amounts of excess soil requiring disposal. Therefore, the Proposed Project would have less than significant impacts on solid waste disposal.

With respect to operation, the Proposed Project would not produce substantial long-term increases in solid waste requiring offsite disposal. Therefore, the Proposed Project would have less than significant impacts on solid waste disposal capacity.

After construction of the proposed Project elements, CVWD would continue to comply with all federal, state, and local statutes and regulations related to solid waste. Therefore, the proposed Project would not conflict with any statutes or regulations and no impacts would occur.

### **8.4.3.5 Water Supply and Wastewater Management**

The Proposed Project elements' construction and operation will not require or result in the construction of new wastewater treatment plants or expansion of existing wastewater facilities. Treatment plants that discharge to the CVSC (WRP-4, VSD and CSD) will be upgraded by the addition of tertiary facilities on the existing plant sites. Effluent then will be available for recycling, in compliance with requirements of the Regional Water Quality Control Board (Regional Board) and California Code of Regulations (CCR) Title 22.

The 2010 WMP Update assumes that existing wastewater plants and wastewater collection systems will be expanded to keep pace with land use decisions to serve projected populations.

The 2010 WMP Update includes new water treatment plants in the Coachella Valley to treat agricultural drainage and Canal water for various potential uses. The new plants' sites are not known at this time, but are anticipated to be sited primarily on vacant land, agricultural land or disturbed land adjacent to existing facilities. The plants' construction and operation would be in compliance with CVMSHCP requirements and land adjacency guidelines. The construction of these plants also would not be considered to have significant impacts because the sites would be small (less than 20 acres).

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Impacts of disposal of brine created by desalination treatment will depend on the disposal method and location. When it is decided that desalination planning should be initiated, brine disposal methods will be developed and evaluated in future tiered, site specific documentation for these facilities, beginning with a feasibility study of alternative methods. Brine would not, however, be discharged to an existing wastewater treatment plant; there would be no direct impact on wastewater treatment plants from this flow.

The Proposed Project would have a less than significant effect on the ability of existing or future wastewater treatment plants to meet Regional Board requirements. With water conservation, concentrations in WWTP effluents of total dissolved solids (TDS) and other parameters could increase, but would meet discharge requirements in NPDES permits, which have limits that still exceed anticipated increases in concentration from conservation. Even with indoor conservation, TDS in urban effluent is not anticipated to increase significantly from approximately 500 to 600 milligrams per Liter (mg/L), still well below the CVSC water quality objective of 2,000 mg/L. Therefore, the impact would be less than significant.

The Proposed Project would include the construction of new water facilities at current sites and unidentified sites, which will be small (less than 20 acres) and anticipated to be located on disturbed, agricultural or vacant land. Therefore, while effects of the new facilities are site-specific and will be evaluated in second tier environmental documents for the individual facilities, they are anticipated to be less than significant.

### 8.4.3.6 Storm Drains

As in the 2002 WMP, Proposed Project construction and operation will not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, because the capacity of existing facilities is adequate to pass storm flows, and because proposed buried pipelines, tanks, pumping stations, and desalination and water treatment plants will not significantly affect existing drainage (see **Section 5**). Routing stormwaters around or through site-specific WMP projects, such as recharge basins and larger new treatment plants for drain water or Canal water, will be addressed in the design documents for those projects and discussed in their tiered CEQA documents. Therefore, the impact would be less than significant.

### 8.4.3.7 Wastewater Treatment Capacity

The Proposed Project constructed elements that would generate wastewater are new water or desalination plants and pumping stations (pipelines, tanks and recharge facilities would not require employee bathrooms). These facilities would not require more than a small number of (i.e., less than 10) new connections to the existing sewer system and therefore would not significantly affect wastewater treatment services. Therefore, impacts on wastewater treatment capacity would be less than significant.

## 8.4.4 Mitigation Measures

**USP-1:** Facilities siting will consider access for service providers, who will be notified of construction location, schedule and duration well in advance. Project specifications shall require that prior to the construction of any facilities, the police and fire departments, hospitals and

schools within a half-mile of proposed sites will be notified so that detour routes for emergency responses can be planned for the construction period.

**USP-2:** Facilities siting, especially adjacent to schools, will consider access and will schedule construction scheduling outside of school sessions. Project specifications shall require that schools will also be notified of construction location, schedule and duration well in advance. Prior to the construction of any facilities, the schools within a half-mile of proposed sites will be notified so that detour routes can be planned for the construction period.

Therefore, the impact on public services and utilities would be less than significant with mitigation incorporated.

**8.5 ENERGY RESOURCES AND CONSERVATION**

CEQA Guidelines, Appendix F, require that EIRs include a discussion of the potential energy impacts of proposed projects, with emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.

**8.5.1 Environmental Setting**

**8.5.1.1 Electricity**

IID supplies electricity to the IID service area in Imperial County and to the Coachella Valley area east of Washington Street and north of I-10, which includes Indio, Coachella, La Quinta, 1000 Palms, Sky Valley, Indio Hills, Thermal and Mecca. Over 65 percent of IID’s supply is generated locally using hydroelectric facilities, (geothermal), steam generation facilities, as well as several diesel and natural gas turbines. IID maintains an emergency generation facility in Coachella (IID, 2010a). USEPA reported for 2007 that the SCE and IID fuel mixes were as tabulated below (**Table 8-5**) (USEPA, 2007).

**Table 8-5  
Fuel Mix (Power Content Label) Comparison for SCE and IID**

Fuel Source	SCE 2009 (% of total) <sup>a</sup>	IID Projected 2010 (% of total) <sup>b</sup>	2008 CA Power Mix (% of total) <sup>c</sup>
Non-hydro Renewables	15	0.45	1.3
Hydroelectric	6	17.75	18.5
Nuclear	18	4.63	4.6
Natural Gas	51	47.46	41.9
Coal	10	29.48	33.7
Oil and Other	<1.0	0.23	0.0

Source: a = SCE, 2009. b = IID, 2010; c= CEC, 2008.

SCE supplies energy to most of the West Valley. SCE uses a variety of sources to produce electricity: natural gas, hydroelectric plants, nuclear energy, and renewable resources, like solar and wind. Colmac Energy Division operates a 47 megawatt (MW) agricultural waste-to-energy plant on Cabazon Tribal land near Mecca. The energy is sold to SCE (Sacred Power Corporation, 2007).



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The area bordering San Geronio, Desert Hot Springs, Cathedral City and North Palm Springs is a designated Wind Energy Policy Area (Riverside County, 2008b). The wind farm contains more than 4,000 separate windmills operated by a number of private firms. The great majority of the energy is sold to SCE, with lesser amounts to the Los Angeles Department of Water and Power and to the City of San Diego.

Geothermal energy is also produced in the study area from the presence of geothermal groundwaters that border and underlie the Salton Sea. An area extending north of Mecca, west of Oasis and east 12 miles from the Salton Sea has geothermal groundwaters, wells and springs. Development of geothermal energy production is underway. In addition, fish farms and greenhouses have located here to take advantage of the warm groundwater. Geothermal groundwaters also exist in the area surrounding Desert Hot Springs in the West Valley.

The SWP is the largest single user of electrical energy in the State; it accounts for 2 to 3 percent of all the electricity consumed in California. The SWP uses an average of 5,000 gigawatt-hours (GWh) per year. The lift of SWP water to the top of the Tehachapi Mountains for delivery to Southern California requires over 2,200 kilowatt-hours per acre-foot (kWh/AF) of water pumped. Delivery of SWP Exchange water to the Coachella Valley requires 3,143 kWh/AF for the SWP plus 2000 kWh/AF of pumping energy to bring exchanged Colorado River water via the CRA to the turnout at Whitewater. Delivery of Colorado River water via the Coachella Canal also requires approximately 2,000 kWh/AF (**Table 8-6**) (CEC, 2010).

The SWP is pursuing a number of energy-efficient projects, including state of the art engineering to make SWP hydroelectric units highly efficient in pumping and generating modes, and is evaluating the feasibility of additional energy efficiency upgrades at the Edmonston Pumping Plant, which would be implemented between 2013 and 2020. The Hyatt facility units were recently refurbished and increased their efficiency from 87-91 percent to 93-95 percent. The decreased power use will be 48,500 MWh per year or 20 MW (equivalent to a 100-acre solar farm) (Water/Energy Sustainability Summit, 2010).

### 8.5.1.2 Natural Gas

The SCGC supplies natural gas to all consumers within the study area. The main natural gas transmission line runs eastward almost parallel to I-10 between San Geronio and Thousand Palms. From Thousand Palms, the gas line continues eastward at about 3 to 5 miles north of I-10. The gas line meets I-10 and runs parallel to it again at Mecca Hills.

**Table 8-6**  
**Existing and Projected Energy Use for the Proposed Project**  
(kWh/yr unless noted)

Project Component	Avg. Usage (kWh/AF)	2009 Existing Conditions	2020		2045	
			Project	Difference from 2009	Project	Difference from 2009
<b>Project Energy</b>						
West Valley Reclamation	340	4,481,000	6,883,000	2,402,000	9,339,000	4,858,000
West Valley GCs Canal Water (MVP)	497	1,515,000	12,161,000	10,646,000	19,240,000	17,725,000
East Valley GCs Canal Water	0	0	0	0	0	0
East Valley Agr. Canal Water	0	0	0	0	0	0
East Valley Agr. Canal Water Oasis System	338	0	0	0	7,921,000	7,921,000
Levy Facility (Dike 4) Recharge - Pumping	220	7,150,000	8,800,000	1,650,000	8,800,000	1,650,000
Martinez Canyon Recharge	350	1,103,000	1,400,000	297,000	7,000,000	5,897,000
Indio Recharge	0	0	0	0	0	0
East Valley Municipal Canal Water - Treated	410	0	12,300,000	12,300,000	36,900,000	36,900,000
East Valley Municipal Canal Water - Untreated	270	554,000	3,970,000	3,416,000	21,238,000	20,684,000
East Valley Recycled Water	160	62,000	995,000	933,000	5,042,000	4,980,000
Agricultural Drainage Desalination	1,190	0	10,908,000	10,908,000	101,150,000	101,150,000
<b>Total Project Energy</b>		<b>14,865,000</b>	<b>57,417,000</b>	<b>42,552,000</b>	<b>216,630,000</b>	<b>201,765,000</b>
<b>Groundwater Pumping</b>						
West Valley	varies	126,907,000	102,438,000	-24,469,000	102,414,000	-24,493,000
East Valley	varies	69,358,000	36,917,000	-32,441,000	26,194,000	-43,164,000
<b>Total Groundwater Pumping</b>		<b>196,265,000</b>	<b>139,355,000</b>	<b>-56,910,000</b>	<b>128,608,000</b>	<b>-67,657,000</b>
<b>Total Coachella Valley</b>		<b>211,130,000</b>	<b>196,772,000</b>	<b>-14,358,000</b>	<b>345,238,000</b>	<b>134,108,000</b>
<b>Water Importation</b>						
SWP Exchange	3,143	179,226,000	222,803,000	43,577,000	257,963,000	78,737,000
Colorado River & Desal. Drain Exchange	2,000	0	43,208,000	43,208,000	59,878,000	59,878,000
<b>Total Imported Water</b>		<b>179,226,000</b>	<b>266,011,000</b>	<b>86,785,000</b>	<b>317,841,000</b>	<b>138,613,000</b>
<b>Total</b>		<b>390,356,000</b>	<b>462,783,000</b>	<b>72,427,000</b>	<b>663,079,000</b>	<b>272,721,000</b>
<b>Percent Change</b>				<b>18.6%</b>		<b>69.9%</b>

GC = golf course; MVP = Mid-Valley Pipeline; SWP = State Water Project; kWh/AF = kilowatt-hours per acre-foot; kWh/yr = kilowatt-hours per year.

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### 8.5.1.3 Energy Use at CVWD

Energy is used for well pumping; water delivery; agricultural, golf course and resort irrigation; recycled water pumping; and pumping of imported waters into the study area.

CVWD promotes energy conservation as well as water conservation. CVWD has received rebates from IID for replacement/upgrade of inefficient pumps/motors. IID Energy offers incentives to its commercial customers to encourage energy efficiency, primarily through its Energy Rewards Rebate Program. These rebates are offered for qualifying energy efficient appliances and building improvements (DSIRE, 2010).

CVWD is also taking advantage of the SCE Time of Use-Base Interruptible Program (TOU-BIP) rates and curtailment programs. The TOU-BIP is an interruptible rate designed for customers whose monthly Maximum Demand reaches or exceeds 200 kilowatts (kW) and who commit to curtail at least 15 percent of their Maximum Demand, at least 100 kW per Period of Interruption (SCE, 2010).

The District's new headquarters, under construction at this writing, will meet the LEED (Leadership in Energy and Environmental Design) Green Building Rating System™ Gold standard criteria, which promote “energy savings, water efficiency, CO<sub>2</sub> emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts” (U.S. Green Building Council, 2010). In addition, solar panels will be installed on the carport shade structures that will generate up to 375 kW.

CVWD provides diesel backup power at its Water Reclamation Plants (WRPs), lift stations, office buildings and more than half of its wells to maintain operation in an emergency.

CVWD uses natural gas for its buildings, including the Coachella headquarters, Palm Desert offices, and at the WRP-10 control building. CVWD also uses natural gas for water boilers; for heating, ventilating and air conditioning (HVAC) systems; and for hot water tanks for the hot water spigots throughout the buildings.

### 8.5.2 Significance Criteria

State CEQA Guidelines, Appendix G, does not present significance criteria related to energy conservation. CEQA Guidelines, Appendix F addresses energy conservation, impacts and mitigation in EIRs, but identifies no specific significance criteria. Since the purpose of the analysis is to “avoid or reduce inefficient, wasteful and unnecessary consumption of energy,” the CVWD would consider a Proposed Project energy impact to be significant if it:

- resulted in the inefficient, wasteful and unnecessary consumption of energy, or
- had significant effects on local and regional energy supplies and on requirements for additional capacity.

### 8.5.3 Impacts

The 2002 PEIR stated that the Proposed Project was expected to change energy use within and outside the Coachella Valley. Total energy usage was expected to increase due to pumping and treatment. Baseline energy usage for water and wastewater operations (1999 conditions) totaled 541,664,000 kilowatts per year (kWh/yr). With implementation of the 2002 WMP, energy use was projected to increase to 648,443,000 kWh/yr by 2015, an increase of 106,779,000 kWh/yr, and to 700,824,000 kWh/yr by 2035, an increase of 159,160,000 kWh/yr over 1999 conditions.

Implementation of the present Proposed Project is similarly expected to change energy use both within and outside the Coachella Valley. The overall Proposed Project energy demand is projected to increase from 390,356,000 kWh/yr in 2009 to approximately 462,783,000 kWh/yr by 2020, an increase of 72,427,000 kWh/yr or 18.6 percent, and to approximately 663,079,000 kWh/yr by 2045, an increase of approximately 272,723,000 kWh/yr or 69.9 percent over 2009 levels.

Energy use is discussed in terms of energy to operate in-Valley Proposed Project elements and reduction in pumping energy with reduction in overdraft and also in terms of energy to import water to the Valley from the SWP and CRA.

#### 8.5.3.1 In Valley Energy Use

Under the Proposed Project, energy usage within the Valley for facilities is expected to increase due to increased water conveyance to and from treatment plants, tanks, pumping stations and to recharge basins, but overwhelmingly for desalination treatment. At the same time, energy usage for groundwater pumping is expected to decrease under the Proposed Project with reduced pump lifts as groundwater levels rise with the reduction in overdraft.

Existing and projected future energy usage for groundwater pumping has been estimated based upon the following assumptions:

- Total pump lift is based on the sum of depth to water, drawdown and pump discharge head (pressure above ground).
- Depth to water is computed from groundwater model results as the difference between the ground surface and the groundwater table elevations.
- Drawdown is also computed from groundwater model results using estimates of specific capacity and assuming continuous pumping.
- Discharge heads are assumed to average 60 pounds per square inch (psi) for agricultural uses, 70 psi for urban uses and 90 psi for golf courses. Regional weighted averages are computed using the proportion of pumping for the various uses. Thus discharge heads vary over time as usage changes.
- The assumed average wire-to-water energy efficiency is 63 percent (the overall or "wire-to-water" efficiency of a pumping plant is the ratio of work done by a pumping plant to the energy put into the pump, expressed as a percentage).

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**Table 8-6** summarizes estimated energy requirements of the various components of the Proposed Project. The proposed treatment facilities and pumping stations required to deliver water would be electrically powered, possibly with standby diesel generators in case of outages. The amount of energy required will depend on the specific design of the facilities. Energy will also be required to convey imported water to the study area from the SWP over the Tehachapi Mountains for Metropolitan, as Exchange water in the Metropolitan CRA, and from the Colorado River via the Coachella Canal. The additional energy usage presented in **Table 8-6** is based on the concepts developed for the Proposed Project.

Based on this analysis, the existing (2009) electrical energy demand for water management in the Coachella Valley is approximately 211,130,000 kWh/yr of which groundwater pumping is approximately 196,265,000 kWh/yr, or 93 percent. With implementation of the Proposed Project (water conservation and increased groundwater levels as overdraft is addressed), electrical energy consumption for groundwater pumping is projected to decrease to approximately 139,355,000 kWh/yr by 2020 and to 128,608,000 kWh/yr by 2045, a saving of 56,910,000 kWh/yr (29 percent of pumping energy) by 2020 and 67,657,000 kWh/yr (35 percent of pumping energy) by 2045, compared to 2009 conditions. This is a beneficial effect of the Proposed Project. Total Coachella Valley energy use is projected to decrease from 211,130,000 kWh/yr in 2009 to 196,772,000 kWh/yr by 2020 and then to increase to 345,238,000 kWh/yr by 2045 with implementation of maximum desalination. At the same time, energy use for groundwater pumping would decrease from 196,265,000 kWh/yr to 128,608,000 kWh/yr of which 102,414,000 kWh/yr would be in the West Valley supplied by SCE, and 26,194,000 kWh/yr would be in the East Valley supplied by IID. The net increase in Valley energy use from 2009 to 2045 would be approximately 134,108,000 kWh/yr by 2045.

Operation of Proposed Project components within the Valley represents 52 percent of the total overall anticipated increase in energy use from Proposed Project implementation (as opposed to energy to importation of water from outside the Valley). The projections also reflect that the greatest increase in energy use would occur after 2020, as Proposed Project elements with the highest energy requirements are implemented. These elements are agricultural drainage desalination, treatment of Canal water, treatment of recycled water, and pumping to the completed MVP distribution system for golf course irrigation (**Table 8-6**). Desalination of agricultural drainage would require 101,150,000 kWh/yr.

Energy for WMP projects in the Valley would be supplied by SCE and IID from their own facilities and from the grid. In general, SCE would supply energy for proposed West Valley facilities and IID would supply East Valley facilities. Since the majority of the Proposed Project facilities would be in the East Valley, more of the additional energy would be required from IID. The Proposed Project facilities would contribute to base period demand, and some would contribute to peak demand as well (e.g., pumping for MVP, East Valley Oasis Canal system, and Canal water treatment). Energy for water importation on the Colorado River and SWP Exchange is and would be supplied by a complex of entities.

The proposed in-Valley elements would minimize energy use, avoiding the inefficient, wasteful and unnecessary consumption of energy. The amount of energy required for powering these

facilities, 7 MW by 2045, would have less than significant effects on local and regional energy supplies and on requirements for additional capacity. Total energy supplied by SCE is 5,000 MW (SCE, 2010), and by IID is 1100 MW (IID, 2011). Therefore, a demand of 7 MW is considered to have a less than significant potential impact on local and regional energy supplies and would not require the development of new supplies.

Therefore the energy impacts of in-Valley WMP elements are considered to be less than significant. Mitigation Measures to further reduce these effects are discussed below.

### 8.5.3.2 Water Importation Energy Use

Water importation to the Valley from the SWP requires energy to pump CVWD and DWA's water over the Tehachapi Mountains into southern California (where Metropolitan takes it) and also energy to pump the SWP Exchange water from the Colorado River to the Whitewater Turnout on the CRA. Energy is also required to move Colorado River water from the All-American Canal into the Coachella Canal, thence into the study area. In 2009, water importation to the Coachella Valley required approximately 179,226,000 kWh/yr. However, energy use in 2009 for water importation on the SWP was lower than average because of ongoing drought and Delta issues – i.e., the amount of water imported was less than usual. Therefore, the projected 2020 and 2045 energy demand increments for SWP Exchange water may be somewhat lower than shown in **Table 8-6**.

Total 2009 energy use estimated for Coachella Valley water importation is approximately 179,226,000 kWh/yr. Under the Proposed Project, water importation will substantially increase total Proposed Project energy use. Energy use for water importation will increase from approximately 179,226,000 kWh/yr to 266,011,000 kWh/yr by 2020 and to approximately 317,841,000 kWh/yr by 2045, increments of 86,785,000 kWh/yr and 138,613,000 kWh/yr, respectively. Additional energy for water importation is estimated to be 16 MW of electricity on the SWP and CRA by 2045.

The SWP is actively pursuing measures to improve energy efficiency of major equipment, is procuring renewable energy through a progressive procurement plan and is using best management practices for its existing facilities to minimize energy use. Metropolitan and suppliers of energy to the CRA, particularly SCE, are similarly pursuing measures to reduce energy consumption and increase renewables.

Energy for water importation to the Coachella Valley, which can be minimized but not eliminated, would not result in the inefficient, wasteful and unnecessary consumption of energy. The anticipated energy requirement for water importation by 2045 under the WMP is estimated to be 16 MW, which is a minor fraction of total energy provided by the power suppliers. Annual net energy use on the SWP is 5.1 GWh (California DWR, 2011) and energy use on the CRA is 325 to 2600 GWh depending on the number of pumps operating (Metropolitan, 2006). Therefore, the energy required for the Proposed Project is considered to be less than significant.

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### 8.5.3.3 Meeting Projected Demands

A recent California Energy Commission (CEC) report projects energy use by supplier and sector from 2010 through 2020. For SCE, projected energy demand is projected to range from approximately 109 to 121 GWh/yr between 2010 and 2020. For IID, the projected increase in energy consumption from 2010 to 2020 is 20 percent, from 4,065 GWh in 2010 to 4,888 GWh in 2020 (CEC, 2009). Long term projected energy demands for the two entities service areas are not available.

Resources plans of these entities to meet long-term projected energy demands also are not yet available. In 2010, IID completed an Integrated Resource Plan for the next 4 years, which states that “beginning in 2012, the District is short significant amounts of capacity and energy with summer capacity deficits exceeding 340 MW” (IID, 2010b). In 2005, SCE submitted to the California Public Utilities Commission (CPUC) Energy Division updates to the SCE 2004 Long Term Procurement Plan (LTPP) for the next 10 years (through 2014). Through the LTPP process, the CPUC approves plans for utilities to purchase energy; establishes policies and utility cost recovery for energy purchases; ensures that the utilities maintain a set amount of energy above what they estimate they will need to serve their customers (called a reserve margin); and implements a long-term energy planning process (CPUC, 2011). SCE has also had difficulty in meeting summer peak demand in its service area.

Proposed Project implementation between 2010 and 2045 will increase demand upon existing sources of energy for construction and more so for operation of proposed facilities. The estimated increase in power required is approximately 272,721,000 kWh/year by 2045 (about 23 MW); of which approximately 139 million kWh/yr (approximately 16 MW) would be for SWP and CRA pumping outside the Valley. This amount is considered to be less than significant, as it would represent a minor fraction of existing increased electricity demand for all uses in the study area.

To put this in perspective, one impetus for the Proposed Project, in addition to addressing overdraft, is to accommodate study area growth and development projected and approved by others. Based on an average of 7,100 kWh/yr per household in the Coachella Valley (KEMA, Inc., 2010) and an estimated 219,075 additional households in the Valley by 2045 (SCAG, 2008), additional energy required to serve projected residential and commercial growth in the study area by 2045 would be approximately 1.6 billion kWh/yr (178 MW) by 2045. Conserving and minimizing energy required for projected growth the Coachella Valley is outside the control of CVWD. The impact of projected growth on energy resources and need for development of additional supplies may be significant, but is not within the control of CVWD. See also the cumulative impact analysis in **Section 9 – Related Projects and Cumulative Impacts**.

### 8.5.3.4 Potential Sources of Energy

The mix of energy sources for SCE and IID, tabulated above (**Table 8-5**), would be substantially different by 2020 and by 2045, however. On April 12, 2011, California Governor Jerry Brown signed SB X1 2, requiring public and private utilities to obtain 33 percent of their electricity from renewable energy sources by 2020. The new renewable power standard (RPS) established by the bill is anticipated to create new jobs while reducing air pollution and GHG emissions.

Therefore, the future fuel mixes of IID and SCE will change in the future. As shown in **Table 8-5** above, in 2009 SCE derived 21 percent of its energy from hydroelectric power generation and non-hydroelectric renewable energy sources; IID derived 19.8 percent of its energy from these sources.

IID is developing solar and geothermal energy in facilities near the southeastern shore of the Salton Sea (IID, 2010a). Wind energy is being developed in and north of the Coachella Valley with sales to SCE. Both agencies also are investigating other renewable sources, not presented in detail here.

With respect to natural gas, the CEC reports that gas is an increasingly important fuel since more of the state's power plants rely on natural gas. While successful conservation and efficiency programs and renewable sources of electricity should slow the future demand for natural gas, competition for the state's imported supply is increasing.

Imported liquefied natural gas (LNG) is expected to supplement conventional supply sources. Thirteen new LNG terminals are proposed for the West Coast of the U.S. but none have been approved in California or Oregon at this time. Approximately half of the LNG from the new Sempra terminal located between Rosarito and Ensenada in Baja California, which began operation in 2008, would be available to California. A shortage of natural supplies to California is not currently predicted, however (CEC, 2011).

### **8.5.3.5 Meeting the Proposed Project Energy Supply and Demand**

The estimated amount of future energy required for the Proposed Project is based on growth assumptions adopted by SCAG; which will determine, for example, how much if any desalination will be implemented after 2020. Actual energy requirements and sources will emerge over time, as growth does or does not occur, and at what rate. If growth does not occur or occurs at a lower rate than currently predicted, the magnitude of Proposed Project elements and their energy requirements would be similarly reduced.

Valley wide, projected city and county populations and land uses will result in substantial increases in electricity and natural gas usage. CVWD has no control over the demand for energy to serve development. Impacts of growth on energy use also will be potentially significant, but can and should be mitigated by others.

In any case, it is assumed for the WMP that both SCE and IID are planning for long-term growth and associated infrastructure and would be able to supply the Proposed Project elements as they are implemented in the future. CVWD will confer with both agencies on their long term projected WMP energy needs. A total future need of 23 MW is not considered to be outside the range of existing planning. Nevertheless, Proposed Project facilities will be designed to minimize energy consumption in construction and operation and will therefore avoid the wasteful, inefficient and unnecessary consumption of energy. Energy demand can be minimized or reduced, but not avoided or eliminated.

CVWD may implement alternative sources of energy for its own long-term projects (for example, supplying a portion of the desalination by solar or other renewable power), which



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potentially could reduce the demand for energy supplied by SCE or IID. A solar energy facility for desalination would be analyzed in a separate feasibility study and second tier CEQA document. For example, the Tribal Energy and Environmental Information Clearinghouse estimates that a 12 MW solar facility could require approximately 50 to 150 acres of land, depending on the solar technology used (TEEIC, 2011).

In conclusion, the magnitude of energy demand for the Proposed Project is largely a function of population growth. If the population growth does not materialize, then energy usage for the WMP would not need to increase. The Proposed Project impact on long-term energy resources of an additional 23 MW with full implementation of Project elements and with projected growth, even in the absence of long-term plans for resource development by SCE, IID or other suppliers, is considered to be less than significant because it would be a small fraction of the total electricity demand anticipated in the study area for all uses. Mitigation measures to further reduce energy usage are presented below.

### 8.5.4 Mitigation Measures

Potential energy mitigation measures are presented in State CEQA Guidelines, Appendix F Energy Conservation. Based on that information, the following measures are proposed to further decrease energy usage associated with the Proposed Project:

**EN-1:** The siting, orientation and design of water and wastewater facilities shall minimize energy consumption, including transportation energy, in compliance with CalGreen and the 2010 Uniform Building Code 2010.

**EN-2:** Energy conservation, water conservation and solid waste reduction measures shall be incorporated into the design of WMP elements in compliance with CalGreen and the 2010 Uniform Building Code 2010.

**EN-3:** Operations of WMP elements shall include some or all of the following, as applicable, as energy minimization measures:

- periodic energy audits,
- system modifications to reduce energy use in response to audits, including scheduling to use off-peak power,
- use of low energy demand equipment,
- compliance with LEED certification standards for new structures, and
- evaluation and incorporation of emerging and innovative energy conservation measures.

**EN-4:** CVWD will continue to develop and use alternative fuels for its own operations, as opportunities arise.

**EN-5:** CVWD will coordinate with IID and SCE on anticipated energy needs for CVWD operations.

The long-term Proposed Project impact on energy resources is considered to be less than significant with mitigation incorporated.

### **8.6 RECREATION**

#### **8.6.1 Environmental Setting**

In general, Coachella Valley recreational opportunities have not changed substantially since 2002. Coachella Valley recreational opportunities are numerous and diverse, with extensive tourist resort and spa offerings, golf, gaming at casinos, hiking, horseback riding, nature appreciation, the Living Desert Reserve in Palm Desert, Palm Springs Aerial Tramway, Palms Springs Desert Museum and other museums, and music and other festivals, air shows and horse shows, duck clubs and the Salton Sea. Fishing is popular at Lake Cahuilla, in the Coachella Canal and Salton Sea.

Coachella Valley recreational opportunities most related to water quantity or quality issues are fishing, golf, and duck clubs. Trails, bike paths and scenic corridors are also identified.

##### **8.6.1.1 Fishing**

The past extensive Salton Sea fishery has declined dramatically in the last 5 years with the increase in the Sea's salinity, currently 53,000 milligrams per liter (DWR and CDFG, 2010). Tilapia is now the principal game fish. Salinity is expected to exceed 60,000 mg/L by 2018, which is too saline to support any fish, even tilapia. Declining inflows in future years are projected to result in the collapse of the Salton Sea ecosystem because of increasing salinity and other water quality stresses, such as temperature extremes, eutrophication, and related low dissolved oxygen concentrations (DWR and CDFG, 2010).

In the past fishing in the Coachella Canal by year-round and winter residents caught primarily channel catfish, but also largemouth bass, sunfish and flathead catfish and striped bass. The Coachella Canal has been fully concrete lined since the 2002 PEIR was prepared and is fenced. CVWD moved fish from the old Canal into the new one upon completion of the new Canal (CVWD, 2006). Fishing was and is still by illegal entry; CVWD closed the Canal to fishing because of the hazard of drowning. Nevertheless, some anecdotal reports indicate that the fishes are now smaller and less numerous since the Canal was lined (FNN, 2011).

Lake Cahuilla, the terminal reservoir for the Coachella Canal, is another important fishery in the Coachella Valley. The 120-acre lake in the city of La Quinta provides a public fishery managed by Riverside County and stocked with fish by CDFG. In addition, the Lake also offers swimming, boating and camping activities to the public. No changes in this resource are projected.

The CVSC is also a fishing resource and unauthorized swimming resource (the channel does not meet bacterial water quality standards for swimming). The projected increase in flow in the CVSC will increase swimming opportunities. The potential long-term increase in selenium in the CVSC is not anticipated to affect fishing opportunities but may, if high enough, decrease the

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amount of fish recommended for consumption in a given time period, as in the Salton Sea. Because of the minor increase in selenium anticipated and relatively minor use of the CVSC for fishing, the impact on recreation is considered to be less than significant.

### 8.6.1.2 Golf

Golf is and has been a major recreational element in the Valley with a significant water demand. In 2002 there were approximately 100 golf courses in the Valley. In 2008, the Coachella Valley had over 130 existing golf courses (Golf Coachella Valley, 2009). The 2010 WMP Update estimates 75 new golf courses by 2045. This estimate has been developed based on a ratio of current golf course holes per population, modified by specific development proposals. Implementation of the CVWD 2009 Landscape Ordinance and improved irrigation efficiency (proposed as part of the 2002 WMP) has resulted in reduced water demands at golf courses, but has not affected the number of golf courses as a recreational opportunity. Based on water demand outside the Whitewater River subbasin, up to 14 new golf courses are assumed for this area.

### 8.6.1.3 Duck Clubs

Duck clubs are privately-owned, man-made ponds filled during the waterfowl migration season to attract game birds and create hunting opportunities. In 2002, there were 19 duck clubs in the East Valley near the Salton Sea, of which three were then inactive. Water supplies to duck clubs were groundwater, Canal water and primarily fish farm effluent. Estimated duck club water use in 2005 was 4,600 AFY.

The 2002 PEIR projected no change in duck club water supply and therefore no impact on duck clubs. For the 2010 WMP Update, it is assumed that duck club water supply will be much lower because duck club demand will be much lower as the area urbanizes. The fish farms in particular are shutting down or replacing their use with lower water using operations. As the East Valley urbanizes, duck clubs would become an inappropriate adjacent land use. The Proposed Project will continue to supply water to the remaining duck clubs.

### 8.6.1.4 Trails, Bike Paths and Scenic Corridors

Trails, bike paths and scenic corridors are mapped in the Riverside County Eastern Coachella Valley Area Plan, Figures 9 and 10 (Riverside County, 2008b). There are 17 scenic roadways in the Western Coachella Valley (Riverside County, 2008b):

- Highway 111
- Ramon Road, between Interstate 10 and Rancho Mirage
- Washington Street, between I-10 and Indian Wells-La Quinta
- Pierson Boulevard
- Highway 74
- Fred Waring Drive
- Dillon Road
- Highway 62
- Bob Hope Drive, between Interstate 10 and Rancho Mirage
- Monterey Avenue, Kubic Road, Interstate 10 to Rancho Mirage Palm Desert
- Palm Drive
- 42<sup>nd</sup> Avenue
- Snow Creek Road
- Whitewater Canyon Road

- Interstate 10
- Country Club Drive in the City of Palm Desert
- Varner Road

In the eastern Coachella Valley, State Route 111, from Bombay Beach on the Salton Sea to State Route 195 near Mecca, is a State-eligible Scenic Highway (Riverside County, 2008).

There are three types of trails designated within the Eastern and Western Coachella Valley Plans:

- **Regional Recreation Trails:** for equestrian activity, walking and mountain bike riding. No motorized vehicles except for maintenance and police and fire safety. Operated and maintained by Riverside County Parks Department.
- **Community Recreation Trails:** for equestrians, walking and mountain bike riding. No motorized vehicles except for maintenance and police and fire safety. Operated and maintained by a community, homeowners association, or a parks and recreation district.
- **Class I Bikeways (Bike Paths):** for bicycle riding only. Maintained and operated by either a community or homeowners association, recreation or cultural organization, park and recreation district, county service area or county service district. No motorized vehicles except for maintenance and police and fire safety.

Designated bike paths on Riverside County planning maps within the Coachella Valley study area are the following. Some of these, such as along the Whitewater River bank, may need to be modified if they interfere with CVWD operations.

- A road along the CVSC in Indian Wells and Indio,
- a path along the whitewater river bank, south of the City of Coachella to the Salton Sea and extending along the Sea's north and east shores,
- Highway 111 at the section south of Interstate 10 and continuing along the Whitewater River west of Cathedral City,
- Highway 86,
- Box Canyon Road between Interstate 10 and Mecca,
- 66<sup>th</sup> Avenue and Jackson Street between Mecca and Indio,
- a connector between Highway 111 and Mecca,
- Jefferson Street between La Quinta and Indio,
- Washington Street between the Whitewater River and Ramon Road in Thousand Palms,
- Ramon Road between Interstate 10 and Thousand Palms Canyon in Thousand Palms,
- Thousand Palms Canyon Road between Ramon Road and Dillon Road,
- Dillon Road between Thousand Palms Canyon Road and the Whitewater River, and
- Palm Drive between the Whitewater River and Desert Hot Springs.

For the Martinez Canyon recharge site, one of the proposed facilities whose locations are known, the Eastern Coachella Valley Area Plan shows a regional trail but no bike paths in the vicinity.

There are no designated trails in the immediate area of Posse Park in Indio, where a recharge facility and city park would share a site.

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The potential desalination facility would be located at or near WRP-4. There is a designated bike path/regional trail along the Whitewater River/CVSC, the eastern boundary of the potential site.

### 8.6.2 Significance Criteria

Based on State CEQA Guidelines, Appendix G, the Proposed Project would have a significant impact on recreation if it:

- Increased the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated
- Included recreational facilities or required the construction or expansion of recreational facilities that might have an adverse physical effect on the environment

### 8.6.3 Impacts

Section 8.9 of the 2002 PEIR discussed impacts on study area recreation including the Salton Sea; Lake Cahuilla; CVSC, Coachella Canal, golf courses; scenic corridors, trails and bike paths; and duck clubs. The 2002 WMP found that recreation at the Salton Sea was projected to decrease with proposed water transfers and decreases in Salton Sea inflows. The 2002 WMP, because of projected increases in inflows, was projected to reduce or slow the progress of to a minor extent the projected changes in recreation at the sea. The effect was considered to be beneficial. No impact was identified on Coachella Canal fish or fishing.

The WMP included continued water supply to duck clubs; therefore, no impact was identified. Similarly, there was no identified impact on Lake Cahuilla.

Implementation of the WMP facilities was projected to have temporary impacts on scenic corridors, trails and bike paths during construction, depending on their specific locations. The impacts were considered to be less than significant.

#### 8.6.3.1 Fishing

With respect to the Salton Sea, there is no identified Proposed Project action or scenario that will change the future of the Salton Sea fishery. Therefore, there would be no impact.

For the Coachella Canal, the Proposed Project would have a less than significant impact on Canal flow with a minor reduction in flow for additional diversion upstream for recharge at Whitewater and would have no impact on water quality from discharges or diversions. Therefore the impact on the Coachella Canal fishery would be less than significant.

The Proposed Project would have no impact on the water quantity or quality of supply to Lake Cahuilla or on its operation for fishing. Therefore, there would be no impact on recreation at this location.

### **8.6.3.2 Golf**

With respect to golf courses, a concern is that use of Colorado River water with higher TDS concentrations than local groundwater might require golf course operators to modify their watering regimes. A number of Coachella Valley golf courses successfully use Colorado River water and/or recycled water exclusively. Proposed source substitution would have no permanent impact on the usability or availability of existing or future golf courses as recreational facilities. The 2009 Landscape Ordinance, included in existing conditions for this Proposed Project, limits irrigation water demand for golf courses. Neither condition would limit the existing or future number or usability of golf courses. There have been no requirements developed since that time. Therefore, the impact on Coachella Valley golf courses as recreational opportunities is less than significant.

### **8.6.3.3 Trails, Bike Paths and Scenic Corridors**

Proposed facilities would either be small (less than 20 acres) one story, off-road structures for treatment plants, pumping stations or tanks or buried pipelines in street, or earthen berms for recharge basins. New recharge facilities will be fenced and public access will be restricted. The City of Indio proposes recharge basins surrounding a new green area in Posse Park; the park and recharge facility would be developed together.

For Martinez Canyon, development of the fenced recharge basins could reduce hiking in the area to a minor extent. Once the boundaries of the recharge site are defined, it is anticipated that the existing trail would be rerouted to go around the recharge facility, if necessary, without loss of recreational benefit. Therefore, the impact on trails would be less than significant.

It is anticipated that the bike path/regional trail along the Whitewater River/CVSC would not be affected by the construction and operation of a desalination facility at or near WRP-4, since the construction would not encroach into the bike path/trail.

Effects on bike paths of pipeline and other construction would be temporary and less than significant with prior notice of construction location duration and location. The proposed facilities, similarly, would have no impact on the 18 scenic roadways in the Coachella Valley (Riverside County, 2003) once construction was completed.

### **8.6.3.4 Other Recreational Opportunities and Facilities**

Developments accommodated by the Proposed Project could increase the use of existing recreational facilities and include recreational facilities or require the expansion of recreational facilities that could impact the environment. However, these actions are not within the authority or responsibility of CVWD. In addition, the Proposed Project itself does not involve construction of housing or other facilities that would result in an increase in the use of existing parks or other recreational facilities, or require the expansion of existing facilities. Therefore, there would be no impact on existing recreational facilities.

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### 8.6.4 Mitigation Measures

No mitigation is necessary.

## 8.7 HAZARDS AND HAZARDOUS MATERIALS

Hazardous waste is a byproduct of industrial, manufacturing, agricultural, and other uses. Under the Federal Resource Conservation and Recovery Act (RCRA) a hazardous waste is any solid, liquid, or contained gaseous material that is disposed of, incinerated, or recycled. A hazardous material may become hazardous waste upon its accidental release into the environment. Liquid chlorine transported in a tanker truck would be classified as a hazardous material; upon accidental release into the environment it would be considered hazardous waste.

All hazardous waste must be discharged at a Class I landfill. There are no Class I landfills in Riverside County: hazardous waste generated within Riverside County is transported to active Class I landfills in Kern County or Santa Barbara County; some waste is also transported out of the State.

### 8.7.1 Environmental Setting

Hazards and hazardous materials were discussed in the 2002 PEIR Section 8.11 and health and safety in Section 8.4. The 2002 PEIR and the present SPEIR agree that, with respect to potential sources of hazardous waste or hazardous materials in the study area, there is little heavy industry or manufacturing in the Coachella Valley; however, there is a long history of agricultural production. Agricultural activities typically include the storage and periodic application of pesticides, herbicides, and fertilizers, as well as the storage and use of toxic fuels and solvents. Potential sources of soil contamination in more urbanized areas are most likely leaking underground fuel tanks at gasoline stations.

### 8.7.2 Significance Criteria

Based on State CEQA Guidelines, Appendix G, the Proposed Project would have potentially significant impacts with respect to hazards and hazardous materials if it:

- created a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials,
- created a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment,
- emitted hazardous emissions or handled hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school,
- were located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment,

- for a project located within an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, resulted in a safety hazard for people residing or working in the project area,
- for a project within the vicinity of a private airstrip, resulted in a safety hazard for people residing or working in the project area,
- impaired implementation of or physically interfered with an adopted emergency response plan of emergency evacuation plan, or
- exposed people or structures to significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized area or where residences are intermixed with wildlands.

### 8.7.3 Impacts

#### 8.7.3.1 Use and Handling of Hazardous Materials

Hazardous material issues for the Proposed Project elements are fuels transported, stored and used for equipment, and water and wastewater treatment chemicals. Chemicals, some of which are considered hazardous, would be used in the desalination process and domestic water treatment process. For conventional water treatment, ferric chloride or alum is used as coagulant with cationic polymer. An anionic polymer or non-ionic polymer may be used as an aid to filtration after coagulation. Disinfection is commonly achieved with chlorine, brought to the site in liquid or gaseous form or generated on site, but may also be combined with ammonia to form chloramine. Sodium hydroxide (caustic) may be added if pH adjustment is needed. In addition, some plants fluoridate the water with fluorosilicic acid, sodium fluoride or sodium fluorosilicate. Chemicals for desalination are hydrochloric or sulfuric acid, antiscalants to extend membrane life, caustic for pH adjustment, chlorine for disinfection, and detergent to clean membranes every six months.”

Compliance with standard industry requirements for the handling, use and storage of hazardous chemicals must be incorporated into project plans, specifications, and operation and maintenance manuals. These measures are found in the Uniform Building Code and the Uniform Fire Code. The National Electric Code governs housing for fuming chemicals and storage facilities. Because these measures are required, they are not mitigation.

#### 8.7.3.2 Hazardous Materials Sites

Although no specific locations are known at this time, potential sources of soil contamination encountered in the course of soil excavation for proposed facilities may be leaking underground fuel tanks adjacent to gasoline stations or leaking underground fuel storage in agricultural areas for privately owned farming equipment.

In the absence of proposed facilities site information, it is assumed that future sites could potentially be located on or near a known hazardous materials site. Based on the specific locations for project facilities, records searches will be conducted through California



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Environmental Protection Agency (CalEPA), Long Beach Office, which maintains records for Riverside County, and through a data base search firm such as EDR.

The results of the search and any mitigation required if proposed construction encounters contaminated soils will be incorporated into the tiered environmental documents and specifications prepared for the future facilities. Any contaminated soils encountered will be handled in compliance with existing regulations. Therefore, the effect would be less than significant with compliance with regulations.

### **8.7.3.3 Facilities Proximity to Public or Private Airports**

Public airports in the study area are the Palm Springs International Airport 3400 East Tahquitz Canyon Way, Palm Springs, CA 92262; the Desert Resorts Regional Airport, 56-850 Higgens Drive, Thermal, CA 92274; and Bermuda Dunes Airport, 79-880 Avenue 42, Bermuda Dunes, CA 92203 (CSGNetwork.com, 2010).

Whether future elements of the 2010 WMP Update would be sited in the vicinity of a public or private airport in the Coachella Valley is not known at this time. Even so, proposed above-ground facilities (treatment plant buildings, tanks, and pumping stations) are typically one to two stories in height. Pipelines would be buried and recharge basins would be constructed with low berms. These structures would not result in a significant safety hazard for people residing or working in an airport area. Therefore, the impact would be less than significant.

### **8.7.3.4 Potential Conflict with Emergency Response or Evacuation Plans**

Construction of Proposed Project facilities could affect traffic and access and interfere temporarily with an emergency evacuation plan or emergency response plan. These impacts would be less than significant with mitigation incorporated. Impacts on emergency response and evacuation will be evaluated for each facility in second tier CEQA documents. The preparation of specific traffic control plans and coordination with emergency service providers will be incorporated into project plans and specifications (See Mitigation Measures USP-1 and USP-2 and TR-1). The impact will be less than significant with mitigation incorporated.

### **8.7.3.5 Exposure to Wildland Fires**

Coachella Valley areas most prone to wildland fires are the rugged mountainous areas with desert vegetation and subject to high winds. The wildfire susceptibility is considered moderate to low in the Valley and in the desert regions on the western and eastern sides of the Salton Sea. Fortunately, there is little or no development existing or proposed in the high fire susceptibility areas (Riverside County, 2008a and 2008b).

The Proposed Project facilities, which include no residences, would be located on the Coachella Valley floor in which there would be little or no exposure to wildland fires. All Proposed Project facilities would be provided with appropriate fire protection in compliance with applicable building codes. Therefore, the impact with respect to wildland fires would be less than significant.

### 8.8 TRAFFIC AND TRANSPORTATION

#### 8.8.1 Environmental Setting

Traffic and transportation were discussed in 2002 PEIR section 8.5.

Transportation corridors in the study area are primarily highways, roads and railroads. Coachella Valley Freeways and State Highways, which are under the jurisdiction of the California Department of Transportation (Caltrans), are:

- I-10, which lies approximately east-west and connects the Valley to Riverside County, San Bernardino County and Los Angeles on the west and to Phoenix on the east;
- Highway 62, which connects the Coachella Valley to Yucca Valley and the High Desert on the north;
- Highway 74, which connects San Juan Capistrano on the Pacific Coast to Palm Desert through the San Bernardino National Forest on the west;
- Highway 86, which extends from Indio south along the west side of the Salton Sea in to the Imperial Valley; and
- Highway 111 (known as Palm Canyon Drive in Palm Springs and East Palm Canyon Drive in Cathedral City), which extends along the west side of the Coachella Valley then south and along the east side of the Salton Sea.

Historic signs designating the original route of U.S. Route 99 through the area may be found along present-day Indio Boulevard through Indio and Harrison Street through Coachella.

Local arterials are a web of arterial roadways built on a north-south/east-west grid pattern. In many locations, the region's north-south/east-west trending land use patterns and roadway grid conflict with the Valley's northwest-southeast trending topography and the combination of these has created regional transportation challenges. State Highway 111 provides the greatest connectivity among the communities at the base of the Santa Rosa Mountains on the southwest and suffers congestion as a result. Major east-west arterials are Ramon Road, Dillon Road and Varner Road. Major north-south roads are Indian Avenue, Gene Autry Trail/Palm Drive, Washington Street and Thousand Palms Canyon Road.

Public transportation in the Valley is provided by the SunLine Transit Agency based in Thousand Palms, which was among the country's first transit agencies to totally convert to alternate fuel vehicles, including full-sized buses powered by fuel cells. Sun Bus operates 800 buses on 11 bus lines in the Valley from Desert Hot Springs and Palm Springs to Mecca and Oasis (SunLine Transit Agency, 2010). Sun-Dial service, which is offered to approved disabled riders, consists of a fleet of 25 buses, each with a capacity of 12 passengers.

A main line of the Union Pacific Railroad, which offers passenger and freight services, closely parallels I-10, entering the Valley through the San Gorgonio pass to Indio, and continues south

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adjacent to Highway 111 along the east side of the Salton Sea. Indio is a main division point from Los Angeles to Chicago and New Orleans. Indio is also a passenger stop for AMTRAK.

Passenger service is also available through Metrolink, a rail service which transports passengers between the Palm Springs station and the Los Angeles metropolitan area. As described above, passenger rail service is limited to destinations outside the Coachella Valley. Local residents do not use rail service for travel within the Valley.

The CVAG Transportation Department administers a regional transportation program for the Coachella Valley. The Department develops and implements the congestion management program/system (CMP/CMS) and a Regional Transportation Improvement Program and participates in the State Transportation Improvement Program. The Department also maintains a transportation model and regional arterial traffic count program (CVAG, 2010).

### 8.8.2 Significance Criteria

Based on State CEQA Guidelines, Appendix G, the Proposed Project would have a significant impact on transportation if it:

- Conflicted with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit
- Conflicted with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways
- Riverside County General Plan Chapter 4 Circulation Element Policy C 2.1 is to: “Maintain the following countywide target Levels of Service [LOS] (Riverside County, 2003):”
- “LOS "C" along all County-maintained roads and conventional state highways. As an exception, LOS "D" may be allowed in Community Development areas, only at intersections of any combination of Secondary Highways, Major Highways, Urban, Expressways, conventional state highways or freeway ramp intersections. LOS "E" may be allowed in designated community centers to the extent that it would support transit-oriented development and walkable communities.”
- Resulted in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
- Substantially increased hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Resulted in inadequate emergency access

- Conflicted with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

### **8.8.3 Impacts**

The Riverside County Transportation Commission (RCTC) is the Congestion Management Agency for the Project area. RCTC prepares and periodically updates the county's Congestion Management Program (CMP) to meet federal Congestion Management System guidelines as well as state CMP legislation. The current CMP was adopted by RCTC in March 2010. CVAG, as a regional planning agency, monitors traffic counts in the valley. These figures, as updated, will be considered in the construction and operation of future facilities in second-tier CEQA documents for individual projects.

Transportation and traffic impacts of the WMP were evaluated in 2002 PEIR Section 8.5. Considering that specific sites had not been identified, general mitigation measures were included and subsequently adopted in the MMRP, to reduce to less than significant the potential future effects: implementation of approved traffic control plans for construction in or near high traffic volume roadways (that exceed County LOS policies); avoidance of high volume (that exceed County LOS policies) intersections or jacking under them; and obtaining local agency encroachment permits for construction in roadway rights-of-way, as applicable.

The Proposed Project impacts on traffic and circulation would be less than significant with mitigation. Mitigation measures are presented below.

#### **8.8.3.1 Design Features and Traffic Hazards**

Depending on location, a new treatment plant or desalination might warrant a turn lane for large truck traffic, etc. to avoid creating a traffic hazard. Other Proposed Project facilities (pipelines, pumping stations, recharge basins and tanks) incorporate no such elements at present. The effect is less than significant with development of traffic control plans as mitigation measures.

#### **8.8.3.2 Potential for Conflict with Policies, Plans, or Programs Supporting Alternative Transportation**

The Proposed Project elements would not conflict with adopted policies, plans, or programs supporting alternative transportation, since they would not contain elements that permanently affect alternative transportation. Pipelines would be buried; above ground facilities would not block roads once completed. The presence of bike paths, trails etc. and potential impacts on access during facilities construction would be identified in site specific second tier CEQA documents for Proposed Project elements. At present, CVWD does not have a policy for use of alternative transportation for its employees. A policy may be developed in the future with an increase in the employee population to operate the proposed facilities. The impact is less than significant.

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### 8.8.3.3 Potential Impact on Air Traffic Patterns

Whether proposed facilities would be constructed in the immediate vicinity of an airport or in an airport land use plan area is not known. However, the Proposed Project would not affect air traffic patterns because no proposed facilities would be more than one to two stories in height. Therefore, the impact would be less than significant.

### 8.8.4 Mitigation Measures

The following measures will be implemented as appropriate to mitigate site-specific transportation impacts of second tier projects to a level of less than significant.

**TR-1:** Emergency service providers (fire, police, & ambulance) will be provided with construction contact names, locations, and schedules and traffic plans, if applicable, prior to the start of construction.

**TR-2:** to mitigate temporary traffic disruption and ensure public safety, traffic control plans will be prepared by the construction contractors for construction sites in or near roadways whose traffic volumes exceed Riverside County Levels of Service or the affected city's criteria. The construction contractors will provide the plans for approval by, as applicable, Caltrans, the individual city departments and the County of Riverside.

**TR-3:** High volume intersections (whose traffic volumes exceed city or County Levels of Service criteria) will be avoided if possible and jacked under if necessary.

**TR-4:** Caltrans encroachment permits will be obtained for construction in all state roadways.

**TR-5:** Permits will be obtained for crossing railroad rights-of-way, as applicable.

## 8.9 INDIAN TRUST ASSETS

An evaluation of Indian Trust Assets is not required under CEQA. However, because of the essential role of the Coachella Valley tribes in the present and future of the Valley's land use and water resources, potential impacts on Indian Trust Assets are discussed in the 2002 PEIR and in this SPEIR.

### 8.9.1 Existing Environment

#### 8.9.1.1 Indian Lands and Trust Assets

Indian Trust Assets are legal interests in property held in trust by the U.S. for Indian tribes and individuals. Indian trust resources are natural resources, either on or off Indian lands, retained by or reserved by or for Indian tribes, through treaties, statutes or other legal agreements. Trust resources also include air resources, cultural resources, and hunting and fishing rights on these lands. In addition, Section 1377 of the Clean Water Act (CWA) states that a tribe may establish water quality standards for surface water bodies within the borders of an Indian reservation (U.S. Code, 1972).

### 8.9.1.2 American Indian Nation Lands in the Coachella Valley

Most of the lands within the Coachella Valley study area are either private lands or are public lands administered by the U.S. Bureau of Land Management (BLM). The Valley also contains a number of Indian Lands.

Major Indian Reservation lands in the study area are the Torres-Martinez Desert Cahuilla Indian Reservation, Twenty-nine Palms Indian Reservation, Augustine Indian Reservation, Cabazon Indian Reservation and Agua Caliente Indian Reservation, which total approximately 58,002 acres of land. The Morongo Reservation is immediately upgradient and outside of the study area.

The Torres-Martinez Desert Cahuilla Indian Reservation, consisting of 24,024 acres (San Diego State University, 2007), lies at the northwest end of the Salton Sea configured in a “checkerboard” pattern of alternate square-mile sections, interspersed with private land and some public land. The reservation land is held in trust by the Federal government and administered by the U.S. Bureau of Indian Affairs (BIA). In 1909, thinking the Salton Sea would be gone by the 1920s, the U.S. Government reserved in trust 10,000 acres of land under the Sea for the benefit of the Torres-Martinez Band.

The Salton Sea’s water level also affects the usefulness of reservation land lying adjacent to the shoreline of the Sea. The Torres-Martinez tribe prepared a Land Use Plan and a Habitat Management Plan for their lands (unpublished). The tribe also has developed on its land adjacent to the Salton Sea an 85-acre wetland, maintained by a diversion of water from the CVSC and some Salton Sea water. This project is also described in **Section 9 – Related Projects and Cumulative Impacts**.

The Cabazon Indian Reservation within the Coachella Valley comprises two parcels. One parcel is located on the eastern side of the Southern Pacific Railroad between the cities of Indio and Coachella; the second is located northwest of Mecca. The Cabazon Indian Reservation consists of approximately 1,706 acres of land (SDSU, 2007). The tribe’s business enterprises are Fantasy Springs Casino, Fantasy Lanes Family Bowling Center, Coachella Valley Printing Group, Cabazon Resource Recovery Park (which includes the tribe’s tire recycling facility, First Nation Recovery Incorporated), and Indian Sands Housing Development (Cabazon Indians, 2010).

The Augustine Indian Reservation is located southwest of the City of Coachella. The reservation consists of approximately 502 acres of land (SDSU, 2007) and has a casino and restaurant.

The Agua Caliente Indian Reservation land is also laid out in a checkerboard pattern. The reservation is interspersed with private and public lands in and near the cities of Palm Springs and Cathedral City, as well as the surrounding mountains and desert area. The reservation consists of approximately 31,610 acres of land (SDSU, 2007). Of this total, about 6,700 acres lie within the City of Palm Springs (Agua Caliente Tribe, 2010). The Agua Caliente tribe owns and operates the Spa Hotel and Casino in downtown Palm Springs and the Agua Caliente casino near Rancho Mirage at Bob Hope Drive and Ramon Road.

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The Twenty-Nine Palms Reservation is located east of I-10 between Indio and Coachella on a 160-acre parcel (SDSU, 2007) containing the Spotlight-29 Casino.

### 8.9.1.3 Tribal Water Rights

Indian water rights, although created and vested as of the date of the reservation, are not quantified unless litigation or congressional action has determined the size of the right. The Agua Caliente Band claims rights to water associated with the creation of the Reservation in the Valley in 1876.

The Whitewater River Adjudication, which quantified U.S. (Indian Service) rights to the Whitewater River and tributaries that flow into the Coachella Valley, included Agua Caliente tribal rights (California Department of Public Works, 1928) [the State Department of Public Works, Division of Water Rights was the predecessor of the State Water Resources Control Board, Division of Water Rights].

The Riverside County Superior Court entered a decree, which determined the rights of the various claimants, on December 9, 1938. (*In the Matter of the Determination of the Relative Rights, Based upon Prior Appropriation, of the Various Claimants to the Waters of the Whitewater River and its Tributaries, in San Bernardino and Riverside Counties, California* (Super. Court. Riverside County, 1938, Case No. 18035). The decree stipulates that up to 4.8 cfs of surface flow diverted from Tahquitz Creek through the Agua Caliente Ditch and 6 cfs from Andreas Creek via the Andreas Creek Pipeline can be used on the Agua Caliente Indian Reservation for domestic, stock watering, power development and irrigation purposes. The claims to groundwater rights were not adjudicated in the 1938 Judgment. Diversion rights were also identified in the decree for the Morongo and Mission Creek Indian Reservations, which are outside the Proposed Project study area.

The CWA also gives the tribes the right to establish water quality standards for their Indian Trust Assets. To date, the Coachella Valley tribes have not yet established standards for water quality, but may be in the process of developing them (A. Ramirez, pers. comm., October 2008).

### 8.9.2 Significance Thresholds

There are no specific, established CEQA significance criteria for impacts on Indian Trust Assets.

The CVWD considers that the Proposed Project would have a significant impact on Indian Trust Assets if it substantially interfered with the beneficial use or ownership of ITAs in the Coachella Valley.

### 8.9.3 Impacts

#### 8.9.3.1 The 2002 PEIR

The 2002 PEIR evaluated the effects of the Proposed Projects on ITAs (land and water) within the study area, but did not address water rights in the Coachella Valley for any Valley pumper, since water rights were deemed to be outside the scope of the WMP.

The numbers and locations of wells owned by the five Coachella Valley tribes, with the exception of the Torres-Martinez wells whose locations were provided, were not known to CVWD or to the BIA. In the absence of this information, 2002 PEIR Figure 8-2 showed the movement of recharged water by 2035 projected by the Coachella Valley model relative to the boundaries of Indian lands in the Coachella Valley. The model was designed to evaluate potential flows of water between the Valley aquifers; rather than a water quality model. Therefore, the model results did not indicate the concentration of any parameter in the groundwater, nor the degree of mixing with local water that would occur at any point. Wells located up to two to three miles downgradient of the proposed CVWD recharge sites were predicted to be most likely to experience elevated TDS compared to existing conditions during the 35-year evaluation period. Groundwater quality near the recharge basins was projected to gradually change and to approach the quality of Colorado River water in the affected wells over time. Since the TDS of local groundwater in some portions of the basin is higher and in some portions lower than Colorado River water, the magnitude of the water quality change would vary with location.

Recharge with Colorado River water was projected in the 2002 PEIR to have a potentially significant and unavoidable adverse impact on the quality of groundwater extracted near the recharge basins in the Valley because Colorado River water typically has higher concentrations of TDS and other chemical constituents than the local groundwater currently does. Potentially affected tribal wells were those of the Agua Caliente in the West Valley, from recharge at Whitewater, and the Torres Martinez in the East Valley from recharge at the Levy facility and subsequently at the Martinez Canyon facility (PEIR Figure 8-2).

The anticipated TDS increase was found to not impair any beneficial uses of the water, as defined by established State and Federal primary or health-based drinking water standards. The higher salinity could exceed recommended secondary water quality standards that deal with aesthetics, such as taste and hardness. Nevertheless the impact was found to be significant and not mitigable. Mitigation to reduce the higher TDS of imported Colorado River water to the equivalent quality of Coachella Valley groundwater before recharge was evaluated and found to be financially and environmentally infeasible. A Statement of Overriding Considerations subsequently was adopted for the Project.

The 2002 PEIR indicated that recharge with Colorado River water could introduce low levels of perchlorate into the groundwater near the recharge basins. This was considered a potentially significant impact if the perchlorate concentration exceeded the acceptable level, which was yet to be determined. Perchlorate is an inorganic compound that interferes with thyroid gland function and is used as an oxidant in solid rocket propellants and formerly in some fertilizers and other industrial applications. Perchlorate entered the Colorado River from industrial drainage into Las Vegas Wash, a tributary to Lake Mead, and was detected at concentrations of 4 to 6 micrograms per Liter ( $\mu\text{g/L}$ ) in Colorado River water delivered to the Coachella Valley.



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### 8.9.3.2 2010 WMP Update

#### *Land Use and Land Ownership*

Land required for Proposed Project facilities not constructed in streets or on known site areas (e.g., Martinez Canyon and Posse Park) would be identified as part of implementation of individual Plan elements. No facilities are proposed on ITA land (except for pipelines that may be constructed to connect certain tribal developments to CVWD's water or sewer system) or to affect the ownership or surface use of ITAs. Connection to CVWD's system would require voluntary approval or participation of the affected tribe. Therefore, the implementation of the Proposed Project would have a less than significant impact on ITA ownership and land use within the Coachella Valley.

The Proposed Project would make Colorado River water available to meet water needs on ITA land located within CVWD Improvement District No. 1 (ID-1), the area of the Valley that can receive Colorado River water for beneficial use under agreements with Reclamation.

### 8.9.3.3 Water Issues

#### *Water Rights*

The present 2010 WMP Update and SPEIR recognize land and water rights as ITAs. The SPEIR does not address water rights, however, which are considered to be legal issues outside the scope of the Plan. The goal of the Plan is to ensure water supply through the planning period, by focusing on identifying and meeting existing and projected water demand for all users in the Valley.

#### *Water Quantity and Salinity*

As discussed in **Section 6**, ongoing groundwater recharge with Colorado River water has a number of beneficial effects on East and West Valley groundwater, including increased water levels, reduced pumping lifts, reduced risk of land subsidence, prevention of groundwater quality degradation from percolating agricultural drainage (East Valley), and reduced potential for salt water intrusion from the Salton Sea (East Valley).

For the 2010 WMP Update, the movement of recharged water was also evaluated by running the Coachella Valley groundwater model using updated input conditions. The groundwater model estimates, as under the 2002 Plan, water quality changes from recharge with Colorado River water would affect the groundwater supply of the Torres-Martinez tribe in the East Valley and the Agua Caliente tribe in the West Valley (**Figure 8-2**). The impact on water quality in both tribes' wells is considered to be potentially significant.

The Torres-Martinez tribe has two production wells located near the potential CVWD recharge area at Martinez Canyon. Groundwater model results estimate that the Torres-Martinez wells could begin to experience increased salinity within about 20 years after recharge commences at the Levy facility, that is, approximately 2029. The brine stream from desalination could potentially provide a source of gravity flow saline water for the creation of proposed Torres-

Martinez brackish wetlands, a beneficial effect. This is also discussed in **Section 9 – Related Projects and Cumulative Impacts**.

Under the 2010 WMP Update, as under the 2002 Plan, Agua Caliente tribal wells would also be affected by recharge, reflected in salinity gradually increasing over time to a level approaching that of Colorado River water.

The wells of the Augustine, Cabazon and Twenty-nine Palms tribes would not experience water quality changes because their wells are located too far from existing and proposed recharge facilities. The wells of the Morongo tribe would not be affected by the Proposed Project because they are located upgradient from Colorado River water deliveries associated with the Proposed Project.

Impacts on crop productivity on ITA farmlands would be the same as discussed above (**section 8.3.3.2.**) for all Coachella Valley farmlands. A minor amount of additional leaching may be required over time to address use of higher TDS water. Therefore, impacts on crop productivity on ITA farmlands are less than significant.

### *Perchlorate*

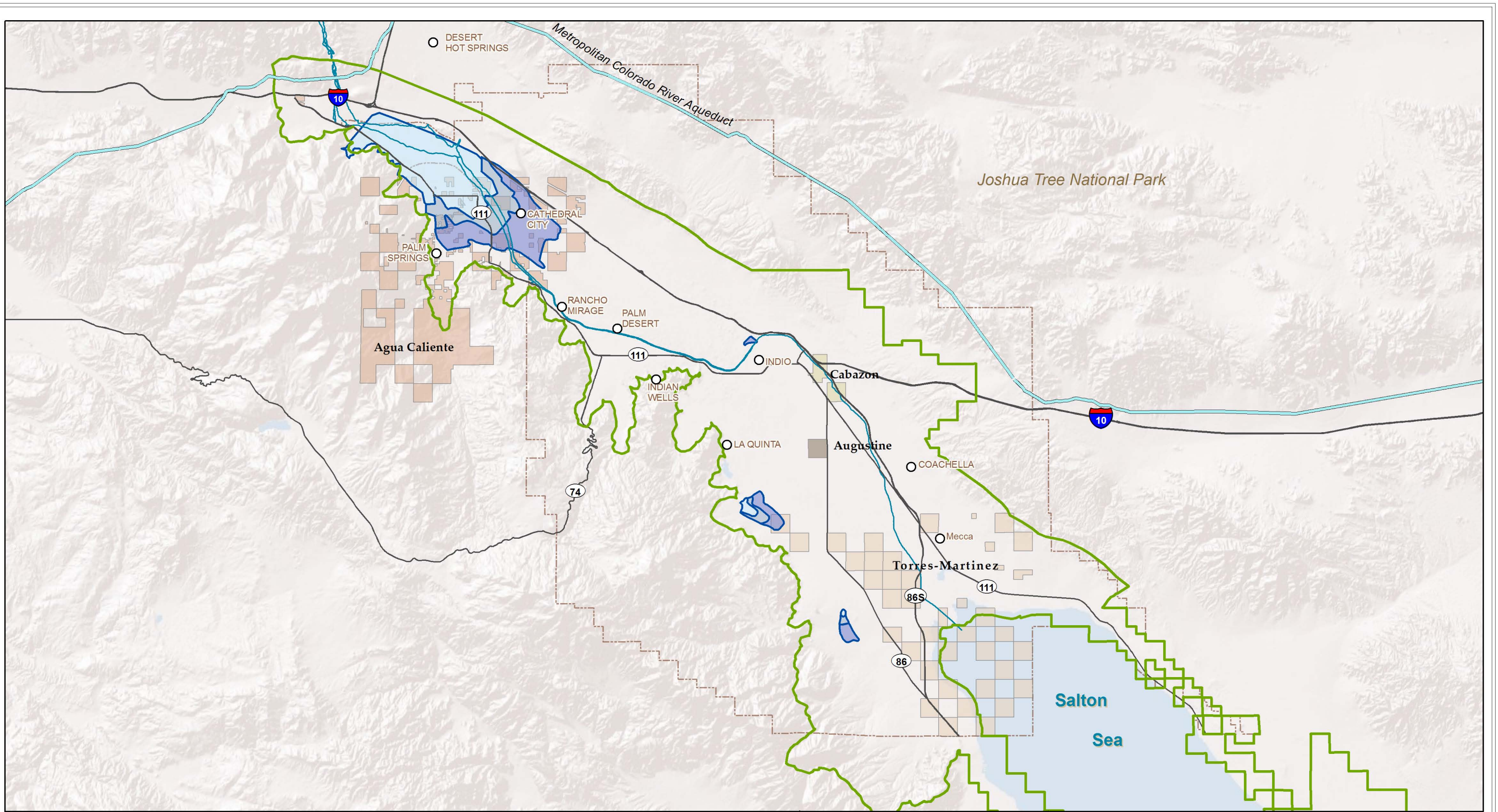
With respect to perchlorate, the installation of facilities to treat drainage from Las Vegas Wash has reduced the level of perchlorate in Colorado River water; the concentrations of perchlorate are now below the reporting detection limit of 4 µg/L. The California Maximum Contaminant Limit (MCL), adopted October 18, 2007, is 6 µg/L (parts per billion [ppb]). Perchlorate measurements in Colorado River water since October 2007 have been 2 µg/L or less (Metropolitan, 2010; CVWD, 2010). Therefore, perchlorate in Colorado River water is not considered a groundwater quality issue for the 2010 WMP Update. CVWD is working with well owners to identify existing perchlorate concentrations in wells from past practices.

### *Water Levels*

Implementation of the present Proposed Project will elevate groundwater levels beneath certain ITA lands. The projected changes in groundwater levels throughout the Coachella Valley between 2009 and 2045 are shown in **Figure 8-3**. Groundwater levels are projected to increase as much as 100 feet in the deep aquifer under ITA lands. In the West Valley, groundwater levels beneath lands of the Aqua Caliente are projected to rise about 20 to 50 feet by 2045.

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**Key to Features**

- |          |            |                    |                          |
|----------|------------|--------------------|--------------------------|
| ○ Cities | Study Area | <b>Tribal Land</b> | 1973-2009 Recharge Plume |
| Aqueduct | CVWD       | Agua Caliente      | 2009-2020 Recharge Plume |
| Highways |            | Augustine          | 2020-2045 Recharge Plume |
|          |            | Cabazon            |                          |
|          |            | Torres-Martinez    |                          |

Document: \Coachella Valley WD\WMP Update\  
 14 Electronic Files - Modeling\GIS\Projects  
 TribalLands.mxd

Date: April 2011 Source: DWR, ESRI, County of Riverside

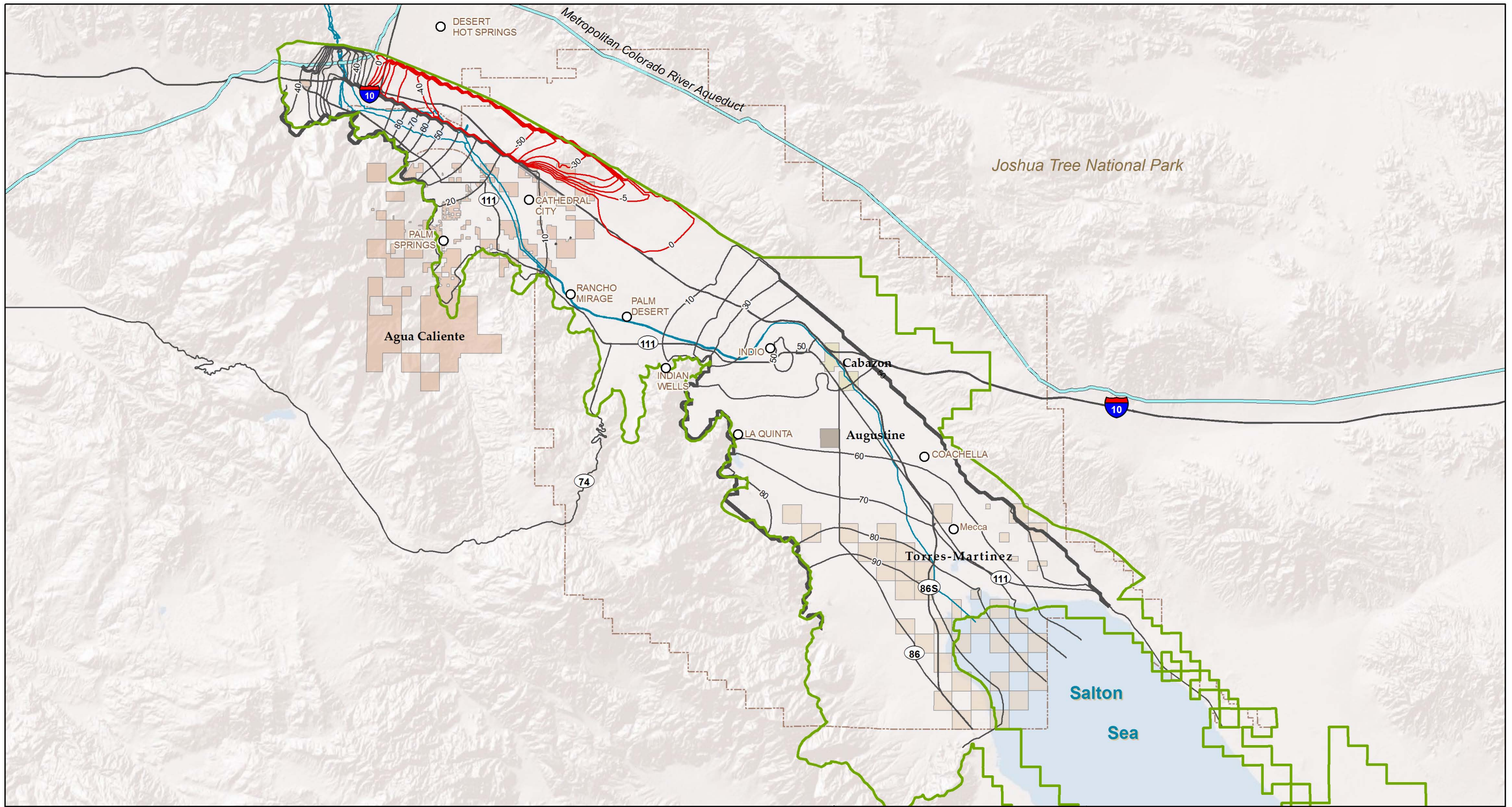
**Tribal Lands  
Potentially Affected by Recharge**

Figure 8-2









**Key to Features**

- Cities
- Aqueduct
- Highways

**Change in Ground Water (2009-2045)**

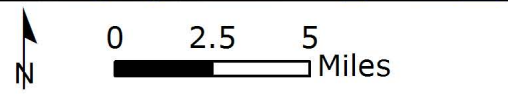
- Negative values (in feet) indicate where ground water levels have declined
- Positive values (in feet) indicate where ground water levels have increased

**Study Area**

CVWD

**Tribal Land**

- Agua Caliente
- Augustine
- Cabazon
- Torres-Martinez



Document: \Coachella Valley WD\WMP Update\14 Electronic Files - Modeling\GIS\Projects\GWChange.mxd  
 Date: April 2011  
 Source: DWR, ESRI, County of Riverside

**Change in Ground Water Elevation in Tribal Lands**

Figure 8-3







Similarly, in the East Valley, groundwater levels are projected to increase 20 to 60 feet under the Cabazon, Augustine and Twenty-nine Palms tribal lands and as much as 100 feet under the Torres-Martinez tribal lands. This effect would be beneficial in reducing the energy required to pump from the tribal wells.

At the same time, high shallow groundwater created by rising water in the aquifers with the reduction in overdraft potentially could impair the function of existing septic tanks that serve some of the reservation buildings in the East Valley. The latter impact would be potentially significant unless mitigated. Mitigation measures are presented below.

### 8.9.4 Mitigation Measures

Mitigation measures for potential impacts on ITAs were adopted in 2002. The impact on groundwater quality remained potentially significant after mitigation; a Statement of Overriding Considerations was adopted for this issue in 2002.

Mitigation measures for potentially significant impacts also are proposed for the 2010 WMP Update and presented below. **Section 10** further discusses the feasibility of alternatives to reduce potentially significant impacts. As before, the impact remains potentially significant after mitigation. A Statement of Overriding Considerations is proposed to be adopted for this issue.

**ITA-1:** It is assumed that the Torres-Martinez tribe and the Agua Caliente tribe will continue to monitor domestic drinking water quality from their respective wells. If a tribal well is found to exceed any recognized health-based water quality standard (as opposed to a non-enforceable secondary or aesthetic standard) directly attributable to groundwater recharge operations that can tie the exceedance to the Colorado River water quality signature, CVWD and DWA will work with the tribes to bring the drinking water supply of the tribes into compliance by providing domestic water service to the tribes from CVWD's or DWA's respective domestic water systems or by providing appropriate well-head treatment. Exceedance of public health-based water quality standards because of naturally occurring elements (e.g., arsenic, chromium, nitrate, or fluoride), or existing elements in groundwater no longer in Colorado River water such as perchlorate, are considered to be unrelated to the Proposed Project.

**ITA-2:** Should shallow groundwater rise as a result of implementation of the Water Management Plan, rather than the result of especially high precipitation, to the extent that the function of septic tanks or cesspits on tribal land is impaired, CVWD will work with the affected tribe to connect the affected tribal community to the CVWD sewage collection system. Connection to the CVWD system is voluntary on the part of the affected tribe. If a tribe wants to connect to the CVWD service area but is outside its boundaries, CVWD could annex the tribal land unless the tribal land is within another agency's service area (i.e. Salton Sea Community Services District). To date, affected tribes have indicated interest in connections to CVWD's systems.



### 8.10 NOISE

Noise is most commonly described in terms of decibels (dB), a dimensionless unit of power. The unit “dBA” indicates that the decibel value has been adjusted to properly weigh the sound frequencies within the range of the human ear. Noise intensity is discussed in terms of Community Noise Equivalent Level (CNEL). CNEL presents a weighted average noise level that increases the relative significance of evening and nighttime noises. It recognizes that noise which occurs during the night (10 p.m. to 7 a.m.) is less tolerable than evening (7 p.m. to 10 p.m.) or daytime (7 a.m. to 7 p.m.) noise. CNEL also expresses a standard acoustical scale that includes both magnitude and frequency of occurrence.

#### 8.10.1 Environmental Setting

In Riverside County, noise sensitive land uses are schools, hospitals, rest homes, long term care facilities, mental care facilities, residential uses, places of worship, libraries, and passive recreation areas where quiet is a basis for use (Riverside County, 2003). The County discourages these sensitive land uses in areas with background noise greater than 65 dBA. In part, this is because prolonged exposure to noise levels above 65 dB CNEL is considered a potential health hazard. The need for noise mitigation is evaluated on a case-by-case basis, but for general guidance, the County has developed land use/noise level compatibility charts. No compatibility levels have been established for agricultural areas. Noise ordinance requirements for the cities where components (i.e., recharge basins, pipelines, pumping stations, etc.) of the Proposed Project may be built are summarized in **Table 8-7**.

Noise levels are generally low in agricultural and rural areas; higher in more urbanized areas. Under specific topographic and climatic conditions, sounds can carry substantial distances. Noise in the Valley is generally related to linear sources (termed “noise corridors”), such as roadways and railroads, or to aircraft.

Within the study area, principal noise corridors are major roadways such as Interstate 10, Highway 111 and Highway 86; the Southern Pacific Railroad; and the local airports. The Palm Springs Municipal Airport is located between El Cielo Road and Highway 111. The Bermuda Dunes Airport is located between Avenues 40 and 42 and between Adams and Jefferson Streets, close to Interstate 10. The Thermal Airport is located between Avenues 56 and 60 and Harrison and Polk Streets, about one mile west of the CVSC.

#### 8.10.2 Significance Criteria

Based on State CEQA Guidelines, Appendix G, the Proposed Project would have a significant impact on noise if it resulted in:

- exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies,
- exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels,

- a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project,
- a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project,
- for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels, or
- for a project within the vicinity of a private airstrip, exposed people residing or working in the project area to excessive noise levels

### 8.10.3 Impacts

Noise effects were evaluated in Section 8.1 of the 2002 PEIR and have been reviewed for the SPEIR. The impacts analysis for the 2010 WMP Update is the same.

Construction of Proposed Project elements, including pipelines, pump stations, recharge basins, domestic water treatment plants, associated tanks, and desalination facilities, will involve the use of heavy equipment, thus temporarily raising noise levels on surrounding properties. Construction would create short-term noise impacts from the use of equipment such as backhoes, trenchers, compactors, concrete mix trucks, dozers, end loaders, excavators, loaders, scrapers, slipform pavers and trucks.

Typical construction activities typically generate noise levels from approximately 68 dBA at 50 ft from a stationary pump to approximately 97 dBA at 50 ft from a jackhammer or rock drill (Canter, 1977).

Two areas are currently under preliminary consideration for proposed recharge basins, Martinez Canyon and Posse Park. The Martinez Canyon site is located in a remote area well removed from sensitive noise receptors. The Posse Park site in Indio is adjacent to existing residences, sensitive noise receptors, on the west and south. Both construction noise for creation of the basins and occasional noise for basin maintenance could be temporarily significant. Measurement of and mitigation for construction and operation noise at the Posse Park site will be under the authority and responsibility of the City of Indio. It will not be a CVWD owned or operated facility, but is included in the 2010 WMP Update as a recharge site.

Operations-related noise for other Proposed Project facilities will be generated by pumping stations, treatment plant and desalination plant operation and routine maintenance activities. Pump stations will be enclosed, equipped with electric-powered motors and primarily located in agricultural settings, away from sensitive receptors. Once installed, no noise is generated by operation of buried pipelines. Recharge basin maintenance at Martinez Canyon would not affect sensitive receptors because of its remote location.

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**Table 8-7  
Summary of Noise Ordinances in the Coachella Valley**

City	Noise Ordinance		Maximum Allowable (dB (General Use))		Hours Allowable for Construction Activity	
	General	Construction	Residential	Commercial		
<b>Coachella</b>	Chapter 7 Coachella Municipal Code.	Chapter 7 Coachella Municipal Code	6 am - 10 pm 55 10 pm - 6 am 45	6 am - 10 pm 65	Oct. 1 to April 30: M-F: 6 am -5:30 pm SAT: 8 am -5 pm SUN/Holidays: 8 am -5 pm	May 1 to Sept. 30: M-F: 5 am -7 pm SAT: 8 am -5 pm SUN/Holidays: 8 am -5 pm
<b>Cathedral City</b>		Municipal Code 6.08.045	Day (7am-10pm): 55 Night (10pm-7am): 45	Day: 65 Night: 55 Ag. Zone: 55 (Mfg: 70)	Oct 1 to April 30: M-F: 7 am - 5:30 pm SAT: 8 am - 5 pm SUN/Holidays: None	May 1 to Sept 30: M-F: 6 am - 7 pm SAT: 8 am. - 5 pm SUN/Holidays: None
<b>Indian Wells</b>	X	X	7 am – 10 pm 55 10 pm - 7 am 50	none	M-F: 7 am -5 pm SAT: 8 am -5 pm SUN/Holidays: none	
<b>Indio<sup>1</sup></b>	X	X	M-Sat 7 am – 8 pm Sun 8 am – 5 pm	M-Sat 7 am – 8 pm Sun 8 am – 5 pm	Pacific Standard Time: M-F: 7 am -6 pm SAT.: 8 am -6 pm SUN/Holidays: 9 am -5 pm	Pacific Daylight Time: M-F: 6 am -6 pm SAT.: 7 am -6 pm SUN/Holidays: 9am-5 pm
<b>La Quinta</b>		X	Noise sensitive 7 am – 10 pm 60 10 pm to 7 am 50	Other nonresidential 7 am – 10 pm 75 10 pm to 7 am 65	Oct. 1 to April 30: M-F: 7 am -5:30 pm SAT: 8 am -5 pm SUN/Holidays: none	May 1 to Sept. 30: M-F: 6 am -7 pm SAT: 8 am -5 pm SUN/Holidays: none
<b>Palm Desert</b>		X	7 am – 10 pm 55 10 pm to 7 am 50	N/A	Oct. 1 to April 30: M-F 7 am -5:30 pm SAT: 8 am -5 pm SUN/Holidays: none	May 1 to Sept. 30: M-F: 6 am -7 pm SAT: 8 am -5 pm SUN/Holidays: none
<b>Palm Springs</b>	X	X	<b>Low Density</b> 7am – 6 pm 50 6 pm – 10 pm 45 10 pm – 7 am 40 <b>High Density</b> 7am – 6 pm 60 6 pm – 10 pm 55 10 pm – 7 am 50	<b>Commercial</b> 7am – 6 pm 60 6 pm – 10 pm 55 10 pm – 7 am 50 <b>Industrial</b> 7am – 6 pm 70 6 pm – 10 pm 65 10 pm – 7 am 60	M-F: 7am – 7 pm SAT: 8 am – 5 pm SUN/Holidays: none	
<b>Rancho Mirage</b>	X		Day (7 am-6 pm): 55 Eve (6 pm-10 pm): 50 Night (10 pm-7am): 45	Day: 70 Eve.: 65 Night: 60	M-SAT 7 am – 7 pm SUN/Holidays: none	

Sources: City Codes, access through City Websites.

Notes:

1 City of Indio ordinances do not provide specific decibel requirements for noise, although permitted work hours are clearly stated.

The types of construction and operation activities that would occur are commonplace and would not expose people to or generate excessive ground-borne vibration or noise levels. The Proposed Project would not generate noise impacts affecting people working or living near Coachella Valley airports or private airstrips.

Detailed impact analysis will be conducted in subsequent site-specific environmental documentation when facilities sites have been identified. Each proposed facility will be evaluated and comply with relevant noise ordinances or policies (County or City) in place at that time. Site-specific and will be addressed in second tier CEQA documents with respect to noise policies and regulations of the specific jurisdiction in which each WMP facility would be located.

The second tier facilities proposed (e.g., water treatment plants, desalination plants, pipelines, pumping stations, and tanks), even if sited near sensitive receptors (residences, hospitals, schools) or an airstrip, would create no significant noise once in operation. Treatment units and pumping stations would be enclosed; pipelines and tanks create no noise once constructed. Therefore, long-term noise impact related to sensitive receptors or airports would be less than significant with mitigation incorporated.

### 8.10.4 Mitigation Measures

**NOI-1:** The following noise mitigation measures will be imposed during the construction period, as appropriate.

- Install mufflers on construction equipment
- Install temporary sound walls if working close enough to sensitive receptors to exceed applicable city or County construction standards, as determined by a noise analysis
- Limit construction activities to normal seasons, days, or hours, as specified in applicable city or County construction standards

**NOI-2:** Noise mitigation measures imposed on facility operations will be the following, as appropriate, to meet applicable noise ordinance limits at the property boundary:

- Enclose pumping stations located near sensitive noise receptors
- Modify noise enclosures with acoustical louvers, baffle walls, and/or acoustical panels

Impacts will be less than significant with the incorporation of mitigation.

## 8.11 VISUAL RESOURCES

The scenic quality of an area is described in terms of landscape spaces or units, characterized by vividness or distinctiveness, diversity of components, and the unity, order or harmony with which its components combine. The BLM (1978) developed ratings for visual resources.

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Visual Absorptive Capacity (VAC) refers to the potential of the landscape to accept or absorb manmade changes without prominent visual alteration. Factors that determine the conspicuousness of a development are slope, existing vegetative screening, surface patterns, soils, geology, and prominent positions in the landscape.

### 8.11.1 Environmental Setting

The Coachella Valley floor is considered generally low in landscape quality, as it contains little diversity, few vivid features or contrasts, and is not spatially distinct. It is also considered degraded by manmade intrusions. The area is rated Class C by BLM. However, the visual quality of the desert was a significant concern to people polled by BLM in a national survey in 1978, and the bordering mountains provide a dramatic backdrop. The entire study area was rated as having High Sensitivity on grounds of use volume and user attitudes, except for the Indio Hills, which were rated Moderate Sensitivity. The study area is considered to have low VAC since vegetation is sparse, surfaces are monochrome and evenly textured and the ground is erodible.

### 8.11.2 Significance Criteria

The project would have a significant aesthetic impact if it (based on State CEQA Guidelines, Appendix G):

- has a substantial adverse effect on a scenic vista,
- substantially damages scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway,
- substantially degrades the existing visual character or quality of the site and its surroundings, or
- creates a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

### 8.11.3 Impacts

In the 2002 WMP and PEIR Project elements with potential aesthetic impacts were recharge basins, pumping stations, desalination plant, domestic water treatment plants and reservoirs. Pipelines would be buried. The West Valley already had numerous pumping stations and storage basins for agricultural irrigation. The pumping stations were of very small, low structures, typically in pale earth tones to blend with the native soils. The basins would have low earthen berms and would be located in undeveloped areas. The new facilities would be the same in visual character, few in number and widely spaced. They would be in keeping with the existing visual setting, in which pumping stations and earthen basins are considered to have no existing aesthetic impact. These structures are part of the agricultural landscape.

The 2002 PEIR continued that no scenic vista would be affected, and structures within a scenic highway corridor would be buried (pipelines) or small (pumping stations). No new lighting or glare would be created that would affect day or nighttime views in the area, as the facilities

would not be lighted. The facilities, including the desalination facilities, domestic water treatment plants and reservoirs will be evaluated in subsequent environmental documents once specific sites have been identified. The 2002 PEIR concluded that the impact on visual resources would be less than significant.

The present analysis also concludes that the proposed facilities would not have significant impacts on scenic resources because the aboveground structures would be low (no more than two stories), small, and finished to blend with existing surroundings. Pipelines would be buried, and recharge basin berms are low.

Treatment plants, desalination plants, pumping stations and tanks would not create glare, but could have lighting in case nighttime work was required. Programmatic mitigation measures are the following:

- If facilities are located in residential areas or adjacent to sensitive wildlife habitat, outdoor lighting would be low and shielded downwards or away from adjacent properties
- Depending on the facility, lighting may be operated by motion sensors

The impacts and need for mitigation will be evaluated on a site specific basis once sites are identified for facilities. The impacts would be less than significant with mitigation incorporated, as appropriate.

### **8.12 CULTURAL RESOURCES**

#### **8.12.1 Environmental Setting**

Cultural resources are archaeological, historical and paleontological resources. The Regional Clearinghouse for the State Office of Historic Preservation is the Archaeological Research Unit of the University of California, Riverside (UCR). Riverside County has developed prehistoric and historic resources maps of the County from UCR information delineating areas classified as having high, moderate or low probability of containing these resources. The County employs these maps in the review of environmental assessments of development proposals and determination of required impact mitigation. For public facilities, Riverside County requires surveys for all high probability areas, for projects over 80 acres in size in moderate probability areas, and for projects over 320 acres in low probability areas. The type of mitigation required, when needed, for public facilities is salvage or preservation of materials.

In 2002 a cultural resources search was performed for the Coachella Valley floor for the PEIR. The main purpose of this research was to provide a framework for more specific cultural resources work once site-specific project alternatives are developed. The research was conducted in accordance with the requirements of the Riverside, San Diego, and Imperial County Planning Department guidelines and CEQA as they related to cultural resources. County and State statutes, while applicable to cultural resources that may exist within the study area, may nevertheless be superseded by other ordinances and guidelines on the national or federal level if federal land is involved.

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The detailed archaeological background, ethnographic background, and historic context of the study area can be found in the report entitled “Cultural Resources Overview for the Coachella Valley Water District Program Environmental Impact Study, Riverside, San Diego, and Imperial Counties, California,” March 9, 1995 prepared by Brian D. Dillon, Ph.D., Consulting Archaeologist. The report is incorporated by reference into this environmental document and is on file at District offices.

Specific site locations are known for the Martinez Canyon recharge project and the desalination plant site adjacent to WRP-4 (although site boundaries are not determined. Site specific cultural resources surveys will be performed when the area configurations are identified. Because a portion of the Martinez Canyon facility may be on federal land, both state and federal cultural resources regulations may apply. The cultural resources analysis of the Indio recharge facility at Posse Park is assumed to be included in the CEQA document for development of the park, which will include recreational and landscaped areas as well as recharge basins. Other Proposed Project facilities’ sites have not been identified and their implementation schedules are tentative. Cultural resources surveys are generally acceptable to the resource agencies if performed within two years of project initiation. Therefore, the cultural resources survey prepared for the 2002 PEIR has not been updated for this SPEIR.

### 8.12.2 Significance Criteria

The Proposed Project would have a significant impact on cultural resources if it (State CEQA Guidelines, Appendix G):

- caused a substantial adverse change in the significance of historical resource (as defined in State CEQA Guidelines section 15064.5),
- caused a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines section 15064.5,
- directly or indirectly destroyed a unique paleontological resource or site or unique geologic feature,
- disturbed any human remains, including those interred outside of formal cemeteries, or
- eliminated important examples of the major periods of California history or prehistory.

### 8.12.3 Impacts

The potential for impacts at a given site on cultural resources is identified from literature searches, cultural resources records searches at the appropriate regional clearinghouse, and site surveys, if appropriate given existing land use. Records searches and field surveys are considered by the State to be valid if conducted within two to three years of anticipated construction. Therefore, the 2002 surveys are considered to be too old although interesting as past data. The nature and location of cultural resources on Indian lands are not made available to the clearinghouses.

Significant cultural resources sites are known from the Coachella Valley and facilities located on undeveloped land on the edges of the Valley have the highest potential to encounter cultural resources during site preparation. Encountering buried resources not currently known are also possible with excavation for pipeline in existing streets and in agricultural areas, but are much more likely to be highly disturbed. Defining the areas that will require additional research and surveys will be a priority for Proposed Project element analyses and will be conducted by an archaeologist and project engineers prior to the selection of final project locations. Avoidance of cultural resources sites is the most appropriate means of compliance with cultural resource requirements.

Because of the size of the Coachella Valley, and because the locations or boundaries of facilities are not yet known, CVWD will perform record searches after project sites and boundaries are tentatively identified. The results of the searches and any site-specific field surveys will be included in subsequent environmental documents for those facilities.

Facilities preferentially will be located in previously disturbed areas (roadways, agriculture, and previously disturbed land). The impact on cultural resources is considered to be potentially significant unless mitigated. Mitigation measures are presented below.

### 8.12.4 Mitigation Measures

Implementation of the following mitigation measures will reduce cultural resources impacts to a level of less than significant.

**CUL-1:** The site-specific environmental documents will evaluate potential cultural resource impacts of proposed facility construction. If any potential cultural resource impact is anticipated, site-specific mitigation measures will be identified for implementation as appropriate. These measures will include the following, in accordance with State CEQA Guidelines Section 5064.5:

- Sensitive sites and religious areas will be identified based on records searches, contacts with the Valley tribes and the Native American Heritage Commission and avoided in facility planning to the extent feasible.
- Field surveys will be performed for proposed facilities sites, if not previously surveyed within the previous 2 years. Where formal, on foot, reconnaissance reveals that a project site location lacks cultural resources, such alternative will be recommended for selection as a final construction location.
- If previously unrecorded archaeological or cultural resources sites are discovered in the course of surveys, alternative project locations will be recommended for consideration.
- If the proposed project construction locations coincide with significant prehistoric, historic or paleontologic sites and cannot be changed, another mitigation method, such as preservation and partial salvage excavation, will be implemented in compliance with a mitigation plan. Measures may be preservation in fenced open space, capping (with paving) or other project-design method, or data recovery with a defined scope and focus. If recovery is recommended, agreements with an appropriate curation facility, museum or tribal organization will be included for proper conservation and preservation. The plan



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can also include repatriation of non-human remains/associated grave goods, if requested by participating tribe(s), as applicable. The specifications shall require that site grading in sensitive areas be monitored.

- With respect to a historical resource, the Proposed Project will follow the Secretary of the Interior’s Standards for the Treatment of Historic Properties and develop compliant erasures that are enforceable through permit conditions, agreements or other measures. These could include:
  - 1) Reconstruction of the archaeological resource;
  - 2) Stabilization of the archaeological resource;
  - 3) Ground contour reconstruction and surface stabilization;
  - 4) Research necessary to carry out reconstruction or stabilization;
  - 5) Physical barriers or other protective devices, necessitated by the disturbance of the archaeological resource, to protect it from further disturbance;
  - 6) Examination and analysis of the archaeological resource including recording remaining archaeological information, where necessitated by disturbance, in order to salvage remaining values which cannot be otherwise conserved;
  
- If previously unknown cultural resources are discovered in the course of excavation for project construction, the construction inspector shall have the authority and responsibility to halt construction until a qualified archaeologist can evaluate the significance and distribution of the materials, and identify future activities needed (see bullet above). If the find is determined to be an historical or archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation will be made available. Work could continue on other parts of the project while mitigation is taking place.
  
- If human remains are discovered, the County Coroner shall be contacted and provisions of State CEQA Guidelines Section 15064.5 would be followed.

### 8.13 MINERAL RESOURCES

#### 8.13.1 Environmental Setting

Mineral Resource Zones (MRZ) are defined by the State Mining and Geology Board (California Department of Conservation) as “areas where the available geologic information indicates that there are, or is a likelihood of, significant mineral deposits.” MRZ-2 is defined as “areas containing significant measured or inferred aggregate resources” (California Department of Conservation, 2010). The Riverside County Planning Department Website (Riverside County, 2010) lists 16 active sand and gravel/aggregate surface mines in the Coachella Valley.

#### 8.13.2 Significance Criteria

The Proposed Project would have a significant impact on mineral resources if it would (State CEQA Guidelines, Appendix G):

- result in the loss of availability of a locally-important mineral resource that would be of value to the region and the residents of the state, or
- result in the loss of availability of a locally-important mineral resource recovery site delineated on a general plan, specific plan or other land use plan.

### 8.13.3 Impacts

The Proposed Project facilities will not be located in areas designated as mineral resource zones or on an active aggregate mine site. Therefore, implementation of the Proposed Project would not result in the loss of availability of mineral resources.

Construction of individual project elements could use minor amounts of sand or gravel in pipeline trench bedding or building foundations or access roads, but would not substantially affect existing aggregate mining activities in the Valley. Therefore, the effect would be less than significant.

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# Section 9

## Related Projects and Cumulative Impacts

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The California Environmental Quality Act (CEQA) requires an evaluation of the cumulative impacts of related projects in an Environmental Impact Report (EIR) (State CEQA Guidelines Section 15130). Section 15130(b) identifies the “list approach” and the “planning scenario approach” for evaluating cumulative impacts. The list approach uses “a list of past, present, and reasonably anticipated probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency.” The planning scenario approach uses “a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated or is designed to evaluate regional or areawide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.” This Subsequent Program Environmental Impact Report (SPEIR), like the 2002 Program Environmental Impact Report (PEIR), uses the “list approach.”

The significance criterion for cumulative impacts in the State CEQA Guidelines, Appendix G is:

“Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” is defined here to mean that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)”

The determination of whether a project creates significant direct impacts on the environment, as well as whether the project’s contribution to areawide impacts is “cumulatively considerable,” is the sole responsibility of the Lead Agency based on substantial evidence.

This section describes those projects identified as related to the 2002 Water Master Plan (WMP) and reviews the 2002 PEIR discussion of individual and cumulative impacts with it and the cumulative impacts of all of the related projects. The tables in this section list projects considered for inclusion in the cumulative impact analysis with updates on previously identified projects and inclusion of projects that have arisen since publication of the 2002 Plan. The table also identifies those past and present related projects that are included in existing and future Proposed Project baseline conditions.

The discussion of each related project with potential cumulative considerable impacts consists of a description of the project, its potential environmental impacts that relate to the Proposed Project, and the cumulative effect of the related project with the Proposed Project. The cumulative effects of all related projects with the Proposed Project are then discussed on a topic-by-topic basis at the end of this section. Where there has been no change in cumulative impacts from those identified in the 2002 PEIR, this is indicated. This section also includes a discussion of greenhouse gas (GHG) impacts of the Proposed Project, which are a cumulative impact issue, and the potential impacts of climate change on the Proposed Project.

## Section 9 – Related Project and Cumulative Impacts

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### 9.1 LIST OF RELATED PROJECTS

The related projects identified and described below may have direct or indirect cumulative impacts on environmental conditions within the Coachella Valley or on resources that are shared by the Coachella Valley and others (such as the Salton Sea and the Colorado River). Potential related projects have been identified based on agency consultations and reviews of published information.

#### 9.1.1 On-going Projects included in the Project Baseline

A number of on-going projects have been included in the project baseline against which the Proposed Project and alternatives, including No Project, are compared (**Table 9-1**). The present Project baseline is the adopted 2002 WMP and PEIR. Their cumulative effects have been incorporated into the existing conditions described throughout the SPEIR. Therefore, these activities are no longer considered to be related projects with potential cumulative impacts.

#### 9.1.2 On-going Projects Incorporated into the Proposed Project

The following activities have been incorporated into the present Proposed Project and alternatives, and are therefore not discussed as related projects with cumulative impacts (**Table 9-2**).

#### 9.1.3 Related Projects with Potential Cumulative Impacts

**Table 9-3** lists related projects with potential for cumulative impacts identified in the 2002 PEIR, together with their current status.

**Table 9-4** lists related projects with potential cumulative impacts that have arisen since publication of the 2002 PEIR. Projects in these tables have been identified based on agency consultations and reviews of published information.

### 9.2 DESCRIPTIONS OF RELATED PROJECTS WITH POTENTIAL CUMULATIVE IMPACTS

Descriptions for selected projects identified in the 2002 WMP and PEIR that have had substantial developments or changes and descriptions of new projects with potential cumulative impacts since 2002 are provided below. These projects are:

- Salton Sea Ecosystem Restoration Project
- Salton Sea Species Conservation Habitat Project
- Riverside County 2008 General Plan Update
- Mission Creek/Garnet Hill Water Management Plan

## Section 9 – Related Projects and Cumulative Impacts

**Table 9-1  
2002 PEIR Related Projects in the 2010 WMP Update Project Baseline**

Project Name	Status
Quantification Settlement Agreement	Signed October 2003
• IID/SDCWA Water Transfer (130-200,000 AFY)	Being implemented
• IID/CVWD Water Transfer (100,000 AFY)	Being implemented
• Metropolitan/CVWD SWP Water Transfer (35,000 AFY)	Included in CVWD PEIR and QSA PEIR
• 1988 Metropolitan/IID Water Conservation Program (20,000 AFY to CVWD)	Included in QSA PEIR
• Coachella Canal Lining Project	Construction completed.
• All-American Canal Lining Project	Construction complete
• IID Priority 3 Caps	Included in QSA PEIR
• CVWD Priority 3 Caps	Included in QSA PEIR
• Sharing Miscellaneous and Indian Present Perfected Rights Obligations	Included in QSA PEIR
Colorado River Interim Surplus Guidelines	Adopted, applied as of 2003
Secretarial Implementation Agreement and Inadvertent Overrun and Payback Policy IA/IOP)	Implementation Agreement March 2004
Lower Colorado River Multi-Species Habitat Conservation Plan	EIR/EIS ROD 12/2004
Colorado River Biological Conservation Measures	Evaluated in IA/IOP EIS 2002
Colorado River Basin Salinity Control Program	On-going
Cabazon Power Plant	In operation
Cabazon Resource Recovery Park	In operation – minor water use
Valley Sanitary District Wetlands Expansion Project	In operation
Groundwater recharge with SWP exchange water at Whitewater Recharge Facility	On-going
Desert Water Agency recycled water to Palm Springs Golf Course, Mesquite Country Club, Demuth Park	On-going
CVWD water recycling from WRP-7, WRP-9, and WRP-10 to golf courses, high schools, homeowners associations	On-going. WRP-7 to be expanded and upgraded.
Fish farm effluent reuse	On-going; usage has declined substantially
Mission Creek Subbasin Recharge	On-going since 2002

AFY = acre-feet per year; CVWD = Coachella Valley Water District; EIS = Environmental Impact Statement; IA/IOP = Implementation Agreement and Inadvertent Overrun and Payback Policy; IID = Imperial Irrigation District; Metropolitan = The Metropolitan Water District of Southern California; QSA = Quantification Settlement Agreement; ROD = Record of Decision; SDCWA = San Diego County Water Authority; SWP = State Water Project; WRP = Water Recycling Plant.

## Section 9 – Related Project and Cumulative Impacts

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**Table 9-2  
On-going Projects Included in the Proposed Project**

<b>Project Name</b>	<b>Status</b>
Secretarial Implementation Agreement and Inadvertent Overrun and Payback Policy (IA/IOP)	In place – Implementation Agreement March 2004
CVWD Dike 4 pilot recharge facility	Operation discontinued in 2009. Replaced by full scale Levy Replenishment Facility, in operation since 2009
Mid-Valley Pipeline Project	Phase 1 Transmission pipeline construction in CVSC completed in 2008; Phases 2 and 3 future expansion to additional golf courses planned
CVWD Water Conservation Program	On-going
Martinez Canyon Pilot Recharge	On-going
CVWD WRP-4 Upgrade ( no capacity increase)	In progress
CVWD SWP Table A Purchases	Table A Amounts purchased from Metropolitan, Berrenda Mesa WD & Tulare Lake Basin WSD
CVWD Well-head Treatment	On-going; three arsenic removal plants in operation since 2006

**Table 9-3  
Present Status of Related Projects with Potential Cumulative Impacts Identified in the 2002 PEIR**

<b>Project Name</b>	<b>Status</b>	<b>Cumulative Impact</b>
Lower Colorado River Multi-Species Habitat Conservation Plan	Proposition 84 funds will be used for land acquisition in the program planning area by the Wildlife Conservation Board and CDFG to make State lands available to the Program for restoration and conservation.	No cumulative impact; Proposed Project has no effect on upstream biota.
Colorado River Basin Salinity Control Program	On-going	No cumulative impact; Proposed Project has no effect on upstream salinity entering the Colorado River.
Salton Sea Ecosystem Restoration Project (SSERP)	EIS/EIR completed 2007. Project not funded by the state legislature. The early start Saline Habitat Complex is also on hold at present.	Potential cumulative impact. See discussion.
Salton Sea Authority Salton Sea Restoration Plan	Incorporated into SSERP PEIR; on hold; seeking funding.	Potential cumulative impact. See discussion.
Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP)	CDFG issued the Natural Community Conservation Plan (NCCP) Permit for the CVMSHCP on September 9, 2008; USFWS issued the final permit on October 1, 2008.	No cumulative impact. CVWD is signatory; WMP activities are covered or will be covered by Amendments to the plan.
Thousand Palms Flood Control Project	Design underway; construction schedule uncertain. May be built at local level	Beneficial water supply effect and beneficial decrease in peak flows to CVSC.
Dos Palmas Habitat Restoration Enhancement	In progress; part of CVMSHCP and Canal Lining mitigation.	No cumulative impact; cumulative benefit in regional habitat enhancement.
Coachella Valley National Wildlife Refuge – Salt Cedar Removal	In progress.	No cumulative impact; cumulative benefit in regional habitat enhancement.
Colorado River Basin Watershed Management Initiative	In progress.	No cumulative impact; cumulative benefit in water quality and habitat enhancement.
Coachella Sanitary District WWTP Expansion	Expansion from 2.4 to 4.5 mgd capacity completed February 2008. NPDES permit renewal issued in June 2010.	No cumulative impact. Beneficial source of recycled water; impact on CVSC flow is minor.



## Section 9 – Related Projects and Cumulative Impacts

**Table 9-4  
Potentially Related Projects Since 2002**

Project Name	Status	Included in Baseline Conditions	Related Project	Included in Proposed Project
Torres Martinez wetland project	On-going	●		
CVWD Groundwater Desalination Project	Demonstration Facility completed	●		
USBR Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lakes Powell and Mead	In place; Record of Decision was signed December 2007.	●		
SCAG/CVAG/Riverside County revised population/housing/employment projections	Adopted 2008	●		
CVWD Oasis Area Drainage Study	Pilot study completed 2008			●
Yuba River Accord Dry Year Water Purchase Program	Agreement among DWR, CVWD and DWA in place; two annual purchases made to date	●		
Riverside County 2008 General Plan Update	Started 2007; on hold		●	
DWR & CDFG Salton Sea Species Conservation Habitat	In planning		●	

### 9.2.1 Salton Sea Ecosystem Restoration Project

#### 9.2.1.1 Project Description and Environmental Compliance

The Final Programmatic EIR for the Salton Sea Ecosystem Restoration Program (Salton Sea ERP PEIR) identified a Preferred Alternative for the project (out of eight action alternatives and the No Action alternative) based on recommendations by the Salton Sea Advisory Committee and public input (DWR, 2007). The Preferred Alternative included:

- Saline Habitat Complex (SHC) in the northern and southern Sea bed – a highly saline area (20,000 to 200,000 milligrams per Liter (mg/L) of berms and cells, including excavated areas up to 15 feet deep, intended to provide a diversity of habitats to support fish (chiefly tilapia) and invertebrates that would provide an avian forage base. Water supply would be from the New, Alamo, and Coachella Valley Stormwater Channel (CVSC)/Whitewater Rivers, plus recycled water from the Brine Sink or upgradient Saline Habitat Complex.

## Section 9 – Related Projects and Cumulative Impacts

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- Early Start Habitat – Up to 2,000 acres of shallow saline (20,000 to 60,000 mg/L) habitat for use by birds after Salton Sea salinity becomes too high to sustain some fishes.
- Marine Sea that extends from San Felipe Creek to Bombay Beach – an area formed through construction of a barrier (rock structure up to 47 feet above the existing Sea Bed and up to a half-mile wide at the base) to isolate water with a salinity of 30,000 to 40,000 mg/L. Inflows would include direct flows from the CVSC/Whitewater River, Coachella Valley drains, Salt Creek, San Felipe Creek, and local drainages.
- Air Quality Management Facilities to reduce particulate emissions from exposed playa.
- Brine Sink – repository for excess salts, water discharged from the SHC, Marine Sea, Air Quality Management area, and excess inflows, including flood flows from the New and Alamo rivers.
- Water Conveyance Facilities. – to move water to and within the Saline Habitat Complex, and up to 75 miles of canals and five pumping plants for Air Quality Management.
- Sedimentation/Distribution Facilities – two, 200-acre basins excavated along the shoreline and designed to collect sediment from the New and Alamo Rivers.

The original Quantification Settlement Agreement (QSA) did not have a Salton Sea water delivery mitigation plan, but the agreement was later supplemented to have Imperial Irrigation District (IID) deliver mitigation water to the Salton Sea until 2017, based on an annual delivery. The delivered Colorado River water is to offset the loss of inflow caused by the transfer of water to San Diego under the QSA. The mitigation water helps to maintain the salinity of the Salton Sea water at pre-QSA concentrations. Salton Sea salinity levels had been increasing for many years prior to the QSA. One of the reasons for the 2017 date was that it was assumed that the State of California would have a Salton Sea restoration plan in place by then that would mitigate other impacts of reduced flows to the sea. The environmental documentation was completed, but the plan was not funded by the legislature, and it appears unlikely that it will be in place by the end of 2017.

The Salton Sea ERP Final PEIR used the same inflow assumptions for all alternatives, including the Preferred Alternative. An average annual inflow of 717,000 acre-feet per year (AFY) was assumed for the period 2018 through 2078 (the period after IID ceases to divert mitigation water). Water quality of the inflow was assumed to improve over existing conditions with implementation of proposed total maximum daily load (TMDL) requirements by the California Regional Water Quality Control Board (Regional Board).

The Salton Sea ERP PEIR discussed inflows from the Coachella Valley. The No Project alternative incorporated the 2002 WMP projected CVSC and drain flow figures. Historical average flow was presented as approximately 113,827 acre-feet per year (AFY) with a historical range of 53,368 to 174,684 AFY. The Salton Sea ERP PEIR stated that total surface discharge in recent years was less than 90,000 AFY.

Under the Salton Sea ERP PEIR No Action-CEQA Conditions alternative, total average Coachella Valley inflows were expected to increase to 126,000 AFY for the 2003 to 2078 period, and to 138,000 AFY for the 2018 to 2078 period.

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To address uncertainty regarding future inflows to the Salton Sea over the 75-year planning horizon, a No Action Alternative – Variability Conditions was also developed and evaluated in the PEIR (DWR, 2007). In that alternative, Coachella Valley inflow projections were reconsidered based on “potential delayed implementation or modifications of the Coachella Valley Water Management Plan and reduced agricultural return flows due to reduced Colorado River salinity.” The Salton Sea ERP PEIR stated that inflows under the No Action Alternative – Variability Conditions could be 94,000 AFY for the 2003 to 2078 period and 98,000 AFY for the 2018 to 2078 period.

The Salton Sea ERP PEIR also recognized that all of the Salton Sea ERP action alternatives evaluated had greater impacts on exposed playa at the Salton Sea than the No Action Alternatives identified for the project. Mitigation measures were presented for dust, but the air quality impact was considered in the documents to remain potentially significant after mitigation.

### 9.2.1.2 Relationship to the Proposed Project

The State Legislature failed to fund this program, and it is now on hold for the foreseeable future. Therefore, the issues discussed below are speculative and may be addressed in future WMP updates.

The 2007 Final Salton Sea ERP PEIR considered the 2002 Coachella Valley WMP and the 2003 Quantification Settlement Agreement (QSA) as part of existing conditions, No Action Alternative CEQA Conditions, and No Action Alternative Variable Conditions; therefore, the Salton Sea PEIR did not consider these in its cumulative impact assessment. The Final Salton Sea ERP PEIR acknowledges that Salton Sea inflows from the Coachella Valley would be affected by implementation of actions in the WMP. The PEIR identified no defined minimum flow to the Sea or potential impacts of changes in Coachella Valley flows.

With implementation of the 2010 WMP Update, drain flows into the Salton Sea from the Coachella Valley may increase by 2045 or may decrease because water use would decrease in the basin, resulting in less return water, and also because a portion of the drain water may be diverted and treated (desalinated) for agricultural reuse or non-potable urban use (outdoor landscaping).

Under the 2010 WMP Update, desalination of Coachella Valley drain water is the alternative approach to securing additional imported water supplies. Desalination would not be implemented at all if sufficient supplies can be secured by transfers or leases or both to CVWD and DWA from other SWP contractors. The WMP anticipates the decision to pursue desalination to be made sometime after 2015 – 2020. If no desalination or minimal desalination were implemented, Salton Sea inflows would increase slightly and partially offset declines in other inflows. The present worst case scenario for Salton Sea inflows would be maximum desalination, which would decrease existing inflows by approximately 19,000 AFY.

Mitigation for dust associated with increased playa exposure is being implemented by a combined effort of all involved agencies. CVWD, IID and SDCWA already are contributing to the Salton Sea Restoration Fund and other mitigation efforts. Cumulative impacts are

nevertheless anticipated to be cumulatively considerable, as residual effect of Salton Sea air quality, even with implementation of mitigation, is anticipated to be significant and unavoidable.

### **9.2.2 Salton Sea Species Conservation Habitat**

#### **9.2.2.1 Project Description**

The California Department of Fish and Game (CDFG) and DWR are currently leading the proposed Salton Sea Species Conservation Habitat (SCH) project, which involves the construction and maintenance of gravity-fed earthen ponds at the mouths of the Alamo River, New River and CVSC/Whitewater River for fish habitat to support migratory and resident fish-eating birds at the Salton Sea.

At the Stakeholders Meeting on October 19, 2010; however, Whitewater River sites were eliminated because of concerns about availability and long-term reliability of water supply and land access issues. Therefore, the ponds would be built at the mouths of the Alamo River or New River only. Potential layouts presented at the meeting show 2,420 to 2,860 acres at the Alamo River mouth or 2,240 to 2,460 at the New River mouth at the south end of the Salton Sea. Assuming 6 feet of evaporation per year, the ponds would have a water demand of at least 13,440 to 17,160 AFY. If full ponds were constructed at both river mouths, these water demand figures would approximately double.

The SCH project would also consider selenium treatment at the diversion point(s), if necessary, and sediment removal at the diversion point and pond construction.

#### **9.2.2.2 Environmental Compliance**

The SCH project will comply with both CEQA and the National Environmental Policy Act (NEPA). Preparation of an EIS/EIR is in progress; scoping meetings were held in June/July 2010 and a draft EIR/EIS is scheduled for release to agencies and the public in spring of 2011. The final NEPA/CEQA document is scheduled for completion in late 2011-early 2012, probably after completion of this SPEIR for the WMP 2010 Update.

#### **9.2.2.3 Relationship to the Proposed Project**

Because ponds are no longer proposed at the mouth of the CVSC/Whitewater River, impacts from projected changes in Coachella Valley CVSC or drain flows in 2010 WMP Update on the SCH project would be less than significant. Therefore, no cumulatively considerable impacts would occur.

### **9.2.3 Riverside County 2008 General Plan Update and EIR**

#### **9.2.3.1 Project Description**

The County of Riverside updates its General Plan and elements and accompanying EIR periodically. The 2008 General Plan Update was begun in 2005 and included revised land use and population projections.

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In 2005, Riverside County was experiencing rapid growth. Recognizing the need for more accurate growth forecasts, the Riverside County Center for Demographic Research (RCCDR) was established under the joint efforts of the County of Riverside, the Western Riverside Council of Governments (WRCOG), CVAG, and the University of California Riverside for the development of demographic data and related support products to serve all of Riverside County. The RCCDR was tasked with developing the Riverside County Projections 2006 (RCP-06) growth forecasts.

The RCP-06 was developed to provide County agencies and departments, the councils of governments, the universities and other entities with a consistent and standard set of population, housing and employment forecasts. In addition, a major objective for developing RCP-06 was to provide the Southern California Association of Governments (SCAG) with a set of projections for inclusion in their regional growth forecasts. The RCP-06 was approved by the Executive Committee of WRCOG on December 4, 2006, the Executive Committee of CVAG on January 29, 2007, and by the Riverside County Board of Supervisors on March 14, 2007.

The growth projections were adopted by SCAG in 2008 to reflect Riverside County population, housing and employment projections in five-year increments for the period 2005 through 2035. Preparation of the county General Plan Update, which would be based on the revised projections, was put on hold in 2009.

### 9.2.3.2 Environmental Compliance

Preparation of an EIR for the 2008 General Plan Update began in 2007; public scoping meetings were held in 2009. The General Plan EIR is in preparation.

### 9.2.3.3 Relationship to the Proposed Project

Because SCAG adopted the RCCDR projections in 2008 the Proposed Project and this SPEIR have used those figures as the basis for Coachella Valley study area projections, extrapolating them to 2045, the Proposed Project planning horizon date. Therefore, the Proposed Project is congruent with current SCAG projections through 2035 and therefore, there would be no cumulatively considerable impact for that period. Assuming that the General Plan Update is based on the same projections, the Proposed Project is congruent with the Riverside County General Plan Update. There would be no cumulatively considerable effects.

## 9.2.4 Mission Creek/Garnet Hill Water Management Plan

### 9.2.4.1 Project Description

As early as 1984, Mission Springs Water District (MSWD), CVWD and Desert Water Agency (DWA) held discussions about recharging the Mission Creek subbasin and the facilities that would be required. In 2001, MSWD adopted a resolution declaring its support for DWA's program to replenish the subbasin and construction of a turnout from Metropolitan's Colorado River Aqueduct (CRA) was begun. Construction of the spreading basins was completed in 2002 and water was delivered to the basin beginning that year.

CVWD and DWA executed the Mission Creek Groundwater Replenishment Agreement in April 2003, which also allowed for storage of advanced deliveries from Metropolitan. In October 2003, MSWD filed action in the Superior Court of the State of California against DWA seeking a writ of mandate, declaratory relief for prescriptive and appropriative water rights and declaratory and injunctive relief for a physical solution of a groundwater basin. MSWD sought adjudication of the subbasin, questioned the quality of the imported water and challenged the validity of replenishment assessments. Both CVWD and DWA filed answers challenging the complaint.

In December 2004, MSWD, DWA and CVWD executed a settlement agreement that stated the three agencies would work jointly to manage the subbasin. The agreement included provisions regarding payment of Replenishment Assessment Charges, shared costs for basin studies and development of a Basin Management Plan for the Mission Creek and Garnet Hill subbasins. This agreement and the 2003 Mission Creek Groundwater Replenishment Agreement between CVWD and DWA specify that the available SWP Exchange water will be allocated between the Mission Creek and Whitewater River Subbasins in proportion to the amount of water produced or diverted from each subbasin during the preceding year.

CVWD, MSWD and DWA are jointly developing a water management plan for the Mission Creek and Garnet Hill Subbasins. This plan is expected to be completed in early 2012. The plan has not been completed and therefore no CEQA evaluation has been performed to evaluate the environmental impacts of the plan. However, the Proposed Project has assumed a proration of existing SWP Table A and advanced water deliveries between the Whitewater, Garnet Hill and Mission Creek Subbasins in proportion to production and diversion of water from each subbasin. The plan, like the 2010 WMP Update, assumed that Mission Creek water recharge would take place within a range of values. The Proposed Project assumed that Mission Creek would take the maximum amount of water it could for recharge (about 15 to 16.5 percent of the total by 2045), which would limit Whitewater recharge to 83.5 to 85 percent of the total. If Mission Creek demands prove to be lower than projected over time, additional water could be recharged at Whitewater. This would add recharge but also additional salt to the basin. The two projects recharge adjacent but separate basins. The impacts would not be cumulatively considerable.

### **9.2.5 Salton Sea Authority Salton Sea Restoration Plan**

#### **9.2.5.1 Background**

The Salton Sea Authority (SSA) is a Joint Powers Authority whose goal is the revitalization of the Salton Sea. The SSA Board of Directors is comprised of five agencies – CVWD, IID, Riverside County, Imperial County and the Torres Martinez Desert Cahuilla Indians – with representatives from, CVAG, SCAG, CDFG and the state Resources Agency. The purpose of the SSA is to work with California state agencies, federal agencies, and Mexico to develop programs that would continue beneficial use of the Salton Sea. The SSA defines "beneficial use" to include the primary purpose of the Sea as a depository for agricultural drainage, storm water and wastewater flows; as well as for protection of endangered species, fisheries and waterfowl; and for recreational purposes.

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In 2007, the U.S. Bureau of Reclamation (Reclamation) and the SSA issued a plan for the restoration of the Sea (Reclamation, 2007). This study was conducted under the authority of P.L. 108-361, titled the Water Supply Reliability and Environmental Improvement Act. Specifically, the act required that:

“Not later than December 31, 2006, the Secretary of the Interior, in coordination with the State of California and the Salton Sea Authority shall complete a feasibility study on a preferred alternative for Salton Sea restoration.”

The study assumed 102,000 AFY of flow from the combined Coachella Valley drains and CVSC into a north Recreational Saltwater Lake created by a dike across the sea. South of the dike would be a Salt Sink ringed by a water course and additional habitat ponds circulating between a south lake and the north lake. The SSA continues to implement elements of its Plan as feasible and is seeking additional funding.

### **9.2.5.2 Environmental Compliance**

In 2000, the U.S. Bureau of Reclamation (Reclamation) and the SSA prepared a draft EIS/EIR on restoration of the Salton Sea. That report identified the following project objectives: (1) maintain the Sea as a repository for agricultural drainage; (2) provide a safe, productive environment at the Sea for resident and migratory birds and endangered species; (3) restore recreational uses at the Sea; (4) maintain a viable sport fishery at the Sea; and (5) enhance the Sea to provide economic development opportunities. The draft EIS/EIR was never finalized and no actions were taken to implement any of the alternatives described therein.

An updated 2006 SSA Plan was evaluated as one of the alternatives in the SSERP PEIR, but was not selected as the preferred plan.

### **9.2.5.3 Relationship to the Proposed Project**

The SSA Restoration Plan, like the SSERP, assumed an inflow to the Salton Sea from the Coachella Valley. The SSA study assumed 102,000 AFY of flow from the combined Coachella Valley drains and CVSC into a north Recreational Saltwater Lake created by a dike across the sea. This figure is less than the Proposed Project inflow before desalination, but is greater than projected inflows with desalination (40,000 to 70,000 AFY).

## **9.3 CUMULATIVE EFFECTS OF ALL RELATED PROJECTS**

### **9.3.1 Aesthetics**

The widespread urbanization of the Coachella Valley floor, anticipated by the current SCAG/CVAG/Riverside County population projections, and Valley city general plans would significantly change the appearance of the area, with a reduction in open desert habitat and agriculture. The cumulative aesthetic impacts of urbanization would be addressed in the Riverside County General Plan EIR (in progress), individual city General Plans and EIRs, and in the CEQA document for each proposed development.

The CVWD 2010 WMP Update actions that would alter the aesthetics of the Coachella Valley floor would have less than significant impacts with mitigation incorporated, based on previous projects—e.g., the construction and operation of two sets of recharge basins, a water treatment plant and pumping stations enclosed in structures that resemble residences and blend with their environments. Water and wastewater pipelines would be buried and therefore have no aesthetic effects once constructed. In addition, the CVWD will be constructing wetlands, which would have a beneficial effect on study area aesthetics.

The aesthetic effect of urbanization on the Valley as a whole would be cumulatively considerable. The Proposed Project's contribution would be less than significant. CVWD will analyze and mitigate the visual effects of its own projects to a level of less than significant for each facility in the second tier site-specific environmental documents.

### **9.3.2 Agricultural and Forest Resources**

The projected widespread urbanization of the Coachella Valley floor, congruent with current SCAG/CVAG/Riverside County population projections, would substantially reduce the acreage of existing agriculture, including designated Farmland. The effect is cumulatively considerable.

Certain proposed WMP projects – treatment plants, pipelines and pumping stations — could be sited on agricultural land, if that is the land available. Typically, these sites are land dedicated by the developer for water/wastewater facilities, however, so the loss of agricultural land would be covered under the developer's Specific Plan EIR. Buried pipelines would not affect the use of farmland. Treatment plants and pumping stations are relatively small facilities (approximately 10 acres at most), and even considered together would have a less than significant impact on East Valley Farmland. The Martinez Canyon and Indio recharge basins are not proposed for agricultural land. Therefore, the impact on loss of agriculture by land use changes from implementation of the 2010 WMP Update is considered to be less than cumulatively significant.

No WMP facilities are proposed to be located on forest resources of the San Bernardino National Forest. Since no other development in the forest is proposed, there would be no cumulative impacts on forestry resources.

### **9.3.3 Air Quality**

#### **9.3.3.1 Coachella Valley**

With the widespread urbanization of the Coachella Valley floor, congruent with current SCAG/CVAG/Riverside County population projections, emissions from mobile sources will increase in the Valley, a cumulatively considerable effect, and particulates from agricultural activities will decrease, a cumulative benefit. Operation of the Proposed Project would contribute less than significant mobile emissions from operations vehicles and less than significant dust with mitigation incorporated from occasional routine maintenance of recharge basins. The impact of the Proposed Project is less than cumulatively significant.

Construction emissions from developments of criteria pollutants such as nitrogen oxides could exceed SCAQMD criteria and therefore be considered significant. The impact of Proposed



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Project facilities could also be significant for criteria pollutants (the construction impact is potentially significant and not mitigable (see **Section 4**). Therefore the cumulative impact of construction emissions would be cumulatively considerable.

### 9.3.3.2 Salton Sea

Salton Sea levels and Coachella Valley inflows have been steadily decreasing since the 1970s, exposing more shoreline (playa), which has the potential to create particulate emissions when dried.

The DWR SSERP assumed inflow rates to the Sea from the Coachella Valley based on the 2002 WMP inflow figures, with current flows increasing over time. At the same time inflows from Imperial County, which represent 94 percent of total inflows, were decreasing and were projected to continue to decrease. The increase from the Coachella Valley was projected to offset to a minor extent, the decrease in Imperial Valley inflows and exposure of shoreline.

The Salton Sea inflow from the Coachella Valley is projected to increase from approximately 60,000 AFY to 126,000 AFY by 2045 if no desalination is implemented. This figure is lower than that projected in the 2002 Plan for 2035, but still represents a substantial increase in inflow and a beneficial effect. With minimum desalination, the Salton Sea inflow in 2045 is projected to be higher than existing flow, approximately 60,000 AFY. Any increase in flow from the Coachella Valley would offset to a minor extent, the decrease in Imperial Valley inflows and exposure of shoreline. This also would be a beneficial effect.

If maximum desalination of drain water is implemented in the future, the Salton Sea inflow could decrease by about 19,000 AFY to about 41,000 AFY by 2045. With this decrease in flows from present levels, exposure of additional shoreline with implementation of the Salton Sea project could result in a potential increase in the release of airborne particulates over baseline and No Project conditions. This impact is considered to be significant and to remain potentially significant and unavoidable, even with implementation of mitigation.

Desalination will not be implemented at all, however, if sufficient imported supplies can be secured by transfer or lease from other SWP contractors. CVWD will make the decision to implement desalination sometime after 2015 – 2020.

Therefore, the potential worst case effect on Salton Sea inflows would be with implementation of maximum desalination, which could slightly increase exposure of playa and air quality effects. Under this worst case and assuming implementation of one or both of the Salton Sea restoration plans, and other ongoing projects, the impact on Salton Sea air quality would be cumulatively considerable.

### 9.3.4 Biological Resources

The projected widespread urbanization of the Coachella Valley floor to implement SCAG/CVAG/Riverside County population projections and county and cities' General Plans potentially would reduce the acreage of existing desert habitat areas and have widespread

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impacts on sensitive species and their habitats. The potential impact of Valley floor development would be cumulatively considerable.

However, the CVMSHCP adopted in October 2008 sets aside habitat areas for a defined list of sensitive species. Coordination by the County, the Valley cities, the CVWD, and developers with the CVMSHCP will mitigate this impact to below a level of cumulatively significant. The CVWD is a signatory to the CVMSHCP and a Permittee. Therefore, the cumulative impact on CVMSHCP biological resources will be less than significant for covered species and habitats.

CEQA sensitive species not covered by the CVMSHCP — Swainson's hawk, peregrine falcon and bald eagle — are all raptors whose foraging areas would be reduced by a cumulatively considerable amount by projected development, together with WMP facilities. The contribution of WMP facilities, which are small by comparison and could be sited in disturbed and agricultural areas that do not provide foraging habitat, would be less than significant.

The effect of Salton Sea inflows from the Coachella Valley under any scenario and in combination with any other project is not anticipated to affect, either beneficially or adversely, the ecosystem of the Salton Sea. The ecosystem of the Salton Sea is anticipated to collapse, soon after the cessation of mitigation water inflows in 2017, because of rapidly increasing salinity and falling sea levels.

### 9.3.5 Cultural Resources

The projected widespread conversion of open land on the Coachella Valley floor to urban use, congruent with current SCAG population projections, would have cumulatively considerable impacts on the integrity of cultural resources on the Valley floor. Conversion of agricultural land to urban use would have less effect, since the majority of cultural resources on these lands were disturbed by past installation of tile drains and by tillage over the last 50 years. Impacts would be cumulatively considerable, but would be mitigated on a site-specific basis by each development.

Proposed CVWD facilities could be sited in desert areas as well. Since most facilities' sites have not been identified, the specific impacts of future CVWD facilities on cultural resources will be evaluated in second-tier CEQA documents and mitigated as appropriate. The impacts are anticipated to be less than significant with mitigation (see also **Section 8**) and less than cumulatively significant because the proposed sites are small.

### 9.3.6 Geology and Soils

No cumulative impacts are anticipated from proposed 20210 WMP Update facilities and other facilities' construction in the Valley. Each future facility site will identify and mitigate site specific geologic and soils conditions.

The 2010 WMP Update would slow or halt land subsidence in the Valley, a beneficial effect.

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### 9.3.7 Hydrology and Water Quality – Surface Water

#### 9.3.7.1 CVSC and Drains

With implementation of the 2010 WMP Update, base flows in the CVSC and the CVWD drains to the Salton Sea are expected to increase from current (2009) flows of approximately 66,000 AFY to 125,000 AFY by 2045, unless flows are diverted for maximum desalination, in which case flows could decrease to 38,000 AFY by 2045. Whether desalination is implemented, and to what degree, however, depends on the future availability of imported SWP water under current contracts, future leases or acquisitions or other water sources.

There are other existing and potential diversions from the CVSC flow. Less than 2,000 AFY of Flow is diverted from the CVSC to the Torres Martinez 85-acre wetland. This flow would not be affected by Proposed Project flow changes, with or without desalination.

Other wetlands or fish ponds potentially could require CVSC water as a source. However, no wetlands or fish ponds are currently proposed at the north end of the Salton Sea by the DWR and CDFG Species Compensation Habitat Project. Therefore, there would be no cumulatively considerable impacts of these activities with the Proposed Project.

The ability of long term CVSC and drain flows to meet water demands of other, larger future wetlands created by others is unknown since their demands are unknown. The SHC wetlands at the north end of the Salton Sea in the DWR Salton Sea Ecosystem Restoration Project, comprising tens of thousands of acres, were not funded by the State legislature and are on hold indefinitely. While this still a reasonably foreseeable project, so is the Salton Sea Authority Plan and only one of the two plans will be implemented. Either plan would need to consider existing Coachella Valley inflows at the time the plan is to be implemented.

Peak storm flows in the CVSC (which are not monitored) would be reduced by proposed upstream flood control projects. Impacts would be evaluated in site-specific second tier documents. The cumulative effects of the 2010 WMP Update on flood control would be beneficial.

#### 9.3.7.2 Colorado River and Coachella Canal

Under the Proposed Project, up to 35,000 AFY of QSA Canal water could be conveyed via the Colorado River Aqueduct to Whitewater instead of being diverted at Imperial Dam into the All-American and Coachella Canals. This flow would be approximately 48 cubic feet per second (cfs), which represents 0.4 percent of the average Colorado River flow between Parker Dam and Imperial Dam of 12,096 cfs (USGS, 2009). The impact on Colorado River flow downstream of the diversion is less than cumulatively significant.

### 9.3.8 Hydrology and Water Quality – Groundwater

As with the 2002 WMP, the intent of the 2010 WMP Update is to address overdraft in the Coachella Valley. The Proposed Project and the alternatives considered in the 2010 WMP Update all balance the groundwater basin; that is, each would halt the progression of overdraft.

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Therefore, the overall cumulative effect on groundwater levels is beneficial, even though in some areas of the Valley the change is minor. The Proposed Project would not have a cumulative impact on groundwater with the Salton Sea restoration plans. Overcoming overdraft would help to prevent the intrusion of saline water under the sea from intruding into the Coachella Basin, a beneficial effect. The Torres Martinez wetland currently diverts water from the CVSC; the projected total changes in the CVSC below this point include this as an existing use; therefore, there would be no cumulative impact. The Mission Creek Water Management Plan addresses an adjacent groundwater basin. The Proposed Project would affect recharge in the Mission Creek basin, as the two recharge facilities both divert SWP Exchange water and often purchase SWP Table A Amount jointly. The impacts on the two basins are not cumulative, but rather complementary. The effect is less than significant.

Groundwater would continue to become increasingly saline compared to current conditions near existing and proposed recharge basins, as in the 2002 WMP, with continued recharge of Colorado River water from the Colorado River Aqueduct and Coachella Canal. The groundwater quality impacts are the same as those evaluated in 2002 and no new feasible mitigation measures are available at this time.

Rising levels and upward gradients in groundwater in the East Valley from implementation of the 2002 WMP and the 2010 WMP Update would repel Salton Sea water intrusion, a beneficial effect.

Increased groundwater levels from implementation of 2010 WMP Update, like the 2002 WMP, would repel the downward percolation of poor quality agricultural drainage into the underlying potable aquifers, a beneficial effect.

### 9.3.9 Energy Consumption

As discussed in **Section 8**, implementation of Proposed Project elements in accordance with the implementation plan would increase net electricity use in the Coachella Valley by approximately 273,000,000 kWh/yr by 2045 (about 273 GWh/yr or 23 MW). This amount is considered to be less than significant.

Projected growth and its energy demand in the Valley during the same period (SCAG, 2008) used in the development of the 2010 WMP Update and which would be implemented by the Riverside County General Plan Update have also been calculated. Projected study area population increase from 2010 to 2045 is 701,000 people. Assuming 3.2 persons per household, there would be about 220,000 additional households. Energy consumption per household is estimated to be 7,100 kWh/yr; therefore the estimated total consumption in kWh/yr for growth in the Valley would be about 1.6 billion kWh/yr or 1,600 GWh/yr, which is considered to be potentially significant. Energy to implement the Salton Sea Ecosystem Restoration Plan, pumping to move water through conveyances, was estimated to be 16 to 44 GWh/yr, depending on the alternative considered. The Salton Sea Authority Plan, one of the alternatives in the Salton Sea ERP, had an energy demand within this range. The projected energy requirement for the Proposed Project would represent about 14 percent of the requirement for projected growth, the WMP and the Salton Sea Restoration Plan combined. The impact on energy sources and capacities would be cumulatively considerable.

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Future energy demand will be partially mitigated but not eliminated by conservation and the use of alternative fuels or renewable resources. CVWD is committed to minimizing its energy use and avoiding the wasteful and unnecessary use of energy.

### 9.4 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

This section discusses greenhouse gas (GHG) emissions impacts anticipated from implementation of the 2010 WMP Update. Recently amended State CEQA Guidelines Section 15064.4 requires an analysis of GHG emissions in CEQA documents, with a determination of significance of GHG emissions from the Proposed Project. Climate change from GHG emissions is a global issue and no single project is large enough to represent a significant fraction of the global emissions. It is therefore appropriate to discuss GHG emissions impacts of the Proposed Project as cumulative effects.

Because design criteria, capacities and schedules for Proposed Project elements within the Coachella Valley have not been developed, specific estimates of GHG emissions have not been undertaken in this SPEIR for most project elements constructed within the Coachella Valley. Project specific and cumulative GHG emissions will be estimated as part of subsequent or tiered environmental reviews for these individual Proposed Project elements. This section estimates GHG emissions from electrical power required to import water to the Coachella Valley as part of WMP implementation and GHG emissions from energy required to desalinate drain water, assuming maximum desalination capacity as a worst case.

This section also discusses potential impacts of climate change upon the Proposed Project.

#### 9.4.1 Environmental Setting

##### 9.4.1.1 Climate Change and Greenhouse Gas Processes

Recent scientific research suggests that increasing GHG concentrations generated by human activity have led to a warming trend in the Earth's average temperature. GHGs are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), often referred to as the "six Kyoto gases" (referring to the 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change). These materials absorb infrared radiation rising from the Earth's surface that would otherwise escape into space, thus warming the atmosphere.

Water vapor, ozone and aerosols are also put in the GHG category, but aerosols are not gases, and water vapor and ozone are not atmospheric gases generated by projects and are not considered by climate change groups or regulatory bodies as having a significant role in climate change. Therefore, they are not discussed further in this section.

GHGs are global pollutants with long atmospheric lifetimes (one year to several thousand years) that allow for their worldwide atmospheric circulation, whereas criteria air pollutants – carbon monoxide (CO), lead (Pb), nitrogen oxide (NO<sub>x</sub>), ozone (O<sub>3</sub>), particulates (PM) and sulfur oxides

SO<sub>2</sub>) – are of regional and local concern and have short atmospheric lifetimes, typically a few days.

### 9.4.1.2 Regulatory Setting

The California Air Resources Board (CARB), part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of federal and State air pollution control programs in California, including the numerous State plans, policies regulations and laws related to GHG and climate change.

Assembly Bill (AB) 1493, passed in 2002, required CARB to develop and adopt by January 1, 2005 regulations to achieve reductions in GHG emissions from passenger vehicles, light-duty trucks and other non-commercial vehicles. The California Code of Regulations (CCR) was subsequently amended to add GHG emissions standards to motor vehicle standards and increase emissions limits for vehicles through 2016.

The Governor of California signed Executive Order S-3-05 in June 2005, which established statewide GHG reduction targets of 25 percent (to 1990 levels) by 2020 and 80 percent below 1990 levels by 2050.

In 2006, the State enacted the California Global Warming Act of 2006 (AB 32) which, among other charges, requires that statewide GHG emissions be reduced to 1990 levels by 2020, to be accomplished through an enforceable statewide cap in GHG emissions to be phased in starting in 2012. As of May 2011, CARB had not yet promulgated GHG emissions or reporting standards that are directly applicable to water sector public utilities such as the Proposed Project.

Under AB 1803 (2006), passed a few months before AB 32, CARB is responsible for maintaining and updating California's GHG Inventory (CARB, 2009). The State GHG inventory contains data for the years 1990-2006 for the six GHGs.

CARB also has projected GHG emissions through the year 2020, both statewide and disaggregated to regional and county areas (CARB, 2010d). Total estimated California GHG emissions for 2002-2004 are 468.8 million metric tons of CO<sub>2</sub> equivalents (MMTCO<sub>2</sub>e). Total projected emissions for 2020 under "business as usual" conditions are 596.4 MMTCO<sub>2</sub>e, an increase of approximately 27 percent over 2002-2004 figures. To estimate required reductions for 1990 levels, CARB adopted 427 MMTCO<sub>2</sub>e as the total statewide GHG 1990 emissions level and 2020 emissions limit.

AB 32 also established the Climate Action Team (CAT) to coordinate the efforts under Executive Order S-3-05. CalEPA (CARB) oversees the CAT, which has numerous subteams, each evaluating a particular industrial sector. The principal sectors are Agriculture, Electricity, General Combustion, Goods Movement, Government, High Global Warming Potential (GWP), Oil and Gas Refining, Forestry, Green Building, Recycling and Waste, Vehicles and Engines, Land Use, and Water-Energy. This discussion focuses on Water-Energy as most relevant to the Proposed Project.

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The Water-Energy Subgroup (WET-CAT), co-chaired by representatives of the State Water Resources Control Board (SWRCB) and the Department of Water Resources (DWR), is tasked with coordinating the study of GHG effects on California's water supply system. Under DWR leadership, state agencies will assess the GHG effects and reductions arising out of water supply development alternatives, including water recycling and conservation.

The AB 32 Scoping Plan, adopted December 12, 2008 (CARB, 2008), presents the main strategies California will use to reduce GHG emissions: direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program. In California, the greatest proposed GHG reductions will be achieved through GHG emission standards for light-duty vehicles (27.7 MMTCO<sub>2</sub>e), implementation of the Low-Carbon Fuel Standard<sup>1</sup>, energy efficiency measures in buildings and appliances, and the widespread development of combined heat and power systems.

Since the adoption of the AB 32 Scoping Plan, the WET-CAT agencies have been working on implementation and analyses. Scoping Plan implementation measures that apply to the Water-Energy Sector are listed below and, when and if fully implemented, would achieve an estimated maximum reduction of 4.8 MMTCO<sub>2</sub>e (**Table 9-5**). Note that GHG emission reductions from the Water Sector are not currently counted toward the 2020 goal.

### 9.4.2 Significance Criteria

According to State CEQA Guidelines, Appendix G, a Project would have a significant impact on GHG emissions if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG

The determination of whether a project creates significant direct or indirect impacts on the environment, as well as whether the project's contribution to areawide impacts is "cumulatively considerable," is the sole responsibility of the Lead Agency, based on substantial evidence.

On September 28, 2010, the SCAQMD GHG CEQA Significance Threshold Stakeholder Working Group Meeting # 15 presented a draft tiered approach to determining GHG significance (SCAQMD, 2010) of projects within its boundaries:

- Under Tier I, the GHG emissions impact would be less than significant if the project qualifies for a CEQA categorical or statutory exemption.
- Under Tier II, the GHG emission impact would be less than significant if the project is consistent with a locally adopted GHG reduction plan.

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<sup>1</sup> Low-Carbon Fuel Standard is a greenhouse gas emissions standard for transportation fuels established in 2007 by Executive Order of the Governor of California.

**Table 9-5  
AB 32 Scoping Plan – Recommended GHG Reduction Measures – Water Sector  
(Reductions in MMTCO<sub>2</sub>e Emissions in 2020)**

Measure No.	Measure Description	Reductions
W-1	Water Use Efficiency	1.4
W-2	Water Recycling	0.3
W-3	Water System Energy Efficiency	2.0
W-4	Reuse Urban Runoff	0.2
W-5	Increase Renewable Energy Production	0.9
<b>Total</b>		<b>4.8*</b>

Source: CARB, 2008. Final AB 32 Scoping Plan.

MMT = million metric tons; CO<sub>2</sub>e = carbon dioxide equivalents

\* GHG emission reductions from the Water Sector are not currently counted toward the AB 32 2020 goal.

- Under Tier III, the GHG emission impact would be less than significant if the project meets numeric thresholds. Proposed thresholds are the following:
  - 10,000 MTCO<sub>2</sub>e/yr for stationary industrial projects where SCAQMD is lead agency (SCAQMD, 2008), which would be extended to other lead agency industrial projects,
  - For residential and commercial projects, proposed screening values are separate thresholds of 3,500 MTCO<sub>2</sub>e/yr for residential projects, 1,400 MTCO<sub>2</sub>e/yr for commercial projects and 3,000 MTCO<sub>2</sub>e/yr for mixed use projects, or a single numerical threshold for 3,000 MTCO<sub>2</sub>e/yr for all non-industrial (residential, commercial, mixed use) projects.
- Tier IV projects, with emissions greater than Tier III levels, would be analyzed by one of the three following methods:
  - Option 1 — A percent emission reduction target,
  - Option 2 — Early implementation of applicable [AB 32 Scoping Plan] measures (this option has been folded into Option 3), or
  - Option 3 – Sector-based Standards for 2020 and 2035 target dates.
- Tier V – Mitigation: CEQA offsets

Projects not meeting Tier IV targets would be required to provide mitigation comprised of quantifiable, verifiable offsets (e.g., design features, energy efficiency upgrades of existing buildings, etc.) to achieve the target thresholds.

The SCAQMD has not announced when staff is expecting to present a finalized version of these thresholds to the Governing Board. The SCAQMD has also adopted Rules 2700, 2701, and 2702 that address GHG reductions; however, these rules are currently applicable only to boilers and process heaters, forestry, and manure management projects.



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Emissions thresholds for criteria air pollutants and toxic air contaminants are presented in **Section 4.3 — Air Quality**.

### 9.4.3 Impacts

#### 9.4.3.1 Approach

The State CEQA Guidelines Section 15064.4(a) states that the determination of GHG emissions impacts should be based on a good-faith effort by the Lead Agency, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a Project.

The Guidelines also indicate that the Lead Agency shall have the discretion to determine whether to use a model or methodology to quantify GHG emissions of a project and which model or methodology to use, provided it supports its decision with substantial evidence. The Lead Agency should explain the imitations of the particular model or methodology selected for use. Alternatively, the Lead Agency may rely on a qualitative analysis or performance based standards.

CVWD has elected to rely on a primarily qualitative and performance based standard for the present analysis because the Proposed Project is programmatic and emissions are planning level estimates based on uncertain implementation schedules and project element capacities over the next 35 years. GHG emissions are calculated where reasonable and feasible for projected worst-case operation energy use — power generation needed to implement the Proposed Project (particularly pumping for water importation and maximum desalination treatment of drain water).

#### 9.4.3.2 Proposed Project GHG Emissions

This section discusses the Proposed Project's direct and indirect GHG emissions and compares them to baseline conditions (2009) for construction and operation. Direct emissions would be created by combustion, transport or mobile sources within the study area for construction and operation. Indirect emissions are associated with purchased electricity.

In the California GHG inventory for 1990, relevant emissions categories and statewide 1990 GHG emissions were the following:

- Direct emissions: 4D1-Domestic Wastewater Treatment and Discharge 2.83 MMT CO<sub>2</sub>e/yr
- Indirect emissions: 1A1-Main Activity Electricity and Heat Production 157.33 MMT CO<sub>2</sub>e/yr

For the Water Sector, GHG emissions are chiefly indirect emissions associated with generation of energy required to move water.

### *Coachella Valley Projects Operations*

The Proposed Project actions focus on reduction of groundwater pumping in the Coachella Valley to overcome overdraft and on meeting anticipated water demands generated by land use decisions by others (Riverside County, Imperial County and Coachella Valley cities). As presented in **Section 8**, the Proposed Project would reduce existing and projected GHG emissions from electricity production for groundwater pumping within the Coachella Valley. Actions that reduce existing well pumping and projected well pumping also reduce GHG emissions from the Southern California Edison (SCE) and Imperial Irrigation District (IID) fuel (oil, gas and coal) fired power plants that supply electricity to the Coachella Valley. Based on the figures in **Table 4-9** (USEPA, 2007), the SCE GHG emission rate is approximately 699 lb CO<sub>2</sub>e/MWh or 0.32 MTCO<sub>2</sub>e/MWh and the IID emission rate is approximately 1,308 lb/MWh or 0.59 MTCO<sub>2</sub>e/MWh (USEPA, 2007). SCE serves the West Valley and IID the East Valley.

The Proposed Project is estimated to reduce energy for Coachella Valley well pumping by approximately 56,910,000 kWh/yr by 2020 and by 67,700,000 kWh/yr by 2045, each compared to 2009 figures. The energy savings results in a beneficial effect on GHG emissions from the power plants. The Proposed Project West Valley energy demand for groundwater pumping would decrease between 2009 and 2045 by 24,493,000 kWh/hr or 24,493 MWh/yr because of reduced groundwater pumping. Therefore, the Proposed Project would reduce GHG emissions associated with SCE energy for in-Valley groundwater pumping by approximately 7,840 MTCO<sub>2</sub>e/yr, a beneficial effect. With projected reduction in groundwater pumping, East Valley energy demand would decrease between 2009 and 2045 by 43,164 MWh/yr, for a reduction in GHG emissions of approximately 25,500 MTCO<sub>2</sub>e/yr. These effects are beneficial.

Even with the decrease in well pumping energy demand, the net power demand for the Proposed Project would be an increase compared to existing (2009) power usage for reclamation and recycling, golf course irrigation, Levy Facility pumping, Martinez Canyon recharge, and Canal water distribution. Potential new GHG sources associated with the Proposed Project and estimated energy requirements are shown in **Table 8-5**. Of the additional net 134,108,000 kWh/yr needed by 2045 for Valley projects, approximately 75 percent or 101,200,000 kWh/yr would power the operation of agricultural drainage desalination at maximum estimated capacity. Other high energy demands would be created by Canal water treatment and by pumping of water for the completed Mid-Valley Pipeline (MVP) system.

A net incremental energy demand of 134,108,000 kWh/yr for all in-Valley projects by 2045 would be met by SCE in the West Valley and IID in the East Valley. Of this amount, net energy demand for all WMP projects in the West Valley would decrease by 1,910 MWh/yr or by 611 MTCO<sub>2</sub>e between 2009 and 2045, a beneficial effect. Net energy demand in the East Valley would increase from 78,227,000 kWh/yr in 2009 to 214,245,000 kWh/yr by 2045, an increment of 136,018,000 kWh/yr or 136,018 MWh/yr. The increase in GHG from East Valley power generation would be approximately 80,250 MTCO<sub>2</sub>e/yr.

Valley-wide, the net increase in GHG emissions from 2009 to 2045 would be approximately 79,640 MTCO<sub>2</sub>e/yr for in-Valley projects.

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### *Water Importation*

Another major energy requirement of the Proposed Project would be for water importation via the SWP Exchange. No construction would be required. Metropolitan, not CVWD, is responsible for CRA energy use to deliver SWP Exchange water, since CVWD and DWA are responsible for the SWP pumping energy associated with the Exchange. Movement of other (non-SWP Exchange) Colorado River water and desalinated drain water through the CRA for delivery to Whitewater for recharge involves CRA energy use (**Table 8-5**).

The All-American Canal generates hydropower for water pumping at Pilot Knob and Drop 1 power plants, but this energy generation does not generate GHG. The Coachella Canal has no energy requirement because it has gravity flow.

**SWP Exchange.** Estimated water importation from additional Table A Amount transfers or leases of SWP water would require approximately 43,600,000 kWh/yr more energy by 2020 and 78,700,000 kWh/yr more energy by 2045 of electricity on the SWP, compared to 2009 usage. This additional energy would be required to operate the SWP to bring the water into Southern California on CVWD's behalf. Note also that DWA generates some non-GHG emitting hydropower energy at the Whitewater turnout.

Power to operate the SWP is purchased from a number of providers from which GHG data were compiled for the DWR Annual Emission Report to the California Climate Action Registry: Nevada Power Company, American Electric Power, BP Energy Company, Calpine Energy Services, Shell Power, Duke Energy Trading, and others (DWR, 2009). Compiled SWP GHG emissions from purchased power are estimated to be 0.27 metric tons (MT) of CO<sub>2</sub> equivalents (CO<sub>2</sub>e) per megawatt-hour (MWh); with zero emissions of methane, nitrogen dioxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF<sub>6</sub>) that can also contribute to global warming potential.

Based on **Table 8-5** estimates of incremental energy to pump the estimated maximum amount of transferred or leased SWP water to southern California, the additional energy on the SWP for the Proposed Project would create up to approximately 11,772 MT CO<sub>2</sub>e/yr by 2020, and up to 21,249 MT CO<sub>2</sub>e/yr by 2045. The actual amount of leased or transferred SWP water that could be purchased or leased by CVWD and DWA is unknown at this time, so these figures constitute a worst case scenario and may be overly conservative.

**Colorado River Aqueduct.** Under the Proposed Project, electricity demand for CRA pumping to deliver desalinated drain water and QSA Colorado River water to Whitewater for recharge is estimated to be 43,200,000 kWh/yr by 2020 and 59,900,000 kWh/yr by 2045.

Electricity for pumping on the CRA is provided by SCE and Reclamation. Electricity from Reclamation is generated by Colorado River hydropower facilities, which do not emit GHG. The SCE 2007 emission rate is 0.315 MT/MWh CO<sub>2</sub>e. Approximately 40 percent of CRA pumping energy is from SCE and 60 percent from Reclamation (J. Vrsalovich, Metropolitan, email to Janet Fahey, MWH, April 2011). Therefore, only 40 percent of the energy estimate for moving QSA water and desalinated drainage water in the CRA has emissions. Assuming the total projected energy increment in 2020 is 43,200,000 kWh/yr and in 2045 is 59,877,188

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kWh/yr. Taking 40 percent of these figures, converting to MWh, and multiplying by 0.315 MTCO<sub>2e</sub>/MWh, the amounts are 5,443 MT CO<sub>2e</sub> in 2020 and 7,545 MT CO<sub>2e</sub> in 2045.

**Conclusions.** The total increase in GHG emissions for water importation under the 2010 WMP Update would be approximately 17,200 MT CO<sub>2e</sub> by 2020 and 29,000 MT CO<sub>2e</sub> by 2045.

The emissions would be generated at power plants on the grid operated by the more than six companies identified above that supply power to the SWP and CRA and would not occur necessarily within the Salton Sea Air Basin or even within the South Coast Air Basin. Mitigation for per unit emissions at the generation facilities is outside the control and responsibility of CVWD. In addition, current fuel mixes will change in the future with implementation of SB X1 2, with a 33 percent reduction in GHG emissions per unit fuel generation by 2020.

### *In-Valley Construction Emissions*

Short-term vehicular and construction equipment emissions of GHG would also be created by the construction of:

- a. recycled water distribution system pipelines and pumping stations,
- b. drain water desalination treatment and distribution and brine disposal,
- c. pumping station and pipeline to serve the Levy Facility
- d. recharge basins and appurtenant facilities for Martinez Canyon (Indio recharge facilities are not part of the Proposed Project),
- e. MVP Phases 2 and 3 distribution system,
- f. additional pipeline distribution of Canal water,
- g. Canal water treatment facilities to serve urban uses,
- h. groundwater treatment for arsenic,
- i. drainage facilities, and
- j. Canal water loss reduction facilities.

SCAQMD has suggested that construction emissions be summed and amortized over 30 years. However, the construction durations, locations and equipment mixes for these projects are not known at this time, particularly for pipeline alignments, pumping stations, drainage facilities and Canal water loss reduction facilities. GHG emissions of construction will be calculated when these facilities are designed and tiered CEQA documents prepared.

Vehicle emissions will decrease in the future. Passed in 2002, before the overarching climate program was established, AB 1493 (Chapter 200, Statutes of 2002) was authored by California State Assembly Member Fran Pavley. The bill required CARB to develop and adopt the nation's first GHG emission standards for automobiles, and the emission limits it requires are commonly referred to as the Pavley Standards. The CARB approved GHG emission limits for light duty

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vehicles in 2004. The standards became effective in 2009 and will reduce GHG emissions from California passenger vehicles by about 22 percent by 2012 and about 30 percent by 2016.

In addition, Executive Order S-1-07, the Low Carbon Fuel Standard (LCFS) (issued on January 18, 2007) calls for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. The Executive Order instructed the California Environmental Protection Agency to coordinate activities among the University of California, the California Energy Commission and other state agencies to develop and propose a draft compliance schedule to meet the 2020 target. Furthermore, the Order directed CARB to consider initiating regulatory proceedings to establish and implement the LCFS.

### *Conclusions*

The results of the energy conservation and resources analysis in **Section 8** of this SPEIR indicate that the implementation of the Proposed Project through 2045 would result in a net increase in energy use associated with water management in the Valley compared to 2009. However, because of future changes in fuel mixes for SCE, IID and suppliers of energy for the SWP and Colorado River deliveries; unknown capacities of future Proposed Project elements tied to growth projected and approved by others; and the possibility of CVWD developing its own renewable energy facilities, the sum of GHG emissions from 2010 WMP Update reflects a worst case, in that some of several of these projects may not be implemented over the next 35 years.

The total increase in GHG emissions for water importation under the 2010 WMP Update would be approximately 17,200 MT CO<sub>2</sub>e by 2020 and 29,000 MT CO<sub>2</sub>e by 2045.

Net energy demand for in-Valley projects would decrease energy and GHG emissions in the West Valley supplied by SCE and increase GHG emissions associated with energy from IID. GHG emissions for the whole Valley would increase.

Total project GHG emissions have been quantified based on present energy demand estimates and fuel mixes from SCE and IID facilities, but are inherently overly conservative because emissions rates will be less in future years and the greatest increase in power demand for the Proposed Project is anticipated after 2015 2020.

In addition, energy demand and associated GHG emissions will depend of how growth proceeds. It is estimated that growth projected in the Valley by SCAG would generate over 500,000 MTCO<sub>2</sub>e by 2045.

**The SCAQMD Draft Tiered Thresholds.** The following discusses the relationship of the Proposed Project and estimated impacts to the SCAQMD draft tiered GHG significance thresholds.

**Tier I** does not apply because the Proposed Project does not qualify for a CEQA categorical or statutory exemption.

Under **Tier II**, the GHG emission impact would be less than significant if the project is consistent with a locally adopted GHG reduction plan. At present, there is no locally adopted

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GHG reduction plan (such as by Riverside County or CVAG) that applies to the Proposed Project study area. CVAG received funding in 2010 from the Colmac Energy, Inc. grant program to prepare a Coachella Valley GHG reduction plan (CVAG, 2010). Therefore, it is anticipated that CVAG will prepare a GHG reduction plan in the future.

The GHG emissions of the 2010 WMP Update are less than significant because the Proposed Project is consistent with a previously adopted GHG reduction plan, the State AB 32 Scoping Plan, which is evaluated with respect to the Plan's Water Sector measures, as discussed below.

Under **Tier III**, numeric threshold emissions values are proposed: 10,000 MTCO<sub>2</sub>e/yr for stationary industrial projects where SCAQMD is lead agency (SCAQMD, 2008), which would be extended to other lead agency industrial projects. For residential and commercial projects, proposed screening values are separate thresholds of 3,500 MTCO<sub>2</sub>e/yr for residential projects, 1,400 MTCO<sub>2</sub>e/yr for commercial projects and 3,000 MTCO<sub>2</sub>e/yr for mixed use projects, or a single numerical threshold for 3,000 MTCO<sub>2</sub>e/yr for all non-industrial (residential, commercial, mixed use) projects. A project with emissions less than the screening value would have less than significant GHG emissions.

The Proposed Project estimated direct GHG emissions through 2045, as construction and operational vehicle tailpipe emissions to implement the Proposed Project elements are not determined at this time because their construction and operation characteristics are not known. The indirect emissions from power generation for water importation and powering treatment and pumping facilities through 2045 exceed the Tier III threshold for industrial projects of 10,000 MTCO<sub>2</sub>e/yr, but the applicability of this threshold to the Proposed Project is not accepted by the Lead Agency.

**Tier IV** proposed performance standards. Projects with emissions greater than Tier III levels would be analyzed by one of the three following methods:

- Option 1 – Percent Emission Reduction Target. SCAQMD staff has no recommendation regarding this approach at this time.
- Option 2 – Early Implementation of Applicable Measures – this option has been folded into Option 3.
- Option 3 – Sector-based Standard

Current Water Sector mitigation measures in which local agencies can participate are (California Climate Action Portal, 2011):

- 20 percent reduction in per capita water use by 2020 for urban water use and measures for implementing agricultural water efficiency [an existing element of the Proposed Project]
- Increase water use efficiency through use of recycled water [an existing element of the Proposed Project]
- Aggressively increase water use efficiency through low-impact development techniques [aggressive water conservation, including a landscape ordinance, is an existing element of the Proposed Project]

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Therefore, it is the Lead Agency’s opinion that the Proposed Project is consistent with the AB 32 Scoping Plan Water Sector GHG mitigation measures and constitutes early implementation of these measures and compliance with sector-based standards. Therefore, it is concluded that with respect to Tier IV this project would have a less than significant impact at a programmatic level. Individual project element emissions will be evaluated in a future project-specific CEQA analysis.

### 9.4.3.3 Compliance with Relevant Plans, Policies and Regulations

A Lead Agency may determine that a project’s incremental contribution to the cumulative effect of GHG emissions is not “cumulatively considerable” provided the project complies with a state-wide or region-wide GHG reduction plan. These plans usually involve setting emission reduction goals and adopting implementation measures to achieve those goals.

At present (May, 2011), the Governor’s Office of Planning and Research (OPR) does not list the County of Riverside or CVAG or any cities in the Coachella Valley except Indian Wells, as having adopted GHG reduction plans (OPR, 2011). On November 19, 2009, the Indian Wells City Council adopted “Getting Greener: Indian Wells’ Path to Sustainability.” In that document, Strategy 2, Reduce Emissions of Greenhouse Gases involves:

- raising awareness with residents and businesses about global climate change and the sources of climate changing gases, and
- developing practices that will reduce emissions of greenhouse gases and increase energy efficiency in municipal operations.

In September 2009, CVAG submitted a grant application for funds to prepare a GHG Reduction Plan. In September 2010, the CVAG Board authorized staff to release a Request for Proposals (RFP) for a consultant to assist with the GHG reduction plan. The RFP for plan preparation will be released in 2011 (K. Barrows, CVAG, pers. comm. December 17, 2010). Therefore, completion of the GHG reduction plan will follow the 2010 WMP Update and Final SPEIR.

The SPEIR analysis therefore considers the State GHG reduction plan, as reflected in the AB 32 Scoping Plan and the California Climate Change Portal Water-Energy Sector Summary, AB32 Scoping Plan, GHG Emission Reduction Strategies. (2008). The congruence of the 2010 WMP Update with the Scoping Plan is discussed below for each recommended Water Sector measure for reducing GHG emissions listed in **Table 9-5** above.

#### *Water Use Efficiency*

The 2010 WMP Update focuses heavily on water use efficiency and conservation to reduce increase urban, golf course and agricultural water use, and thereby energy consumption for moving water, through an intensive multi-sector conservation plan that reduces water use by more than 90,000 AFY in 2045 (see **Section 3 — Project Description**).

Therefore, the 2010 WMP Update is congruent with the Scoping Plan recommendation and the State GHG reduction plan relative to water use efficiency.

### ***Water Recycling***

One of the stated goals of the 2010 WMP Update is to maximize water recycling in the Coachella Valley from existing wastewater plants operated by CVWD, DWA, Coachella Sanitary District and Valley Sanitary District. Under the 2010 WMP Update, up to 70,000 AFY of recycling is projected by 2045. Therefore, the 2010 WMP Update is congruent with the Scoping Report recommendation and the State GHG reduction plan relative to water recycling to reduce energy for water conveyance to use locations.

### ***Water System Energy Efficiency***

CVWD promotes energy conservation as well as water conservation. CVWD has received rebates from IID for replacement/upgrade of inefficient pumps/motors. IID Energy offers incentives to its commercial customers to encourage energy efficiency, primarily through its Energy Rewards Rebate Program. These rebates are offered for qualifying energy efficient appliances and building improvements (DSIRE, 2010).

CVWD is also taking advantage of the SCE Time of Use-Base Interruptible Program (TOU-BIP) rates and curtailment programs. The TOU-BIP is an interruptible rate designed for customers whose monthly Maximum Demand reaches or exceeds 200 kilowatts (kW) and who commit to curtail at least 15 percent of their Maximum Demand, at least 100 kW per Period of Interruption (SCE, 2010).

The District's new headquarters, under construction at this writing, will meet the LEED (Leadership in Energy and Environmental Design) Green Building Rating System™ Gold standard design criteria, which promote “energy savings, water efficiency, CO<sub>2</sub> emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts” (U.S. Green Building Council, 2010). In addition, solar panels installed on the building's carports will generate approximately 375 kW of electricity.

Therefore, the 2010 WMP Update is congruent with the Scoping Plan recommendation and the State GHG reduction plan relative to water system energy efficiency to reduce GHG emissions.

### ***Reuse Urban Runoff***

The majority of desert Valley runoff results from a few intense storms each year and is impractical to attempt to capture and retain. Most urban runoff either percolates or evaporates; a small fraction of non-storm runoff flows to storm drains that empty into the CVSC /Whitewater River, a tributary to the Salton Sea.

The 2010 WMP Update contains an element to divert a portion of the CVSC and drain flow and treat it for agricultural use or non-potable urban use (outdoor irrigation). Therefore, a portion of existing and future urban runoff would be reused. Therefore, the 2010 WMP Update is congruent, to the extent feasible, with the Scoping Plan recommendations and the State GHG reduction plan relative to reuse of urban runoff to avoid energy consumption for conveying existing water sources.



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### *Increase Renewable Energy Production*

CVWD is not in the business of power generation. However, the County Water District Law (California Water Code Sections 31149.1-31149.7) allows CVWD to generate power for its own use and to sell excess to a power provider or other district, but it cannot sell retail power. CVWD is exploring opportunities to increase renewable energy production (wind, solar, hydropower, etc.) within its service area. The District currently leases land at Whitewater for wind power generation and could develop solar if it is feasible. In addition, the new CVWD headquarters building in Palm Desert will meet LEED Gold Standards in its design and the District will install solar panels on the roofs of its parking facilities. CVWD encourages similar actions by other water and wastewater entities in the Valley.

### *Project Significance Summary*

Considering that Proposed Project goals and elements are congruent with the Water Sector mitigation measures of the AB 32 Scoping Plan, and in the absence of adopted GHG reduction plans for Riverside County and CVAG, the 2010 WMP Update is found not to be in conflict with applicable plans, policies or regulations of an agency adopted for the purpose of reducing the emissions of GHG. The Proposed Project is considered to have less than significant impacts relative to this significance criterion.

At the same time, energy required to convey water to the Coachella Valley to overcome overdraft, to desalinate local water supplies for reuse (if implemented), and to meet water demands of projected growth approved by others will require an increase in energy usage and associated GHG emissions that can be minimized but cannot be eliminated, even with the anticipated reduction in groundwater pumping energy. Therefore, the Proposed Project will result in an increase in GHG emissions over CEQA baseline 2009 levels.

Currently, there are no adopted numeric significance thresholds that specifically apply to public water utility projects needed to accommodate growth. Projected growth would require approximately six or seven times as much energy as WMP implementation by 2045. If the growth does not take place or is delayed, however, the WMP facilities would not be built, would be smaller in capacity or built later, so the amount of energy increase and associated GHG emissions would also be reduced and may or may not exceed significance thresholds applicable at the time facilities implementation is contemplated. In addition, individual Proposed Project elements will evaluate their individual direct, indirect and cumulative GHG emissions in second tier CEQA documents and incorporate design features to minimize emissions from construction and operation. CVWD will also continue to monitor available GHG mitigation in the future.

GHG emissions per unit of energy generated for water importation on the SWP and CRA will be addressed by the energy generating agencies as part of their operations and maintenance.

#### **9.4.4 Potential Effects of Climate Change on the Proposed Project**

As discussed in the 2010 WMP Update Section 5, climate change has the potential to affect Coachella Valley's two major sources of imported water: the Colorado River and the SWP. Potential effects of climate change could also increase water demand within the Coachella

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Valley. This section describes these potential changes and CVWD's climate change adaptation approach.

### 9.4.4.1 Colorado River Basin

Reclamation Lower Colorado Region (LC Region) has undertaken an extensive research and development program to investigate the use of new methods for projecting possible future Colorado River flows that take into account increased hydrologic variability and potential decreases in the river's annual inflow due to a changing climate. The Colorado River Hydrology Work Group (Hydrology Work Group) and the Colorado River Modeling Work Group (Modeling Work Group) are conducting several studies as part of this research and development program.

Precise estimates of future impacts of climate change on runoff throughout the Colorado River basin are not currently available and studies are underway to better evaluate these effects (Reclamation, 2007). These impacts may include decrease in annual flow and increased variability, including more frequent and more severe droughts. Even without precise knowledge of the effects, increasing temperatures alone could increase losses due to evaporation and sublimation, resulting in reduced runoff.

Increased air temperature will result in earlier snow melt runoff and a greater proportion of runoff due to rainfall. Because reservoir storage in the Colorado River basin is so large in comparison to annual basin runoff (roughly four times average runoff), a change in the timing of annual runoff would not be expected to significantly affect basin yield (DWR, 2006).

Potential changes in the amount of precipitation received by the Colorado River basin could affect basin yield. Warmer temperatures could also be expected to increase water demands and increase evaporation from reservoirs and canals. While changes in any particular location will likely be small, the aggregate change for the basin could be significant because so much land is involved. No reliable quantitative estimates of potential changes in precipitation (or increased demand) are available (Reclamation, 2007).

Climate change impacts were evaluated in the EIS on the "Colorado River Interim Guidelines for East Basin Shortages and Coordinated Operations for Lakes Powell and Mead" (Reclamation, 2007). The guidelines extend through 2026, providing the opportunity to gain valuable operating experience through the management of Lake Powell and Lake Mead, particularly for low flow reservoir conditions, and to improve the bases for making additional future operational decisions during the interim period and thereafter.

The shortage sharing guidelines are crafted to include operational elements that would respond if potential impacts of climate change and increased hydrologic variability occur. The guidelines include coordinated operational elements that allow for adjustment of Lake Powell releases to respond to low average storage conditions in Lake Powell or Lake Mead. In addition, the guidelines enhance conservation opportunities in the lower basin and retention of water in Lake Mead.

While impacts from climate change on the Colorado River cannot be quantified at this time, the interim guidelines should provide additional protection against impacts of shortage sharing at

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least through 2026. Coachella Valley water supplies are protected from impacts of climate change and corresponding shortages by 1) California’s first priority for Colorado River water supplies in the lower Colorado River basin, and 2) Coachella’s high priority for Colorado River supplies among California users of Colorado River water.

Additionally, Reclamation is currently developing the “Colorado River Basin Water Supply and Demand Study”. This study will define the current and future water supply and demand imbalances in the Colorado River Basin for the next 50 years. The study is scheduled to be completed by January 2012.

### 9.4.4.2 State Water Project

To assess impacts of climate change on the SWP, DWR evaluated four scenarios generated from two different Global Climate Models (GCMs), a Geophysical Fluid Dynamic Lab (GFDL) model and a Parallel Climate Model (PCM). All four scenarios predict a warming trend for California. The likelihood of any one of these scenarios occurring over another has not been assessed (DWR, 2006). DWR conducted an updated analysis using six different global climate models in 2009. The analysis shows a 7 percent to 10 percent reduction in Delta exports by mid century and up to 25 percent reduction by the end of the century. Reservoir carryover storage is projected to decrease by 15 percent to 19 percent by mid century and up to 38 percent by the end of the century.

The models also projected a change in the timing of runoff from the Sierra Nevada Mountains and the southern end of the Cascades Mountains. More runoff will occur in the winter and less in the spring and summer, making it more difficult for the SWP to capture water and deliver it to contractors.

The 2006 DWR study predicted significant declines in SWP deliveries. **Table 9-6** presents potential impacts on SWP water deliveries.

DWR assessed the impacts of climate change on SWP Table A and Article 21 deliveries in 2007 and 2009. The assessment included the impact of court rulings at that time to protect the endangered Delta smelt. A review of the effects of climate change, as presented in DWR’s 2009 SWP Reliability Report (DWR, 2009), indicates that climate change could decrease average SWP deliveries by as much as 5 percent by 2029, based on interpolation of the 2006 climate change report.

The average SWP reliability factor of 50 percent of Table A Amount assumed in the 2010 WMP Update is believed to account for potential climate change impacts on supply through 2045.

**Table 9-6  
Impacts of Five Climate Change Scenarios on State Water Project  
Table A and Article 21 Average Deliveries (for 2020)**

Scenario	Table A			Article 21		
	Average	Difference		Average	Difference	
	KAFY*	KAFY	%	KAFY	KAFY	%
BASE	3,186	0	0	99	0	0
GFDL A2	2,879	-307	-9.6	106	7	7.1
PCM A2	2,964	-222	-7.0	103	4	4.0
GFDL B1	2,861	-325	-10.2	101	2	2.0
PCM B1	3,224	+38	+1.2	88	-11	11.1

Source: DWR. 2006.

KAFY = Thousand acre-feet per year; GFDL = National Oceanic and Atmospheric Administration Geophysical Fluid Dynamics Laboratory CM2.1 model; PCM = Parallel Climate Model

**9.4.4.3 Coachella Valley Supplies and Demands**

Projected potential changes in temperature or evapotranspiration for the Coachella Valley from climate change are not currently available. However, based on larger scale studies, it can be inferred that increased temperatures in the Coachella Valley would increase water demands for crop and landscape irrigation, urban water use, and evaporative losses from canals and open reservoirs. It has been suggested that increased summer temperatures could draw increased monsoonal flow, resulting in more frequent summer thunderstorms. However, no formal studies have been conducted. The impact of climate change on the Proposed Project is anticipated to be significant.

**9.4.4.4 Conclusion**

Current projections of global warming and climate change increase the uncertainty regarding Coachella Valley water supplies. Consequently, to account for such uncertainty, the 2010 WMP Update has adopted a flexible approach by assigning book-end targets (ranges) for each of the major project categories. The book-ends represent reasonable minimum and maximum amounts for potential project development. In addition, inclusion of a water supply contingency over and above the supplies required to meet projected demands provides an additional buffer in the event that water supplies do not produce the expected amounts. Implementing the elements of the 2010 WMP Update is expected to be a good means of dealing with this additional uncertainty. Water conservation and development of alternative supplies such as recycled water and desalinated drain water increase the reliability of supplies to the Coachella Valley. Nevertheless, the impact of climate change on the Proposed Project is anticipated to be significant.

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### 9.4.5 Mitigation Measures

GHG mitigation measures available on the USEPA website are for the Electric Utility/Power Sector generation facilities, over which CVWD has no control, or the Cement Sector, which is not relevant to the Proposed Project (USEPA, 2011). The California Air Pollution Control Officers Association (CAPCOA) published “Quantifying Greenhouse Gas Mitigation Measures” (CAPCOA, 2010) and CEQA and Climate Change (CAPCOA, 2008).

CAPCOA GHG Mitigation Strategies related to Water Supply were: use of reclaimed water (an element of the 2010 WMP Update), use of gray water (not needed with conservation and if recycled water is available), and locally sourced water supply (not in keeping with reduction of local groundwater pumping as a Proposed Project objective).

Relative to Water Use, the CAPCOA GHG mitigation strategies were:

1. install low-flow water fixtures,
2. adopt a water conservation strategy,
3. design water efficient landscapes,
4. use water efficient irrigation systems,
5. reduce turf in landscapes and lawns, and
6. plant native or drought-resistant trees and vegetation.

All of these measures are incorporated into or are objectives of CVWD, Riverside County and Valley municipality and water utility conservation programs and landscape ordinances. These are part of existing conditions and incorporated into the Proposed Project.

The third area of CAPCOA Mitigation Strategies potentially relevant to the Proposed Project was for Construction:

1. use alternative fuels for construction equipment,
2. use electric and hybrid construction equipment,
3. limit construction equipment idling beyond regulation requirements,
4. institute a heavy-duty off-road vehicle plan, and
5. implement a construction vehicle inventory tracking system.

Relevant measures from this group are incorporated into the programmatic mitigation measures below.

#### 9.4.5.1 Reducing Greenhouse Gas Emissions from the Proposed Project

**GHG-1:** To reduce greenhouse gas emissions, CVWD commits to incorporating the following measures into project construction specifications for facilities under the 2010 WMP Update:

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- use alternative fuels for construction equipment as available,
- use electric and hybrid construction equipment as available,
- limit construction equipment idling beyond regulation requirements,
- institute a heavy-duty off-road vehicle plan, and
- implement a construction vehicle inventory tracking system.

GHG emissions associated with in-Valley projects are chiefly indirect effects from electrical power generation. These emissions would be mitigated by the energy-reducing measures in **Section 8** and the following programmatic mitigation measure:

**GHG-2:** CVWD wastewater reclamation plant units shall be covered to reduce emissions of GHG or GHG precursors.

### 9.4.5.2 Reducing Climate Change Impacts on the Proposed Project

Many of the potential measures for reducing climate change effects on water resources identified in the AB 32 Scoping Report are the essential elements of the 2002 WMP and the 2010 WMP Update. The 2010 WMP Update includes the following specific measures to adapt to the potential impacts of climate change on its water resources:

- increased emphasis on water conservation and efficient use,
- inclusion of a 10 percent water supply planning contingency, and
- evaluation of reduced future SWP supply reliability in the absence of improved Delta conveyance facilities.

### 9.4.6 Impact Significance with Implementation of Mitigation Measures

The impact of the 2010 WMP Update on GHG emissions is considered to be less than significant with respect to conflict with adopted GHG reduction plans.

The impact of the 2010 WMP Update is considered to be less than significant with mitigation incorporated with respect to generating direct, local GHG emissions.

An indirect impact of the 2010 WMP Update, GHG emissions from energy generation for water importation, are considered to be potentially significant, but not under the control of CVWD, rather of power suppliers IID and SCE.

Indirect GHG emissions from energy for desalination are also a function of emissions associated with power generation. These emissions may be reduced if CVWD can develop its own renewable energy sources, such as solar, to replace IID electricity completely or partially. Whether to implement desalination and the source of energy to power it are decisions anticipated in 5 to 10 years.

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The impact of global climate change on the Proposed Project with implementation of the mitigation measures identified above is considered to be potentially significant.

# Section 10

## Alternatives to the Proposed Project

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The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) consider a reasonable range of alternatives to a Proposed Project that can attain most of the basic project objectives, but has the potential to reduce or eliminate significant adverse impacts of the Proposed Project and may be feasibly accomplished in a successful manner, considering the economic, environmental, social and technological factors involved.

An EIR must evaluate the comparative merits of the alternatives (State CEQA Guidelines Sec. 15126.6 [a], [d] and [e]). If certain alternatives are found to be infeasible, the analysis must explain the reasons and facts supporting that conclusion. Section 15126.6 [d] also requires that, if an alternative would cause one or more significant effects in addition to those caused by the Proposed Project, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. CEQA also requires analysis of the No Project alternative. **Section 10** of this Subsequent PEIR (SPEIR) also discusses the environmentally superior alternative, as required by CEQA (Section 15126.6).

An extensive alternatives analysis was performed for the development of the 2002 Water Management Plan (WMP). Because of greater uncertainties in supplies and other factors, the 2010 WMP Update considered bookended ranges of Proposed Project elements and focuses on potentially significant impacts that cannot be mitigated to a level of less than significant by incorporated mitigation, including:

- groundwater quality degradation (salinity) from continued recharge with Colorado River water,
- increased selenium in drain waters,
- air pollutant emissions of construction, and
- air pollutant emissions from exposed Salton Sea playa if drain water desalination exceeds 61,000 AFY.

### 10.1 PROJECT PURPOSE AND OBJECTIVES

The goals and objectives for the 2010 WMP Update have been refined from the 2002 Plan to reflect the significant changes in projected water demands and water supplies that have occurred in recent years. The basic goal of the WMP remains essentially the same: “to reliably meet current and future water demands in a cost-effective and sustainable manner.” The underlying objectives have been refined based on the uncertainties facing water resources managers throughout California and especially in the Coachella Valley. The programs and projects identified in the 2010 WMP Update are based on the following objectives:



## Section 10 – Alternatives to the Proposed Project

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- Meet current and future water demands with a 10 percent supply buffer
- Manage groundwater overdraft
- Manage water quality
- Comply with state and federal regulations
- Manage future costs
- Minimize adverse environmental impacts

### 10.2 THE NO PROJECT ALTERNATIVE

State CEQA Guidelines Section 15126.6(e)(1) requires the evaluation of a “no project alternative” to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

#### 10.2.1 Regulatory Background

Concerning the No Project Alternative, State CEQA Guidelines Section 15126.6(e)(3)(A) states:

“When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation [as in the present case], the “no project” alternative will be the continuation of the existing plan, policy or operation into the future. Typically, this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan.”

#### 10.2.2 Description of the No Project Alternative

The No Project alternative is, therefore, the continued implementation of the adopted 2002 WMP without modification and represents a projection of what would reasonably be expected to occur in the foreseeable future if the current Proposed Project, the 2010 WMP Update, were not approved; that is, continued implementation of the adopted 2002 WMP with impacts evaluated in the context of the current environment.

The 2002 Plan included water conservation, which was expected to decrease total water demand by seven percent by 2015. The Quantification Settlement Agreement was anticipated to provide CVWD a total Colorado River diversion of 459,000 AFY before conveyance losses. The 2002 Plan included a 10,000 AFY SWP Table A Amount transfer from Metropolitan and additional SWP purchases with an objective of 140,000 AFY delivered from the SWP for recharge at Whitewater. Effluent recycling was proposed to increase by an additional 16,000 AFY and drain water desalination was proposed at 1,000 AFY by 2023. Recycling of fish farm effluent was anticipated to continue at a rate of 5,000 AFY for use by duck clubs and for agricultural irrigation. Approximately 32,000 AFY of Canal water was to be treated for municipal use, phased in by the late 2020s. Approximately 80,000 AFY of groundwater recharge was projected at Dike 4 and Martinez Canyon.

The existing and projected water demand and supply environments in the Coachella Valley have changed significantly since publication of the 2002 WMP. Of particular relevance are 2008 Southern California Association of Governments (SCAG)/County of Riverside/Coachella Valley Association of Governments (CVAG) adopted population projections and projected changes in imported water supply reliability. These projections and supply changes required a re-evaluation of the types and mixes of anticipated water use in the 2010 Plan Update. Water demands are based upon the 2008 growth forecasts, which are 20 to 25 percent higher than the forecasts used in the 2002 Plan. East Valley forecasts predict agricultural land use transitioning to urban and golf course uses, with substantial increases in domestic water use and reduced agricultural use. State Water Project (SWP) reliability reduces from a long-term historic average of 77 percent to an estimated 50 percent with more stringent environmental restrictions on Delta water exports in the absence of Delta conveyance improvements.

Under the 2008 growth projections, East Valley agriculture is projected to transition to urban and golf course land uses and associated water demands. Agriculture, golf courses and urban landscape irrigation can use untreated Canal water, but it is not suitable for potable use. The 2002 WMP included 32,000 AFY of treated Canal water by 2035. With continued implementation of the 2002 WMP, the new urban uses, with demands well in excess of 32,000 AFY, would depend on groundwater pumping. This pumping would significantly increase overdraft in the East Valley.

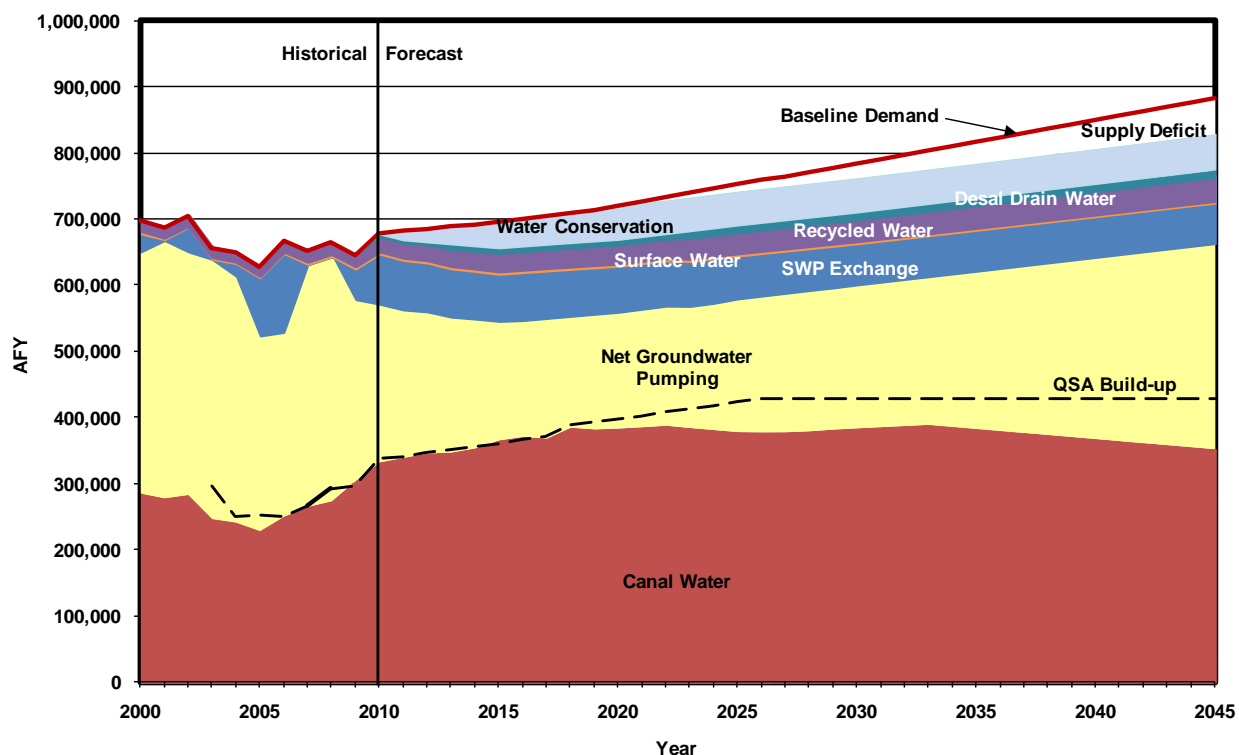
Other supplies and conservation remain as identified in the 2002 WMP except for an unidentified additional supply that would be needed to meet new projected demands located outside the Whitewater River Subbasin. **Figure 10-1** shows the water supply plan for the No Project alternative through 2045.

### 10.2.3 Evaluation of the No Project Alternative

This section identifies the effects of the No Project Alternative. With respect to water resources impacts of the No Project Alternative, **Figure 10-2** presents the projected changes in groundwater storage based on the assumptions identified above with the currently projected water demands. This alternative initially exhibits a positive change in storage (gain) from 2010 through 2018; overdraft would resume thereafter and increase. In the West Valley, reduced SWP availability, coupled with increased groundwater use, would result in increased overdraft.

With implementation of the 2002 Plan without modification, not all available Coachella Canal water would be used because of the decrease in agricultural demand. The 2002 WMP anticipated relatively small treated Canal water deliveries (32,000 AFY) to urban customers. Consequently, there would be a need to identify additional uses and projects to make use of the available supply, either through direct use or groundwater recharge. None of these additional projects were included in the 2002 WMP. With the revised urban growth projections applied in the 2010 WMP Update, net groundwater pumping (pumping less imported water recharge) would show a significant increase. This increase would be partially driven by the lower domestic use of Coachella Canal water as well as the 2002 WMP assumption that most domestic demand would be met by groundwater pumping.

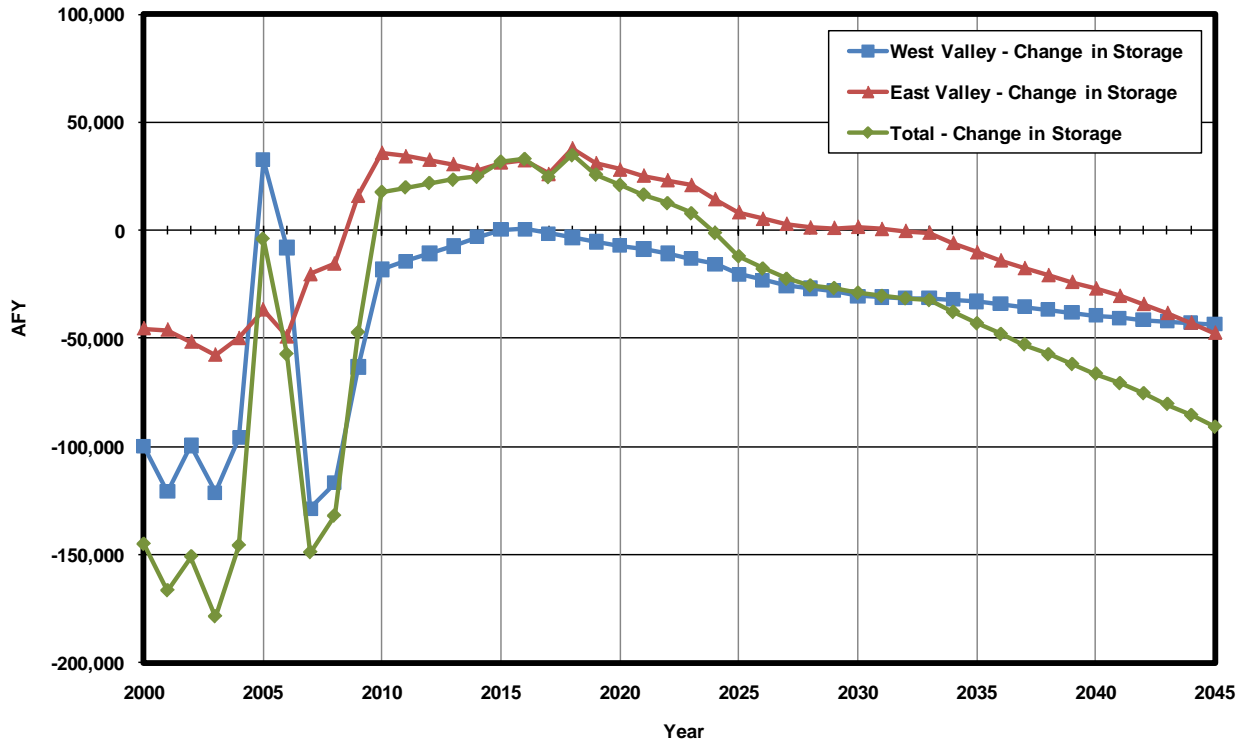
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**Figure 10-1**  
**Water Supply Plan for the No Project Alternative**

In spite of the increased groundwater pumping, a water supply deficit would exist as a result of potential development and associated water demands in areas northeast of the San Andreas fault. These areas are located within the corporate boundaries or spheres of influence of the cities of Coachella and Indio. As discussed previously, these areas were not included in the 2002 WMP planning area.

Continued implementation of the 2002 WMP as adopted would have other effects in the Valley. Increased urban development would result in the generation of substantially more municipal wastewater. The 2002 WMP anticipated reuse of a limited amount of treated effluent from Water Reclamation Plant No. 4 (WRP-4) for agricultural purposes. All unused recycled water would be discharged to the Coachella Valley Stormwater Channel (CVSC), which would represent the potential loss of a valuable water resource for non-potable uses, but would provide a supply of lower salinity water for the Salton Sea, however small.

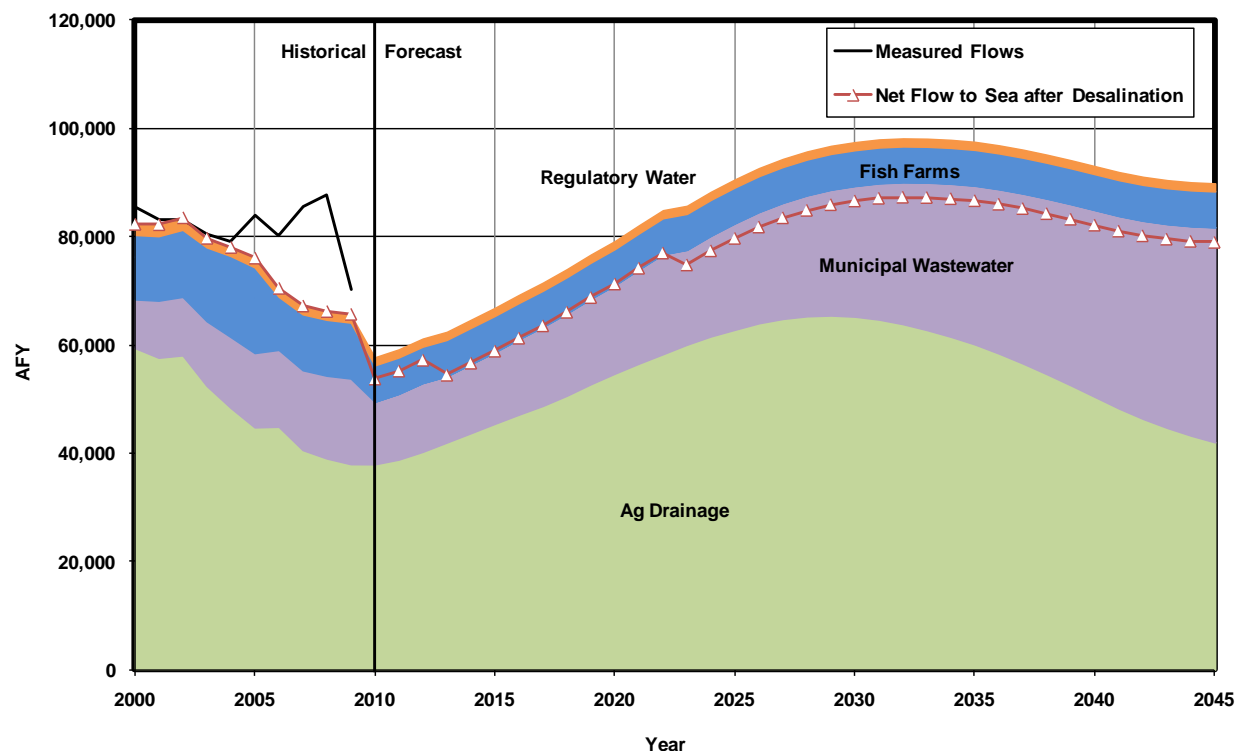


**Figure 10-2**  
**Estimated Annual Change in Storage – No Project Alternative**

Flows to the Salton Sea consist of agricultural drainage captured by the subsurface drain system, municipal wastewater discharges to the CVSC, fish farm effluent discharged to surface drains and the CVSC, and regulatory water (Canal water releases due scheduling issues). **Figure 10-3** presents estimated flows to the Salton Sea with current water use projections under the No Project Alternative. This chart shows that inflow initially increases while the East Valley is gaining groundwater storage. However, as growth proceeds and pumping increases, drainage would decrease in response to declining groundwater levels. This discharge is a resource that could be used to meet future demands. The No Project alternative would fail to meet project objectives. The No Project Alternative would not meet current and future water demands with a 10 percent supply buffer, would increase groundwater overdraft and potential subsidence, would not manage water quality by allowing additional percolation of poor quality water and seawater intrusion, and would increase the cost of and energy use for groundwater pumping. Declining water levels and increasingly expensive groundwater pumping costs would increase economic impacts to Valley water users. Valuable recycled water resources would be wasted rather than used.

Compared to the Proposed Project (with desalination of drain water), the No Project Alternative would provide more lower-salinity water to the Salton Sea. The salinity impact of No Project on the groundwater basin quality would be similar because imported water recharge would continue. The impact on selenium in the drains is anticipated to be the same as for the Proposed Project.

## Section 10 – Alternatives to the Proposed Project



**Figure 10-3**  
**Estimated Annual Flow to Salton Sea – No Project Alternative**

No Project impacts also are considered for environmental factors other than water resources, compared to the Proposed Project:

- geology and soils, seismicity, liquefaction and expansive soils, mineral resources,
- air quality;
- biological resources;
- cultural resources
- population and land use; public services and utilities;
- aesthetics;
- agriculture;
- hazards;
- noise; and
- transportation and traffic.

**Geology and Soils, Seismicity, Liquefaction and Expansive Soils, Mineral Resources.** If potential impact related to earth resources is correlated with area of disturbance, then No Project impacts could be slightly less than under the Proposed Project because under No Project proposed facilities were slightly smaller in area. The measures to reduce or address these issues would be the same for each No Project element as for the Proposed Project elements. Impact on mineral resources is less than significant for No Project or the Proposed Project.

**Air Quality.** It is anticipated that construction impacts on air quality from tailpipe emissions would be significant and not mitigable from implementation of both No Project and the Proposed Project, because the project elements in both were of similar size and complexity.

**Biological and Cultural Resources.** To the extent that potential impact on biological and cultural resources is correlated with area of disturbance, then No Project impacts on biological and cultural resources could be slightly less than under the Proposed Project because under No Project proposed facilities were slightly smaller in area.

An exception is the Martinez Canyon recharge basins, sized at 20,000 AFY under the Proposed Project instead of 40,000 AFY under No Project. The Martinez Canyon recharge facilities are included as Covered Activities in the CVMSHCP, however, with bighorn sheep mitigation incorporated.

**Population and Land Use; Public Services and Utilities.** Both No Project and the Proposed Project would have less than significant effects on land use, population public services and utilities. Most proposed facilities would be small and on agricultural or disturbed Valley floor land. Martinez Canyon facilities would be smaller under the Proposed Project; the larger desalination plant, if implemented, would be on disturbed land adjacent to WRP-4.

**Aesthetics.** Proposed facilities under both No Project and the Proposed Project would similar in appearance and designed to blend with their surroundings. Aesthetic impacts would be similar.

**Agriculture.** Agricultural water use per acre would be substantially lower under the Proposed Project than No Project, because no Project included little conservation. Therefore, the effect of the Proposed Project would be beneficial and No Project would result in greater per acre water use, which is not keeping with WMP stated goals.

**Hazards and Hazardous Materials.** The potential for encountering hazardous materials or contaminated soils would be similar for both projects; management of such materials would be the same for both as required by statute. The use of hazardous materials would be slightly greater for the Proposed Project because of chemical use for desalination, if implemented, but risk created from management of these materials is reduced to less than significant by adherence to legal and regulatory requirements.

**Noise.** Construction and operation noise associated with proposed facilities would be similar for No Project and the Proposed Project, since the facilities are similar in size and would be designed and operated to meet the same cities' and county noise ordinances. There would be less noise from maintenance of the Martinez Canyon recharge basins under the Proposed Project than under No Project, since the facilities would be smaller.

**Transportation and Traffic.** Facilities to be constructed under No Project were similar in size and number to those in the Proposed Project. Under both projects, construction would be primarily in the lower density East Valley or pipelines in streets in the West Valley. Impacts on traffic and transportation are anticipated to be similar.

## Section 10 – Alternatives to the Proposed Project

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Overall, however, the No Project alternative fails to meet basic Proposed Project objectives, is unable to avoid significant effects, and would cause significant effects in addition to those caused by the Proposed Project. Therefore, it is eliminated from further consideration.

### 10.3 VARIATIONS OF THE PROPOSED PROJECT

The Proposed Project was developed to respond to changing conditions, chiefly water supply reliability and land use and population projections for the study area. Each WMP element – water conservation, additional water sources, source substitution, groundwater recharge and water quality improvements – was evaluated in Section 7 of the 2010 WMP Update. Evaluation factors were potential supply provided, water quality, cost, reliability, technical feasibility, environmental impacts, permitting and public acceptance.

The water supply evaluation indicated a need for a supply buffer to address uncertainties in water demand projections and risks in developing and implementing new water supplies. The 2010 WMP Update therefore applies a 10 percent supply buffer to projected water demands while eliminating overdraft. Water demand projections also considered ranges of future growth and water supply scenarios to ensure that future demands would be met. The scenarios were varying combinations of existing water supplies (surface water, recycled water, drain flows) and differing levels of imported water (Colorado River and SWP) supply availability that considered the status of the Quantification Settlement Agreement (QSA) and the potential for a future conveyance to resolve biological and water quality issues in the Sacramento-San Joaquin Delta (Delta). All of the scenarios addressed basin overdraft through the same elements, but with elements differing in magnitude in each scenario.

These ranges or building blocks are not Proposed Project alternatives, but rather varying magnitudes of Proposed Project elements that are carried in the 2010 WMP Update to give the plan the flexibility to adjust to future uncertainties.

### 10.4 ALTERNATIVES TO REDUCE POTENTIALLY SIGNIFICANT IMPACTS

State CEQA Guidelines, Section 15126.6(b) states that:

“Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly.”

The potentially significant impacts of the Proposed Project that cannot be mitigated to a level of less than significant by incorporated mitigation are:

- groundwater quality degradation (salinity) from continued recharge with Colorado River water,
- potential for increased selenium in drain waters, and
- air pollutant emissions of construction.

The potential alternatives to reduce groundwater degradation are:

- direct importation of lower total dissolved solids (TDS) SWP water,
- desalination of Colorado River water before recharge,
- desalination of drain water, and
- increased recharge to export additional salt from the basin via drain flows.

Reduction of potential increases in selenium in drain waters would be achieved by treatment of drain waters.

### **10.4.1 Direct Importation of SWP Water – SWP Extension**

#### **10.4.1.1 Background**

This alternative was discussed in Section 10.1.5 of the 2002 PEIR. The direct importation of SWP water to the Coachella Valley could reduce the impact of increased salt and selenium loading of imported Colorado River water on Coachella Valley groundwater basins. The closest point of connection to the SWP is the Devil Canyon Afterbay in San Bernardino. Such a facility also would avoid or reduce the need for water exchange with Metropolitan.

Water from the East Branch of the SWP has an average TDS concentration of approximately 250 milligrams per liter (mg/L), much lower than the water currently delivered through the SWP Exchange Program with Metropolitan (about 660 mg/L). In terms of TDS, the use of SWP water would provide a water quality benefit compared to the Proposed Project. Therefore, delivery of the higher quality water of the SWP directly to the Coachella Valley would help address the Upper Valley water quality issue. Every acre-foot (AF) of SWP water delivered directly to the Upper Valley reduces the salt loading by 0.56 tons. At the same time, trihalomethane (THM) precursor concentrations are substantially higher in SWP water than in Colorado River water. THMs are toxic byproducts created when the water is disinfected using chlorination.

Direct importation of SWP water, by extending a pipeline from the SWP into the Coachella Valley, was considered several times in the past and found to be economically infeasible.

#### **10.4.1.2 Description**

In 2008, CVWD and potential partners (Desert Water Agency, San Gorgonio Pass Water Agency, Mojave Water Agency and Metropolitan) undertook a SWP Extension Feasibility Study to examine the technical, environmental, institutional and cost characteristics of four potential alignments for an SWP Extension directly into the Coachella Valley, 40 to 90 miles long, subsequently screened to two alignments. A draft analysis discussed the alignments and the environmental and cost issues associated with the feasibility of each. The report remains in draft form and no decision has been made.



## Section 10 – Alternatives to the Proposed Project

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### 10.4.1.3 Environmental Impacts

In addition to the impacts of the Proposed Project, construction of this conveyance would have substantial adverse environmental impacts along the conveyance alignment (based on the environmental constraints analysis performed for the feasibility study) associated with disturbance of up to 40 to 90 miles of roads or off-road corridors, in a 200-foot-wide alignment, and undeveloped right-of-way during construction, construction of pumping stations and hydropower facilities, and from operation of the facility. The principal benefit of the project would be a reduced salt load to the West Valley (no water quality benefit to the East Valley),

In particular, major impacts would be:

- potential loss of sensitive plant and animal resources and habitats along pipeline routes and at pumping/power recovery sites,
- potential loss of known significant cultural resources along pipeline route and at pumping/power recovery sites,
- potentially significant air quality impacts from construction equipment tailpipe emissions and dust during construction, and
- potential socio-economic impacts in the Coachella Valley due to significantly increased water costs.

### 10.4.1.4 Evaluation

Based on the draft feasibility study, the environmental impacts, listed above, and the estimated costs of the SWP importation alternatives would be substantial.

Planning level capital cost estimates (accurate to plus 50 percent, minus 30 percent) were \$774 million to \$1.4 billion, depending on the project alignment and capacity; estimated operation and maintenance costs were approximately \$8 million to \$26 million per year. The cost of implementing the smallest SWP importation option would increase the costs of implementing the WMP by more than 50 percent. The option involving importation of all SWP water would more than double the cost of the WMP. This level of annual expenditure is about one-half of the current CVWD budget. Therefore, the draft SWP importation options are considered to be economically infeasible, particularly under present economic conditions.

The Direct SWP Delivery alternative would meet basic Proposed Project objectives, but would be unable to fully avoid or substantially reduce significant effects and would cause significant effects that may not be mitigable, particularly on air quality, in addition to those that would be caused by the Proposed Project.

The draft SWP Extension feasibility analysis did not conclude with a recommendation and no decision is anticipated in the foreseeable future. The feasibility of this project remains undetermined and therefore, this approach cannot be considered a viable alternative to the Proposed Project or a viable mitigation measure. It is eliminated from further consideration in

the 2010 WMP Update. It may be revisited in the future, pending the results of completed feasibility studies.

### **10.4.2 Desalination of Colorado River Water (Canal Water) before Recharge**

#### **10.4.2.1 Background and Description**

Desalination of Colorado River water was evaluated on a preliminary basis in the 2002 PEIR as mitigation for the same potentially significant impacts on groundwater water quality identified in the present SPEIR.

Desalination of Colorado River water at a new desalination plant (or plants) in the Coachella Valley could mitigate groundwater quality impacts of the Proposed Project by reducing the TDS and selenium concentrations of recharged imported water. The basic concept would involve desalination of some or all of the Colorado River water imported to the Coachella Valley for recharge, to be consistent with the average groundwater quality of about 300 mg/L of TDS or to meet secondary (non-enforceable aesthetic) recommended drinking water standards of 500 mg/L. Plant locations and capacities have not been identified, nor have brine disposal methods. CVWD completed a pilot treatment study in conjunction with potable use. No feasibility study yet has been performed for brine disposal methods.

#### **10.4.2.2 Environmental Impacts**

The potential significant environmental impacts associated with the Colorado River water desalination options are:

- changes in water absorption rates, drainage patterns and runoff at treatment plant sites and along pipeline alignments,
- need for an additional imported water to make up for water lost to brine production and evaporation,
- potential loss of cultural resources along pipeline routes,
- potentially significant air quality impacts from construction equipment emissions and dust during construction.
- potentially significant additional air quality and greenhouse gas (GHG) impacts from increased energy generation for treatment and pumping,
- net energy requirement of about 20 to 60 megawatts (MW) of electrical generation capacity for reverse osmosis treatment. Potential impact on existing energy infrastructure for both pumping and recovered energy,
- increased salt load to the Salton Sea if the brine is discharged to the sea, and
- potential for adverse social and economic impacts in the Coachella Valley due to steep increases in water costs.

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### 10.4.2.3 Evaluation

This alternative has been considered as a means of reducing potentially significant groundwater quality impacts of recharge with Colorado River water. Section 8.1.4.2 of the 2010 WMP Update states that “an evaluation of the potential effects of Colorado River recharge will be conducted in conjunction with the salt/nutrient management plan (2010 WMP Update, Section 8.1.2.5). Methods for improving recharge water quality will be considered as part of the Integrated Regional Water Management Plan (IRWMP) or a similar approach involving broad stakeholder involvement.”

As above, however, this alternative has other and greater significant impacts compared to the Proposed Project. Therefore, this approach cannot be considered a viable alternative to the Proposed Project and it is eliminated from further consideration in the 2010 WMP Update and SPEIR. This approach may be included in future updates to the WMP pending the result of feasibility studies.

### 10.4.3 Comparison of Canal Water Desalination Alternatives, SWP Extension and a Combined Approach

#### 10.4.3.1 Background and Description

**Table 10-1** compares the costs and basin salt balance reductions achieved under four alternative approaches to SWP Extension delivery and Canal water recharge desalination and their combination. For this analysis, it is assumed that desalination of Canal water and the SWP Extension could be operational by 2021.

- Approach No. 1: Desalting all Canal water recharge to 500 mg/L would reduce the 2045 annual net salt load from 184,000 tons/yr to 164,000 tons/yr. Capital cost is approximately \$125 million, assuming brine disposal to the Salton Sea. Annual cost would be approximately \$25 million. Additional water needed to offset loss as brine would be 9,000 AFY.
- Approach No. 2: Desalting all Canal water recharge to 250 mg/L would reduce the 2045 annual net salt load from 184,000 tons/yr to 143,000 tons/yr. Capital cost is approximately \$240 million, assuming brine disposal to the Salton Sea. Annual cost would be approximately \$48 million. Additional water needed to offset loss to brine is 16,000 AFY.
- Approach No. 3: Importing all Whitewater recharge water via pipeline would reduce the 2045 annual net salt load from 184,000 tons/yr to 149,000 tons/yr. Capital cost to Whitewater (excludes Mission Creek) would be approximately \$720–970 million per Final Draft Report on the SWP Extension. Annual cost would be approximately \$60–88 million.
- Approach No. 4: Implementing both Canal water recharge desalination to 250 mg/L and construction of SWP Extension would reduce the 2045 annual net salt load from 184,000 tons/yr to 106,000 tons/yr. Capital cost to Coachella Valley would be approximately \$0.8–1.2 billion. Annual cost would be approximately \$84–136 million.

**Table 10-1  
Alternative Approaches to Reducing Basin Salt Loading via Canal Water Desalination, SWP Extension Delivery and Their Combination — Characteristics and Estimated Costs**

Approach No.	Canal Water Desalination	SWP Extension Delivery	Basin Salt Load Reduction by 2045	Capital Cost	Annual Cost	Average RAC Increase	Water Needed to Offset Loss as Brine Flow
1	Desalt Canal water to 500 mg/L	—	184,000 tons/yr to 164,000 tons/yr (20,000 tons/yr)	\$125 million	\$25 million	\$85/AF	9,000 AFY
2	Desalt Canal water to 250 mg/L	—	184,000 tons/yr to 143,000 tons/yr (41,000 tons/yr)	\$240 million	\$48 million	\$163/AF	16,000 AFY
3	—	All Whitewater Recharge	184,000 tons/yr to 149,000 tons/yr (35,000 tons/yr)	\$720–970 million	\$60–88 million	\$204-299/AF	—
4	Desalt Canal water to 250 mg/L	All Whitewater Recharge	184,000 tons/yr to 106,000 tons/yr (78,000 tons/yr)	\$0.8 to 1.2 billion	\$108-136 million	\$366-461/AF	16,000 AFY

Source: CVWD unpublished cost estimates.

RAC – Replenishment Assessment Charge

Impact on the RAC is estimated by dividing the annual cost by the average annual groundwater production in the Whitewater and Mission Creek Subbasins over the 2021-2045 period. This amount is estimated to be 257,000 AFY for the Whitewater Subbasin and 38,000 AFY for Mission Creek Subbasin. All costs exclude inflation.

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At present, under existing economic and financial conditions at CVWD and in the Valley, these costs render the four approaches economically infeasible. From an examination of the implementation plan for the 2010 WMP Update, cost expenditures in the near future are limited.

### 10.4.3.2 Environmental Characteristics

These measures were evaluated as potential means of addressing a potentially significant impact of the Proposed Project — salinity in the Coachella Valley groundwater basin. The environmental impacts of the construction and operation of the desalination facility in approaches 1 and 2 would be essentially the same with respect to the desalination site, although approach 2 would produce more brine requiring disposal. Another potentially significant effect of desalination is energy use. Approach 3 uses existing recharge facilities but also includes the impacts of the construction and operation of the SWP Extension, a conveyance 40 to 90 miles long depending on the alignment selected. The SWP Extension has potentially significant impacts on biological and cultural resources, air quality impacts of construction, GHG emissions for construction, traffic and access and noise. Approach 4 would have the greatest environmental impact, because it would involve both desalination and the SWP Extension.

### 10.4.3.3 Evaluation

The alternatives with desalination of Canal water (Colorado River) water would meet basic Proposed Project objectives, would reduce but not avoid significant effects, and would cause significant effects in addition to those that would be caused by the Proposed Project.

In addition, the cost of water to the study area would increase dramatically, with the average replenishment assessment charge (RAC) increasing by as much as \$235 – \$525/AF if all costs were borne by groundwater pumpers. By comparison, as of July 1, 2011 the RAC is \$107.57 per AF in the West Valley, \$31 per AF in the East Valley and \$98.73 per AF in the Mission Creek Basin (CVWD, 2011). The estimated costs for desalination treatment are based on analyses of reverse osmosis (RO) treatment and experience with plants that treat similar quality water. The costs have been scaled up to the capacities required for this application. As estimated above, the cost of desalination is significant. The cost of implementing the smallest desalination option would more than double the costs of the WMP. Therefore, these measures are considered by the Lead Agency to be economically infeasible at this time.

Desalination of recharge water may be revisited in the future. It is discussed in the 2010 WMP Update as a potential future WMP element, pending the results of future technical, environmental and economic feasibility studies (**Section 8.1.4**).

The alternatives with direct importation of SWP water for recharge at Whitewater would meet basic Proposed Project objectives, would reduce but not avoid significant effects, and would cause significant effects in addition to those that would be caused by the Proposed Project. They also are considered to be economically infeasible at this time.

#### **10.4.4 Increased Groundwater Recharge to Export Salt from the Basin via Drain Flows**

##### **10.4.4.1 Description**

Another potential approach for reducing groundwater quality impacts would be to export accumulated salt by increasing the amount of outflow from the basin through increased drain flows. Under this alternative, groundwater recharge could be increased to raise groundwater levels in the East Valley, which would result in increased outflow of poor quality shallow groundwater through the drains. The poor quality groundwater would then flow to the Salton Sea, as at present.

To estimate the potential magnitude of the additional recharge needed, the basin salt balance is examined. For the Proposed Project, the net salt added to the basin annually is estimated to range from a maximum of 450,000 tons per year (tons/yr) in 2013 to 186,000 tons/yr in 2045. During this period, the salt concentration in the drains is expected to increase from about 2,000 mg/L currently to 2,800 mg/L in the future. To achieve a salt balance, then, about 49,000 AFY of additional drain flow would be required. Groundwater modeling studies conducted for the 2010 WMP Update predicted that increased recharge at the Levy and Martinez Canyon sites would result in higher drain flows. If 20,000 AFY of additional recharge were conducted at Martinez Canyon, the drain flow would increase by a comparable amount. To achieve an additional 49,000 AFY of drain flows, then a like amount of additional recharge would be required.

However, the recharge water source for the East Valley is Canal water, which brings additional salt into the basin. By iterating the amount of salt added through recharge and the amount removed by drain flow, it is estimated that an additional 65,000 to 70,000 AFY of recharge might be required to increase drain flows enough to achieve a salt balance in the groundwater basin. Since the Martinez Canyon site could potentially accommodate 20,000 AFY of additional recharge, another large recharge site would need to be developed. Such a site would need to be located along the base of the Santa Rosa Mountains to avoid the aquitard that restricts recharge in much of the East Valley. Location of recharge basins farther to the north would have less effect on drain flow to achieve the desired results.

##### **10.4.4.2 Evaluation**

This alternative was formulated conceptually to evaluate whether increased recharge might reduce the net salt load to the basin. While the potential for improved salt balance exists, this alternative would introduce additional salt into the basin. In addition, approximately, 65,000 to 70,000 AFY of additional water supply would be needed to achieve the drain flow necessary to export the salt from the basin. Since CVWD's Colorado River supply is fully utilized by the Proposed Project, an additional water source would be needed. The cost to acquire 65,000 to 70,000 AFY of water is expected to be comparable to the cost to either acquire additional Northern California water (assuming it is available), or to participate in a coastal seawater desalination project where the water is exchanged for Colorado River water. Either option is expected to be in the range of \$1,500 to \$2,000 per AF of water delivered. The annual cost would be in the range of \$98 to \$140 million per year in addition to the present estimated cost of

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the Proposed Project. Since the additional water would not be sold to a user, the cost would likely be borne by all Coachella Valley residents. The effect of such a cost on the Coachella economy is adverse.

Potential adverse impacts of this alternative include:

- construction of additional recharge basins on undeveloped land and facilities to convey the water to the basins,
- increased shallow groundwater levels and higher artesian pressure heads in the Lower aquifer,
- increased local degradation of groundwater quality near the recharge basins, and
- unknown impacts in the area of origin of the new water supplies.

Since this alternative would involve a significant change in the water management approach, additional groundwater modeling would be required to verify whether the desired effect on salt balance could be achieved. Based on the potential costs, impacts and the uncertain technical feasibility, this alternative is not feasible at this time and is eliminated from further consideration.

### **10.4.5 Selenium Reduction in Agricultural Drainage**

#### **10.4.5.1 Background**

The 2002 PEIR identified a possible long-term increase in selenium in agricultural drain water as a potentially significant impact. The 2002 PEIR reviewed available technologies for reducing selenium in drain waters and found them to be infeasible.

The 2002 PEIR mitigated the potential biological impacts of future selenium concentrations increase by committing to the creation of replacement habitat using a low selenium water source. This mitigation measure was later incorporated into the adopted Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP).

Impacts on selenium concentrations in the CVSC and drains from implementation of the 2010 WMP Update are the same as those evaluated and mitigated in the 2002 PEIR and adopted Mitigation Monitoring and reporting Plan (MMRP).

#### **10.4.5.2 Evaluation**

The possibility of increased selenium concentrations in the drains and CVSC was identified in the 2002 PEIR as a potentially significant impact; MMRP Mitigation Measure 5-1 was adopted at that time. However, Measure 5-1 addressed monitoring only. Several selenium mitigation measures were discussed and found to be infeasible (2002 PEIR section 5.5.4): chemical selenium removal, wetlands and hay bales, desalination, evaporation ponds, deep well injection, integrated drain management and beneficial uses of drain water and salts. A Statement of Overriding Considerations was filed for this issue in 2002.

For the 2010 WMP Update SPEIR, approaches to selenium treatment for agricultural drainage have been revisited. The 2010 DWR and CVWD report for the Salton Sea Species Conservation Habitat (SCH) Project reviewed available physical, chemical and biological selenium treatment technologies. Physical treatment processes evaluated were reverse osmosis, nanofiltration, and ion exchange. Chemical processes studies were Zero valent ion (ZVI) and ferrous hydroxide. Biological systems were anaerobic bacteria removal, algal treatment and constructed wetlands. The report concluded that physical treatments can be effective in removing selenium, but that they were not suitable due to complexity and cost and the impracticality of treating agricultural drain waters over a large area. Chemical treatment with iron is also costly and has not been demonstrated to reduce low levels of selenium (such as are present in agricultural drainage). The report concluded that physical and chemical treatments were not applicable or feasible for the SCH Project. Upon review of the report, it is concluded that these treatments similarly are not suitable mitigation measures for the low levels of selenium in drains and the CVSC in the 2010 WMP Update.

Biological treatments were considered to offer the advantage of relatively low cost and maintenance. Several issues were identified for biological treatment. The first is whether treatment wetlands can reliably reduce selenium levels to below 5 µg/L. Ways to increase treatment efficiency under varying climatic conditions and plant palettes are under study. Another issue is whether biological treatment may transform selenium into more bioavailable forms (Amweg, et al., 2002). Concerns have also been raised about exposure of wildlife to selenium remaining in the treatment wetland itself. Keeping wildlife away by noise or flagging tape has been suggested as well as to provide an alternative wetland supplied with clean water as compensation habitat for birds to feed and reproduce. Ultimately, it might be necessary to retire the treatment wetland. Once the sediments and plant tissues accumulate selenium to potentially toxic levels, the wetland treatment system must be closed, drained, and converted to a moist treatment bed to promote biological volatilization of selenium.

CVWD believes that it would not be feasible to discourage birds and other wildlife from using selenium treatment wetlands. Using noise would also not be desirable, since local wetlands are populated by sensitive obligate wetland species such as California black rail and California clapper rail, and the area is on a major flyway for birds protected under the Migratory Bird Treaty Act. Moreover, using bird discouraging tape on a vast area of agriculture would not be practical.

Selenium treatment methods are still under study; no approach has yet been developed that would be readily applicable to Coachella Valley agricultural drainage. The projected impact of 2010 WMP Update implementation remains potentially significant with respect to selenium concentration in the drains and CVSC, but no additional mitigation is required for biologic impacts.



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### 10.4.6 Air Pollutant Emissions during Construction

#### 10.4.6.1 Background

Experience has shown that construction activities of the magnitudes anticipated to implement the Proposed Project would generally meet applicable SCAQMD thresholds for peak day emissions of criteria pollutants — volatile organic carbons (VOC), particulates (PM10 and PM2.5), sulfur oxides and sulfates (SO<sub>x</sub> and SO<sub>2</sub>), carbon monoxide (CO) and lead (Pb) (see **Section 4**). The parameter that most commonly exceeds SCAQMD significance thresholds for even modest-sized construction activities is NO<sub>x</sub>.

There are two general approaches to meeting thresholds for peak day emissions—extending the construction period to reduce peak day emissions and use of alternative fuels whose combustions emits less NO<sub>x</sub>. The approximate NO<sub>x</sub> emissions reduction rates of various alternative fuels are: 60 percent for compressed natural gas, 10 percent for emulsified diesel fuel, and 2 to 10 percent for biodiesel fuel (USEPA, 2008).

#### 10.4.6.2 Evaluation

Extending the construction period, while it reduces peak day emissions, is not efficient and increases the overall air pollutant emissions from the construction because it increases the number of days and hours equipment is operated to complete the project. Although this approach is feasible, the overall impact on the environment would be greater. Therefore, this approach is eliminated from consideration.

Use of construction equipment with alternative fuel(s), while effective, may not be applicable to all projects. Limited equipment availability and high costs may make it infeasible to use a large fleet of construction equipment with alternative fuel(s). The effectiveness of other measures identified in **Section 4** (i.e., limiting idling, maintaining equipment, reduction of worker trips, and discontinuing of activities during smog alerts) in reducing tailpipe emissions is limited or cannot be quantified, or both. Therefore, these measures cannot be certain to achieve the necessary reduction in impact.

Therefore the air quality impact of construction is considered to be significant and not mitigable.

### 10.4.7 Air Pollutant Impacts of Salton Sea Playa Exposure

#### 10.4.7.1 Background

The IID Water Conservation and Transfer Project EIR and Mitigation Monitoring and Reporting Program (MMRP) (IID, 2003), part of existing conditions for the Proposed Project, outlined a four-step mitigation plan for air pollutant emissions from exposed playa due to declines in Salton Sea inflows, a plan which is in the process of implementation. Actions began with restricting access to the playa to reduce soil disturbance, establishing and operating a monitoring network and implementing pilot studies of emissions. Other mitigation measures for dust from exposed

playa are use of playa for wetland/marsh habitat, placement of solar panels on the exposed playa, and use of exposed playa for energy generating algae ponds.

### 10.4.7.2 Evaluation

CVWD's contribution to air quality impacts of exposed playa are minor, but the impact is still considered to be potentially significant and unavoidable. CVWD cannot identify and implement mitigation now for worst-case potential future playa exposure, but commits to participating in the ongoing implementation plan for the Salton Sea. It is anticipated, however, that the Proposed Project impact of playa exposure under worst case conditions (maximum drain water desalination) would remain potentially significant and unavoidable even with mitigation incorporated.

## 10.5 THE ENVIRONMENTALLY SUPERIOR ALTERNATIVE

State CEQA Guidelines, Section 15126.6(e)(2) states that:

“if the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.”

For the present Proposed Project, the No Project alternative – application of the adopted 2002 WMP in the current environment – is not the environmentally superior alternative. Rather, the No Project alternative is more environmentally damaging overall than the Proposed Project because its implementation would increase groundwater overdraft. The environmentally superior alternative is the Proposed Project, because the alternatives to the Proposed Project evaluated above have substantially greater adverse environmental impacts, even though the Proposed Project has significant impacts of its own. As discussed above, the SPEIR has identified no feasible alternatives that reduce all potentially significant impacts of the Proposed Project to a level of less than significant.

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# Section 11

## Additional CEQA Analyses

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This section contains additional environmental analyses required in the State California Environmental Quality Act (CEQA) Guidelines for environmental impact reports.

### 11.1 EFFECTS FOUND NOT TO BE SIGNIFICANT

**Table 11-1** identifies potential environmental impacts of the Proposed Project on the Coachella Valley found to be less than significant, as well as beneficial impacts and impacts mitigated to levels of less than significant, as required by Public Resources Code Section 21100(c). Potential impacts of specific facilities will be addressed further in second tier environmental documents as such facilities and sites are identified. The table assumes that, in the absence of site-specific data, terrestrial biological resources, air quality, flooding, and cultural resources impacts would be potentially significant, but mitigated to levels of less than significant by the implementation of measures presented in this Subsequent Program Environmental Impact Report (SPEIR) and to be further defined in the future documents.

**Table 11-1  
Less than Significant Impacts of the Proposed Project**

Topic	Beneficial Effect	Less than Significant Impact	Less than Significant Impact With Mitigation Identified to Further Reduce Adverse Effects	Potentially Significant Impact but Mitigation Identified to Reduce Impacts Below a Level of Significance
Agriculture and Forest		✓		
Geology		✓		
Mineral Resources		✓		
Earthquake Hazards		✓		
Seiches			✓	
Land Subsidence	✓			
Soils (unstable, expansive, erodible)			✓	
Air Quality - construction				✓ (dust from basin construction)
Air Quality – Operation (In-Valley Projects)		✓		
Odors		✓		
Colorado River Flows		✓		
Coachella Canal Flows		✓		

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**Table 11-1  
Less than Significant Impacts of the Proposed Project (Continued)**

Topic	Beneficial Effect	Less than Significant Impact	Less than Significant Impact With Mitigation Identified to Further Reduce Adverse Effects	Potentially Significant Impact but Mitigation Identified to Reduce Impacts Below a Level of Significance
Coachella Canal Water Quality		✓		
CVSC/Drains Quality		✓		
CVSC/Drains Flows		✓		
SWP and Metropolitan's Colorado River Aqueduct		✓		
Delta (flows, levels, water quality)		✓		
Whitewater River (above recharge basins)		✓		
Flooding and Stormwater Protection, Construction Site Runoff, Drainage			✓	✓ (recharge basin sites)
Groundwater Levels and Storage	✓			
Groundwater Rights		✓		
Groundwater Quality from Recycled Water Irrigation		✓		
Biology — Terrestrial Resources				✓
Biology — Whitewater River		✓		
Biology — CVSC and Drains		✓		
Salton Sea Biology		✓		
Wildland Fires		✓		
Noise				✓
Population/Housing/Employment/Land Use		✓		
Traffic and Transportation				✓
Public Services and Utilities (Fire, police access)				✓
ITA Ownership and Farming Activities		✓		
Cultural Resources				✓
Recreation, Scenic Corridors, Bike Paths, Trails		✓		

**Table 11-1  
Less than Significant Impacts of the Proposed Project (Continued)**

Topic	Beneficial Effect	Less than Significant Impact	Less than Significant Impact With Mitigation Identified to Further Reduce Adverse Effects	Potentially Significant Impact but Mitigation Identified to Reduce Impacts Below a Level of Significance
Visual Resources				✓
Airport Proximity; air Traffic Patterns		✓		
Mineral Resources		✓		
Solid Waste Disposal/Capacity		✓		
Wastewater Quality & Treatment		✓		
Hazardous Materials			✓	
Energy Resources				✓
Greenhouse Gas Emissions				✓

CVSC = Coachella Valley Stormwater Channel; SWP = State Water Project; ITA = Indian Trust Assets

**11.2 SIGNIFICANT ENVIRONMENTAL IMPACTS FOR WHICH NO FEASIBLE MITIGATION IS AVAILABLE**

**11.2.1 Groundwater Salinity**

As discussed in **Section 6** of this report, impacts on groundwater quality are identified as potentially significant and not mitigable.

A major element of the Proposed Project, as in the 2002 WMP, is recharge of the potable aquifer in the East Valley and in the West Valley with Colorado River water. Water from this source meets existing health-based water quality standards, but is generally higher in salts (total dissolved solids, TDS) than native Coachella Valley groundwater. The Proposed Project will increase the TDS concentrations of the potable groundwater aquifer in the vicinity of the recharge basins and could be considered to degrade local groundwater quality. Since the proposed recharge will occur over many years, changes in the quality of extracted groundwater will change gradually throughout the basin and be experienced by different users at different times. However, most of the direct water quality impact will occur near recharge basin sites. In these areas, groundwater TDS could increase over time to the TDS concentration of Colorado River water. With a new recharge site assumed in Indio at 10,000 acre-feet per year (AFY) and full operation of Martinez Canyon at 20,000 AFY, the projected effect of East Valley recharge could be up to 10,000 AFY less than under the 2002 WMP proposals of a total of 40,000 AFY in the East Valley at Martinez Canyon alone.

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Impacts on Tribal domestic water supply quality could be mitigated to a level of less than significant by Coachella Valley Water District (CVWD) providing water directly to the tribes. Infrastructure is being studied and funding sought.

### 11.2.2 Selenium Concentrations in Coachella Valley Drains

The Proposed Project could potentially increase selenium concentrations in the Coachella Valley Stormwater Channel (CVSC) and drains as overdraft is halted or reversed and shallow groundwater levels rise. This is considered to be a potentially significant unavoidable impact. Mitigation was adopted in 2002 for the biologic effects of increased selenium levels and would reduce these impacts to a level of less than significant. No increases in selenium concentrations have been observed in monitoring since 2002 (CVWD unpublished monitoring data) and whether selenium concentrations will increase in the future remains speculative. CVWD continues to monitor selenium concentrations in drain and CVSC waters.

There are at present, however, no proven methods for reduction of low levels of selenium in agricultural drain waters. Several technologies are under consideration or are the subjects of pilot studies, but none have yet proved appropriate for the Coachella Valley drain situation with its widely dispersed and numerous sources and its relatively low concentrations of selenium (compared to those under study elsewhere). Therefore, this impact on water quality is considered to be potentially significant and not mitigable, as it was in the 2002 PEIR.

### 11.2.3 Air Quality Impacts of Construction

Mitigation Measure AQ-1 (**Section 4**) includes measures to reduce tailpipe emissions, including NO<sub>x</sub>, associated with the use of construction equipment and vehicles during construction of proposed facilities. The approximate NO<sub>x</sub> emissions reduction rates of various alternative fuels are: 60 percent for compressed natural gas, 10 percent for emulsified diesel fuel, and 2 to 10 percent for biodiesel fuel (USEPA, 2008). However, use of construction equipment with alternative fuel(s), while effective, may not be applicable to all projects. Limited equipment availability and high costs may make it infeasible to use a large fleet of construction equipment with alternative fuel(s). The effectiveness of other measures identified in **Section 4** (i.e., limiting idling, maintaining equipment, reduction of worker trips, and discontinuing of activities during smog alerts) in reducing tailpipe emissions is limited and cannot be quantified or both. The peak day emission rate can be reduced by extending the construction schedule for a project, but results in greater overall emissions and is not efficient.

Therefore, it is possible that air emissions (particularly NO<sub>x</sub>) associated with equipment/vehicle exhaust during construction would exceed SCAQMD thresholds even with implementation of feasible measures. Therefore, construction impacts on air quality are potentially significant after mitigation.

### 11.2.4 Air Quality Impacts of Salton Sea Playa Exposure

Under a worst-case scenario, in which Coachella Valley drain flows are desalinated at a maximum estimated capacity, Coachella Valley inflows to the Salton Sea could decrease from 60,000 AFY to 41,000 AFY by 2045, CVWD will make the decision to desalinate and at what

capacity sometime after 2015 – 2020. This decrease in flows could potentially expose additional playa at the Sea, potentially resulting in significant increases in dust emissions. There is ongoing implementation of Salton Sea air quality measures under an adopted 4 step plan, in which CVWD participates, to address declines in Salton Sea inflows and exposed playa. The IID EIS/EIR and MMRP concluded that the impact would be significant and adverse even with full plan mitigation. Therefore, the impact of the worst case condition under the Proposed Project is considered also to have significant, unavoidable impact on playa exposure even with implementation of mitigation.

### 11.3 GROWTH-INDUCING IMPACTS

The above sections generally focus on direct impacts of implementation of the Proposed Project elements. For many of these environmental topics, indirect or secondary effects could also result if the Proposed Project altered the growth, population density or land use patterns in the Coachella Valley.

#### 11.3.1 Regulatory Background

State CEQA guidelines Section 15126(d) require that an EIR:

“discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth.”

“Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”

#### 11.3.2 Environmental Setting

The Coachella Valley, particularly in its existing cities, has shown the steady growth characteristic of southern California. Within the Proposed Project study area, monitoring existing population and land uses, preparing General Plans and accompanying EIRs, and approving land use changes is the responsibility of Riverside County and the incorporated Coachella Valley cities. Population, land use and employment projections by these entities are updated periodically and provided to CVAG and to SCAG, the designated regional planning agencies. Projections adopted by SCAG become the basis for Regional Comprehensive Plans and Regional Transportation Plans and Regional Air Quality Plans.

Current projected growth in the Proposed Project study area is based on population projections through 2035 adopted by SCAG in 2008 in coordination with CVAG and Riverside County. Because the WMP has a 35-year planning horizon, population growth has been extrapolated at the same growth rate to 2045. Substantial population growth in the Proposed Project study area is projected by SCAG based on projections by the County of Riverside, CVAG and the Coachella Valley municipalities (**Figure 8-1**). At present, actual growth in the Valley is



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currently flat, because of the existing economic slowdown. Over the 35-year planning horizon for the 2010 WMP Update, it is anticipated that the SCAG growth projections will be fulfilled, however.

The projected growth will require additional infrastructure, utilities and services, including water supply. The General Plans and their Elements, and the accompanying CEQA documentation prepared by the local municipalities and the County for unincorporated areas of the Coachella Valley address the impacts of their population and land use decisions that affect infrastructure in turn. For example, the Riverside County 2003 General Plan EIR indicated that the General Plan would result in growth. The General Plan EIR recognized that, based on the definition of growth inducement, a General Plan facilitates and helps accommodate growth and development and, thus is inherently growth-inducing. The General Plan EIR states that the growth permitted by the General Plan leads to significant unavoidable adverse impacts. The General Plan is a master plan providing the framework by which public officials are guided on making decisions on development in Riverside County. The implementation of these land use policies incrementally increases demands for public services, utilities and infrastructure, and the need for medical, educational and recreation facilities.

CVWD is a water and wastewater utility affected by, but which has no direct control over, planning and land use decisions by Riverside County and the cities in the Coachella Valley. CVWD is essentially in a “will serve” position. With the enactment of State Senate Bill (SB) 610, (the Costa Bill), and SB 221 (the Kuehl Bill) in 2001, urban water suppliers such as CVWD are required to provide detailed information to cities and counties about current and future water demand and availability in advance of city and county planning decisions on large development proposals.

Water conservation, additional water supplies (exchanges, transfers and acquisitions), source substitution and groundwater recharge remain the principal 2010 WMP Update tools. But the magnitudes and locations of proposed WMP elements have changed: water conservation targets are higher; SWP supplies are far less reliable with water transfers and acquisitions likely less available, use of recycled wastewater is greater; recharge at Martinez Canyon is reduced, new recharge is proposed in Indio; and more desalination of drain water is possible.

### 11.3.3 Significance Criteria

The State CEQA Guidelines state that a project may have a growth-inducing effect if it would:

- foster economic or population growth or the construction of additional housing, either directly or indirectly in the surrounding environment; or
- remove obstacles to population growth; or
- require the construction of additional community service facilities that could cause significant environmental effects; or
- encourage and facilitate other activities that would significantly affect the environment.

### **11.3.4 Impact Analysis**

The analysis below discusses the Proposed Project potential growth-inducing impacts, applying the State CEQA guidelines Appendix G significance criteria.

#### **11.3.4.1 Foster Economic or Population Growth**

The adopted 2008 SCAG population/housing/employment projections show significant growth in the Coachella Valley, approximately 20 to 25 percent higher than the projections used in the 2002 WMP. CVAG and Riverside County have not yet prepared land use plans that reflect these projections or CEQA documents that identify and evaluate the land use and other environmental effects of implementing these projections. Preparation of County General Plan amendments and accompanying EIR began in 2007; as of April 2011, these documents have not been completed.

Until the Riverside County General Plan land use projections are updated, the 2010 WMP Update must make land use estimates to project long term water demands and sewage flows based on the adopted SCAG projections, and examine water supply needs for the Coachella Valley over the next 35 years while still eliminating basin overdraft. CVWD and the Desert Water Agency (DWA) have no authority to regulate land use decisions within the Coachella Valley; those decisions are under the control of the County of Riverside, the County of Imperial, and the Coachella Valley municipalities. Land use planning decisions are reflected in the agencies' general plans, supported by EIRs. As a result, the Proposed Project would not foster economic growth or population growth. Rather, it would be required to provide infrastructure to serve (accommodate) growth approved by others. If the projected development does not proceed, CVWD and DWA would not construct additional facilities or develop new supplies. In addition, the SPEIR for the 2010 WMP Update is entirely programmatic; there are no construction- or project-level analyses in the document that commit CVWD to construction of any specific infrastructure extensions to serve the development predicted by the adopted SCAG 2008 projections. Moreover, the WMP will be updated again in the future, during which time SCAG/CVAG population and land use projections will continue to change.

Economic benefits of the Proposed Project elements implementation (construction of water, wastewater or recycling facilities) needed to serve projected growth would be provided in the form of construction-related, temporary jobs. Operation of the new Proposed Project facilities required to serve projected growth could also create new jobs, but the number is anticipated to be minor. Therefore, these effects on the Valley economy would be less than significant.

Therefore, the Proposed Project impact relative to fostering economic or population growth would be less than significant.

#### **11.3.4.2 Remove Obstacles to Growth**

“Removal of obstacles to growth” refers to the extent to which a proposed project removes physical infrastructure limitations, or provides infrastructure capacity, or removes regulatory constraints that could result in growth unforeseen at the time of project approval. The Proposed Project would not remove regulatory constraints, but would provide infrastructure as requested by developers.

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The ultimate decision on water supply sufficiency or sewage management relative to approval of land development rests with the land use jurisdictions (Counties and Valley cities) and not with the CVWD, DWA or other Valley water supply entities. There are areas where water supply or availability of sewerage acts as a constraint to the development approval process. Where this occurs and where it could be determined that a new supply or new sewerage facilities would relieve that constraint, growth inducement would occur by “removal of an obstacle to growth.”

Implementation of the Proposed Project elements would meet projected water demand based on current adopted SCAG projections through the planning period while overcoming overdraft. Therefore, the WMP does not represent an obstacle to unforeseen development or growth in terms of water supply limitations. In the absence of the Proposed Project, there is ample water stored in the basin to serve growth projected in current adopted SCAG projections. An obstacle to growth could potentially arise sometime beyond the current planning period, assuming the growth proceeds as currently projected. At that time, CVWD could either indicate that its resources were allocated, based on development requests, or could require that the developer obtain his own water (not just water entitlement) to serve his development.

Therefore, the availability of QSA and additional SWP water are not removing an obstacle to growth. SWP water is used to recharge the groundwater basin and is not earmarked for any development. Allocation of QSA water amounts was determined and evaluated in the QSA EIR.

The groundwater basin contains sufficient storage to supply projected demand in the absence of the Proposed Project. To use groundwater for this purpose, however, would continue and worsen overdraft, which is in opposition to the purpose of and objectives of the Proposed Project.

CVWD can provide infrastructure to serve approved development within its service area, but would not precede projected development. CVWD does not provide services until a developer pays, except water supply. Therefore, if the development does not proceed, then the infrastructure projects would not be constructed. The incremental nature of the WMP projects allows CVWD to avoid over-investment in facilities while maintaining flexibility for the potential of future growth. Infrastructure is not constructed for “unforeseen” development.

Increases in water costs anticipated with implementation of the 2010 WMP Update are not considered a future obstacle to growth. Under the Proposed Project, water costs will increase for some users; however, existing water rates are substantially below other markets and anticipated increases are not projected to cause substantial land use changes. Additionally, water costs under No Project, continuation of the 2002 Plan under current conditions, would probably also rise over existing conditions, due to increased water treatment and well pumping costs as overdraft worsens.

The Proposed Project, therefore, is considered to be growth accommodating, rather than growth inducing. It would not result in growth unforeseen at the time of project approval as project elements would be provided only upon request.

#### **11.3.4.3 Require the Construction of Community Service Facilities**

Implementation of the 2010 WMP Update itself would not require construction of additional community service facilities by other providers; rather, it provides community service facilities in response to decisions made by others. Therefore, the CVWD and DWA need to plan their own facilities to meet the anticipated needs of the adopted SCAG projected population. Impacts of the construction and operation of specific facilities will be evaluated in second tier documents once facilities and sites are identified in response to declared need.

#### **11.3.4.4 Encourage and Facilitate Other Activities**

The 2010 WMP Update would not encourage or facilitate other growth-related activities that would significantly affect the environment. Other activities such as construction of new roads, commercial areas, schools, and provision of other utilities and services would also be the result of actions by and under the jurisdiction of the Counties and Valley municipalities, which approve growth that demands these utilities and services. These jurisdictions would work separately with the counties and cities and the developers to ensure that the development proceeds in compliance with applicable levels of and availability of service.

The Proposed Project, as discussed above, would accommodate but not induce population growth in an area, either directly or indirectly. Implementation of the Proposed Project will encourage and facilitate conservation of water supply and maintenance of the integrity of the groundwater basin. These are beneficial effects.

#### **11.3.4.5 Summary**

The 2010 WMP Update bases facilities' needs and implementation schedule on adopted 2008 SCAG projections, which were developed by Riverside County and approved by CVAG. Planned facilities congruent with adopted SCAG projections are generally considered to have less than significant impacts with respect to growth inducement.

The SCAG 2008 adopted projections used as the basis of planning in the 2010 WMP Update represent a substantial increase from the previous adopted projections that underlay the 2002 WMP. The implementation of these projections could have significant impacts on land use, air quality, transportation, public services and utilities, cultural resources, and on CVWD's ability to provide domestic water, recycled water, wastewater and flood control management within its service area during the planning period. These are impacts upon the 2010 WMP Update, not created by the 2010 WMP Update. Therefore, CVWD's planning and construction of facilities to serve new development will proceed or not proceed based on growth and land use changes approved by others.

Implementation of the 2010 WMP Update will not change any projected rates, magnitudes, or distribution of growth within the CVWD service area from the adopted SCAG and Riverside County projections. Those decisions are the responsibility and authority of others than CVWD, e.g., the Valley cities and Riverside and Imperial counties. CVWD provides new or expanded service in response to—not in advance of—an area's identified need. No services are provided

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to areas where development is unforeseen; CVWD does not provide services until a developer pays for them, except water supply.

No impediment to development due to lack of water supply or sewerage has been identified in the study area. CVWD has prepared Master Plans for water supply and sewerage for its entire service area, to be implemented as required to respond to development requests. Under the 2010 WMP Update, CVWD has adequate water supplies for projected growth. In the absence of the 2010 WMP Update, CVWD could still supply adequate water for projected growth, but the groundwater basin overdraft in the East Valley and West Valley, the decline in quality in the East Valley (from Salton Sea water intrusion and downward percolation of poor quality perched water), and land subsidence throughout the Valley would continue and significantly worsen, in opposition to the Proposed Project objectives.

The WMP will be periodically updated and revised as conditions change and the Proposed Project elements are implemented. While no impacts on growth or related secondary issues are projected for the planning period, changes in growth rate and distribution will be monitored and addressed in each periodic Plan update and as they emerge beyond 2045.

Therefore, the Proposed Project accommodates growth, does not foster population or economic growth, and does not require or facilitate the construction of other community service or other facilities.

Therefore, the project is considered to be growth accommodating rather than growth inducing. Secondary impacts of accommodated growth, which may be significant, can and should be mitigated by the entities with land use control authority, the Counties and the Valley cities.

### **11.4 SIGNIFICANT, IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE CAUSED BY THE PROPOSED PROJECT SHOULD IT BE IMPLEMENTED**

State CEQA Guidelines (Sections 15126 and 15127) require that a draft EIR on a public agency plan analyze the extent to which the Proposed Project's primary and secondary effects will commit nonrenewable resources to uses that future generations will probably be unable to reverse.

The impacts in this category in the 2002 PEIR were the effects on groundwater quality of recharge with Colorado River water, discussed in this section. These impacts are the same in the 2010 WMP Update.

In the absence of the Proposed Project, significant water quality effects are projected to occur in East Valley aquifers from infiltration of agricultural drainage water and intrusion of saline groundwater as groundwater levels continue to fall. The Proposed Project will cause salt to be exported from the West Valley, a benefit to the groundwater basin.

As described in **Section 6**, mitigation to reduce the significance of the adverse impact on groundwater quality of recharge with Colorado River water is considered to be financially

infeasible at this time. Alternatives to the Proposed Project that could potentially reduce such impacts are evaluated in **Section 10**.

It has not been demonstrated that SWP water, potentially an alternative lower TDS source of recharge water, can be feasibly brought to the Coachella Valley. A feasibility study for a SWP Extension Project is in progress and no decision has yet been made.

An alternative project that does not include recharge would not fully address the existing overdraft conditions in the Coachella Valley and would not meet Proposed Project objectives. Treatment of the current source of recharge water through desalination cannot be feasibly implemented at the scale necessary to eliminate the impact and could have significant environmental impacts of its own, particularly for increased energy requirements, GHG emissions and brine disposal.

If monitoring indicates that groundwater used for drinking water purposes exceeds a health-based drinking water standard due to the proposed recharge activities, CVWD and DWA commit to working with the well owners to bring the drinking water supply into compliance by either providing domestic water service to the owner or tribe from the District's domestic water system or by providing appropriate well-head treatment.

Therefore, the impact of the Proposed Project on groundwater salinity is considered a significant impact that is unavoidable if the Proposed Project is implemented. No feasible alternatives currently are available that would meet most of the basic project objectives and substantially reduce this significant impact. It is anticipated that the District will file a Statement of Overriding Considerations.

### **11.5 IDENTIFICATION OF SITE-SPECIFIC EIRS / NEGATIVE DECLARATIONS THAT COULD TIER OFF THE 2010 WMP UPDATE SPEIR**

Based on the 2010 WMP Update Implementation Plan, potential projects whose CEQA compliance documents could tier off the SPEIR are the following (see also **Table 2-1**):

- Canal water loss recovery facilities,
- facilities for increased use of recycled water (construction and operation of water recycling facilities (wastewater treatment facilities, pipelines, pumping stations) for agricultural, landscape and golf course irrigation – West Valley and East Valley existing flows; East Valley incremental flows, and Fargo Canyon flows,
- acquisition of additional imported water supplies (leases, transfers)—evaluation of impacts at both “ends” of the transaction,
- construction and operation of a desalination facility to treat agricultural drainage water and facilities to dispose of produced brine once project proceeds and sites are selected (CEQA and NEPA compliance may both be required if federal land is involved),
- construction and operation of Mid-Valley Pipeline Phases 2 and 3 facilities to bring Colorado River water to West Valley golf courses to reduce groundwater pumping,

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- second pumping station and new pipeline conveyance of additional Canal water from Lake Cahuilla to the Levy facility for recharge,
- full-scale groundwater recharge facilities at Martinez Canyon (NEPA analysis also required if on federal land),
- groundwater recharge facilities at Indio,
- construction and operation of backbone water conveyance systems to serve new developments approved by others,
- Construction and operation of backbone sewage collection systems to serve new developments approved by others,
- construction and operation of a water treatment plant to treat Canal water for urban use,
- construction and operation of new groundwater wells
- construction and operation of a backbone non-potable water distribution system for urban use, and
- conversion of existing East Valley golf courses and agricultural uses East Valley ID-1: convert Oasis area agricultural users inside ID-1 to Canal water, via construction and operation of conveyance systems (pipelines, pumping stations, reservoirs).

# Appendix A

## References and Bibliography

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### A.1 REFERENCES AND BIBLIOGRAPHY

- Agricultural Water Management Council (AWMC). 1996. Memorandum of Understanding Regarding Efficient Water Management Practices by Agricultural Water Suppliers in California. Available: <http://www.iid.com/Media/EWMP5.pdf>
- Agua Caliente Tribe. 2010. Agua Caliente Tribal Home Page. Available: <http://www.aguacaliente.org>
- American Digital Cartography, Inc. 1996. USGS Topographic Maps for Bentley Microstation.
- American Society of Civil Engineers. 1987. Ground Water Management. ASCE Manual and Reports on Engineering Practice No. 40.
- Amrhein, C., M. Anderson, E. G. Chung, J. Crayon, S. Hook, C. Roberts, D. Robertson, G. Schladow, J. Setmire, J. Smith, and R. Stendell. 2003. Preliminary Numeric Target Report. "What the Sea should look like?" Workshop, Numeric Targets for the Salton Sea. Numeric Target Science Committee, Riverside, CA.
- Amweg, E. L., D. L. Stuart and D. P. Weston. 2002. Comparative bioavailability of selenium to aquatic organisms after biological treatment of agricultural drainage water. *Aquatic Toxicology* Volume 63, Issue 1, 17 March 2003, Pages 13-25.
- ASTM D5490. 1999. Standard guide for comparing ground-water flow model simulations to site specific information. American Society for Testing and Materials.
- ASTM D5981-96e1. 1999. Standard guide for calibrating a ground-water flow model application. American Society for Testing and Materials.
- Barlow, G. W., 1958a. High Salinity Mortality of Desert Pupfish. *Copeia*, pp. 231-232.
- , 1958b, Daily Movements of Desert Pupfish, *Cyprinodon macularius*, in Shore Pools of the Salton Sea, California." *Ecology*, Vol. 39, No. 3, pp. 580-587.
- , 1961. Social Behavior of the Desert Pupfish, *Cyprinodon macularius*, in the Field and in the Aquarium. *American Midland Naturalist* 65 (2): 330-359.
- Barrett, D.E. 1996. Traffic-Noise Impact Study for Least Bell's Vireo Habitat along California State Route 83. *Transportation Research Record* 1559.
- Baugh, T. M., 1985. Social Behavior of the Salt Creek Pupfish (*Cyprinodon salinus* Miller) in Aquaria, *The Journal of Aquariculture*, Vol. II, No. 2, pp. 25-28.



## Appendix A – References and Bibliography

---

- Bechtel Corporation. 1967. Comprehensive Water Resources Management Plan. Prepared for the Coachella Valley County Water District.
- Bennett, W.W. and R.D. Ohmart. 1978. Habitat Requirements and Population Characteristics of the Clapper Rail (*Rallus longirostris yumanensis*) in the Imperial Valley of California. Unpublished manuscript. University of California, Lawrence Livermore Laboratory.
- Biomass Power Association. Colmac Energy, Inc. Undated. Available: [http://www.usabiomass.org/profiles/membership\\_colmac.php](http://www.usabiomass.org/profiles/membership_colmac.php)
- Black, G. F. 1980. Status of the desert pupfish, *Cyprinodon macularius* (Baird and Girard), in California. State of California, Department of Fish and Game, Inland Fisheries Endangered Species Program, Special Publication 80-1, pp. 1-12.
- Bolt, Beranek, and Newman. 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, December 31, 1971. Prepared for U.S. Environmental Protection Agency.
- Bookman-Edmonston Engineering. 1998. Salinity Management Study, Final Report. Prepared for the Metropolitan Water District of Southern California and U.S. Department of the Interior, Bureau of Reclamation.
- 1999. Final Report - Whitewater Demonstration Project. Prepared for Coachella Valley Water District and the Metropolitan Water District of Southern California. In association with SPI and Black & Veatch.
- 2000. Final Report – Conjunctive Use/Surplus Water Storage. Prepared for Coachella Valley Water District and the Metropolitan Water District of Southern California. In association with Montgomery Watson and J.M. Lord.
- Cabazon Indians. 2010. Cabazon Indians Tribal Home Page. Available: <http://www.cabazonindians.com/index.html>
- CALFED, 2000. Final CALFED Bay-Delta Programmatic Environmental Impact Statement / Environmental Impact Report Including Response to Comments Document. Available: <http://calwater.ca.gov/index.aspx>
- CARB (California Air Resources Board). 2007. Draft State Implementation Measures for PM2.5 [www.arb.ca.gov/planning/sip/2007sip/apr07draft/sipmeas.pdf](http://www.arb.ca.gov/planning/sip/2007sip/apr07draft/sipmeas.pdf)
- 2008. AB 32 Scoping Plan Document. Available: <http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm>
- 2008. Early Progress Plans Demonstrating Progress Toward Attaining the 8-hour National Air Quality Standard for Ozone and Setting Transportation Conformity Budgets for Ventura County, Antelope Valley - Western Mojave Desert Coachella Valley Eastern Kern County, Imperial County. Release date February 27, 2008. Available: <http://www.arb.ca.gov/planning/sip/epp/revepptables.pdf>

## Appendix A – References and Bibliography

---

- 2008. Air Quality Data. Available: <http://www.arb.ca.gov/aqd/aqdpag.htm>
- 2009. 2009 Almanac Emission Projection Data. Available:  
<http://www.arb.ca.gov/app/emsinv/emssumcat.php>
- 2010a. Ambient Air Quality Standards. January 27, 2010. Available:  
<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>
- 2010b. California Greenhouse Gas Inventory for 1990,
- 2010c. Economic Sectors Portal – Water. Available:  
<http://www.arb.ca.gov/cc/ghgsectors/ghgsectors.htm#water>
- 2010d. Greenhouse Gas Inventory – 2020 Forecast.
- 2010. South Coast Air Quality Management Plan.  
<http://www.arb.ca.gov/planning/sip/planarea/scabsip.htm>
- 2011. The Carl Moyer Memorial Air Quality Standards Attainment Program. Available:  
<http://www.arb.ca.gov/msprog/moyer/moyer.htm>
- California Biodiversity News. 1998. Healing the Salton Sea. Vol. 5, No. 3, Spring 1998.  
Available: <http://ceres.ca.gov/biodiv/newsletter/v5n3/salton.html>
- California Climate Change Portal. 2008. Water-Energy Sector Summary, AB32 Scoping Plan, GHG Emission Reduction Strategies. Available:  
[http://www.climatechange.ca.gov/climate\\_action\\_team/reports/CAT\\_subgroup\\_reports/Water\\_Sector\\_Summary\\_and\\_Analyses.pdf](http://www.climatechange.ca.gov/climate_action_team/reports/CAT_subgroup_reports/Water_Sector_Summary_and_Analyses.pdf)
- 2011. Mitigation Measures and Adaptation Strategies for the CAT Implementation Plan. Water Energy Climate Action Team (WET-CAT) Working Group. Available:  
[http://www.climatechange.ca.gov/climate\\_action\\_team/reports/catnip/Mitigation\\_Measures\\_and\\_Adaptation\\_Strategies\\_List.pdf](http://www.climatechange.ca.gov/climate_action_team/reports/catnip/Mitigation_Measures_and_Adaptation_Strategies_List.pdf)
- California Code of Regulations (CCR). 2007. Title 22, Chapter 15 Article 2. General Requirements (1) Amend Section 64413.1: Section 64413.1. Classification of Water Treatment Facilities. Perchlorate Maximum Contaminant Limit (MCL). In effect October 18, 2007.
- Title 24, Part 11. 2010. 2010 California Green Building Standards Code. California Building Standards Commission. Available:  
[http://www.documents.dgs.ca.gov/bsc/2009/part11\\_2010\\_calgreen\\_code.pdf](http://www.documents.dgs.ca.gov/bsc/2009/part11_2010_calgreen_code.pdf)
- 2010. CEQA Guidelines. CCR Title 4, Division 6, Chapter 3, Sections 15000-15387.  
Available: <http://leginfo.ca.gov>

## Appendix A – References and Bibliography

---

- California Department of Conservation Farmland Mapping and Monitoring Program. 2008. Farmland Mapping and Monitoring Program Maps – Riverside County. Available: <http://www.consrv.ca.gov/DLRP/fmmp>
- , 2008. Farmland Mapping and Monitoring System. Riverside County Important Farmland 2008, Sheet 2 of 3. Available: [ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2008/riv08\\_central.pdf](ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2008/riv08_central.pdf)
- , State Mining and Geology Board. 2010. Annual Report 2009-2010. December 2010. Available: [http://www.conservation.ca.gov/smgb/reports/Annual%20Reports/Documents/SMGB%2009-10%20AR%20Final%20Draft%20\(041311\).pdf](http://www.conservation.ca.gov/smgb/reports/Annual%20Reports/Documents/SMGB%2009-10%20AR%20Final%20Draft%20(041311).pdf)
- California Department of Finance (DOF). 2009. E-4 Population Estimates for Cities, Counties and the State, 2001-2009, with 2000 Benchmark. Sacramento, California, May 2009. Available: [http://www.dof.ca.gov/research/demographic/reports/estimates/e-4\\_2001-07/](http://www.dof.ca.gov/research/demographic/reports/estimates/e-4_2001-07/)
- California Department of Fish and Game (CDFG). 1978. Bird Species of Special Concern in California, Gray Vireo.
- , 1987. Selenium Verification Study 1986, A Report to the State Water Resources Control Board.
- , 1989. Birds of the Salton Sea Area. 4 pp. Brochure.
- , 1991. Informational Leaflet; California's Fully Protected Birds, Mammals, Reptiles, Amphibians and Fish, 3 pp.
- , 1992a. Wildlife Management. Division, Non-Game Bird and Mammal Section, "Special Animals," 28 pp.; *ibid.* 1991. "Special Plants," 65 pp.
- , 1994a. (NDDB). Non-Game Heritage, Natural Diversity Data Base (NDDB printouts, 08/93, updated to 07/94).
- , 1994b. Guidelines for Assessing Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 2 pp.
- , 2000. The Status of Rare, Threatened, and Endangered Animals and Plants in California, Arizona Bell's Vireo.
- , 2001b. State and Federally Listed Endangered, Threatened and Rare Animals of California, September 2001. Available: [www.dfg.ca.gov](http://www.dfg.ca.gov)
- , 2001b. State and Federally Listed Endangered, Threatened and Rare Animals of California, September 2001. Available: [www.dfg.ca.gov](http://www.dfg.ca.gov)
- , 2002a. State and Federally Listed Endangered, Threatened and Rare Plants of California, July 2002. Available: <http://www.dfg.ca.gov/whdab/TEPlants.pdf>

## Appendix A – References and Bibliography

---

- 2002b. State and Federally Listed Endangered and Threatened Animals of California, July 2002. Available: <http://www.dfg.ca.gov/whdab/TEAnimals.pdf>
- Biogeographic Data Branch. 2009. California Natural Diversity Database. Special Animals (883 taxa), July 2009. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf>
- 2008. Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). Available: <http://www.cvmshcp.org/>
- 2010. Natural Communities -- List. September 2010. Available: [http://www.dfg.ca.gov/biogeodata/vegcamp/natural\\_comm\\_list.asp](http://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp)
- 2011a. State & Federally Listed Endangered & Threatened Animals of California. January 2011. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEAnimals.pdf>
- 2011b. State and Federally Listed Endangered, Threatened and Rare Plants of California. January 2011. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEPlants.pdf>
- (NDDDB) Natural Diversity Database. 2011c. Special Vascular Plants, Bryophytes, and Lichens List. Quarterly publication. 71 pp. January 2011. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPPlants.pdf>
- California Department of Mines and Geology, 1969. Geologic Atlas of California. Santa Ana Sheet.
- California Department of Public Works, Division of Water Rights. 1924. Suggestions of the United States, Before the Department of Public Works, Division of Water Rights. In the Matter of the Determination of Relative Rights, Based upon Prior Appropriation, of the various Claimants to the Water of the Whitewater River and Its Tributaries, in San Bernardino and Riverside Counties, California, June 26, 1924.
- 1928. Order Determining and Establishing the Several Rights by Appropriation to the use of the Waters of the Whitewater River Stream System, San Bernardino and Riverside Counties. April 23, 1928.
- California Department of Transportation (Caltrans). 2007. Officially Designated State Scenic Highways and Historic Parkways. Available: [http://www.dot.ca.gov/hq/LandArch/scenic\\_highways](http://www.dot.ca.gov/hq/LandArch/scenic_highways)
- California Department of Water Resources (DWR), 1964. Coachella Valley Investigation, Bulletin No. 108, July 1964.
- 1975. Land Subsidence due to Ground-Water Withdrawal in the Los Banos-Kettleman City Area, California, Part 2. Subsidence and Compaction of Deposits.
- 1979a. Report on the Feasibility of Extending the California Aqueduct into Upper Coachella Valley. Southern District Report, February 1979.

## Appendix A – References and Bibliography

---

- . 1979b. Coachella Valley Area Well Standards Investigation. Memorandum Report, August 1979.
- . 1979c. Evaporation for Water Surfaces in California. Bulletin 73-79, November 1979.
- . 1980. Groundwater Basins in California, A Report to the Legislature in Response to Water Code Section 12924. Bulletin 118-80, January 1980.
- . 1994. Management of the California State Water Project. Bulletin 132-93, September 1994.
- . 1996. Management of the California State Water Project. Bulletin 132-95, November 1996.
- . 1997. Management of the California State Water Project. Bulletin 132-96, August 1997.
- . 2000. DWRSIM CALFED Studies. Available:  
<http://modeling.water.ca.gov/hydro/studies/extract.html>
- . 2002. Notice to SWP Contractors No. 02-06, March 28, 2002
- . . Notice to State Water Project Contractors Number 03-09. Guidelines for Review of Proposed Permanent Transfers of State Water Project Annual Table A Amounts.
- . 2003. California’s Groundwater - Update 2003. DWR Bulletin 118. Available:  
<http://www.water.ca.gov/groundwater/bulletin118/bulletin118update2003.cfm>
- . 2006. Salton Sea Ecosystem Restoration Draft PEIR. Chapter 6 - Surface Water Resources.
- . 2006. Progress on Incorporating Climate Change into Management of California’s Water Resources. Technical Memorandum Report. October 2006.
- . 2007. Final EIR/EIS Salton Sea Ecosystem Restoration Plan.
- . 2009. Draft State Water Project Delivery Reliability Report.
- . 2009. Annual Emissions Report. California Department of Water Resources (Emissions from California Operations. 2007 Reporting Year. Available:  
<http://water.ca.gov/climatechange/docs/CREntityEmissionReport.pdf>
- . 2009. Annual Emissions Report. Available: -----. 2009a. 2009 Comprehensive Water Package – Special Session Policy Bills and Bond Summary.  
<http://water.ca.gov/climatechange/docs/CREntityEmissionReport.pdf>
- . 2009b. California Water Plan Update 2009.
- . 2009. Flood Management, 2009 – Delta Risk Management Strategy Final Phase 1 Report, Department of Water Resources, Flood Management Division, February 2009.

## Appendix A – References and Bibliography

---

- , 2009. Model Water Efficient Landscape Ordinance. California Code of Regulations Title 23. Waters Division 2. Department of Water Resources Chapter 2.7. Available: <http://www.water.ca.gov/wateruseefficiency/docs/MWEL09-10-09.pdf>
- , 2010. Monterey Amendment to the State Water Project Contracts (Including Kern Water Bank Transfer) and Associated Actions as Part of a Settlement Agreement (Monterey Plus). Monterey Plus Final EIR, Findings and Determinations. SCH#2003011118. April 2010. Available: [http://www.water.ca.gov/environmentalservices/monterey\\_plus.cfm](http://www.water.ca.gov/environmentalservices/monterey_plus.cfm); [http://www.water.ca.gov/environmentalservices/docs/mntry\\_plus/Monterey%20Plus-ExhB\\_Findings%20and%20Determination.pdf](http://www.water.ca.gov/environmentalservices/docs/mntry_plus/Monterey%20Plus-ExhB_Findings%20and%20Determination.pdf)
- , 2010. Climate Change Characterization and Analysis in California Water Resources Planning Studies. Final Report. December 2010. Available: [http://www.water.ca.gov/climatechange/docs/DWR\\_CCCStudy\\_FinalReport\\_Dec23.pdf](http://www.water.ca.gov/climatechange/docs/DWR_CCCStudy_FinalReport_Dec23.pdf)
- , 2011. Salton Sea Ecosystem Restoration Program. Available: : <http://www.water.ca.gov/saltonsea/>
- , 2011. California State Water Project Today. Available: <http://www.water.ca.gov/swp/swptoday.cfm>
- DWR (California Department of Water Resources) and CDFG. 2010a. Salton Sea Species Conservation Habitat Project Draft Implementation Plan. March, 2010. Available: <http://www.water.ca.gov/saltonsea/docs/habitatimplementationplan.pdf>
- , 2010b. Salton Sea Species Conservation Habitat Stakeholders Meeting Presentation. October 10, 2010. Available: [http://www.water.ca.gov/calendar/materials/101910stakeholder\\_9994.pdf](http://www.water.ca.gov/calendar/materials/101910stakeholder_9994.pdf)
- , 2010. Goals and Objectives of the Salton Sea Species Conservation Habitat Project. Available: [http://www.water.ca.gov/calendar/materials/goals\\_and\\_objectives\\_061010\\_8933.pdf](http://www.water.ca.gov/calendar/materials/goals_and_objectives_061010_8933.pdf)
- California Fish and Game Code. California Endangered Species Act (CESA), Fish and Game Code Sections 2050-2068. Available: <http://www.aroundthecapitol.com/code/getcode.html?file=../fgc/02001-03000/2050-2068>
- California Government Code, Sections 65591-65600, Water Conservation in Landscaping Act.
- CAPCOA (California Air Pollution Control Officers Association). Quantifying Greenhouse Gas Mitigation Measures. Available: <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>
- CBC. 2010a. 2010 California Building Code. California Code of Regulations, Title 24, Part 2, California Building Standards Commission.
- , 2010b. 2010 California Green Building Standards Code. CalGreen. California Code of Regulations, Title 24, Part 11. California Building Standards Commission

## Appendix A – References and Bibliography

---

- CGS (California Geological Survey). 1997. Special Publication 117. Guidelines for Evaluating and Mitigating Seismic Hazards in California.
- . 2002a. Index to Earthquake Fault Zone Maps, Figure 4E. Available: [http://www.consrv.ca.gov/cgs/rghm/ap/Map\\_index/Pages/F4E.aspx](http://www.consrv.ca.gov/cgs/rghm/ap/Map_index/Pages/F4E.aspx)
- . 2002b. GIS Files of Official Alquist-Priolo Earthquake Fault Zones, Southern Region. California Geological Survey CD-ROM 2001-05.
- California Governor’s Office of Planning and Research (OPR). 2008. Technical Advisory. CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review. June 19, 2008. Available: <http://opr.ca.gov/index.php?a=ceqa/index.html>
- California Health and Safety Code, 2010. California Safe Drinking Water Act. §116270 et seq.
- California Native Plant Society (CNPS), 1991. Mitigation guidelines regarding impacts to rare, threatened, and endangered plants. Pamphlet, 17 pp.
- . 2010. Inventory of Rare and Endangered Plants. January 19, 2010. Available: <http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi>
- Regional Board (California Regional Water Quality Control Board, Colorado River Basin-Region 7. 1993. December 31, 1993. Salton Sea Briefing Paper.
- . 1994. Water Quality Control Plan, Colorado River Basin Region.
- . 1999. Basin Planning Unit, Watershed Management Initiative, Salton Sea Transboundary Watershed. Available: [http://www.swrcb.ca.gov/rwqcb7/wmi/priority\\_watershed.html](http://www.swrcb.ca.gov/rwqcb7/wmi/priority_watershed.html)
- . 2002b. Comment letter on Quantification Settlement Agreement PEIR, April 18, 2002. Contained in pp. S-52 – S-57 of CVWD et al., 2002.
- . 2003. TMDL Programs, Salton Sea Nutrient TMDL. Draft Numeric Target and Indicators. Available: [http://www.swrcb.ca.gov/coloradoriver/water\\_issues/programs/tmdl/docs/saltonsea/ss\\_numerictarget92203.pdf](http://www.swrcb.ca.gov/coloradoriver/water_issues/programs/tmdl/docs/saltonsea/ss_numerictarget92203.pdf)
- . 2006. Colorado River Basin - Region 7. 2006. Water Quality Control Plan, Colorado River Basin. Includes Amendments Adopted by the Regional Board Through June 2006. Available: [http://www.waterboards.ca.gov/coloradoriver/publications\\_forms/publications/docs/basin\\_plan\\_2006.pdf](http://www.waterboards.ca.gov/coloradoriver/publications_forms/publications/docs/basin_plan_2006.pdf)
- . 2007. Resolution No. R7-2010-0028, Revising a Basin Plan Amendment Adopted by Regional Board Resolution No. R7-2007-0039 on May 16, 2007. Available: [http://www.waterboards.ca.gov/coloradoriver/board\\_decisions/adopted\\_orders/resolutions/2010/res0028cvsc.pdf](http://www.waterboards.ca.gov/coloradoriver/board_decisions/adopted_orders/resolutions/2010/res0028cvsc.pdf)

## Appendix A – References and Bibliography

---

- 2008. TMDL Website. Available:  
[http://www.waterboards.ca.gov/rwqcb7/water\\_issues/programs/tmdl/](http://www.waterboards.ca.gov/rwqcb7/water_issues/programs/tmdl/)
- 2008. Resolution No. R7-008-013. Adoption of 2007 Triennial Review of the Water Quality Control Plan.
- 2008. Strategic Plan Update 2008-2012. September 2, 2008. Available:  
[http://www.waterboards.ca.gov/water\\_issues/hot\\_topics/strategic\\_plan/docs/final\\_draft\\_strategic\\_plan\\_update\\_090208.pdf](http://www.waterboards.ca.gov/water_issues/hot_topics/strategic_plan/docs/final_draft_strategic_plan_update_090208.pdf)
- 2009. Resolution No. R7-2009-0014. Proposed Revisions to the 303(d) List of Impaired Water Bodes and Preparation of the 2008 Integrated Report for the Colorado River Basin Region. Available: [http://www.swrcb.ca.gov/rwqcb7/board\\_decisions/adopted\\_orders/resolutions/2009/res0014.pdf](http://www.swrcb.ca.gov/rwqcb7/board_decisions/adopted_orders/resolutions/2009/res0014.pdf)
- 2010a. Total Maximum Daily Load (TMDL) and the 303(d) List of Impaired Water Bodies. Available:  
[http://www.swrcb.ca.gov/rwqcb7/water\\_issues/programs/tmdl/tmdl\\_projects.shtml](http://www.swrcb.ca.gov/rwqcb7/water_issues/programs/tmdl/tmdl_projects.shtml)
- 2010b. Waste Discharge Requirements for the City of Coachella and the Coachella Sanitary District, Coachella Sanitary District Wastewater Treatment Plant. Order R7-2010-0021, NPDES No. CA0104493, June 2010. Available:  
[http://www.swrcb.ca.gov/coloradoriver/board\\_decisions/adopted\\_orders/orders/2010/0021coach\\_sanitary.pdf](http://www.swrcb.ca.gov/coloradoriver/board_decisions/adopted_orders/orders/2010/0021coach_sanitary.pdf)
- 2010c. Watershed Management Initiative. Available:  
[http://www.waterboards.ca.gov/water\\_issues/programs/watershed/](http://www.waterboards.ca.gov/water_issues/programs/watershed/)  
[http://www.waterboards.ca.gov/coloradoriver/water\\_issues/programs/wmi/index.shtml](http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/wmi/index.shtml)
- 2010. Underground Storage Tanks. Available: <http://geotracker.swrcb.ca.gov/>
- 2010. Resolution No. R7-2010-0028. Revising a Basin Plan Amendment Adopted by Regional Board Resolution No r7-2007-0039 on May 16, 2007. Attachment 1: Final CVSC Bacteria TMDL Basin Plan Amendment (BPA). June 16, 2010.
- 2011. Proposed Basin Plan Amendment to Establish a Conditional Prohibition and Implementation Plan for Agricultural Wastewater Discharges Originating within the Palo Verde Valley and the Palo Verde Mesa, Riverside and Imperial Counties, California. January, 2011. Available: [http://www.waterboards.ca.gov/coloradoriver/water\\_issues/programs/basin\\_planning/docs/paloverde/staff\\_rpt.pdf](http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/docs/paloverde/staff_rpt.pdf)
- 2011. Amendments to the Water Quality Control Plan. 2011. Available:  
[http://www.swrcb.ca.gov/rwqcb7/water\\_issues/programs/basin\\_planning/](http://www.swrcb.ca.gov/rwqcb7/water_issues/programs/basin_planning/)
- California Resources Agency, 2007a. Guidelines for Implementation of the California Environmental Quality Act. CCR Title 14, Division 6, Chapter 3, Sections 15000-15387 and Appendices A – K. As amended July 27, 2007. Available: <http://ccr.oal.ca.gov/>



## Appendix A – References and Bibliography

---

- California State Water Resources Control Board (SWRCB), 1984. In the Matter of Alleged Waste and Unreasonable Use of Water by Imperial Irrigation District. Decision 1600, p. 66. Available: <http://www.sci.sdsu.edu/salton/iidAllegedWasteofWater.html>
- 2005. California Ocean Plan. Effective February 14, 2006. Available: [http://www.waterboards.ca.gov/water\\_issues/programs/ocean/docs/oplans/oceanplan2005](http://www.waterboards.ca.gov/water_issues/programs/ocean/docs/oplans/oceanplan2005)
- 2009. The Water Rights Process. California Water Plan Update 2009. Vol. 4 - Reference Guide.
- 2010a. Irrigated Lands Regulatory Program (ILRP). Available: [http://www.swrcb.ca.gov/water\\_issues/programs/agriculture/docs/about\\_agwaivers.pdf](http://www.swrcb.ca.gov/water_issues/programs/agriculture/docs/about_agwaivers.pdf)
- 2010b. Irrigated Lands Regulatory Program Monthly Report October 2010. Available: [http://swrcb2.waterboards.ca.gov/water\\_issues/programs/agriculture/docs/monthlyreports/2010/ilrp2010oct\\_en.pdf](http://swrcb2.waterboards.ca.gov/water_issues/programs/agriculture/docs/monthlyreports/2010/ilrp2010oct_en.pdf)
- 2010c. Stormwater Program. 2009-0009-DWQ Construction General Permit (effective July 1, 2010). Available: [http://www.swrcb.ca.gov/water\\_issues/programs/stormwater/constpermits.shtml](http://www.swrcb.ca.gov/water_issues/programs/stormwater/constpermits.shtml)
- 2011. Declaration of Fully Appropriated Stream Systems – Riverside County. Available: [http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/fully\\_appropriated\\_streams/docs/fas\\_maps/riverside.jpg](http://www.waterboards.ca.gov/waterrights/water_issues/programs/fully_appropriated_streams/docs/fas_maps/riverside.jpg)
- 2011. GeoTracker - Sites/Facilities by DWR Groundwater Sub-Basin for Coachella Valley – Indio (7-21.01). Available: <http://geotracker.waterboards.ca.gov/search.asp?cmd=search&hidept=True&status=&reporttitle=Coachella%20Valley%20-%20Indio%20%287-21.01%29&gwbasin=Coachella%20Valley%20-%20Indio%20%287-21.01%29>
- GAMA. 2011. GeoTracker Groundwater Ambient Monitoring and Assessment (GAMA) for Coachella Valley – Indio (7-21.01). Available: <http://geotracker.waterboards.ca.gov/gama/>
- California, State of, Strategic Growth Plan – Bond Accountability, Lower Colorado River Multi-Species Habitat Conservation Plan. Available: <http://bondaccountability.resources.ca.gov/plevel1.aspx?id=19>
- California Urban Water Conservation Council (CUWCC), 2001. Memorandum of Understanding Regarding Urban Water Conservation. On CD-ROM.
- California Water Code, 2010. Artesian Wells §300-311.
- Sections 10610-10656, Urban Water Management Planning Act.
- Sections 10900-10904, Agricultural Water Suppliers Efficient Water Management Practices Act.

## Appendix A – References and Bibliography

---

- Section 30000 et seq., County Water District Act.
- 1965, as amended. Cobey-Alquist Flood Plain Management Act. Sec. 8400-8401.
- Appendix, 2010. Desert Water Agency Law, Water Replenishment Assessments; levy and collection §100-15.4
- 2010. Coachella Valley Water District Water Replenishment Assessments §31630-31639
- CalRecycle. 2011. Mecca Landfill profile. Available:  
<http://www.calrecycle.ca.gov/profiles/Facility/Landfill/LFProfile1.asp?COID=33&FACID=33-AA-0071>
- 2011. Edom Hill Landfill Profile. Available:  
<http://www.calrecycle.ca.gov/Profiles/Facility/Landfill/LFProfile1.asp?COID=33&FACID=33-AA-0011>
- Cameron, S., Natural Resources Conservation Service (NRCS), El Centro Office. Personal Communication, 2000.
- Canter, L. W., 1977. Environmental Impact Assessment. McGraw-Hill, Inc.
- Cathedral City, City of. 2009. Cathedral City General Plan. Adopted July 31, 2002; amended June 24, 2009. Available: <http://www.cathedralcity.gov/index.aspx?page=413>
- CBC. 2010a. 2010 California Building Code. California Code of Regulations, Title 24, Part 2. California Building Standards Commission.
- 2010b. 2010 California Building Green Building Standards Code. CalGreen. California Code of Regulations, Title 24, Part 11. California Building Standards Commission.
- CEC (California Energy Commission). 2008. California Power Mix. CEC Website. Available: [www.energy.ca.gov/consumer](http://www.energy.ca.gov/consumer)
- 2009. California Energy Demand 2010-2020. Staff Draft Forecast. CEC-200-2009-012-SD. June 2009.
- 2010. Industrial - Agricultural - Water End-Use Energy Efficiency. Available: <http://www.energy.ca.gov/research/iaw/industry/water.html>
- 2011. Energy Almanac. Overview of Natural Gas in California 2011. Available: <http://energyalmanac.ca.gov/naturalgas/overview.html>
- CH2M-Hill, Teayawa Energy Center, Draft EIS/EIR. 2001. Prepared for the US Department of the Interior, Bureau of Indian Affairs and County of Riverside Transportation and Land Management Agency, September 2001. On CD-ROM.

## Appendix A – References and Bibliography

---

- 2002. Water Conservation and Transfer Project, Draft EIR/EIS and Draft Habitat Conservation Plan, Volumes 1 & 2, prepared for IID and US Bureau of Reclamation, January 2002. Available: [http://www.iid.com/Water\\_Index.php?pid=623](http://www.iid.com/Water_Index.php?pid=623)
- 2006. Draft EIR/EIS Salton Sea Ecosystem Restoration Plan. Prepared for DWR. Available: <http://www.water.ca.gov/saltonsea/peir/draft/>
- 2007. Salton Sea Ecosystem Restoration Program, Draft and Final Programmatic Environmental Impact Report. Prepared for California Department of Water Resources and California Department of Fish and Game.
- CIC Research, Inc., 1989. The Economic Importance of the Salton Sea Sportfishery, a Report to the California Department of Fish and Game.
- Coachella, City of, 1997. City of Coachella General Plan 2020. Available: <http://www.coachella.org/index.aspx?NID=246>
- Coachella, City of, 1997. City of Coachella General Plan 2020 Draft Environmental Impact Report.
- 2008. Urban Water Management Plan.
- General Plan (Update in Progress).
- Coachella Valley Association of Governments (CVAG). 2007. Final Recirculated Coachella Valley Multiple Species Habitat Conservation Plan & Natural Communities Conservation Plan. Available: [http://www.cvmshcp.org/Plan\\_Documents.htm](http://www.cvmshcp.org/Plan_Documents.htm)
- 2008. Coachella Valley Multiple Species Conservation Plan. Available: <http://www.cvmshcp.org/>
- 2009. Coachella Valley Traffic Counts Report. Available: <http://www.cvag.org/Trans/pdf/cvagensus2009.pdf>
- Coachella Valley Mosquito and Vector Control District. 2010. Control Products. Available: [http://cvmvcd.org/control\\_products.htm](http://cvmvcd.org/control_products.htm)
- Coachella Valley Water District (CVWD). 1934. Compromise Agreement with IID, February 14, 1934.
- 1992. Ordinance No. 1234, An Ordinance of the Coachella Valley Water District Establishing Requirements Relating to Stormwater Policies on Public Notification as Conditions to Approval of Developments in Areas Subject to Special Flood Hazards and Repealing All Ordinances in Conflict Therewith.
- 1994. Unpublished fish farm and duck club water use data.
- 1996. Irrigation Manual to Convert from Well Water to Colorado River Water.

## Appendix A – References and Bibliography

---

- 1997. Application filed with the State Water Resources Control Board to appropriate all waters in the CVSC.
- 1999a. Comment Letter on Revised Draft Programmatic Environmental Impact Statement for Cabazon Resource Recovery Park. Dated: August 11, 1999.
- 2000. Unpublished File. Effluent Quality of Kent SeaFarms, Water Quality and Hydrology for Drains and CVSC.
- 2000. Unpublished water diversion and use data for Coachella Canal.
- 2006. Lush & Efficient: Landscape Gardening in the Coachella Valley, Revised Edition. Available: <http://www.cvwd.org/lush&eff.htm>
- 2006. Press Release, December 13, 2006: Something’s fishy in the Coachella Canal. Available: <http://www.cvwd.org/news/press2.php>
- 2008. Draft Environmental Report for the Environmental Assessment, Trailer Park Sewer Collection System, Torres Martinez Desert Cahuilla Indians. Available: [http://www.cvwd.org/news/publicinfo/2008\\_08\\_01\\_Draft\\_NEPA\\_ERforPubReview\\_8-08.pdf](http://www.cvwd.org/news/publicinfo/2008_08_01_Draft_NEPA_ERforPubReview_8-08.pdf)
- 2009. Revisions to Landscape Ordinance 1302.1 adopted 2007. Landscape and Irrigation Design Criteria. Available: [http://www.cvwd.org/news/publicinfo/2009\\_12\\_04\\_Ordinance\\_1302\\_1\\_revised.pdf](http://www.cvwd.org/news/publicinfo/2009_12_04_Ordinance_1302_1_revised.pdf)
- Selenium Monitoring Data. Unpublished file data, 2002 – 2009.
- 2000-2010. Unpublished water quality data
- 2010. CVWD Annual Review.
- 2010. Engineer’s Report on Water Supply and Replenishment Assessment, Upper Whitewater River Subbasin Area of Benefit, April 2010.
- 2010. Engineer’s Report on Water Supply and Replenishment Assessment, Lower Whitewater River Subbasin Area of Benefit, April 2010.
- 2010. Unpublished monitoring data on selenium and perchlorate in the Coachella Canal. Provided to MWH by S. Bigley, CVWD.
- 2010. Unpublished file Data from ongoing monitoring of CVSC and agricultural drains flows and quality. Provided to MWH by S. Bigley, CVWD.
- 2011. List of Technical Advisory Committee Members, Coachella Valley Agricultural Conditional Prohibition. Provided to MWH by S. Bigley, CVWD, February 18, 2011.
- 2011. Replenishment Assessment Charge. Available: <http://www.cvwd.org/news/rac.php>

## Appendix A – References and Bibliography

---

- CVWD, DWA and MSWD. 2004. Mission Creek Settlement Agreement, December 2004.
- CVWD, IID, Metropolitan and SDCWA (Coachella Valley Water District, Imperial Irrigation District, The Metropolitan Water District of Southern California, San Diego County Water Authority), 2002. Final Program Environmental Impact Report for Implementation of the Colorado River Quantification Settlement Agreement, June 2002. 2 volumes.
- CVWD-Indio. 2009. Settlement Agreement among CVWD, city of Indio and Indio Water Authority, June 30, 2009.
- Cohan, D. R., B. W. Anderson and R. D. Ohmart, 1979. Avian population responses to salt cedar along the Lower Colorado River, pp. 371-382. In: R.R. Johnson and J.F. McCormick (eds.), National Symposium on Strategies for Protection and Management of Floodplain Wetlands and Other Riparian Ecosystems. 11-13 December 1978, Pine Mountain, Georgia, USDA Forest Service, General Technical Report WO-12, 1979.
- Cohen, M.J. and K.H. Hyun. 2006. Hazard: The Future of the Salton Sea with No Restoration Project. Oakland, CA: Pacific Institute.
- Colorado River Basin Salinity Control Forum, 2008. 2008 Review Water Quality Standards for Salinity – Colorado River System. Available: <http://www.coloradoriversalinity.org/docs/2008%20Review.pdf>
- Colorado River Board of California, 2000. California's Colorado River Water Use Plan, Draft, June 2, 2000. Available: [http://www.crb.ca.gov/Calif\\_Plan%20May%2011%20Draft.pdf](http://www.crb.ca.gov/Calif_Plan%20May%2011%20Draft.pdf)
- Cornett, J., Palm Springs Desert Museum, 1994. Personal communication to Frank Hovore, FH&A/MWH.
- 2002, Personal communication to Janet Fahey, MWH.
- Courtois, L. A. and S. Hino., 1979. Egg Deposition of the Desert Pupfish, *Cyprinodon macularius*, in Relation to Several Physical Parameters, Calif. Fish and Game, Vol. 65, No. 2, pp. 100-105.
- Cowles, R. B., 1934. Notes on the Ecology and Breeding Habitats of the Desert Minnow *Cyprinodon macularius*, Baird and Girard. Copeia 1: 40-42.
- CPUC (California Public Utilities Commission). 2011. Long-Term Procurement Plan History. Available: [http://www.cpuc.ca.gov/PUC/energy/Procurement/LTPP/ltppl\\_history.htm](http://www.cpuc.ca.gov/PUC/energy/Procurement/LTPP/ltppl_history.htm)
- CSGNetwork.com. 2010. Coachella Valley Airports. Available: <http://www.csghnetwork.com/>
- CVAG (Coachella Valley Association of Governments). 2010. Transportation Department website. Available: [http://www.cvag.org/Trans\\_Dept.htm](http://www.cvag.org/Trans_Dept.htm)

## Appendix A – References and Bibliography

---

- CVMC (Coachella Valley Mountains Conservancy) and CVAG. 2008. Coachella Valley Multiple Species Habitat Conservation Plan. Available: <http://www.cvmshcp.org/>
- CVRWMG (Coachella Valley Regional Water Management Group). 2010. Coachella Valley Integrated Regional Water Management Plan. Available: [http://www.cvrwmg.org/docs/2011\\_11\\_30\\_CVRWMG-CVRWMG-CoachellaValleyIntegratedRegionalWaterManagementPlan\\_150258.pdf](http://www.cvrwmg.org/docs/2011_11_30_CVRWMG-CVRWMG-CoachellaValleyIntegratedRegionalWaterManagementPlan_150258.pdf)
- CVUSD (Coachella Valley Unified School District). 2011. Website. Schools. Available: <http://www.coachella.k12.ca.us/>
- DeLoach, C.J., R.I. Carruthers, J.E. Lovich, T.L. Dudley, and S.D. Smith. 2000. Ecological interactions in the biological control of saltcedar (*Tamarix* spp.) in the United States: toward a new understanding. In: N.R. Spencer (ed.), Proceedings of the X International Symposium of Biological Control of Weeds. 4-14 July 1999, Montana State University, Bozeman, Montana, pp. 819-873.
- Desert Sun. 2010. Arsenic-tinged water plagues unincorporated communities. Article dated January 31, 2010.
- Desert Tortoise Council. 1994, revised 1999. Guidelines for Handling Desert Tortoise During Construction Projects.
- Desert Water Agency (DWA), 1998. Notice of Exemption – Mission Creek Groundwater Recharge Project. Filed with Riverside County Clerk: June 24, 1998.
- . 2002. Desert Water Agency Website. Available: <http://www.dwa.org>
- . 2010. Engineer’s Report – Groundwater Replenishment and Assessment Program for the Mission Creek Subbasin. May 2010.
- . 2011. Letter to Steve Robbins, CVWD from David Luker, DWA. Re: Coachella Valley Water Management Plan. Dated January 4, 2011.
- Dodero, M., 1995. Biological Information Report: Palm Springs Ground Squirrel (PSGS) (*Spermophilus tereticaudus*). Unpublished report to the Coachella Valley Mountains Conservancy, CVMSHCP Biological Surveys, August 11, 1995. Cited in SSA and USBR, 2000a.
- DPH (California Department of Public Health). 2006. Secondary Water Standards. California Code of Regulation Title 22. Division 4. Environmental Health Chapter 15. Domestic Water Quality and Monitoring Regulations Article 16. Available: <http://www.cdph.ca.gov/certlic/drinkingwater/Documents/Recentlyadoptedregulations/R-21-03-finalregtext.pdf>
- . 2008. Federal and State MCLs—Maximum Contaminant Levels and Regulatory Dates for Drinking Water, U.S. EPA vs. California. Available:

## Appendix A – References and Bibliography

---

- <http://www.cdph.ca.gov/certlic/drinkingwater/Documents/DWdocuments/EPAandCDPH-11-28-2008.pdf>
- 2011. Chromium-6 in Drinking Water: MCL Update. Available:  
<http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Chromium6.aspx>
- DSIRE (Database of State Incentives for Renewables and Efficiency). 2010. IID Energy Commercial Rebate Program. Available:  
[http://www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=CA176F&re=1&ee=1](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CA176F&re=1&ee=1)
- DSUSD (Desert Sands Unified School District). 2009. Schools. Available:  
<http://web1.dsusd.k12.ca.us/schools/Pages/default.aspx>
- DuBuys, William & Joan Myers, 1999. Salt Dreams: Land and Water in Low-down California, New Mexico Press.
- DWR and CDFG. 2010. Salton Sea Species Conservation Habitat Project, Draft Implementation Plan. March 15, 2010.
- 2010. Salton Sea Species Conservation Habitat Stakeholders Meeting Presentation. October 10, 2010. Available: [http://www.water.ca.gov/calendar/materials/101910stakeholder\\_9994.pdf](http://www.water.ca.gov/calendar/materials/101910stakeholder_9994.pdf)
- 2010. Salton Sea Species Conservation Habitat Project, Selenium Treatment Technologies, Draft October 2010.
- Earthquake Engineering Research Institute (EERI). 1994. Earthquake Basics – Liquefaction: What is it and what to do about it. January 1994. Available:  
[http://www.eeri.org/cds\\_publications/earthquake\\_basics\\_series/LIQ1.pdf](http://www.eeri.org/cds_publications/earthquake_basics_series/LIQ1.pdf)
- Eddleman. W. R., 1989. Biology of the Yuma clapper rail in the southwestern U.S. and northwestern Mexico. U.S. Bureau of Reclamation, Yuma Projects Office.
- Emmel, T. C. and J. F. 1973. The Butterflies of Southern California. Natural History Museum of Los Angeles County, Science Series 26: 148 pp.
- Farris, D., CVWD. July 7, 2000, Personal Communication to Janet Fahey, MWH.
- Federal Emergency Management Agency (FEMA). 2010. Digital Flood Insurance Rate Map (DFIRM) Viewer. Available: <https://hazards.fema.gov/wps/portal>
- Federal Energy Policy Act of 1992 (PL 102-486) 42 USC 13401 et seq., 13451 et seq., 13501 et seq., 13521 et seq. Available: <http://thomas.loc.gov/cgi-bin/query/z?c102:H.R.776.ENR>
- Fogg, Graham, et al. 2000. Groundwater Flow Model of the Coachella Valley, California: an Overview.

## Appendix A – References and Bibliography

---

- FNN (FishingNetwork.Net). 2011. Coachella Canal Schoolies. Available:  
<http://fishingnetwork.net/forum4/showthread.php?54999-Coachella-Canal-schoolies>
- Garrett, K. and J. Dunn. 1981. Birds of Southern California, Status and Distribution. Los Angeles Audubon Society, 408 pp.
- Geofon, Inc. 1994. Fault maps and earthquake recurrences for the Coachella Valley.
- Gerking, S. D. and R. M. Lee, 1980. Reproductive performance of the desert pupfish (*Cyprinodon n. nevadensis*) in relation to salinity. *Environmental Biology of Fishes*, Vol. 5, No. 4 pp. 375-378.
- Glenn, T. J. 1983. Birds of the Coachella Valley, checklist. Coachella Valley Audubon Society, pamphlet, 4 fold, double-sided.
- Golf Coachella Valley. 2009. Available: <http://www.golfcoachellavalley.com/>
- Google Maps. 2010. Desert Park, Indio, California. Available:  
<http://maps.google.com/maps?hl=en&tab=wl>
- Gould, G. I., Jr. 1975. Yuma Clapper Rail Study – Censuses and Habitat Distribution 1973-1974. California Department of Fish and Game, Wildlife Management Branch Admin. Report 75-2. April 1975. Available:  
[http://www.dfg.ca.gov/wildlife/nongame/publications/bm\\_research/docs/75\\_03.pdf](http://www.dfg.ca.gov/wildlife/nongame/publications/bm_research/docs/75_03.pdf)
- Hall, E. R. 1981. The Mammals of North America. John Wiley and Sons, New York (2 vol.), 1,181 pp.
- Hely, A. G., G. H. Hughes, and I. Burdge. 1966. Hydrologic Regime of the Salton Sea. USGS Professional Paper 486C, United States Geological Survey.
- Hickman, J. C. ed. 1993. The Jepson Manual, Higher Plants of California. UC. Press. 1400 pp.
- Holdren, G.C. 1999. Preliminary (unpublished) Results of Physical Limnology Reconnaissance Studies, January through July 1999. Cited in CVWD, et al., 2002.
- Holland, R. F. 1992. Preliminary descriptions of the terrestrial natural communities of California. Calif. Dept. Fish & Game Rept., 156 pp.
- Imperial Irrigation District (IID). 1932. Contract with the Department of the Interior. December 1, 1932. Article 17, p. 20.
- The All-American Canal. Available: [http://www.iid.com/Water\\_Index.php?pid=64](http://www.iid.com/Water_Index.php?pid=64)
- 2002. Master Response for Salton Sea Air Quality Monitoring and Mitigation Plan.
- 2009. IID QSA Water Transfer Mitigation Program Quarterly Update, April 2009. Available: <http://www.iid.com/Modules/ShowDocument.aspx?documentid=2322>



## Appendix A – References and Bibliography

---

- , 2010. QSA Mitigation Program Update Water Transfer, July, 2010. Available: <http://www.iid.com/index.aspx?page=237>
- , 2010a. IID Facilities. IID Website. Available: <http://iid.org>
- , 2010b. Integrated Resource Plan. Available: <http://www.iid.com/Modules/ShowDocument.aspx?documentid=2382>
- , 2010. Power Content Label. IID Website. Available: <http://www.iid.com/index.aspx?page=377>
- , 2011. About IID Energy. IID website. Available: <http://www.iid.com/index.aspx?page=250>
- IID and USBR. 2002. IID Water Conservation and Transfer Project/Draft Habitat Conservation Plan, Draft EIR/EIS, January 2002. CD-ROM.
- Indian Wells, City of. 1995. City of Indian Wells General Plan Final Environmental Impact Report.
- , 1996. City of Indian Wells General Plan.
- , 2010. Getting Greener: Indian Wells' Path to Sustainability.
- , Planning Department. 2010. Jesse Jimenez, Planning Technician. Personal communication with L. Siniawer, August 10, 2010.
- Indio, City of. 1993. Indio General Plan 2020. 2 volumes. Prepared by Chambers Group, Inc.
- , 2004. General Plan. Available: <http://www.indio.org/index.aspx?page=202>
- , 2010. General Plan. Available: <http://www.indio.org/index.aspx?page=125>
- , 2009. 2009/2010 – 2011/2012 Capital Improvement Program, Project Description -- Posse Park Recharge Facility. Available: <http://www.indio.org/Modules/ShowDocument.aspx?documentid=782>
- IWA (Indio Water Authority). 2008. Indio Water Authority Water Resources Development Plan, Final Report. July 2008.
- Jameson, E. W., Jr. and H. J. Peeters. 1988. California Mammals. Calif. Natural History Guides: 52, Univ. Calif. Press, 402 pp.
- Jones and Stokes Associates., Inc. 1973. Final EIR on utilizing Colorado River water to recharge upper Coachella Valley groundwater basins. pp. 42-53.
- Keeney, S., CDFG. 1999. Survey results from north end agricultural drains during 1993-1998, Salton Sea desert pupfish survey. Draft unpublished file data.

- , 1998, 1999. Personal Communication with Janet Fahey, MWH.
- The Keith Companies. 1993. The Quarry, Mitigated Negative Declaration. Appendix F, 28 pp.
- , 1995. Travertine and Green Specific Plan, Final Environmental Impact Report, June 1995.
- KEMA, Inc.. 2010. California Residential Appliance Saturation Study. Consultant Report. Prepared for CEC. CEC-200-2010-004. Executive Summary and two volumes. Available: <http://www.energy.ca.gov/2010publications/CEC-200-2010-004/CEC-200-2010-004-ES.PDF>; <http://www.energy.ca.gov/2010publications/CEC-200-2010-004/CEC-200-2010-004-V1.PDF>; <http://www.energy.ca.gov/2010publications/CEC-200-2010-004/CEC-200-2010-004-V2.PDF>
- Kinne, O. 1960. Growth, food intake and food conversion in a euryplastic fish exposed to different temperatures and salinities, *Physiol. Zool.*, Vol. 33, pp. 288-317. Cited in SSA and USBR, 2000a.
- Krieger and Stewart, Engineering Consultants. 1983. Vol. II, Draft EIR on extension of time for utilizing Colorado River water to recharge the upper Coachella Valley groundwater basins. Chapter 3, Existing Environmental Conditions, pp. 42-53.
- Lake Mead Water Quality Forum, 2010. Meeting Summary - January 26, 2010. Perchlorate Update - (NDEP – Las Vegas)
- La Quinta, City of. 2002. City of La Quinta General Plan. Prepared by Terra Nova Planning & Research, Inc. Adopted March 20, 2002. Available: <http://www.la-quinta.org/Index.aspx?page=575>
- , 2007. City of La Quinta General Plan Land Use Map and Official Zoning Map. September 2007. Available: <http://www.la-quinta.org/Index.aspx?page=28>
- , 2010. La Quinta 2035 General Plan Update. Available: <http://www.la-quinta.org/Index.aspx?page=620>
- Liesner, D.R. 1971. Phytophagous insects of *Tamarix* spp. in New Mexico. M.S. Thesis, New Mexico State University, Las Cruces, New Mexico. Cited in DeLoach, et al., 2000.
- Lin, Zhi-Qing and Norman Terry. 2003. Selenium Removal by Constructed Wetlands: Quantitative Importance of Biological Volatilization in the Treatment of Selenium-Laden Agricultural Drainage Water. *Environ. Sci. Technol.*, 2003, 37 (3), pp 606–615.
- Lindgren, D. 1998. Colorado River Update: The Journey to the Day of Reckoning Continues (Slowly). *Western Water Law & Policy Reporter*, pp. 137-141. April 1998.
- Lord, J. M.. 1996. Unpublished analysis of cropping and patterns and water demand estimates for the Coachella Valley.
- , 1999. Unpublished evaluation of CVWD on-farm water audits.

## Appendix A – References and Bibliography

---

- Lowe, C.H. and W.G. Heath. 1969. "Behavioral and Physiological Responses to Temperature in the Desert Pupfish, *Cyprinodon macularius*. *Physiol. Zool.* 42(1): 53-59.
- Maas, E. V. and G. J Hoffman, 1977. Crop Salt Tolerance - Current Assessment. *Journal of Irrigation and Drainage*, ASCE 103(IR2), pp. 115-134.
- Mayer, P.W., W.B. DeOreo, et al. 1999. Residential End Uses of Water. Prepared for American Water Works Research Foundation.
- McCaskie, G., ed. 1989. Birds of the Salton Sea Area, California Department of Fish and Game.
- McClurg, Sue. 1994. The Salton Sea. Water Education Foundation, March-April 1994.
- McDonald, M.G. and A. W. Harbaugh. 1988. A modular three-dimensional finite difference ground-water flow model. USGS Water Resources Investigations, Book 6, Chapter AI.
- McKernan, R.L. 2000. San Bernardino County Museum, Redlands. Personal communication with Mike Walker, Supervisory Biologist, US Bureau of Reclamation, Yuma Office.
- Meko, D.M., et al., 2007. Medieval drought in the Upper Colorado River Basin. *Geophysical Research Letters*, Vol. 34, L10705, May 24, 2007.
- Metropolitan Water District of Southern California, The. 2006 Revised Power Integrated Resource Plan for Metropolitan's Colorado River Aqueduct Power Operations. October 2006. Available: <http://www.wapa.gov/es/irp/CustIRPs/dsw/MetWaterDistIRP.pdf>
- 2007. Annual Report.
- 2009. Annual Report. Available: <http://www.mwdh2o.com/mwdh2o/pages/about/AR/AR09.html>
- 2010. Annual Report – Fiscal Year 2009-10. Available: <http://www.mwdh2o.com/mwdh2o/pages>
- 2010. Perchlorate levels in Colorado River Aqueduct. Pers. comm., Matt Hacker.
- Montgomery, J. M., Consulting Engineers, Inc., 1980. Draft Facility Wastewater Management Facilities for La Quinta, prepared for CVWD. On CD-ROM.
- 1989. Report for the Water Quality and Biological Resources Evaluation, Coachella Valley Stormwater Channel. Prepared for CVWD, Valley Sanitary District and City of Coachella. Chapter 2, Biological Analyses.
- Montgomery Watson. 1994. Technical Memorandum on Water Demands and Supplies, Lower Coachella Valley Groundwater Management Plan and Program EIR.

## Appendix A – References and Bibliography

---

- , 1999. Mitigated Negative Declaration for Wastewater Treatment Plant Expansion and Upgrade, Heber, California. Prepared for Heber Public Utility District.
- MWH. 2000. Environmental Impact Report for Expansion of Coachella Valley Water District Water Reclamation Plant No. 7. Prepared for CVWD.
- , 2002. Program Environmental Impact Report for the Coachella Valley Water Management Plan and State Water Project Entitlement Transfer. State Clearinghouse (SCH) No. 2000031027, SCH No. 1999041032. Prepared for Coachella Valley Water District. September 2002.
- , 2003. Initial Environmental Study, Negative Declaration for the Transfer of State Water Project Table A Water From Tulare Lake Basin Water Storage District to Coachella Valley Water District. Prepared for CVWD.
- , 2005. Urban Water Management Plan. Prepared for CVWD. Available: [http://www.cvwd.org/news/publicinfo/2005\\_12\\_29\\_CVMWD\\_UWMP.pdf](http://www.cvwd.org/news/publicinfo/2005_12_29_CVMWD_UWMP.pdf)
- , 2007a. Subsequent Environmental Impact Report, Transfer of State Water Project Table A Amounts from Berrenda Mesa Water District to CVWD and DWA. Prepared for CVWD.
- , 2007b. Initial Environmental Study, Tiered Negative Declaration for the Transfer of State Water Project Table A Amounts from Tulare Lake Basin Water Storage District to Coachella Valley Water District and Desert Water Agency. Prepared for CVWD.
- , 2007. Subsequent Environmental Impact Report for the Mid-Valley Pipeline Phase 1. Prepared for Bookman-Edmonston and CVWD.
- , 2008. Subsequent Environmental Impact Report for the Dike 4 Groundwater Recharge Facilities. Prepared for the Coachella Valley Water District.
- , 2008. Water Supply Facilities for Dos Palmas Wetland Mitigation Project. Prepared for Coachella Canal Lining Consortium.
- MWH and Water Consult. 2002. Coachella Valley Water Management Plan. Prepared for Coachella Valley Water District (CVWD).
- , 2010. Coachella Valley Water Management Plan Update, Draft Report. Prepared for Coachella Valley Water District. December 2010.
- Naiman, R. J., 1979. Preliminary food studies of *Cyprinodon macularius* and *C. nevadensis*. *Southwestern Naturalist*, Vol. 24, No. 3, pp. 538-541.
- National Audubon Society. 2007. Audubon Watchlist. Available: <http://web1.audubon.org/science/species/watchlist/>

## Appendix A – References and Bibliography

---

- National Oceanic and Atmospheric Administration (NOAA). 2003. Climatology of the United States, No. 81. Monthly Normals of Temperature, Precipitation, and Heating and Cooling Degree-Days 1971-2000.
- Natural Resources Defense Council (NRDC). 2007. In Hot Water: Water Management Strategies to Weather the Effects of Global Warming. July 2007. Available: <http://www.nrdc.org/globalwarming/hotwater/hotwater.pdf>
- Nature Conservancy. Dos Palmas Oasis Preserve. 2000. Available: [http://www.jimgrattan.com/events/2\\_palmas.html](http://www.jimgrattan.com/events/2_palmas.html)
- Nitrogen and Selenium Management Program (NSMP) [Multiple participating agencies]. 2007. Pilot Test Report for Nitrogen and Selenium Removal Technologies, Newport Bay Watershed, Interim Report, February 28, 2007. Prepared for the Nitrogen and Selenium Management Program (NSMP) Working Group.
- OEHHA (California Office of Environmental Health Hazard Assessment). 2011. Press release: “OEHHA Proposes Revised Public Health Goal for Perchlorate.” “Draft Public Health Goal for Perchlorate.” January 2011. Available: <http://oehha.ca.gov/water/phg/010711perchlorate.html>.
- OPR (California Governor’s Office of Planning and Research). 2008. Technical Advisory. CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review. Available: <http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf>
- 2011. Cities and Counties Addressing Climate Change. Available: [http://opr.ca.gov/ceqa/pdfs/City\\_and\\_County\\_Plans\\_Addressing\\_Climate\\_Change.pdf](http://opr.ca.gov/ceqa/pdfs/City_and_County_Plans_Addressing_Climate_Change.pdf)
- Palm Desert, City of. 2004. City of Palm Desert General Plan. Available: <http://www.cityofpalmdesert.org/Index.aspx?page=166>
- Palm Springs, City of. 2007. City of Palm Springs General Plan. Available: <http://www.ci.palm-springs.ca.us/index.aspx?page=558>
- Parr, Delia and Jedd Parr. 2009. California Tribal Water Rights. 2009 California Tribal Water Summit Briefing Paper. Available: [http://www.waterplan.water.ca.gov/docs/tws/CTWS\\_BriefingPaper\\_Rights\\_Parr\\_v1.pdf](http://www.waterplan.water.ca.gov/docs/tws/CTWS_BriefingPaper_Rights_Parr_v1.pdf)
- Peterson, R. T., 1990. A Field Guide to Western Birds, 3rd Edition. Houghton Mifflin Co., 432 pp.
- Public Law 102-575. 1992. Reclamation Wastewater and Groundwater Study and Facilities Act of 1992, as amended. Available: <http://uscode.house.gov/search/criteria.shtml>
- PSUSD (Palm Springs Unified School District). 2007. Website. Schools. Available: <http://www.psusd.us/Index.aspx?page=34>

## Appendix A – References and Bibliography

---

- Radke, William A. 1994. The Value of the Salton Sea to Fish and Wildlife, Information packet from the Salton Sea Symposium, Indian Wells, California. January 13, 1994
- Ramirez, A., TMDCI. 2007. Personal communication to S. Bigley, CVWD, on Tribal water quality standards.
- Rancho Mirage, City of. 2005. City of Rancho Mirage General Plan. Prepared by The Planning Center. Adopted November 2005. Available:  
[http://www.ranchoirageca.gov/content\\_files/pdf/departments/community\\_development/complete\\_General\\_Plan\\_2005.pdf](http://www.ranchoirageca.gov/content_files/pdf/departments/community_development/complete_General_Plan_2005.pdf)
- 2009. General Plan. Available:  
[http://www.ranchoirageca.gov/departments/community\\_development/index.php](http://www.ranchoirageca.gov/departments/community_development/index.php)
- Reclamation (U.S. Bureau of Reclamation). 1993. Coachella Canal, Riverside County, California. Final Resource Management Plan/Environmental Assessment and Finding of No Significant Impact.
- 1994. All American Canal Lining Project, Imperial County, California. Final Environmental Impact Statement/Final Environmental Impact Report. U.S. Department of the Interior, Bureau of Reclamation, Lower Colorado River Region, Boulder City, Nevada, and Imperial Irrigation District, Imperial, California. California State Clearinghouse Number SCH 90010472.
- 2000a. Current Lower Colorado River Flow Conditions – Flows Below Imperial Dam for calendar year 1999.
- 2000b. Salton Sea Hydrologic and Salinity Model Results (unpublished). Prepared for the Salton Sea Restoration Project. Excerpted in SSA and Reclamation, 2000a.
- 2000c. Draft Environmental Impact Statement for the Colorado River Interim Surplus Criteria. Filed July 7, 2000.
- 2001. Coachella Canal Lining Project. Final EIR/EIS for Coachella Canal Lining Project, April 2001.
- 2001a. Salton Sea Accounting Model - Draft, December 18, 2001.
- 2001b. Quality of Water Colorado River Basin, Salinity Progress Report.
- 2002a. Salton Sea Hydrologic and Salinity Model Results. Prepared for the IID Water Conservation and Transfer Project.
- 2002b. Draft Environmental Impact Statement, Implementation Agreement, Inadvertent Overrun and Payback Policy, and Related Federal Action, 2 vols. Filed January 4, 2002.
- 2002. IID Water Conservation and Transfer Project EIR/EIS. Available:  
[http://www.usbr.gov/lc/region/g4000/IID\\_FEIS/Vol\\_1/Sec\\_03.1\\_Part\\_1a.pdf](http://www.usbr.gov/lc/region/g4000/IID_FEIS/Vol_1/Sec_03.1_Part_1a.pdf)

## Appendix A – References and Bibliography

---

- 2006. Coachella Canal Area Resource Management Plan/ Environmental Assessment, Boulder Canyon Project Act, All-American Canal System Coachella Canal Unit Riverside County, California. U.S. Department of the Interior, Bureau of Reclamation, Lower Colorado Region Yuma Area Office Yuma, Arizona. September 2006.
- 2007. Final Environmental Impact Statement (FEIS) for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead. October 2007.
- 2007. Final Environmental Assessment. Lower Colorado River Drop 2 Storage Reservoir Project, Imperial County, California. June 2007. Prepared for U.S. Department of the Interior Bureau of Reclamation, Yuma Area Office, Yuma, AZ by SAIC.
- 2007. Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lakes Powell and Mead Final Environmental Impact Statement. November 2007. Available: <http://www.usbr.gov/lc/region/programs/strategies/FEIS/index.html>
- 2007. Draft Summary Report - Restoration of the Salton Sea (January 31, 2007).
- 2007. Restoration of the Salton Sea, Final Report. Available: <http://www.usbr.gov/lc/region/saltnsea/finalreport/>
- 2008. Colorado River Basin Natural Flow and Salt Data - Current Natural Flow and Salt Data: Supporting Data for Natural Salt Computation. Available: [http://www.usbr.gov/lc/region/g4000/NaturalFlow/HistoricSLOAD\\_2008.xls](http://www.usbr.gov/lc/region/g4000/NaturalFlow/HistoricSLOAD_2008.xls)
- 2009. Colorado River Basin Natural Flow and Salt Data - Current Natural Flow and Salt Data Available at: [http://www.usbr.gov/lc/region/g4000/NaturalFlow/NaturalFlows1906-2007\\_withExtensions\\_9.16.09.xls](http://www.usbr.gov/lc/region/g4000/NaturalFlow/NaturalFlows1906-2007_withExtensions_9.16.09.xls)
- 2010. Colorado River Accounting and Water Use Report - Arizona, California, and Nevada Calendar Year 2009. May 2010. Available: <http://www.usbr.gov/lc/region/g4000/4200Rpts/DecreeRpt/2009/2009.pdf>
- 2010. Drop 2 Storage Reservoir Project. Available: <http://www.usbr.gov/lc/region/programs/drop2/schedule.html>
- 2011. Archives of Daily Levels/Elevations for Lower Colorado River Reservoirs. Available: <http://www.usbr.gov/lc/region/g4000/cy2011/jan11.html>
- Colorado River Basin Salinity Control Program. Available: <http://www.usbr.gov/uc/progact/salinity/>
- Reclamation Reform Act of 1982, 43 USC Chapter 12, Subchapter I-A. Available: <http://uscode.house.gov/search/criteria.shtml>

## Appendix A – References and Bibliography

---

- Reese-Chambers Systems Consultants, Inc., 2000. Final Programmatic Environmental Impact Statement for Cabazon Resource Recovery Park, Section 6 General Plan, in two volumes, prepared for USDI, Bureau of Indian Affairs. January 2000.
- Reichard, Eric G. and J. Kevin Meadows. 1992. Evaluation of a Ground-Water Flow and Transport Model of the Upper Coachella Valley, California, U.S. Geological Survey Water Resources Investigation Report 91-4142.
- Riverside County. 1993. Oak Tree Management Guidelines. Available:  
[http://www.tlma.co.riverside.ca.us/planning/content/devproc/guidelines/oak\\_trees/oak\\_trees.html](http://www.tlma.co.riverside.ca.us/planning/content/devproc/guidelines/oak_trees/oak_trees.html)
- 2003. General Plan Circulation Element Section 4. Available:  
[http://www.tlma.co.riverside.ca.us/genplan/content/gp/chapter04.html#TOC3\\_5](http://www.tlma.co.riverside.ca.us/genplan/content/gp/chapter04.html#TOC3_5)
- 2003. General Plan Noise Element Section 7. Available:  
[http://www.tlma.co.riverside.ca.us/genplan/content/gp/chapter07.html#TOC1\\_3](http://www.tlma.co.riverside.ca.us/genplan/content/gp/chapter07.html#TOC1_3)
- 2003. Riverside County General Plan, Western Coachella Valley Area Plan. Available:  
<http://www.rctlma.org/genplan/content/ap2/wcvap.html>
- 2003. Western Riverside County Multiple Species Habitat Conservation Plan. Available:  
<http://www.rctlma.org/mshcp/>
- 2006. Waste Management Department. Recycling Resources. Available:  
<http://www.rivcowm.org>
- Riverside County Planning Department. 2007. Mitra Mehta-Cooper, pers. comm. to MWH.
- 2007. Ordinance No. 682 (As Amended Through 682.4) An Ordinance Of The County of Riverside Regulating the Construction, Reconstruction, Abandonment and Destruction of Wells and Incorporating by Reference Ordinance No. 725.
- 2008a. General Land Use Plan, Eastern Coachella Valley Plan. Available:  
[http://www.rctlma.org/genplan/general\\_plan\\_2008/area\\_plan\\_vol\\_2/Eastern\\_Coachella\\_Valley\\_Area\\_Plan\\_2008.pdf](http://www.rctlma.org/genplan/general_plan_2008/area_plan_vol_2/Eastern_Coachella_Valley_Area_Plan_2008.pdf)
- 2008b. General Land Use Plan, Western Coachella Valley Area Plan. Available:  
[http://www.rctlma.org/genplan/general\\_plan\\_2008/area\\_plan\\_vol\\_2/Western\\_Coachella\\_Valley\\_Area\\_Plan\\_2008.pdf](http://www.rctlma.org/genplan/general_plan_2008/area_plan_vol_2/Western_Coachella_Valley_Area_Plan_2008.pdf)
- 2008. Transportation and Land Management Agency (TLMA). Geographic Information Services (GIS). Fault Zones in the Coachella Valley (map).
- 2008. 2008 General Plan Update, Air Quality Element. Available:  
[http://www.rctlma.org/genplan/general\\_plan\\_2008/general\\_plan/Chapter\\_9\\_Air\\_Quality\\_Element\\_2008.pdf](http://www.rctlma.org/genplan/general_plan_2008/general_plan/Chapter_9_Air_Quality_Element_2008.pdf)



## Appendix A – References and Bibliography

---

- , 2009. Transportation Department. Traffic Counts. Available:  
[http://www.rctlma.org/trans/eng\\_traffic\\_counts.html](http://www.rctlma.org/trans/eng_traffic_counts.html)
- , 2009. Riverside County General Plan Update in 2008. Available:  
[http://www.tlma.co.riverside.ca.us/planning/content/temp/rc\\_genplan\\_2008.html](http://www.tlma.co.riverside.ca.us/planning/content/temp/rc_genplan_2008.html)
- , 2009. Annual Crop Report. Available:  
[http://www.rivcoag.org/opencms/system/galleries/download/publications/2009\\_Annual\\_Crop\\_Report.pdf](http://www.rivcoag.org/opencms/system/galleries/download/publications/2009_Annual_Crop_Report.pdf)
- , 2010. Center for Demographic Research. Riverside County Projections 2010. Available:  
[http://www.tlma.co.riverside.ca.us/rcd/content/projections/PHEProjections\\_2010.pdf](http://www.tlma.co.riverside.ca.us/rcd/content/projections/PHEProjections_2010.pdf)
- , 2010. Planning Department. Tree Removal Permit Application. Available:  
[http://www.tlma.co.riverside.ca.us/planning/content/devproc/apps/295\\_1034\\_tree\\_removal.pdf](http://www.tlma.co.riverside.ca.us/planning/content/devproc/apps/295_1034_tree_removal.pdf)
- , 2010. Planning Department. List of Permitted Surface Mines.  
[http://www.tlma.co.riverside.ca.us/planning/content/geninfo/surface\\_mine\\_list.aspx](http://www.tlma.co.riverside.ca.us/planning/content/geninfo/surface_mine_list.aspx)
- , 2010. Waste Management Department. Landfill Hours and Locations. Available:  
[http://www.rivcowm.org/landfill\\_hours.htm](http://www.rivcowm.org/landfill_hours.htm)
- Sacred Power Corporation. 2007. Indian Tribes Lead America's Effort to Utilize Alternative Energy Sources and Establish Conservation Programs. Available:  
[http://www.sacredpowercorp.com/public\\_html/spc\\_newsite/What's\\_New/press\\_release\\_14.htm](http://www.sacredpowercorp.com/public_html/spc_newsite/What's_New/press_release_14.htm)
- Saiki, M.K., B.A. Martin and T.W. May. 2010. Final Report: Baseline Selenium Monitoring of Agricultural Drains Operated by the Imperial Irrigation District in the Salton Sea Basin. USGS Open-File Report 2010-1064, 100 pages.
- Salton Sea Authority and U.S. Department of Interior Bureau of Reclamation (SSA and USBR). 2000a. Draft Salton Sea Restoration Project Environmental Impact Statement /Environmental Impact Report. Prepared by Tetra Tech, Inc.. January 2000.
- , 2000b. Synopsis of Comment Letters received on the Draft Salton Sea Restoration Project Environmental Impact Statement/Environmental Impact Report. On CD-ROM.
- , 2000. Sea Geography. Available: <http://www.saltonsea.ca.gov/geography.htm>
- , 2004. Salton Sea Restoration, Final Preferred Project Report: Executive Summary, July 2004. Available: [http://www.saltonsea.ca.gov/media/ppr\\_summary.pdf](http://www.saltonsea.ca.gov/media/ppr_summary.pdf)
- , 2006. Salton Sea Revitalization & Restoration. Salton Sea Authority Plan for Multi-Purpose Project. Air Quality Mitigation and Salt Management, September 2006.

## Appendix A – References and Bibliography

---

- , 2010. The Salton Sea; History Chronology. Available:  
<http://www.saltonsea.ca.gov/about/history.htm>
- Salton Sea Reclamation Act of 1998 (PL 105-372).
- San Luis Rey Indian Water Rights Settlement Act (Title I of PL 100-675). As amended by the Act of October 27, 2000 (PL 106-377). Available:  
<http://www.slriwa.org/litigation/settlement> and <http://thomas.loc.gov>
- Sawyer, J. O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society Press, Sacramento, CA, 412 pp.
- Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. A Manual of California Vegetation, 2nd edition. California Native Plant Society, Sacramento, CA.
- SCEC (Southern California Earthquake Center). 1999. Faults of Southern California – Southern Region. Available: <http://www.data.scec.org/>
- Schoenherr, A. A. 1979. Niche separation within a population of freshwater fishes in an irrigation drain near the Salton Sea, California, Bull. Southern California Acad. Sci., Vol. 78, No. 13, pp. 46-55.
- , 1981. “The Role of Competition in the Replacement of Native Fishes by Introduced Species.” In: Naiman, R.J. and D. L. Soltz, eds. Fishes in North American Deserts. Wiley-Interscience, New York.
- , 1988. A review of the life history and status of the desert pupfish, *Cyprinodon macularius*. Bull. Southern California Acad. Sci., Vol. 87, No. 3, pp. 104-134.
- Schroeder, R. A., M. Rivera, et al., 1993. Physical, chemical and biological data for detailed study of irrigation drainage in the Salton Sea area, California, 1986-1987, U. S. Geological Survey open-file report 93-83. Cited in IID and USBR, 2002.
- SCS (U.S. Department of Agriculture Soil Conservation Service, now Natural Resources Conservation Service). 1980. Soil Survey of Riverside County, California, Coachella Valley area.
- SDCWA (San Diego County Water Authority). 2010. Natural Community Conservation Plan/Habitat Conservation Plan. December 2010. Available:  
<http://www.sdcwa.org/nccp-hcp>
- , 2010. Website News Release. Water Authority Calls for State of California to Fund, Implement Salton Sea Restoration. Available: <http://www.sdcwa.org/water-authority-calls-state-california-fund-implement-salton-sea-restoration>

## Appendix A – References and Bibliography

---

- San Diego State University (SDSU). 2007. California Indians and Their Reservations, an Online Dictionary. Filed August 3, 2007. Available:  
<http://infodome.sdsu.edu/research/guides/calindians/calinddict.shtml>
- SunLine Transit Agency. 2010. Website. Sun Bus System Map. Available:  
<http://www.sunline.org/>
- California) SB (Senate Bill) 221 (Kuehl), 2001. An act to amend Section 11010 of the Business and Professions Code, and to amend Section 65867.5 of, and to add Sections 66455.3 and 66473.7 to, the Government Code, relating to land use. Statutes 2001 Chapter 643. Chaptered October 9, 2001.
- SB 610 (Costa), 2001. An act to amend Section 21151.9 of the Public Resources Code, and to amend Sections 10631, 10656, 10910, 10911, 10912, and 10915 of, to repeal Section 10913 of, and to add and repeal Section 10657 of, the Water Code, relating to water. Statutes 2001 Chapter 643. Chaptered October 9, 2001.
- SB 879 (Johnston and Machado). 1997. An act to amend Section 2081 of, and to add Sections 2052.1 and 2081.1 to, the Fish and Game Code, relating to endangered species. Statutes 1997 Chapter 579. Chaptered September 29, 1997.
- SCAG (Southern California Association of Governments). 1996. Regional Comprehensive Plan and Guide; SCAG NOP response letter dated October 4, 2007 (see SPEIR Appendix C); Fax from Jim Tebbetts, SCAG, to Janet Fahey, MWH, November 27, 2007.
- 2008a. Regional Transportation Plan. Available:  
<http://www.scag.ca.gov/rtp2008/index.htm>
- 2008b. Draft Regional Comprehensive Plan. Available:  
[http://www.scag.ca.gov/rcp/pdf/draftrcp/Draft2008RCP\\_complete011008.pdf](http://www.scag.ca.gov/rcp/pdf/draftrcp/Draft2008RCP_complete011008.pdf)
- SCAQMD (South Coast Air Quality Management District). 1993. CEQA Handbook.
- 1996. Coachella Valley PM10 attainment Redesignation Request and Maintenance Plan, Released September 9, 1996.
- 2000. Final Draft Air Toxics Control Plan for the Next Ten Years. March 2000.  
Available: <http://www.aqmd.gov/aqmp/docs/AirToxicsControlPlan.pdf>
- 2002. Final 2002 Coachella Valley PM10 State Implementation Plan. Available:  
<http://aqmd.gov/aqmp/fcvsip.html>
- 2002. Final 2002 Coachella Valley PM10 State Implementation Plan, A Supplement to the 1996 Coachella Valley PM10 Attainment Redesignation Request and Maintenance Plan.  
Available: <http://www.aqmd.gov/aqmp/fCVSIP.html>
- 2003a. 2003 Air Quality Management Plan. Available:  
<http://aqmd.gov/aqmp/AQMD03AQMP.htm>

## Appendix A – References and Bibliography

---

- 2003b. Final 2003 Coachella Valley PM10 State Implementation Plan. August 1, 2003. Available: <http://aqmd.gov/aqmp/docs/f2003cvsip.pdf>
- 2003c. Final Program Environmental Impact Report for 2003 Air Quality Management Plan. Table 3.5-5, Riverside County Landfill Status. Available: [http://aqmd.gov/ceqa/documents/2003/aqmd/finalEA/aqmp/11\\_ch3\\_waste%20.doc](http://aqmd.gov/ceqa/documents/2003/aqmd/finalEA/aqmp/11_ch3_waste%20.doc)
- 2004. Rule 403.1, Supplemental Fugitive Dust Control Requirements for Coachella Valley Sources, as amended April 2, 2004. Available: <http://www.aqmd.gov/rules/reg/reg04/r403-1.pdf>
- 2004. Addendum to the Air Toxics Control Plan (March 2000). Draft. March 2004.
- 2005. Rule 403, Fugitive Dust, as amended June 3, 2005. Available: <http://www.aqmd.gov/rules/reg/reg04/r403.pdf>
- 2007. Air Quality Management Plan. Available: <http://www.aqmd.gov/aqmp/07aqmp/index.html>
- 2008. Board Meeting, Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans. Available: <http://www.aqmd.gov/hb/2008/December/081231a.htm>
- 2010. Historical Air Quality Data by Year, 2006 through 2009. SCAQMD Website. Available: <http://www.aqmd.gov/smog/AQSCR2006/aq06card.pdf>
- 2010. Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group Meeting #15. PowerPoint Presentation at SCAQMD Headquarters, September 28,
- 2010. Meeting Minutes. Available: <http://www.aqmd.gov/ceqa/handbook/GHG/2010/sept28mtg/ghgmtg15-web.pdf>
- 2011. SCAQMD. Air Quality Significance Thresholds. As revised February 2011. Available: <http://www.aqmd.gov/ceqa/handbook/signthres.pdf>
- SCAG (Southern California Association of Governments). 2008. Final Regional Comprehensive Plan. Available: <http://www.scag.ca.gov/rcp/index.htm>
- 2008. Regional Transportation Plan. Available: <http://www.scag.ca.gov/rtp2008/index.htm>
- SCE (Southern California Edison). 2005. Long Term Procurement Plan. Available: <http://www.sce.com/NR/sc3/tm2/pdf/1878-E.pdf>
- 2009. Power Content Label. SCE website.
- 2010. Time of Use-Base Interruptible Program (TOU-BIP) Program. Available: <http://www.sce.com/tou/>

## Appendix A – References and Bibliography

---

- , 2010. Smart Grid. March 2010. Available:  
<http://asset.sce.com/Documents/Environment%20%20Smart%20Grid/SCESmartGridOverview.pdf>
- SCS (U.S. Department of Agriculture, Soil Conservation Service, now Natural Resources Conservation Service). 1980. Soil Survey, Riverside County, California, Coachella Valley Area.
- Setmire, J. G., J. C. Wolfe and R. K. Stroud, 1990. Reconnaissance investigation of water quality, bottom sediment and biota associated with irrigation drainage in the Salton Sea area, California, 1986-1987. U.S. Geological Survey Water Resources Investigations, Report 89-4102. Cited in SSA and USBR, 2000a.
- Setmire, J. G., C. Holdren, D. Robertson, C. Amrhein, J. Elder, R. Schroeder, G. Schladrow, H. McKellar, and R. Gersberg. 2001. Eutrophic conditions at the Salton Sea. A topical paper from the eutrophication workshop convened at the University of California at Riverside. September 7-8, 2000. Available: [http://www.lc.usbr.gov/~saltnsea/pdf\\_files/scidocs/eutrofin.pdf](http://www.lc.usbr.gov/~saltnsea/pdf_files/scidocs/eutrofin.pdf)
- Skorupa, Joseph P. 1994. Impacts of Selenium on the Biological Systems of the Salton Sea, U.S. Fish & Wildlife Service, presentation paper from the Salton Sea Symposium, Indian Wells, California. January 13, 1994.
- Small, A. 1994. California Birds: Their Status and Distribution. Ibis Publishing Co., Vista, CA, 342 pp.
- Soltz, D. L. and M. F. Hirshfield. 1981, Genetic differentiation of pupfishes (genus *Cyprinodon*) in the American southwest. Pp. 291-333 in: Fishes in North American Deserts (R. J. Naiman and D. L. Soltz, eds.) John Wiley & Sons, New York.
- Southern California Earthquake Data Center (SCEDC). 2006. Faults of Southern California – Southern Region. Available: <http://www.data.scec.org/faults/sofault.html>
- SNWA (Southern Nevada Water Authority). 2010. Colorado River Facts. Available:  
[http://www.snwa.com/html/wr\\_colrvr.html](http://www.snwa.com/html/wr_colrvr.html)
- Stebbins, R. C. 1985. A Field Guide to Western Reptiles and Amphibians, 2nd ed. Peterson Field Guide Series, Houghton Mifflin Co., 336 pp.
- Summers Engineering. 1996. Oasis Area Delivery System, prepared for Coachella Valley Water District.
- Superior Court of California. 2010. Judge Roland Candee's Judgment on the QSA (Judicial Council Proceeding No. 4353). February 11, 2010.
- Swain, Lindsay A. 1978. Predicted Water-Level and Water-Quality Effects of Artificial Recharge in the Upper Coachella Valley, California, Using a Finite-Element Digital

## Appendix A – References and Bibliography

---

- Model. Water-Resources Investigations 77-29, U.S. Geological Survey in coordination with the Desert Water Agency and the Coachella Valley Water District, April 1978.
- Tanji, K. K., 1990. Agricultural Salinity Assessment and Management. New York: American Society of Civil Engineers. 619 pp.
- TEEIC (Tribal Energy and Environmental Information Clearinghouse). 2011. Available: <http://teeic.anl.gov/er/solar/activities/op/index.cfm>
- Terra Nova Planning & Research. 2002. Master Environmental Assessment for the City of La Quinta Comprehensive General Plan. Prepared for the City of La Quinta. Adopted March 2002.
- Thorne, D. W. and H. B. Peterson. 1954. Irrigated Soils: Their Fertility and Management. New York: The Blakiston Company, Inc., 391 pp.
- Tierra Madre Consultants, Inc.. 1999. Focused Surveys: Southwestern Willow Flycatcher and Least Bell's Vireo at 62<sup>nd</sup> Avenue and the Whitewater River Channel. Prepared for County of Riverside, Transportation and Land Management Agency. August 3, 1999.
- Todd, David, 1980. Groundwater Hydrology, 2nd Ed. John Wiley & Sons, New York.
- TreeFlow, 2010. Streamflow Reconstructions from Tree Rings – website. Available: <http://treeflow.info/index.html>
- Tyley, S. J. 1971. Analog Model Study of the Ground-Water Basin of the Upper Coachella Valley California. U.S. Geological Survey Open-File Report, January 28, 1971.
- , 1974. Analog model study of the ground-water basin of the upper Coachella Valley, California. U.S. Geological Survey (USGS) Water-Supply Paper 2027, 77 p.
- USACE (United States Army Corps of Engineers), with assistance by Aspen Environmental Group. 2000. Whitewater River Basin (Thousand Palms) Flood Control Project, Final Environmental Impact Statement/Environmental Impact Report. September 2000.
- United States Bureau of Land Management (BLM). 1978. Division of Recreation and Cultural Resources. Visual Resource Management Program, Washington, D.C. Available: <http://www.blm.gov/nstc/VRM/8410.html>
- , 2007. Dos Palmas Preserve. Available: <http://www.blm.gov/ca/st/en/prog/wildlife/watchable/areas/dospalmas.html>
- United States Bureau of Reclamation (Reclamation) and Coachella Valley Water District (CVWD). 1993. Coachella Canal Lining Project. Draft Environmental Impact Statement / Environmental Impact Report. December 1993.
- U.S. Code, 1972. Clean Water Act of 1972, as currently amended. 33 USC, Chapter 26, Section 1377, Indian Tribes.

## Appendix A – References and Bibliography

---

- 1972, as amended. Title 33, Federal Water Pollution Control Act, Sec. 1251-1387.
- Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755) as amended by: Chapter 634; June 20, 1936; 49 Stat. 1556; P.L. 86-732; September 8, 1960; 74 Stat. 866; P.L. 90-578; October 17, 1968; 82 Stat. 1118; P.L. 91-135; December 5, 1969; 83 Stat. 282; P.L. 93-300; June 1, 1974; 88 Stat. 190; P.L. 95-616; November 8, 1978; 92 Stat. 3111; P.L. 99-645; November 10, 1986; 100 Stat. 3590 and P.L. 105-312; October 30, 1998; 112 Stat. 2956; 16 USC Sec. 669d. Available: <http://law2.house.gov/uscode-cgi/fastweb.exe?getdoc+uscview+t13t16+6189+0++%28%29%20%20AND%20%28%2816%29%20ADJ%20USC%29%3ACITE%20AND%20%28USC%20w%2F10%20%28703%29%29%3ACITE%20%20%20%20%20%20%20%20%20%20>
- U.S. Department of Commerce, Economic Development Administration (USDOC). 1995. “American Indian Reservations And Indian Trust Areas.” Compiled and edited by Veronica E. Velarde Tiller, Tiller Research, Inc.
- U.S. Department of the Interior (DOI), 2001a. Interim Surplus Guidelines for the Colorado River (ISG) adopted by the Bureau of Reclamation. Available: <http://www.epa.gov/fedrgstr/EPA-IMPACT/2001/January/Day-25/i2118.htm>
- U.S. Environmental Protection Agency (USEPA), Clean Air Act. 1970. Available: <http://www.epa.gov/air/caa/>
- 1971. The Mineral Quality Problem in the Colorado River, Summary Report, Environmental Protection Agency, Regions VIII and IX, 65pp.
- 1973. Legal Compilation on Noise, vol. 1, pp. 2-104. Cited in CVWD, et al., 2002.
- 1977 and 1990 Clean Air Act Amendments. Available: <http://www.epa.gov/air/caa/>
- 1986. Quality Criteria for Water. EPA 440/5-86-001. Available: <http://www.epa.gov/waterscience/criteria/library/goldbook.pdf>
- 1990. The lake and reservoir restoration guidance manual (2nd Ed.). USEPA, Washington, D.C., EPA 440/4-90-006.
- 1999. Protocol for developing nutrient TMDLs. USEPA, Washington, D.C., EPA 841-B99-007.
- 2000. California Toxics Rule. Available: <http://water.epa.gov/lawsregs/rulesregs/ctr/index.cfm>
- 2000e. Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, Final Rule. Fed. Reg., Vol. 65 No. 125. pp. 31682-31719, 40CFR131.38. May 18, 2000. Available: <http://www.epa.gov/ost/standards/ctr/toxic.pdf>

## Appendix A – References and Bibliography

---

- 2002b. Perchlorate. EPA Office of Water.
- 2004. Notice of Draft Aquatic Life Criteria for Selenium and Request for Scientific Information, Data, and Views. Federal Register: December 17, 2004 (Volume 69, Number 242), Pages 75541-75546. Available: <http://www.epa.gov/fedrgstr/EPA-WATER/2004/December/Day-17/w27665.htm>
- 2007. Clean Energy. Power Profiler. Southern California Edison and Imperial Irrigation District. Available: [http://oaspub.epa.gov/powpro/ept\\_pack.charts](http://oaspub.epa.gov/powpro/ept_pack.charts)
- 2008a. Water Quality Standards, Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California. May 18, 2008. Available: <http://www.epa.gov/fedrgstr/EPA-WATER/2000/May/Day-18/w11106.htm>
- 2008b. Notice of Data Availability: The Toxicity of Selenium to Aquatic Life as Related to Developing a Recommended Aquatic Life Criterion. Available: <http://www.epa.gov/fedrgstr/EPA-WATER/2008/October/Day-27/w25519.htm>
- 2008. Diesel Exhaust in New England – Retrofits & Cleaner Fuels. Available: <http://www.epa.gov/region1/eco/diesel/retrofits.html>
- 2009. National Recommended Water Quality Criteria. Available: <http://water.epa.gov/scitech/swguidance/waterquality/standards/current/upload/nrwqc-2009.pdf>
- 2010. Evaluation of Energy Conservation Measures for Wastewater Treatment Plants. EPA 832-R-10-2005. September 2010. Available: [http://water.epa.gov/scitech/wastetech/upload/ecm\\_report.pdf](http://water.epa.gov/scitech/wastetech/upload/ecm_report.pdf)
- 2010. Aquatic Life Criteria for Selenium - Draft Criteria. Available: <http://water.epa.gov/scitech/swguidance/waterquality/standards/criteria/aqlife/pollutants/selenium/fs.cfm>
- 2010. Green Book - Currently Designated Nonattainment Areas for All Criteria Pollutants. As of January 6, 2010. Available: <http://www.epa.gov/oar/oaqps/greenbk/ancl3.html>
- 2010. National Ambient Air Quality Standards (NAAQS), as currently amended. Available: <http://www.epa.gov/air/criteria.html>
- 2010. Greenhouse Gas Emissions. Available: <http://www.epa.gov/climatechange/emissions/index.html>
- 2010. Greenhouse Gas Equivalencies Calculator. March 2010. Available: <http://www.epa.gov/RDEE/energy-resources/calculator.html>
- 2011. Clean Air Act Permitting for Greenhouse Gases. GHG Emissions Strategies Database. Available: <http://ghg.ie.unc.edu:8080/GHGMDDB/>
- 2011. EPA's recommendations for enhanced monitoring for Hexavalent Chromium (Chromium-6) in Drinking Water. Available: <http://water.epa.gov/drink/info/chromium>



## Appendix A – References and Bibliography

---

- EGRIDWEB. Available: [http://cfpub.epa.gov/egridweb/view\\_prco.cfm](http://cfpub.epa.gov/egridweb/view_prco.cfm)
- USFWS (U.S. Fish and Wildlife Service). 1993. Guidelines for Delineation of Wellhead Protection Areas, EPA 440/5-93-001. Office of Ground Water Protection, Paper, 5 chapters, 4 appendices.
- 1996. Life History, Yuma Clapper Rail, Endangered Species Information System, 14 March 1996. 20 pp. Available: <http://fwie.fw.vt.edu/www/esis/lists/e102002.htm>
- 1998. Final Review Draft Program Document, Drinking Water Source Assessment and Protection Program (DWSAP).
- 1993a. Desert Pupfish (*Cyprinodon macularius*) Recovery Plan, prepared by Paul C. Marsh and Donald W. Sada.
- 1999b. Draft recovery plan for the bighorn sheep in the Peninsular Ranges. USFWS, Portland, OR.
- 2000a. Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the Arroyo Southwestern Toad: Proposed Rule. Fed. Reg. Vol. 65 No. 111, pp. 36511-36548, 50CFR17.95d. June 8, 2000.
- 2000b. Endangered and Threatened Wildlife and Plants; Proposed Determination of Critical Habitat for the Peninsular Bighorn Sheep, Proposed Rule. Fed. Reg., Vol. 65, No. 129, pp. 41405-41423, 50CFR17.95. July 5, 2000.
- 2000c. National Wildlife Refuge System, Coachella Valley National Wildlife Refuge. Available: <http://www.fws.gov/Refuges/profiles/index.cfm?id=81632>
- 2000d. Preparation of an Environmental Impact Statement/Environmental Impact Report for Federal and State Actions Associated with the Coachella Valley Multiple Species Habitat Conservation Plan/Natural Communities Conservation Plan. Notice of Intent; Notice of Public Meeting. Fed. Reg. Vol. 65 No. 125, pp. 39920-39922. June 28, 2000.
- 2001a. Biological Opinion for Interim Surplus Criteria Secretarial Implementation Agreements, and Conservation Measures on the Lower Colorado River, Lake Mead to the Southerly International Boundary Arizona, California, and Nevada. January 2001.
- 2001b. Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Peninsular Bighorn Sheep, Final Rule. Fed. Reg., Vol. 66, No. 22, pp. 8649-8677, 50CFR17.95. February 1, 2001.
- 2001c. Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for the Arroyo Southwestern Toad, Final Rule. Fed. Reg. Vol. 66 No. 26, pp. ----
- 2009. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Peninsular Bighorn Sheep and Determination of a Distinct Population Segment of Desert Bighorn Sheep (*Ovis canadensis nelsoni*). 50 CFR Part 17, FWS-R8-ES-2007-0005; 92210-1117-0000-B4 RIN 1018-AV09. Federal Register Vol. 74, No. 70, Rules

## Appendix A – References and Bibliography

---

- and Regulations, Tuesday, April 14, 2009. Available:  
<http://www.gpo.gov/fdsys/pkg/FR-2009-04-14/pdf/E9-7767.pdf#page=19414-9474>,  
50CFR17.95d. February 7, 2001.
- U.S. Geological Survey (USGS). 1997a. Geodetic Network to Evaluate Historical Elevation Changes and to Monitor Land Subsidence in Lower Coachella Valley, California, 1996, Water Resources Investigations Report 97-4237.
- 2001. Detection and Measurement of Land Subsidence Using Global Positioning System and Interferometric Synthetic Aperture Radar, Coachella Valley, California, 1996-8, Water-Resources Investigations Report 01-4193.
- 2004. Climatic Fluctuations, Drought, and Flow in the Colorado River Basin. Available:  
[http://pubs.usgs.gov/fs/2004/3062/pdf/fs2004-3062\\_version2.pdf](http://pubs.usgs.gov/fs/2004/3062/pdf/fs2004-3062_version2.pdf)
- 2007. U.S. Geological Survey. 2007. Detection and Measurement of Land Subsidence Using Global Positioning System Surveying and Interferometric Synthetic Aperture Radar, Coachella Valley, California, 1996–2005. Scientific Investigations Report 2007–5251. Prepared in cooperation with Coachella Valley Water District by Michelle Sneed and Justin T. Brandt.
- 2009. Water Data Reports for California. Available: <http://waterdata.usgs.gov/ca/nwis>
- 2011a. National Water Information System: Web Interface USGS 10257548 Whitewater R A Windy Point Main Channel CA. Available: [http://waterdata.usgs.gov/ca/nwis/dv/?site\\_no=10257548&agency\\_cd=USGS&referred\\_module=sw](http://waterdata.usgs.gov/ca/nwis/dv/?site_no=10257548&agency_cd=USGS&referred_module=sw)
- 2011b. National Water Information System: Web Interface USGS 10257549 Whitewater R A Windy Point Overflow Channel CA. Available: : [http://waterdata.usgs.gov/ca/nwis/dv/?site\\_no=10257549&agency\\_cd=USGS&referred\\_module=sw](http://waterdata.usgs.gov/ca/nwis/dv/?site_no=10257549&agency_cd=USGS&referred_module=sw)
- 2011c. National Water Information System: Web Interface USGS 10257549 Colorado River Below Parker Dam, AZ-CA. Available: [http://waterdata.usgs.gov/ca/nwis/dv/?site\\_no=09427520&agency\\_cd=USGS&referred\\_module=sw](http://waterdata.usgs.gov/ca/nwis/dv/?site_no=09427520&agency_cd=USGS&referred_module=sw)
- 2011d. National Water Information System: Web Interface USGS 09429490 Colorado River Above Imperial Dam, AZ-CA. Available: [http://waterdata.usgs.gov/ca/nwis/dv/?site\\_no=09429490&agency\\_cd=USGS&referred\\_module=sw](http://waterdata.usgs.gov/ca/nwis/dv/?site_no=09429490&agency_cd=USGS&referred_module=sw)
- 2011e. National Water Information System: Web Interface USGS 10254005 Salton Sea Near Westmorland, CA. Available: [http://waterdata.usgs.gov/ca/nwis/dv/?site\\_no=10254005&agency\\_cd=USGS&referred\\_module=sw](http://waterdata.usgs.gov/ca/nwis/dv/?site_no=10254005&agency_cd=USGS&referred_module=sw)
- U.S. Green Building Council. 2010. LEED Standards. Available:  
<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1988>

## Appendix A – References and Bibliography

---

- U.S. Salinity Laboratory. 1954. Diagnosis and Improvement of Saline and Alkali Soils. Agriculture Handbook No. 6, Washington D.C.: United States Department of Agriculture. 160 pp.
- U.S. Soil Conservation Service (now Natural Resources Conservation Service, NRCS)USDA). 1980. Soil Survey of Riverside County, California, Coachella Valley Area.
- , 1993. Prime Farmland, Survey Area – Riverside County Coachella Valley Area, California; Farmland Soils of Statewide Importance, unpublished lists from NRCS Indio office, dated June 9, 1993.
- Water/Energy Sustainability Summit. 2010. State Water Project Greenhouse Gas Reductions and Renewable Energy Sources. PowerPoint Presentation. Water/Energy Sustainability Summit July 29, 2010. Available:  
<http://collab.waterrf.org/Workshops/WaterEnergySustainabilitySummit/WorkshopInformation/State%20Water%20Project%20-%20VHicks.pdf>
- WRCD (Westside Resource Conservation District). 2007. A Technical Advisor’s Manual Managing Agricultural Irrigation Drainage Water; a Guide for Developing Integrated On-Farm Drainage Management Systems. Developed for the SWRCB.

# Appendix B

## Acronyms, Abbreviations, and Glossary

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### B.1 ACRONYMS AND ABBREVIATIONS

<b>AAM</b>	Annual arithmetic mean
<b>AB</b>	Assembly Bill
<b>ABSR</b>	algal–bacterial selenium reduction
<b>ADT</b>	average daily trips
<b>AF</b>	acre-foot
<b>AFY</b>	acre-feet per year
<b>AGM</b>	Annual geometric mean
<b>agr</b>	agriculture, agricultural
<b>ALERT</b>	Automated Local Evaluation in Real Time
<b>AQC</b>	Air Quality Chapter
<b>AQMP</b>	Air Quality Management Plan
<b>avg</b>	average
<b>BACM</b>	Best Available Control Measures
<b>BCC</b>	(federal) Bird of Conservation Concern
<b>BDCP</b>	Bay-Delta Conservation Plan
<b>BIA</b>	(U.S.) Bureau of Indian Affairs
<b>BLM</b>	(U.S.) Bureau of Land Management
<b>BMPs</b>	best management practices
<b>BPU</b>	Basin Plan Update
<b>BSC</b>	(Federal) bird species of concern
<b>BU</b>	Beneficial use
<b>CAA</b>	Clean Air Act
<b>CAAA</b>	Clean Air Act Amendments
<b>CalEPA</b>	California Environmental Protection Agency
<b>Caltrans</b>	California Department of Transportation
<b>CARB</b>	California Air Resources Board
<b>CAT</b>	(California) Climate Action Team

## Appendix B – Acronyms, Abbreviations, and Glossary

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<b>CCLP</b>	Coachella Canal Lining Project
<b>CCR</b>	California Code of Regulations
<b>CDF</b>	California Department of Forestry (Sensitive Species)
<b>CDFG</b>	California Department of Fish and Game
<b>CDMG</b>	California Department of Mines and Geology
<b>CEC</b>	California Energy Commission
<b>CEQA</b>	California Environmental Quality Act
<b>CESA</b>	California Endangered Species Act
<b>CFP</b>	California Fully Protected Species
<b>cfs</b>	cubic feet per second
<b>CGS</b>	California Geological Survey
<b>CGV</b>	Compass Growth Vision
<b>CH</b>	Critical Habitat
<b>CH<sub>4</sub></b>	methane
<b>CIP</b>	Capital Improvement Program
<b>CITES</b>	Convention on the International Trade of Endangered Species of Wild Fauna and Flora
<b>CMP</b>	Congestion Management Program
<b>CNDDDB</b>	California Natural Diversity Data Base
<b>CNEL</b>	Community Noise Equivalent Level
<b>CNPS</b>	California Native Plant Society
<b>CO</b>	Carbon monoxide
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>CO<sub>2</sub>e</b>	Carbon dioxide equivalents
<b>CPUC</b>	California Public Utilities Commission
<b>CRA</b>	Colorado River Aqueduct
<b>CRW</b>	Colorado River water
<b>CSC</b>	California Species of Special Concern
<b>CSD</b>	Coachella Sanitary District
<b>CVAG</b>	Coachella Valley Association of Governments
<b>CVCC</b>	Coachella Valley Conservation Commission
<b>CVFTL</b>	Coachella Valley fringe-toed lizard
<b>CVMAD</b>	Coachella Valley Mosquito Abatement District

## Appendix B – Acronyms, Abbreviations, and Glossary

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<b>CVMC</b>	Coachella Valley Mountains Conservancy
<b>CVMSHCP</b>	Coachella Valley Multiple Species Habitat Conservation Plan
<b>CVP</b>	Central Valley Project
<b>CVRWVG</b>	Coachella Valley Regional Water Management Group
<b>CVSC</b>	Coachella Valley Stormwater Channel
<b>CVUSD</b>	Coachella Valley Unified School District
<b>CVWD</b>	Coachella Valley Water District
<b>DA</b>	Desert Aqueduct
<b>dBA</b>	Decibel, A-weighted scale
<b>DO</b>	Dissolved oxygen
<b>DPH</b>	(California) Department of Public Health
<b>DRR</b>	Delivery Reliability Report
<b>DSUSD</b>	Desert Sands Unified School District
<b>DWA</b>	Desert Water Agency
<b>DWQP</b>	Drain Water Quality Plan
<b>DWR</b>	(California) Department of Water Resources
<b>EA</b>	Environmental Assessment
<b>ECVP</b>	Eastern Coachella Valley Plan (Riverside County)
<b>EDR</b>	Environmental Data Resources, Inc.
<b>EERI</b>	Earthquake Engineering Research Institute
<b>EIR</b>	Environmental Impact Report
<b>EIS</b>	Environmental Impact Statement
<b>EPA</b>	U.S. Environmental Protection Agency
<b>ESHA</b>	Environmentally Sensitive Habitat Area
<b>ET</b>	evapotranspiration
<b>Farmland</b>	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
<b>FC</b>	Federal Candidate (species)
<b>FE</b>	Federal Endangered (species)
<b>FEMA</b>	Federal Emergency Management Agency
<b>FESA</b>	Federal Endangered Species Act
<b>FPE</b>	Federal Proposed Endangered (species)

## Appendix B – Acronyms, Abbreviations, and Glossary

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<b>fps</b>	feet per second
<b>FPT</b>	Federal Proposed Threatened (species)
<b>FSC</b>	Federal Species of Concern
<b>FSS</b>	(U.S.) Forest Service Sensitive (species)
<b>FT</b>	Federal Threatened (species)
<b>FTL</b>	Fringe-toed lizard
<b>FTP</b>	Federal Threatened Proposed (species)
<b>GCM</b>	Global Climate Model
<b>GFDL</b>	(National Oceanic and Atmospheric Administration) Geophysical Fluid Dynamics Laboratory
<b>GHG</b>	Greenhouse gas
<b>GMC</b>	Growth Management Chapter
<b>gpm</b>	gallon(s) per minute
<b>GV</b>	Growth Visioning
<b>GWh</b>	gigawatt-hour(s)
<b>GWP</b>	Global Warming Potential
<b>HCP</b>	Habitat conservation plan or program
<b>HFCs</b>	hydrofluorocarbons
<b>HOV</b>	high occupancy vehicle
<b>HVAC</b>	heating, ventilating and air conditioning
<b>I-10</b>	Interstate 10
<b>IA</b>	Implementing Agreement (CVMSHCP)
<b>IA/IOP</b>	Implementation Agreement and Inadvertent Overrun and Payback Policy
<b>ICAPCD</b>	Imperial County Air Pollution Control District
<b>IES</b>	Initial Environmental Study
<b>ID-1</b>	Improvement District No. 1
<b>IID</b>	Imperial Irrigation District
<b>ILRP</b>	Irrigated Land Regulatory Program
<b>IRWMP</b>	Integrated Regional Water Management Plan
<b>ITA</b>	Indian trust assets
<b>IUCN</b>	International Union for Conservation of Nature

## Appendix B – Acronyms, Abbreviations, and Glossary

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<b>IWA</b>	Indio Water Authority
<b>KAF</b>	thousand acre-feet
<b>kW</b>	kilowatt
<b>kWh</b>	kilowatt-hour(s)
<b>kWh/yr</b>	kilowatt-hour(s) per year
<b>LA</b>	Load Allocations
<b>lbs/MWh</b>	pounds per megawatt-hour
<b>LC</b>	Local Concern
<b>LCR</b>	Lower Colorado River
<b>LEED</b>	Leadership in Energy and Environmental Design
<b>Leq</b>	Equivalent noise level
<b>LNG</b>	Liquefied natural gas
<b>LOS</b>	Level of Service
<b>LTPP</b>	Long Term Procurement Plan
<b>MBTA</b>	Migratory Bird Treaty Act
<b>MCL</b>	Maximum Contaminant Level
<b>Metropolitan</b>	The Metropolitan Water District of Southern California
<b>mgd</b>	million gallon(s) per day
<b>mg/L</b>	milligram(s) per Liter
<b>M&amp;I</b>	Municipal and Industrial
<b>mL</b>	milliliter
<b>MMRP</b>	Mitigation Monitoring and Reporting Plan
<b>MMT</b>	Million metric tons
<b>MOU</b>	Memorandum of Understanding
<b>MPN</b>	Most probable number
<b>MS4</b>	Municipal Separate Storm Sewer Systems
<b>MSHCP</b>	Multiple Species Habitat Conservation Plan or Program
<b>MSL</b>	Mean Sea Level
<b>MST</b>	Microbial source tracking
<b>MSWD</b>	Mission Springs Water District
<b>MT</b>	Metric tons
<b>MVP</b>	Mid-Valley Pipeline



## Appendix B – Acronyms, Abbreviations, and Glossary

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<b>MW</b>	megawatts
<b>MWh</b>	Megawatt-hour(s)
<b>MWH</b>	Montgomery Watson Harza
<b>N<sub>2</sub>O</b>	Nitrous oxide
<b>NAAQS</b>	National Ambient Air Quality Standards
<b>NAS</b>	National Audubon Society
<b>NCCP</b>	(California) Natural Communities Conservation Planning
<b>ND</b>	non-detect
<b>NDDB</b>	(California) Natural Diversity Data Base
<b>NEPA</b>	National Environmental Policy Act
<b>NM</b>	Not measured
<b>NMFS</b>	National Marine Fisheries Service
<b>NO<sub>2</sub></b>	Nitrogen dioxide
<b>NOAA</b>	National Oceanographic and Atmospheric Administration
<b>NOP</b>	Notice of Preparation
<b>NO<sub>x</sub></b>	Nitrogen oxides
<b>N<sub>2</sub>O</b>	Nitrous oxide,
<b>NPDES</b>	National Pollution Discharge Elimination System
<b>NRCS</b>	Natural Resources Conservation Service
<b>NSMP</b>	Nitrogen and Selenium Management Program
<b>NSS</b>	No State Standard
<b>O<sub>3</sub></b>	Ozone
<b>O&amp;M</b>	Operation and Maintenance
<b>OPR</b>	Governor’s Office of Planning and Research
<b>Pb</b>	Lead
<b>PBS</b>	Peninsular bighorn sheep
<b>PCM</b>	Parallel Climate Model
<b>PEIR</b>	Program Environmental Impact Report
<b>PFCs</b>	perfluorocarbons
<b>PHG</b>	Public Health Goal
<b>PM<sub>2.5</sub></b>	particulate matter 2.5 microns or less in diameter
<b>PM<sub>10</sub></b>	particulate matter 10 microns or less in diameter

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<b>ppb</b>	parts per billion
<b>ppm</b>	parts per million
<b>PPR</b>	Present Perfected Rights
<b>psi</b>	pound(s) per square inch
<b>PSUSD</b>	Palm Springs Unified School District
<b>PVID</b>	Palo Verde Irrigation District
<b>QSA</b>	Quantification Settlement Agreement
<b>RAC</b>	Replenishment Assessment Charges
<b>RCCDR</b>	Riverside County Center for Demographic Research
<b>RCFCWCD</b>	Riverside County Flood Control and Water Conservation District
<b>RCIP</b>	Riverside County Integrated Project
<b>RCP</b>	Regional Comprehensive Plan
<b>RCPG</b>	Regional Comprehensive Plan and Guide
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RCTC</b>	Riverside County Transportation Commission
<b>Reclamation</b>	United States Bureau of Reclamation
<b>RCWMD</b>	Riverside County Waste Management Department
<b>Regional Board</b>	California Regional Water Quality Control Board
<b>RFP</b>	Request for Proposals
<b>RMOC</b>	(CVMSHCP) Reserve Management Oversight Committee
<b>RMP</b>	(Reclamation) Resource Management Plan
<b>RO</b>	Reverse Osmosis
<b>ROD</b>	Record of Decision
<b>ROW</b>	Right of Way
<b>RTP</b>	Regional Transportation Plan
<b>RV</b>	recreational vehicle
<b>SAA</b>	Streambed Alteration Agreement
<b>SAC</b>	Scientific Advisory Committee
<b>SB</b>	Senate Bill
<b>SC</b>	Special Concern
<b>SCAB</b>	South Coast Air Basin
<b>SCAG</b>	Southern California Association of Governments

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<b>SCAQMD</b>	South Coast Air Quality Management District
<b>SCE</b>	Southern California Edison
<b>SCE</b>	State Candidate Endangered (species)
<b>SCEDC</b>	Southern California Earthquake Data Center
<b>SCGC</b>	Southern California Gas Company
<b>SCH</b>	Species Conservation Habitat
<b>SCH</b>	State Clearinghouse
<b>SCS</b>	(U.S.) Soil Conservation Service
<b>SCT</b>	State Candidate Threatened (species)
<b>SDCWA</b>	San Diego County Water Authority
<b>Se</b>	Selenium
<b>SE</b>	State Endangered (species)
<b>SED</b>	Southeast Desert
<b>SF6</b>	Sulfur hexafluoride
<b>SFP</b>	State Fully Protected (species)
<b>SHC</b>	Saline Habitat Complex
<b>SIP</b>	State Implementation Plan
<b>SO<sub>2</sub></b>	Sulfur dioxide
<b>SO<sub>x</sub></b>	Sulfur oxide
<b>SPEIR</b>	Subsequent Program Environmental Impact Report
<b>SPF</b>	Standard Project Flood
<b>sq ft</b>	square foot or square feet
<b>sq mi</b>	square mile(s)
<b>SR</b>	State Rare (listed species)
<b>SSA</b>	Salton Sea Authority
<b>SSAB</b>	Salton Sea Air Basin
<b>ST</b>	State Threatened (species)
<b>SWP</b>	State Water Project
<b>SWPPP</b>	Storm Water Pollution Prevention Plan
<b>SWRCB</b>	State Water Resources Control Board
<b>TAC</b>	Technical Advisory Committee
<b>TACs</b>	Toxic air contaminants

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<b>TDS</b>	Total dissolved solids
<b>TMDCI</b>	Torres Martinez Tribe of Desert Cahuilla Indians
<b>TMDL</b>	Total maximum daily load
<b>TOU-BIP</b>	Time of Use-Base Interruptible Program
<b>TS</b>	Transfer Station
<b>UCR</b>	University of California, Riverside
<b>ULFT</b>	Ultra-Low-Flush Toilet
<b>USACE</b>	United States Army Corps of Engineers
<b>USEPA</b>	United States Environmental Protection Agency
<b>USFWS</b>	United States Fish and Wildlife Service
<b>USGS</b>	United States Geological Survey
<b>UWMP</b>	Urban Water Management Plan
<b>UWMPA</b>	Urban Water Management Planning Act
<b>VAC</b>	Visual Absorptive Capacity
<b>VOCs</b>	Volatile Organic Compounds
<b>VSD</b>	Valley Sanitary District
<b>WCVP</b>	Western Coachella Valley Plan (Riverside County)
<b>WD</b>	Water District
<b>WET-CAT</b>	Climate Action Team – Water Sector
<b>WL</b>	Watch List
<b>WLA</b>	Wasteload Allocation
<b>WMP</b>	Water Management Plan
<b>WQC</b>	Water Quality Chapter
<b>WQMP</b>	Water Quality Management Plan
<b>WQO</b>	Water quality objective
<b>WRCOG</b>	Western Riverside Council of Governments
<b>WRP</b>	Water Reclamation Plant
<b>WSD</b>	Water Storage District
<b>WWTP</b>	wastewater treatment plant
<b>YCWA</b>	Yuba County Water Agency
<b>µg/g</b>	micrograms per gram

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µg/L	micrograms per Liter
µg/m <sup>3</sup>	microgram(s) per cubic meter

### B.2 GLOSSARY

**AF or acre-foot** – The volume of water that would cover one acre to a depth of one foot; equivalent to 43,560 cubic feet or 325,829 gallons.

**Adjudication** – Court-ordered restrictions imposed through a process in which the water rights of the basin are allotted to individual groundwater pumpers.

**Alkaline** – Describes soils or water with a pH higher than 7.0; generally contain high concentrations of dissolved ions.

**Alluvial Fan** – A roughly triangle-shaped deposit of unconsolidated sediments deposited by a stream at a point where there is a sharp decrease in stream gradient (e.g. a mountain front).

**Alluvium (alluvial deposits)** – Unconsolidated sedimentary deposits of clay, silt, sand, and/or gravel deposited by rivers or streams.

**Anticline** – Arch-shaped fold in rocks, with the oldest rocks in the center of the arch.

**Annular space** – the space between the well casing and the borehole walls.

**Aquaculture** – The propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or for use as bait.

**Aquifer** – A permeable geologic unit that will yield a usable quantity of water to a well or spring.

**Aquitard** – Geologic formations or strata with relatively low permeability that retards the flow of water and yields negligible quantities to wells.

**Arroyo** – Flat gully found along valley floor with steep walls and a sandy base formed during times of above average rainfall; stream beds are typically dry.

**Bajada** – Extensive, gently sloping plain at the base of a mountain front formed by coalescing alluvial fans.

**Basement Rocks** – Older rocks overlain by relatively undeformed sedimentary cover; typically metamorphic or plutonic (crystalline) rocks with relatively low permeabilities.

**Batholith** – Large (>100 km<sup>2</sup>) igneous intrusion, typically granitic in composition.

**Benchlands** – Hills related to faulting; see fault scarp.

**Confined Aquifer** – A completely saturated aquifer whose upper and lower boundaries are impervious geologic units. Water is held under pressure and the water level in wells stands above the top of the aquifer.

**Confining Unit** – See aquitard.

**Cone of Depression** – The drawdown of the water table that happens when a well is pumped.

**Conglomerate** – Coarse-grained sedimentary rock composed of (gravel-sized) sediments that are greater than 2 millimeters in diameter.

**Critical Condition of Overdraft** – As defined by DWR, water management practices that would probably result in significant adverse overdraft-related environmental, social, or economic effects.

## Appendix B – Acronyms, Abbreviations, and Glossary

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**Crystalline Rock** – Refers to igneous or metamorphic rocks; excludes rocks of sedimentary origin.

**Decibel** – A unit for measuring the relative loudness of sounds. The unit "dBA" is most commonly used in community noise assessments. The "A" in dBA indicates that the decibel value has been adjusted to properly weigh the sound frequencies within the range of the human ear.

**Delta** – A roughly triangularly shaped deposit of unconsolidated sediments deposited by a stream or river at the point that the river enters the ocean or other large water body where there is a sharp decrease in stream gradient (roughly the underwater equivalent of an alluvial fan).

**Dike** – An elongate structure constructed to contain the flow of water especially during times of flooding.

**Discharge area** – The zone in which groundwater leaves the ground, either as a spring or into a water body.

**Duck Clubs** – Privately owned, artificial ponds filled during the waterfowl migration season to attract game birds and create hunting opportunities.

**Evapotranspiration** – A combination of evaporation from open bodies of water, evaporation from soil surfaces, and transpiration from the soil by plants.

**Fanglomerate** – A conglomerate deposited on an alluvial fan.

**Fault** – An approximately planar break in a rock body caused by tectonic forces defined by movement of blocks of the earth's crust on either side.

**Fault Block** – A rock mass bound on at least two sides by faults, which may be uplifted or down-dropped (depressed) in relation to adjacent blocks.

**Fault Scarp** – Caused when a fault displaces the ground surface, causing one side of the fault to stand higher relative to the other.

**Fault Zone** – A region as much as 30 miles or more in width bounded by major faults; internally may consist of additional minor faults.

**Geomorphic province** – a distinctive landscape defined by textural variation and surface patterns.

**Granite** – A light-colored, coarse-grained, silica-rich igneous rock consisting primarily of quartz, feldspar and mica; most commonly associated with continental crust.

**Granodiorite** – An igneous rock type similar to granite with less silica.

**Groundwater** – Water contained within void spaces beneath the earth's surface.

**Groundwater Recharge** – Replenishment of groundwater supplies via infiltration of surface water.

**Hydraulic conductivity** – The capability of subsurface material (sand, rock, etc.) to allow a fluid, usually water, to flow through it.

**Igneous** – One of the three main groups of rock types (in addition to metamorphic and sedimentary) describing rocks that crystallized from magma.

**Infiltration** – The downward migration of water into soil and underlying aquifers.

**Intensity** – A number based on a scale (e.g. Mercalli scale) related to the damage caused to structures by an earthquake.

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**Lacustrine** – Associated with a lake. Lacustrine deposits are generally fine-grained silts and clays formed by sediments settling out of a lake.

**Landslide** – A rapid downhill movement of sediment, soils, or rocks.

**Leaching Requirement** – The water required by a specific plant type to leach salts from the soil.

**Liquefaction** – The temporary transformation of soil or sediments to a fluid state caused by the intense shaking experienced in an earthquake.

**Loam** – Class of soil texture composed of sand, silt, and clay; has physical properties intermediate to those of the three components.

**Maximum Credible Horizontal Acceleration** – Under the Alquist-Priolo Earthquake Fault Zones Act, the horizontal acceleration associated with an earthquake with a 10 percent probability of exceedance in 50 years.

**Maximum Probable Horizontal Acceleration** – Under the Alquist-Priolo Earthquake Fault Zones Act, the horizontal acceleration associated with an earthquake with a 50 percent probability of exceedance in 50 years.

**Metamorphic** – One of the three main groups of rock types (in addition to igneous and sedimentary) describing rocks that have been recrystallized as a result of a change in pressure and temperature.

**Monitoring Well** – A well that monitors hydrologic (water level and/or water quality) information.

**Overdraft** – A groundwater basin condition in which the amount of water extracted exceeds the rate at which water can be withdrawn perennially without producing an undesired result (e.g., water quality degradation, land subsidence, or saltwater intrusion).

**PM10** – Particulate matter less than 10 microns in diameter that can become airborne; formed by direct particle erosion and by man-made secondary effects such as road dust and burning vegetation.

**PM2.5** – Particulate matter less than 2.5 microns in diameter that can become airborne; formed by direct particle erosion and by man-made secondary effects such as road dust and burning vegetation.

**Percolation Pond** – A constructed basin where treated wastewater effluent is applied to the surface and disposed of by infiltration.

**Permeability** – A measure of a material's (rock, soil, or sediment) ability to transmit water.

**Phreatophyte** – A desert shrub with a long tap root that enables the plant to avoid reliance on rainwater by tapping into groundwater.

**Physiographic** – Referring to physical geologic structures that create observed topography.

**Porosity** – The ratio of the volume of spaces between particles to the total volume of rock. It is a measure of the amount of empty space in a material.

**Potable water** – water fit for human consumption.

**Production Well** – A well used for groundwater extraction.

**Pumping level** – the level at which water stands in a well when pumping is in progress.

**Raptor** – A bird of prey, such as a hawk, owl or eagle.

**Recharge Basin** – A constructed area of high infiltration capacity where water is applied to the surface in order to replenish groundwater supplies. See Groundwater Recharge.

**Recycled Water** – Treated wastewater effluent that is reused, often for direct irrigation purposes.

**Regulatory Water** – Water conveyed to the Valley in the Coachella Canal that is not used.

**Rift Valley** – A regionally extensive elongate trough bounded by two or more faults.

**Riparian** – Flora and fauna associated with stream and river banks.

**Rookery** – A breeding colony of birds.

**Strata** – layers of deposited rock, soil, etc. that are distinguishable from each other.

**Seiche** – A standing wave on a lake or other closed water body caused by an earthquake or intense storm activity.

**Semi-Perched Aquifer** – An unconfined groundwater body perched on discontinuous, impermeable or slightly permeable unit(s).

**Schist** – A type of metamorphic rock typified by planar alignment of platy minerals such as mica.

**Source Substitution** – Replacement of groundwater supply with other water sources such as imported or recycled water.

**Storage** – The volume of water contained in or released from an aquifer in response to an addition or extraction of groundwater; also refers to the net capacity of a basin to hold surface and groundwater (the difference between inflows and outflows).

**Stratigraphy** – the science of rock strata (layers), their relationships, absolute ages and the relationships between strata. Used to infer past environments; important in hydrology, mining and oil exploration.

**Strike-Slip Fault** – A type of fault in which the primary movement is horizontal along a fault plane, with movement in opposite directions along either side of the fault.

**Subsidence** – Sinking or settling of the ground surface due to natural or man-made causes such as removal of groundwater from aquifers (decrease in storage) which causes the aquifer soil to compress from the weight of the ground above.

**Taxon** – Any plant or animal; generally synonymous with “organism”.

**Taxa** – Groups of plants or animals; see “taxon” above.

**Tonalite** – A coarse-grained igneous rock similar to granite.

**Total Dissolved Solids (TDS)** – A general measure of water quality equal to the concentration of ions dissolved in the water, or its salinity.

**Transmissivity** – The rate at which water moves through an aquifer.

**Unconfined aquifer** – an aquifer whose upper boundary is defined by the water table (water is at atmospheric pressure). There is no upper confining layer.

**Water Table** – The depth at groundwater is first encountered; the top of the zone in which all pore spaces are totally filled with water.

**Watershed** – The topographic area from which a surface water body or groundwater system derives its water.

**Wire-to-Water Efficiency** -- The overall or "wire-to-water" efficiency of a pumping plant is the ratio of work done by a pumping plant to the energy put into the pump, expressed as a percentage.



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**Xeric** – Dry or dry conditions.

**Xeriscaping** – Water efficient landscaping using native, drought-tolerant desert plant species.

# Appendix C

## Notice of Preparation and Scoping

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Appendix C contains the following materials:

1. **Notice of Preparation for the Subsequent Program Environmental Impact Report (SPEIR) for the 2010 Water Management Plan (WMP) Update**

The Notice of Preparation (NOP) and Notice of Scoping Meeting are presented as distributed.

2. **Table C-1 Summary of Written Responses to the Notice of Preparation**

Seven written responses to the NOP were received. The response letters are included verbatim.

3. **Scoping Meeting**

A public scoping meeting on the 2010 WMP Update SPEIR was held at Coachella Valley Water district (CVWD) headquarters on September 27, 2007. Seventeen people attended, plus CVWD staff and consultants. **Table C-2** presents a Summary of Oral Comments Received at the Scoping Meeting

**NOTICE OF PREPARATION  
NOTICE OF SCOPING MEETING**

**SUBSEQUENT PROGRAM ENVIRONMENTAL IMPACT REPORT  
FOR THE  
COACHELLA VALLEY WATER MANAGEMENT PLAN 2007 UPDATE**

**NOTICE OF PREPARATION**

This is to notify you that the Coachella Valley Water District (CVWD) will be the Lead Agency under the California Environmental Quality Act (CEQA) and will prepare a Subsequent Program Environmental Impact Report (SPEIR) for the 2007 Update to the Coachella Valley Water Management Plan (CVWMP or Plan) to manage water resources and eliminate the groundwater overdraft in the Coachella Valley groundwater basin (Whitewater River Subbasin) (**Figure 1**) through 2040.

This notice provides information on the project description, location and potential environmental effects. A copy of the Initial Study is not attached.

CVWD requests your input on the scope and content of the SPEIR. Please direct your written comments within 30 days of receipt of this notice, in compliance with State law, to:

Ms. Patti Reyes, Assistant Director of Engineering  
Coachella Valley Water District  
P.O. Box 1058  
Coachella, CA 92236

Please indicate a contact person for your agency/organization.

***A Scoping Meeting will also be held on Thursday, September 27. Please see the Scoping Meeting Notice on page 5.***

**Background – The 2002 Coachella Valley Water Management Plan**

CVWD is a public agency that provides domestic water, wastewater (sanitation), non-potable water (reclaimed wastewater and Colorado River water), irrigation/drainage, stormwater and groundwater management services to a population of 265,000 throughout the Coachella Valley, California. CVWD's service area encompasses approximately 1,000 square miles, chiefly in central Riverside County, California, but also including portions of northern Imperial County and San Diego County adjacent to the Salton Sea.

In 2002, CVWD prepared the CVWMP with the stated goal of eliminating groundwater overdraft in the basin. Major elements of the Plan include:

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- Implementing water conservation measures for agriculture, municipal and industrial uses and golf courses;
- Delivering recycled water and desalinated agricultural drain water for agricultural and golf course irrigation;
- Increasing groundwater recharge at the existing Whitewater Recharge Facility using additional State Water Project (SWP) exchange water;
- Delivering Colorado River water to existing and future golf courses and agricultural users;
- Treating and delivering Colorado River water for domestic water supply; and
- Recharging the basin with Coachella Canal water at new recharge sites at Dike 4 and Martinez Canyon Recharge Facilities.

A Program Environmental Impact Report (PEIR) was prepared for the 2002 Plan because the Proposed Project involved the implementation of a set of policies and actions in a large geographic area over a 35-year period. The PEIR evaluated Plan elements at a programmatic level, and is the foundation for second tier, site-specific CEQA documents for elements implemented subsequently. It is also for the present 2007 Plan update Subsequent PEIR (SPEIR). In addition, the PEIR provided project-level analysis for water conservation, the acquisition of additional SWP exchange water up to an average supply of 140,000 AFY including the 100,000 AFY transfer from the Metropolitan Water District of Southern California (Metropolitan), and water transfers under the then-anticipated Quantification Settlement Agreement (QSA) for the Colorado River (signed the following year, 2003).

In the five years since the adoption of the 2002 Plan, CVWD has proceeded to implement the major elements of the CVWMP:

- A detailed Implementation Program was developed to prioritize and implement over 50 CVWMP activities;
- Water conservation programs are underway;
- Negotiations for four SWP water transfers are completed;
- The Mid-Valley Pipeline project, now under construction, will deliver Colorado River water to up to 50 golf courses now irrigating with well water;
- The Dike 4 recharge project is in detailed design phase;
- The Martinez Canyon recharge project is undergoing pilot testing;
- Agricultural drain water desalination pilot testing is underway; and
- a pilot program is underway (initiated) for treatment of Coachella Canal water for municipal use.

### **The 2007 Update of the Plan and CEQA Document**

CVWD will update the CVWMP approximately every five years. In preparing the present CVWMP Update, CVWD has:

- reviewed the 2002 CVWMP Implementation Program in light of Riverside County population and housing projections adopted in early 2007;

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- reviewed changes in the environment since 2002;
- updated related projects identified in 2002 and new related projects with potential cumulative impacts (such as the Salton Sea Restoration Project);
- initiated review of climate change issues; and
- anticipated long-term changes in the availability of SWP water.

CVWD is also revisiting the analysis of significant impacts identified in the 2002 Program EIR to determine whether those analyses, effects and mitigation measures need to be updated.

CVWD anticipates that the 2007 Update may have potentially significant impacts and therefore proposes to prepare a Subsequent Program EIR (SPEIR) for the 2007 Plan Update. A computerized, three dimensional groundwater flow model was developed and applied in the 2002 PEIR to predict groundwater level and movement in response to the CVWMP. This peer-reviewed model would be used to evaluate groundwater impacts of the 2007 Plan as well.

The 2007 Plan will consist of continued implementation of the 2002 Plan with the following changes:

- Analysis of three State Water Project (SWP) water reliability contingency scenarios, in response to Sacramento-San Joaquin Delta and Delta smelt issues: 77 percent (historic long term average used in the 2002 Plan and in the California Department of Water Resources 2005 State Water Project Reliability Report), 65 percent and 50 percent;
- Evaluation of climate change effects: evaluate greenhouse gas (GHG) emissions associated with the Plan and discuss potential climate change impacts on SWP and Colorado River water supply availability;
- Analysis of 2007 Riverside County/Coachella Valley Association of Governments (CVAG) adopted population and housing projections for the Coachella Valley as a basis for revised water demand projections and facilities planning;
- Additional water conservation measures;
- Additional effluent recycling from existing CVWD wastewater treatment plants, City of Coachella and Valley Sanitary District wastewater treatment plants, City of Palm Springs wastewater plant, and recycling of effluent from future treatment plants and expanded existing treatment plants;
- Use of Colorado River water for municipal and residential irrigation;
- Treatment of additional Colorado River water for domestic use.
- Desalination of additional agricultural drain water;
- Impacts of construction and operation of additional short-term and long-term water supply, flood control, and wastewater management facilities to serve new developments approved by others (programmatic level; individual facilities to be evaluated in second tier documents).
- Analysis of groundwater impacts resulting from shifts in water demands among agricultural, municipal, and golf course uses

The SPEIR will consider the 2007 Plan scenarios and the required No Project Alternative. For the 2002 PEIR analysis, impacts were evaluated against then-current conditions (1999). No Project was the same as Future Baseline, which was defined as conditions in the future in the

absence of the Proposed Project. For the 2007 SPEIR, the No Project Alternative is defined as continued implementation of the programs and projects identified in the adopted 2002 CVWMP, with updated 2007 Riverside County population and housing projections (a new Future Baseline). The Proposed Project is the updated 2007 CVWMP, but under CEQA only those new, different or more significant previous effects and/or mitigation measures need to be evaluated in the SPEIR.

Potential environmental impacts of the updated Plan are presented below.

- Groundwater basin overdraft reduction would still be addressed as the principal goal of the project, but achieved by different mixes of water management elements. The model developed for the 2002 CVWMP would be run for the new combination(s) of elements to identify any new impacts on groundwater levels and quality and Indian trust assets (wells).
- Agricultural drain and CVSC flows could increase or decrease with changes in land use and water use patterns, with subsequent changes in flow to the Salton Sea from the Coachella Valley.
- Projected flows to the Salton Sea could change with (1) diversion of agricultural drain water for desalination and (2) reduction or elimination of wastewater treatment plant effluent to the Coachella Valley Stormwater Channel due to conversion to tertiary wastewater treatment for non-potable water use. Cumulative effects of changed freshwater flow from the Coachella Valley to the Salton Sea on the Salton Sea Restoration Project would be considered. Potential impacts could occur on endangered pupfish and wetland habitat that supports sensitive rail species at the north end of the Sea. If a lower Salton Sea level is the net result, air quality impacts of particulate release from the exposed shoreline could occur.
- Impact of desalination brine disposal.
- Impacts of additional near-term and long-term water and wastewater facilities to serve the projected Coachella Valley population. Impacts and mitigation measures would be evaluated programmatically with site-specific impacts and mitigations to be further identified in second tier documents.
- Impacts of increased water conservation, including increased wastewater strength with implementation of domestic in-house conservation; effect on reuse and on receiving water quality, and potential changes in groundwater return flows from increased landscape conservation.
- The Proposed Project would accommodate growth projected by Riverside County/CVAG. CVWD has no land use planning authority or input to population projections.
- Climate change: evaluation of greenhouse gas (GHG) emissions of the Proposed Project, evaluation of microclimate change from reduced irrigation, and evaluation of climate change on water supply reliability for the Proposed Project.
- Cumulative impacts of related projects evaluated previously that have changed, or new related projects since development of the 2002 Plan.

### SCOPING MEETING NOTICE

You are cordially invited to a public Scoping Meeting on the Subsequent Program Environmental Impact Report (SPEIR) for the Coachella Valley Water Management Plan 2007 Update. The meeting will include a briefing on the status of the 2007 Plan Update. We will then recap the 2002 Plan, and then present elements of the proposed Plan Update, potential environmental effects, and next steps in the CEQA process. The meeting objective is to provide an opportunity for you to comment on the scope and content of the environmental document. Responses to comments received will be incorporated into the SPEIR.

9:00 a.m., Thursday, September 27, 2007  
Rummonds Training Room  
Coachella Valley Water District  
85-995 Avenue 52  
Coachella, CA 92236

For further information, please call Patti Reyes, Assistant Director of Engineering at (760) 398-2651 extension 2270.

**Table C-1  
Summary of Written Responses to the Notice of Preparation  
Water Management Plan Update**

<b>Commenter</b>	<b>Date</b>	<b>Issues Raised</b>	<b>CVWD Response</b>
Jim Carlberg, President Kent SeaTech	9/25/07 (via email)	<p>Consider advantages in choosing to fund Colorado River substitution for groundwater pumping rather than groundwater recharge:</p> <ol style="list-style-type: none"> <li>1. a smaller environmental footprint, including less evaporative loss of valuable water,</li> <li>2. less energy required for pumping water, therefore lower cost and fewer CO<sub>2</sub> emissions to produce electrical power for the pumps, and</li> <li>3. lower capital and operating expenses for low-head canal water lines compared to the pumping network required for recharge.</li> </ol> <p>Include more consideration of using agricultural drain water, particularly from aquaculture facilities, to provide water to constructed wetland habitats. The aquaculture effluent has a modest nutrient load that can be used by the plants, is low in salts and, if some of the source water is from wells, the effluent will be low in selenium.</p>	Issues are addressed in SPEIR Sections 5 and 6, Surface and Groundwater Resources, respectively
Dave Singleton Native America Heritage Commission (NAHC)	10/3/07	Compliance with National Historic Preservation Act	The Plan Update is programmatic and includes no soil disturbance; cultural resources mitigation measures are presented in the SPEIR.
Kathleen Browne Riverside County Planning	10/2/07	No comments at this time. Please provide copies of future documents.	This agency is on the document distribution list.



**Table C-1 (Continued)  
Summary of Written Responses to the Notice of Preparation  
Water Management Plan Update**

<b>Commenter</b>	<b>Date</b>	<b>Issues Raised</b>	<b>CVWD Response</b>
Robert Nicklen	10/1/07	<ol style="list-style-type: none"> <li>1. Consider forming a joint powers agency with DWA &amp; other agencies to ensure participation in planning.</li> <li>2. For effective conservation, cost of water should be higher.</li> <li>3. Speed up elimination of overdraft by demineralizing Colorado River water and shallow brackish water.</li> <li>4. Increase conservation at existing developments and golf courses.</li> <li>5. Control effluent minerals by using best available water supply quality, regulating industrial/commercial sewer inputs, regulating home water softener brines.</li> <li>6. Demineralize Colorado River water instead of building Desert Aqueduct; DA is too costly and SWP supply unreliable.</li> </ol>	<ol style="list-style-type: none"> <li>1. Noted. This is not an environmental issue.</li> <li>2. Noted. This is not an environmental issue.</li> <li>3. Proposed Project elements are in the SPEIR Project Description Section 3 and impacts in Section 6, Groundwater of the SPEIR.</li> <li>4. Conservation is discussed in the Project Description Section 3</li> <li>5. These issues are discussed in the Project Description Section 3.</li> <li>6. These issues are discussed in the Project Description Section 3.</li> </ol>
Mark Cohen Regulatory Division, South Coast Branch U.S. Army Corps of Engineers, Los Angeles District	10/10/07	The Plan may require a Corps of Engineers permit, which is required for the discharge of dredged or fill material into, including any redeposit of dredged material within, "waters of the United States" and adjacent wetlands pursuant to Section 404 of the Clean Water Act of 1972. Examples include, but are not limited to, <ol style="list-style-type: none"> <li>1. creating fills for residential or commercial development, placing bank protection, temporary or permanent stockpiling of excavated material, building road crossings, backfilling utility line crossings and constructing outfall structures, dams, levees, groins, weirs, or other structures;</li> <li>2. mechanized land clearing, grading which involves filling low areas or land leveling, ditching, channelizing and other excavation activities that would have the effect of destroying degrading waters of the United States;</li> <li>3. allowing runoff or overflow from a contained land or water disposal area to re-enter a water of the United States;</li> <li>4. placing pilings when such placement has or would have the effect of a discharge of fill material.</li> </ol>	The Plan itself involves no construction or land disturbance. The facilities constructed to implement the Plan will have individual CEQA documents that tier off the SPEIR and will obtain permits for their specific elements as appropriate. The SPEIR will identify Plan elements that could potentially require Corps permits to the extent feasible.

**Table C-1 (Continued)**  
**Summary of Written Reponses to the Notice of Preparation**  
**Water Management Plan Update**

Commenter	Date	Issues Raised	CVWD Response
Huasha Liu, Manager Program Development and Evaluation Division Southern California Association of Governments	10/4/07	SCAG staff has determined that the proposed project is regionally significant per CEQA, which requires that EIRs discuss any inconsistencies between the proposed project and applicable general plans and regional plans. SCAG expects the DSPEIR to specifically cite all SCAG policies and address the manner in which the project is consistent, not-consistent, or not applicable to these policies and provide supportive analysis as to why it is consistent, not-consistent, or not applicable to these policies. Policies of SCAG's Regional Comprehensive Plan and Guide (RCPG), Regional Transportation Plan (RTP) and Compass Growth Vision (CGV) that may be applicable to the proposed project are outlined in the attachment. SCAG encourages use of a side-by-side comparison. SCAG requests a copy of the Draft SPEIR.	A side-by-side analysis of SCAG policies identified in the attachment is presented in SPEIR Section 8. SCAG is on the mailing list for Draft SPEIR distribution.
Acting Regional Director, Superintendent, Southern California Agency Acting Superintendent, Palm Springs Agency US Department of the Interior, Bureau of Indian Affairs	10/26/07 (received late)	<ol style="list-style-type: none"> <li>1. Tribal water rights are affected by groundwater overdraft.</li> <li>2. Update impacts from Colorado River recharge; mitigation is required. Show migration of recharged water.</li> <li>3. Surface water quality impacts to Salton Sea and Sea water intrusion from overdraft if surface flows decrease.</li> <li>4. Make maps and cross sections available.</li> </ol>	Section 6 of the SPEIR addresses groundwater level and water quality impacts and includes maps. Cumulative impacts on the Salton Sea are discussed in Section 9. Section 8 discusses Indian Trust Assets with maps.

>>> Jim Carlberg <jcarlberg@kentseatech.com> 9/25/2007 3:44 PM >>>  
Patti,

Neither Mike Massingill nor myself can make it to the scoping meeting on Thursday regarding the SPEIR for the CVWMP. Nevertheless, I wanted to offer a few comments. We believe that there are numerous advantages for choosing to fund Colorado River substitution to groundwater pumping over groundwater recharge.

These include:

1. a smaller environmental foot-print, including less evaporative loss of valuable water,
2. less energy required for pumping water, therefore lower cost and fewer CO2 emissions to produce the electrical power for the pumps, and
3. a lower capital and operating expense for low-head canal water lines compared to the pumping network required for recharge.

The second opportunity is to include more consideration of utilizing agricultural drain water, particularly from aquaculture facilities, to provide water to constructed wetland habitats. The aquaculture effluent has a modest nutrient load that can be utilized by the plants, is low in salts, and if some of the source water is from wells, the effluent will be low in selenium.

We have discussed these benefits with Steve Robbins and Mark Johnson over the past few months.

Regards,

Jim Carlberg  
President

## NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364  
 SACRAMENTO, CA 95814  
 (916) 653-6251  
 Fax (916) 657-5390  
[www.nahc.ca.gov](http://www.nahc.ca.gov)  
[ds\\_nahc@pacbell.net](mailto:ds_nahc@pacbell.net)



e/ml P. Reyes  
 M. Johnson  
 L. Stowe  
 M. Swartz  
 G. Gil  
 J. Hernandez

September 27, 2007

RECEIVED  
 OCT 01 2007  
 C.V.W.D.

Ms. Patti Reyes  
**Coachella Valley Water District**  
 P.O. Box 1058  
 Coachella, CA 92236

Re: SCH# 2007091099: CEQA Notice of Preparation (NOP) draft Environmental Impact Report (DEIR) for Coachella Valley Water Management Plan 2007, Coachella Valley Water District, Riverside County, California

Dear Ms. Reyes:

Thank you for the opportunity to comment on the above-referenced document. The California Environmental Quality Act (CEQA) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR per CEQA guidelines § 15064.5(b)(c). In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE),' and if so, to mitigate that effect. To adequately assess the project-related impacts on historical resources, the Commission recommends the following action:

- √ Contact the appropriate California Historic Resources Information Center (CHRIS). Contact information for the 'Information Center' nearest you is available from the State Office of Historic Preservation in Sacramento (916/653-7278). The record search will determine:
  - If a part or the entire (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded in or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- √ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- √ Contact the Native American Heritage Commission (NAHC) for:
  - \* A Sacred Lands File (SLF) search of the project area and information on tribal contacts in the project vicinity who may have information on cultural resources in or near the APE. Please provide us site identification as follows: USGS 7.5-minute quadrangle citation with name, township, range and section. This will assist us with the SLF.
    - Also, we recommend that you contact the Native American contacts on the attached list to get their input on the effect of potential project (e.g. APE) impact. In many cases a culturally-affiliated Native American tribe or person will be the only source of information about the existence of a cultural resource.
- √ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.

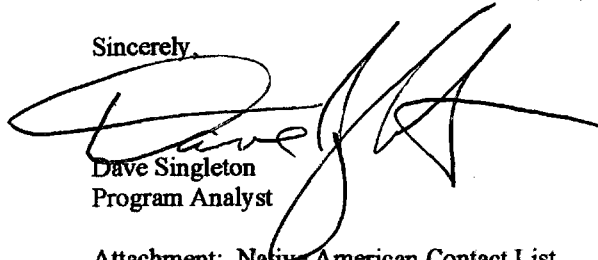
√ Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigations plans.

- CEQA Guidelines §15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the Initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American groups, identified by the NAHE, to ensure the appropriate and dignified treatment of Native American human remains and any associated grave goods.
- Health and Safety Code §7050.5, Public Resources Code §5097.98 and CEQA Guidelines §15064.5(d) mandate procedures to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

√ Lead agencies should consider avoidance, as defined in CEQA Guidelines §15370 when significant cultural resources are discovered during the course of project planning or execution.

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Singleton", is written over the typed name and title.

Dave Singleton  
Program Analyst

Attachment: Native American Contact List

**Native American Contacts**  
Riverside County  
September 27, 2007

**Cabazon Band of Mission Indians**  
John A. James, Chairperson  
84-245 Indio Springs Parkway Cahuilla  
Indio , CA 92203-3499  
(760) 342-2593  
(760) 347-7880 Fax

**Twenty-Nine Palms Band of Mission Indians**  
Mike Darrell, Chairperson  
46-200 Harrison Place Chemehuevi  
Coachella , CA 92236  
tribal-epa@worldnet.att.net  
(760) 775-5566  
(760) 775-4639 Fax

**Cahuilla Band of Indians**  
Anthony Madrigal, Jr., Interim-Chairperson  
P.O. Box 391760 Cahuilla  
Anza , CA 92539  
tribalcouncil@cahuilla.net  
(951) 763-2631

**Joseph R. Benitez (Mike)**  
P.O. Box 1829 Chemehuevi  
Indio , CA 92201  
(760) 347-0488

(951) 763-2632 Fax

**Ramona Band of Mission Indians**  
Joseph Hamilton, vice chairman  
P.O. Box 391670 Cahuilla  
Anza , CA 92539  
admin@ramonatribe.com  
(951) 763-4105  
(951) 763-4325 Fax

**Santa Rosa Band of Mission Indians**  
John Marcus, Chairman  
P.O. Box 609 Cahuilla  
Hemet , CA 92546  
srtribaloffice@aol.com  
(951) 658-5311  
(951) 658-6733 Fax

**Torres-Martinez Desert Cahuilla Indians**  
Raymond Torres, Chairperson  
PO Box 1160 Cahuilla  
Thermal , CA 92274  
(760) 397-0300  
(760) 397-8146 Fax

**Augustine Band of Cahuilla Mission Indians**  
Mary Ann Green, Chairperson  
P.O. Box 846 Cahuilla  
Coachella , CA 92236  
(760) 369-7171  
760-369-7161

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is only applicable for contacting local Native American with regard to cultural resources for the proposed SCH#2007091099; CEQA Notice of Preparation (NOP) draft Environmental Impact Report (DEIR) for Coachella Valley Water Management Plan 2007 Update; Coachella Valley Water District; Riverside County, California.**

## **Native American Contacts**

Riverside County  
September 27, 2007

### **Morongo Band of Mission Indians**

**Britt W. Wilson, Cultural Resources-Project Manager**

49750 Seminole Drive                      Cahuilla  
Cabazon                      , CA 92230      Serrano

britt\_wilson@morongo.org  
(951) 755-5206  
(951) 755-5200/323-0822-cell  
(951) 922-8146 Fax

### **Cahuilla Band of Indians**

**Maurice Chacon, Cultural Resources**

P.O. Box 391760                              Cahuilla  
Anza                              , CA 92539

cbandodian@aol.com  
(951) 763-2631

(951) 763-2632 Fax

### **Torres-Martinez Desert Cahuilla Indians**

**William J. Contreras, Cultural Resources Coordinator**

P.O. Box 1160                                      Cahuilla  
Thermal                              , CA 92274

(760) 397-0300  
(760) 275-2686-CELL  
(760) 397-8146 Fax

### **Cabazon Band of Mission Indians**

**Judy Stapp, Director of Cultural Affairs**

84-245 Indio Springs Parkway      Cahuilla  
Indio                              , CA 92203-3499

jweaver@cabazonindians.org  
(760) 342-2593  
(760) 347-7880 Fax

### **Agua Caliente Band of Cahuilla Indians THPO**

**Richard Begay, Tribal Historic Perservation Officer**

5401 Dinah Shore Drive                      Cahuilla  
Palm Springs                      , CA 92264

rbegay@aguacaliente.net  
(760) 325-3400 Ext 6906  
(760) 699-6906  
(760) 699-6925- Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American with regard to cultural resources for the proposed SCH#2007091099; CEQA Notice of Preparation (NOP) draft Environmental Impact Report (DEIR) for Coachella Valley Water Management Plan 2007 Update; Coachella Valley Water District; Riverside County, California.

# COUNTY OF RIVERSIDE

File: 0643.511

## TRANSPORTATION AND LAND MANAGEMENT AGENCY

Tony Carstens · Agency Director

### Planning Department

Ron Goldman · Planning Director

*e/ML P. Reyes  
M. Johnson  
L. Stowe  
M. Swartz  
G. Gil  
J. Hernandez*

October 2, 2007

RECEIVED  
OCT 03 2007  
C.V.W.D.

Coachella Valley Water District  
Attn: Ms. Patti Reyes, Asst. Director of Engrg.  
P.O. Box 1058  
Coachella, CA 92236

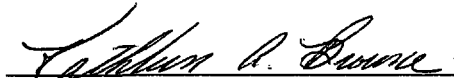
**RE: Notice of Preparation of a Subsequent Program Environmental Impact Report (SPEIR)  
for the 2007 Update to the Coachella Valley Water Management Plan**

Dear Ms. Reyes:

The Riverside County Planning Department has reviewed the above notice and the environmental issues to be addressed in the Draft SPEIR. We have no comments at this time but would like to request that we receive a copy of the draft environmental document for our review and analysis when available. If you should have any questions, please contact me at (909) 955-4949.

Sincerely,

RIVERSIDE COUNTY PLANNING DEPARTMENT  
Ron Goldman, Planning Director

  
Kathleen Browne, Special Projects

FAKBROWNEIDER Log/RespLtrs#4447 CVWD\_NOP of SPEIR for CVWMP 2007.doc

SCANNED <sup>SCS</sup> <sub>JBK</sub>

Riverside Office · 4080 Lemon Street, 9th Floor  
P.O. Box 1409, Riverside, California 92502-1409  
(951) 955-3200 · Fax (951) 955-3157

Desert Office · 38686 El Cerrito Road  
Palm Desert, California 92211  
(760) 863-8277 · Fax (760) 863-7555

Murrieta Office · 39493 Los Alamos Road  
Murrieta, California 92563  
Fax (951) 600-6145



October 1, 2007

Patti Reyes, Assistant Director of Engineering  
Coachella Valley Water District  
85-995 Avenue 52  
Coachella, CA 92236

RECEIVED  
OCT 04 2007  
C.V.W.D.

e/ml P. Reyes  
M. Johnson  
L. Stowe  
M. Swartz  
J. Hernandez

File: 0643.511

**COMMENTS: SUBSEQUENT PROGRAM ENVIRONMENTAL IMPACT  
REPORT FOR THE COACHELLA VALLEY WATER MANAGEMENT PLAN  
2007 UPDATE**

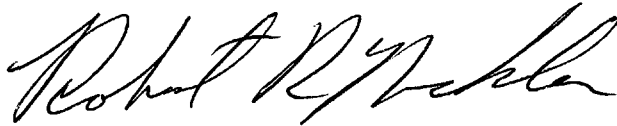
As you requested in the Scoping Meeting of September 27, 2007 I have enclosed my comments on the subject Update.

- 1) For future planning studies of the Coachella Valley you should consider forming a joint powers agency with Desert Water Agency and possibly Mission Springs Water District and maybe some cities or other interested parties. This would insure their active participation.
- 2) The most effective conservation measure is the cost of water. The comparisons shown in the Proposition 218 Notification of April 24, 2007 shows that CVWD water is far too cheap considering the groundwater overdraft in the valley and the supplies available to the District.
- 3) I believe that it is imperative that the elimination of groundwater overdraft be speeded up considerably to stop land subsidence and water quality degradation. In the upper basin this can be done only by bringing in dematerialized Colorado River water for municipal supply (other than what is already being done). In the lower basin it would probably be best to pump shallow brackish water and treat it by demineralization. I think that it is better to treat shallow groundwater than any surface water because of need for filtration and inconsistency of surface waters. In addition, pumping shallow brackish groundwater has other advantages.
- 4) I think that there is a real need to increase conservation in existing developments and golf courses particularly in the upper basin. Many of these older complexes waste water and have far too much grass.
- 5) There is a real need to protect effluent mineral quality so that it can be used for important reclamation uses. In order to do this it is necessary to: 1) provide the best water quality to the sewer service area; 2) regulate industrial and commercial discharges to the sewer system; 3) also it may be necessary to regulate home salt recharging water softeners.
- 6) I believe that instead of pursuing a pipeline to Silverwood Lake ( or source of State

Water Project water) it would be more practical to demineralize Colorado River water. The time to build a pipeline was in the 1970's now it would be too costly and there are too many unknowns about reliability of SWP water.

If you have any questions or would like addition explanation of any of my comments you can contact me at (760) 822-6869 Cell) or [rnicklen@earthlink.net](mailto:rnicklen@earthlink.net).

Sincerely,

A handwritten signature in black ink, appearing to read "Robert R. Nicklen". The signature is written in a cursive style with a large, prominent initial "R".

Robert R. Nicklen, MS., PE.



**DEPARTMENT OF THE ARMY**  
LOS ANGELES DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 532711  
LOS ANGELES, CALIFORNIA 90053-2325

*e/ML P. Reyes  
M. Johnson  
L. Stowe  
M. Swartz  
B. Gil  
J. Hernandez*

**File: 0643.511**

REPLY TO  
ATTENTION OF:

10 October 2007

Office of the Chief  
Regulatory Division

Ms. Patti Reyes, Assistant Director of Engineering  
Coachella Valley Water District  
P.O. Box 1058  
Coachella, CA 92236



Dear Ms. Reyes:

It has come to our attention that you plan to prepare a Subsequent Program Environmental Report for the 2007 Update to the Coachella Valley Water Management Plan. This activity may require a U.S. Army Corps of Engineers permit.

A Corps of Engineers permit is required for the discharge of dredged or fill material into, including any redeposit of dredged material within, "waters of the United States" and adjacent wetlands pursuant to Section 404 of the Clean Water Act of 1972. Examples include, but are not limited to,

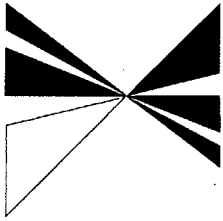
1. creating fills for residential or commercial development, placing bank protection, temporary or permanent stockpiling of excavated material, building road crossings, backfilling for utility line crossings and constructing outfall structures, dams, levees, groins, weirs, or other structures;
2. mechanized landclearing, grading which involves filling low areas or land leveling, ditching, channelizing and other excavation activities that would have the effect of destroying or degrading waters of the United States;
3. allowing runoff or overflow from a contained land or water disposal area to re-enter a water of the United States;
4. placing pilings when such placement has or would have the effect of a discharge of fill material.

Enclosed you will find a permit application form and a pamphlet that describes our regulatory program. If you have any questions, please contact Scott John at 213-452-3388 or Dan Swenson at 213-452-3414. Please refer to this letter and 2007-1188-DPS in your reply.

Sincerely,

*Mark D. Cohen*

Mark D. Cohen  
Regulatory Division  
South Coast Branch


**ASSOCIATION of  
GOVERNMENTS**
**Main Office**

818 West Seventh Street

12th Floor

Los Angeles, California

90017-3435

t (213) 236-1800

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**Imperial County:** Victor Carrillo, Imperial County • Jon Edney, El Centro

**Los Angeles County:** Yvonne B. Burke, Los Angeles County • Zev Yaroslavsky, Los Angeles County • Richard Alarcon, Los Angeles • Jim Aldinger, Manhattan Beach • Harry Baldwin, San Gabriel • Tony Cardenas, Los Angeles • Stan Carroll, La Habra Heights • Margaret Clark, Rosemead • Gene Daniels, Paramount • Judy Dunlap, Inglewood • Hae Gabelich, Long Beach • David Gafin, Downey • Eric Garretti, Los Angeles • Wendy Greuel, Los Angeles • Frank Gurulé, Cudahy • Janice Hahn, Los Angeles • Isadore Hall, Compton • Keith W. Hanks, Azusa • José Huizar, Los Angeles • Jim Jeffira, Lancaster • Tom LaBonge, Los Angeles • Paula Lantz, Pomona • Barbara Messina, Alhambra • Larry Nelson, Artesia • Paul Nowatka, Torrance • Pam O'Connor, Santa Monica • Bernard Parks, Los Angeles • Jan Perry, Los Angeles • Ed Reyes, Los Angeles • Bill Rosendahl, Los Angeles • Greg Smith, Los Angeles • Tom Sykes, Walnut • Mike Ten, South Pasadena • Tonja Reyes Uranga, Long Beach • Antonio Villaraigosa, Los Angeles • Dennis Washburn, Calabasas • Jack Weiss, Los Angeles • Herb J. Wesson, Jr., Los Angeles • Dennis Zine, Los Angeles

**Orange County:** Chris Norby, Orange County • Christine Barnes, La Palma • John Beuman, Brea • Lou Bone, Tustin • Debbie Cook, Huntington Beach • Leslie Daigle, Newport Beach • Richard Dixon, Lake Forest • Troy Edgar, Los Alamitos • Paul Gaaab, Laguna Niguel • Robert Hernandez, Anaheim • Sharon Quirk, Fullerton

**Riverside County:** Jeff Stone, Riverside County • Thomas Buckley, Lake Elsinore • Bonnie Flickinger, Moreno Valley • Ron Lovelidge, Riverside • Greg Pettis, Cathedral City • Ron Roberts, Temecula

**San Bernardino County:** Gary Ovit, San Bernardino County • Lawrence Dale, Barstow • Paul Eaton, Montclair • Lee Ann Garcia, Grand Terrace • Tim Jasper, Town of Apple Valley • Larry McCallion, Highland • Deborah Robertson, Rialto • Alan Wapner, Ontario

**Tribal Government Representative:** Andrew Masiel Sr., Pechanga Band of Luiseño Indians

**Ventura County:** Linda Parks, Ventura County • Glen Becerra, Simi Valley • Carl Morehouse, San Buenaventura • Toni Young, Port Hueneeme

**Orange County Transportation Authority:** Art Brown, Buena Park

**Riverside County Transportation Commission:** Robin Lowe, Hemet

**Ventura County Transportation Commission:** Keith Millhouse, Moorpark

October 4, 2007

File: 0643.511

Ms. Patti Reyes, Assistant Director of Engineering  
Coachella Valley Water District  
PO Box 1058  
Coachella, Ca 92236

*e/m L. P. Reyes  
M. Johnson  
L. Stowe  
M. Swartz  
G. Gil  
J. Hernandez*

RE: SCAG Comments on the Notice of Preparation of a Subsequent Program Environmental Impact Report for the CVWD Water Management Plan - SCAG I20070587

Dear Ms. Reyes,

Thank you for submitting the Notice of Preparation (NOP) of a Subsequent Program Environmental Impact Report (SPEIR) for the Coachella Valley Water District (CVWD) Water Management Plan - SCAG I20070587 for review and comment. The Southern California Association of Governments (SCAG) is the authorized regional agency for Inter-Governmental Review of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12372 (replacing A-95 Review). Additionally, pursuant to Public Resources Code Section 21083(d) SCAG reviews Environmental Impacts Reports of projects of regional significance for consistency with regional plans per the California Environmental Quality Act Guidelines, Sections 15125(d) and 15206(a)(1). SCAG is also the designated Regional Transportation Planning Agency and as such is responsible for both preparation of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080 and 65082.

SCAG staff has reviewed the aforementioned NOP and has determined that the proposed project is regionally significant per the California Environmental Quality Act (CEQA) Guidelines (Section 15125(d) and 15206). The project is an update of the CVWD Water Management Plan to manage water resources and eliminate groundwater overdraft in the Coachella Valley groundwater basin through 2040. CEQA requires that EIRs discuss any inconsistencies between the proposed project and applicable general plans and regional plans (Section 15125 [d]). If there are inconsistencies, an explanation and rationalization for such inconsistencies should be provided.

We expect the DSPEIR to specifically cite all SCAG policies and address the manner in which the project is consistent, not-consistent, or not applicable to these policies and provide supportive analysis as to why it is consistent, not-consistent, or not applicable to these policies. Policies of SCAG's Regional Comprehensive Plan and Guide (RCPG), Regional Transportation Plan (RTP), and Compass Growth Vision (CGV) that may be applicable to your project are outlined in the attachment. Also, for ease of review, we would encourage you to use a side-by-side comparison of all SCAG policies with a discussion of the consistency, non-consistency or not applicable of the policy and supportive analysis in a table format (attached). The RCPG, RTP and CGV can be found on the SCAG web site at: <http://scag.ca.gov/igr>

Please provide a minimum of 45 days for SCAG to review the DEIR and the Master Plan when these documents are available. If you have any questions regarding the attached comments, please contact James R Tebbetts at (213) 236-1915. Thank you.

Sincerely,

  
Huasha Liu, Manager  
Program Development and Evaluation Division

RECEIVED  
OCT 09 2007  
C.V.W.D.

DOCS# 140499v1

SCANNED scs/nbi

**COMMENTS ON THE NOTICE OF PREPARATION OF A SUBSEQUENT  
 PROGRAM ENVIRONMENTAL IMPACT REPORT FOR THE UPDATE OF THE  
 COACHELLA VALLEY WATER MANAGEMENT PLAN – SCAG I20070587**

**PROJECT DESCRIPTION**

The 2007 Update to the 2002 Coachella Valley Water Management Plan to manage water resources and eliminate groundwater overdraft in the Coachella Valley groundwater basin (Whitewater River Subbasin).

**CONSISTENCY WITH REGIONAL COMPREHENSIVE PLAN AND GUIDE POLICIES**

The **Growth Management Chapter (GMC)** of the Regional Comprehensive Plan and Guide (RCPG) contains the following policies that are particularly applicable and should be addressed in the SPEIR for the CVWD.

*3.01 The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council (RC) and that reflect local plans and policies shall be used by SCAG in all phases of implementation and review.*

**Regional Growth Forecasts**

The Draft SPEIR should reflect the most current SCAG forecasts, which are the 2004 RTP (April 2004) Population, Household and Employment forecasts. Please note that SCAG is in the process of updating these forecasts. The Draft 2008 RTP Baseline Growth Forecast will be released on November 1, 2007 by Community, Economic and Human Development Committee (CEHD) Committee along with the Draft 2008 RTP and RCPG for public review and comment. The current adopted forecasts for your region are as follows:

**Adopted SCAG Regionwide Forecasts**

	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
Population	19,208,661	20,191,117	21,137,519	22,035,416	22,890,797
Households	6,072,578	6,463,402	6,865,355	7,263,519	7,660,107
Employment	8,729,192	9,198,618	9,659,847	10,100,776	10,527,202

**Adopted CVAG Sub-Region Forecasts**

	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
Population	470,827	540,105	607,149	670,378	730,001
Households	164,169	190,221	216,311	242,071	267,612
Employment	186,124	206,537	227,494	248,730	270,336

\* The 2004 RTP growth forecast at the regional, county and subregional level was adopted by RC in April, 2004. City totals are the sum of small area data and should be used for advisory purposes only.

*3.02 In areas with large seasonal population fluctuations, such as resort areas, forecast permanent populations. However, appropriate infrastructure systems should be sized to serve high-season population totals.*

*3.03 The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.*

### **GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL STANDARD OF LIVING**

The Growth Management goals to develop urban forms that enable individuals to spend less income on housing cost, that minimize public and private development costs, and that enable firms to be more competitive, strengthen the regional strategic goal to stimulate the regional economy. The evaluation of the proposed project in relation to the following policies would be intended to guide efforts toward achievement of such goals and does not infer regional interference with local land use powers.

- 3.05 *Encourage patterns of urban development and land use, which reduce costs on infrastructure construction and make better use of existing facilities.*
- 3.09 *Support local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.*
- 3.10 *Support local jurisdictions' actions to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.*

### **GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL QUALITY OF LIFE**

The Growth Management goals to attain mobility and clean air goals and to develop urban forms that enhance quality of life, that accommodate a diversity of life styles, that preserve open space and natural resources, and that are aesthetically pleasing and preserve the character of communities, enhance the regional strategic goal of maintaining the regional quality of life. The evaluation of the proposed project in relation to the following policies would be intended to provide direction for plan implementation, and does not allude to regional mandates.

- 3.13 *Encourage local jurisdictions' plans that maximize the use of existing urbanized areas accessible to transit through infill and redevelopment.*
- 3.16 *Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment.*
- 3.18 *Encourage planned development in locations least likely to cause environmental impact.*
- 3.20 *Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.*
- 3.21 *Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.*
- 3.22 *Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.*
- 3.23 *Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.*

### **GMC POLICIES RELATED TO THE RCPG GOAL TO PROVIDE SOCIAL, POLITICAL, AND CULTURAL EQUITY**

The Growth Management Goal to develop urban forms that avoid economic and social polarization promotes the regional strategic goal of minimizing social and geographic disparities and of reaching equity among all segments of society. The evaluation of the proposed project in relation to the policy stated below is intended guide direction for the accomplishment of this goal, and does not infer regional mandates and interference with local land use powers.

- 3.27.1 *Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.*

#### **AIR QUALITY CHAPTER CORE ACTIONS**

The Air Quality Chapter core actions related to the proposed project includes:

- 5.11 *Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional and local) consider air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.*

#### **OPEN SPACE CHAPTER ANCILLARY GOALS**

- 9.04 *Maintain open space for adequate protection of lives and properties against natural and man-made hazards.*
- 9.05 *Minimize potentially hazardous developments in hillsides, canyons, areas susceptible to flooding, earthquakes, wildfire and other known hazards, and areas with limited access for emergency equipment.*
- 9.06 *Minimize public expenditure for infrastructure and facilities to support urban type uses in areas where public health and safety could not be guaranteed.*
- 9.07 *Maintain adequate viable resource production lands, particularly lands devoted to commercial agriculture and mining operations.*
- 9.08 *Develop well-managed viable ecosystems or known habitats of rare, threatened and endangered species, including wetlands.*

#### **WATER QUALITY CHAPTER RECOMMENDATIONS AND POLICY OPTIONS**

The Water Quality Chapter core recommendations and policy options relate to the two water quality goals: to restore and maintain the chemical, physical and biological integrity of the nation's water; and, to achieve and maintain water quality objectives that are necessary to protect all beneficial uses of all waters.

- 11.02 *Encourage "watershed management" programs and strategies, recognizing the primary role of local governments in such efforts.*
- 11.04 *Encourage opportunities for pollution reduction marketing and other market-incentive water quality programs as an alternative to strict command-and-control regulation.*
- 11.05 *Support regional efforts to identify and cooperatively plan for wetlands to facilitate both sustaining the amount and quality of wetlands in the region and expediting the process for obtaining wetlands permits.*
- 11.07 *Encourage water reclamation throughout the region where it is cost-effective, feasible, and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.*
- 11.08 *Ensure wastewater treatment agency facility planning and facility development be consistent with population projections contained in the RCPG, while taking into account the need to build wastewater treatment facilities in cost-effective increments of capacity, the need to build well enough in advance to reliably meet unanticipated service and storm water demands, and the need to provide standby capacity for public safety and environmental protection objectives.*



## **GROWTH VISIONING**

The fundamental goal of the Growth Visioning effort is to make the SCAG region a better place to live, work and play for all residents regardless of race, ethnicity or income class. Thus, decisions regarding growth, transportation, land use, and economic development should be made to promote and **sustain** for future generations the region's **mobility, livability and prosperity**. The following "Regional Growth Principles" are proposed to provide a framework for local and regional decision making that improves the quality of life for all SCAG residents. Each principle is followed by a specific set of strategies intended to achieve this goal.

### **Principle 2: Foster livability in all communities**

*GV P2.1 Promote infill development and redevelopment to revitalize existing communities.*

*GV P2.4 Support the preservation of stable, single-family neighborhoods.*

### **Principle 3: Enable prosperity for all people**

*GV P3.2 Support educational opportunities that promote balanced growth.*

*GV P3.3 Ensure environmental justice regardless of race, ethnicity or income class.*

*GV P3.4 Support local and state fiscal policies that encourage balanced growth*

*GV P3.5 Encourage civic engagement.*

### **Principle 4: Promote sustainability for future generations**

*GV P4.1 Preserve rural, agricultural, recreational and environmentally sensitive areas.*

*GV P4.2 Focus development in urban centers and existing cities.*

*GV P4.3 Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.*

*GV P4.4 Utilize "green" development techniques*

## **CONCLUSIONS**

All feasible measures needed to mitigate any potentially negative regional impacts associated with the proposed project should be implemented and monitored, as required by CEQA.

**Suggested Side by Side Format - Comparison Table of SCAG Policies**

For ease of review, we would encourage the use of a side-by-side comparison of all SCAG policies with a discussion of the consistency, non-consistency or not applicable of the policy and supportive analysis in a table format. All policies and goals must be evaluated as to impacts. Suggest format is as follows:

		SCAG RTP, RCPG, and/or CGV Policies	
Growth Management Chapter			
Policy Number	Policy Text	Statement of Consistency, Non-Consistency, or Not Applicable	
3.01	<i>The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies shall be used by SCAG in all phases of implementation and review.</i>	Consistent:	Statement as to why
		Not-Consistent:	Statement as to why
		Not Applicable:	Statement as to why
3.02	<i>In areas with large seasonal population fluctuations, such as resort areas, forecast permanent populations. However, appropriate infrastructure systems should be sized to serve high-season population totals.</i>	Consistent:	Statement as to why
		Not-Consistent:	Statement as to why
		Not Applicable:	Statement as to why
3.03	<i>The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.</i>	Consistent:	Statement as to why
		Not-Consistent:	Statement as to why
		Not Applicable:	Statement as to why
Etc.	Etc.	Etc.	Etc.



# United States Department of the Interior

Bureau of Indian Affairs  
Pacific Region  
2800 Cottage Way  
Sacramento, CA 95825  
Phone: (916) 978-6052  
Fax: (916) 978-6055

## FAX TRANSMITTAL

TO	FROM
Patti Reyes	Douglas Garcia
Coachella Valley Water District	BIA/PRO/Natural Resources
760-391-9637	
DATE: September 12, 2007	
SUBJECT: CVWD - NOP	
MESSAGE:  Attached is the Bureau of Indian Affairs comments regarding the Notice of Preparation, 2007 Update to the Coachella Valley Water Management Plan.	
Number of sheets transmitted: <u>  5  </u>	
Will mail transmitted documents: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Note: If any problems occur with this fax transmittal, please call: (916) 978-6052 _____ and ask for: _____	



# United States Department of the Interior

BUREAU OF INDIAN AFFAIRS  
Pacific Regional Office  
2800 Cottage Way  
Sacramento, California 95825

IN REPLY REFER TO:

OCT 26 2007

Ms. Patti Reyes, Assistant Director of Engineering  
Coachella Valley Water District (CVWD)  
P.O. Box 1058  
Coachella, CA 92236

Dear Ms. Reyes:

The U.S. Bureau of Indian Affairs (BIA), Pacific Regional Office and Southern California Agency, as trustee on behalf of several Indian Reservations within the Coachella Valley and the Salton Sea Watershed, submits the following response to the Coachella Valley Water District's (CVWD) "Notice of Preparation subsequent Program Environmental Impact Report for the 2007 Update to the Coachella Valley Water Management Plan" (NOP) fax dated September 28, 2007. We request that the BIA be afforded cooperating agency status for the Environmental Impact Report (EIR) preparation. We believe that we bring special expertise and jurisdiction with regard to potential effects of the proposed action on Indian trust lands and trust natural resources.

The BIA has frequently noted in correspondence that the Coachella Valley Water Management Plan (WMP) and related actions taken by CVWD and others have the potential for adverse and serious effects on tribal trust resources in the Coachella Valley. We are primarily concerned regarding three main issues: (1) Tribal water rights that have been affected by continued groundwater overdraft throughout the Coachella Valley; (2) impacts to groundwater quality beneath tribal lands from groundwater recharge/groundwater storage of Colorado River water; and, (3) impacts to surface water quality of the Salton Sea and related localized effects to groundwater quality including overdraft conditions that have caused water from the Salton Sea to flow into the Indio subbasin aquifers beneath Torres Martinez Reservation lands. The planned EIR must adequately describe options for mitigation of those impacts to federal trust assets of Indian Reservation water supplies that may become unusable due to the result of groundwater degradation from overdraft and/or imported Colorado River water.

## **Tribal Water Rights**

Five American Indian nation lands are located in the basin: Agua Caliente, Augustine, Cabazon, Torres Martinez and Twenty-Nine Palms Reservations. Under State law, these nations have superior overlying water rights to the groundwater in the basin. Tribal water rights were specifically acknowledged in the Whitewater River Adjudication, which quantified United States rights to the Whitewater River and its tributaries which flow into the Coachella Valley. The Indian Reservations are dependent on these waters for present and future water supply. The Adjudication acknowledges Tribal rights to water from the surface flow that furnish the

groundwater supply to the Tribes and taken from ground by means of pumps, canals and conduits for domestic and stock watering purposes and for irrigation of portions of said reservations. [See *Order Determining and Establishing the Several Rights by Appropriation to the use of the Waters of the Whitewater River Stream System, San Bernardino and Riverside Counties, California, Department of Public Works, Division of Water Rights, April 23, 1928*]. Further, the United States indicated to the Water Board an acknowledgment of the Tribes' groundwater in the Valley. The United States noted that in the future a large amount of said water would be required for such users on said reservations. [See *Suggestions of the United States, Before the Department of Public Works, Division of Water Rights. In the matter of the Determination of the Relative Rights, Based upon Prior Appropriation, of the various Claimants to the Waters of the Whitewater River and Its Tributaries, in San Bernardino and Riverside Counties, California, June 26, 1924*].

Although certain Tribal rights in surface water were recognized in the Adjudication, as noted, under State law, overlying Tribal rights to groundwater are ultimately superior to adjudicated surface water rights. Consequently, the Tribes maintain superior rights to a quantity and quality of groundwater sufficient to supply their domestic and municipal needs that must be protected by the Plan. Accordingly, impacts to groundwater resulting in harm to the quality and quantity of groundwater available for the Tribes' domestic and municipal requirements must be mitigated. The Plan needs to analyze the following:

1. Water supply planning to support existing and planned future uses (California Water Code Sec. 10910). The concern is that the Plan and Riverside County promotes further groundwater overdraft.
2. Analyze how CVWD groundwater pumping is affecting Indian Trust Assets (groundwater beneath reservation lands).

#### **Impacts to Groundwater Quality Beneath Tribal Lands from Groundwater Recharge/Groundwater Storage of Colorado River Water**

The Whitewater Spreading Facility, CVWD Dike 4 Recharge Facility and other recharge project areas located in the northern and southwestern portions of the Coachella Valley are near or directly adjacent to several tribal trust lands including Agua Caliente and the Torres Martinez Indian Reservations. The CVWD has warned of potentially significant impacts to several environmental elements from these recharge projects including: aesthetics, air quality, biological resources, cultural resources, geology and soils, hydrology, water quality and land use planning. We request that the EIR address and update all issues and mitigation associated with these recharge actions with specificity including graphics that illustrate the relationship between migration plumes of recharged groundwater with tribal trust land boundaries.

#### **Salton Sea - Impacts to Surface Water Quality and Related Localized Effects to Groundwater Quality including Overdraft Conditions that have Caused Water from the Salton Sea to Flow into the Indio Subbasin Aquifers beneath Torres Martinez Reservation Lands**

In late 2006, the BIA performed a review of the California State Salton Sea Ecosystem Restoration Study and the Draft Programmatic Environmental Impact Report (DWR-PEIR). We strongly supported their objectives: (1) restoration of long term stable aquatic and shoreline

habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea; (2) elimination of air quality impacts from the restoration project; and, (3) protection of water quality. Restoration of the Salton Sea would benefit the Torres Martinez Desert Cahuilla Indians and all the Tribes in the Coachella Valley.

The DWR-PEIR noted impacts to groundwater under present conditions. We are concerned with impacts to groundwater beneath Torres-Martinez trust lands under present conditions including any scenarios that reduce surface water inflows and related Salton Sea elevation decreases. The author stated in the DWR-PEIR Chapter 7, Groundwater, Page 7-5, that:

*“...Seepage from the Indio subbasin historically provided substantial groundwater inflow into the Salton Sea until groundwater overdraft conditions occurred (Salton Sea Authority and Reclamation, 2000). The overdraft conditions cause water from the Salton Sea to flow into the Indio subbasin aquifers.”*

Further, the author stated on Page 7-6 that:

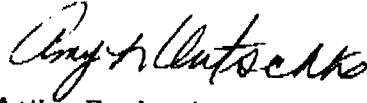
*“...Water quality has been impacted at several locations throughout the basin due to petroleum hydrocarbons, nitrates, and salts and has led to the abandonment of several drinking water wells in the Coachella Valley (CRBRWQCB, 2003). Near the Salton Sea, groundwater salinity has increased due to saltwater intrusion from the Salton Sea.”*

**We believe overdraft that causes saltwater intrusion from the Salton Sea into groundwater depression areas to be a significant impact on the environment.** Such intrusion would replace groundwater of high to medium quality with water of extremely inferior quality beneath lands between the Salton Sea and those depression areas, and that includes an extensive amount of Torres Martinez Reservation acreage. We strongly suggest that CVWD illustrate and describe groundwater conditions north, west and northwest of the Salton Sea with more reliance on real-time data and less reliance on modeled estimates. The description should include groundwater contour maps and cross sections that help to illustrate the pumping depression zones that have induced saltwater intrusion into the Indio Subbasin. This illustrative information should be made available to decision makers to adequately address your stated objective to offset groundwater overdraft and protect water quality.

In conclusion, we recommend that CVWD consult with these Tribal nations concerning the long term overdraft and degrading of the high quality water within the Coachella Valley. This consultation should occur as soon as possible, prior to development of the draft EIR. Again, the Bureau of Indian Affairs request cooperating agency status for the EIR.

If you have any questions concerning our request, please contact either Douglas Garcia, Regional Water Rights Specialist, at (916) 978-6052 or John Rydzik, Chief, DECRMS, at (916) 978-6042.

Sincerely,



Acting Regional Director



Superintendent, Southern California Agency

*Acting* Allie Beyer for Kim Snyder  
Superintendent, Palm Springs Agency

- cc: Chairperson, Agua Caliente Band of Cahuilla Indians
- Chairperson, Augustine Band of Cahuilla Indians
- Chairperson, Cabazon Band of Mission Indians
- Chairperson, Twenty-Nine Palms Band of Mission Indians
- Chairman, Torres Martinez Desert Cahuilla Indians
- Regional Solicitor, U. S. Department of the Interior
- Palm Springs Field Solicitor, U.S. Department of the Interior
- Regional Administrator, Environmental Protection Agency, Region IX
- Mark Cowin, Deputy Director, California DWR

## Appendix C – Notice of Preparation and Scoping

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### Scoping Meeting

#### Notification

CVWD included in the NOP, published September 13, 2007, a notice for a Scoping Meeting. The meeting notice was sent to over 150 parties. CVWD also published the meeting notice in local newspapers, the Desert Sun and Riverside Press-Enterprise.

#### The Meeting

The Scoping Meeting was held at CVWD headquarters in Coachella, CA on September 27, 2007 at 9:00 a.m. in the Rummonds Training Room. Seventeen people attended, plus District staff and consultants. The attendees were the following:

Kevin Doran, Bureau of Land Management  
Mike Bennett, Bureau of Land Management  
Pat Cooper, Senator Ducheney's Office  
Mitch Nieman, City of Cathedral City  
Mark Chappell, City of Coachella  
Sergei Madera, City of Indian Wells  
Spencer Knight, City of Palm Desert  
Arden Wallum, Mission Springs Water District  
Marilyn McKay, Mission Springs Water District  
Steve Shuey, Desert Island Country Club, Rancho Mirage  
Ron Cressy, Sunrise County Club, Rancho Mirage  
Albert Keck, Hadley, Inc.  
Bruce Rucker, Rucker Homestead  
Joan Taylor, Sierra Club  
Dana Stewart, ABCC and the PSPC  
Robert Nicklen  
Roma Stromberg, BonTerra Consulting

The staff and consultants presented the Water Management Plan background, the 2002 Plan, the WMP Update, and potential impacts of the Update. Questions were asked during and following the presentations.

#### Comments and Issues Raised at the Scoping Meeting

Comments made and issues raised are summarized in **Table C-2** on the following pages.



**Table C-2  
Oral Comments on the Notice of Preparation Received at the Scoping Meeting**

Comment	Response	Relationship to SPEIR Scope and Content
Will the Desert Aqueduct be included in the Plan? When will the feasibility study for the Desert Aqueduct be complete?	The Desert Aqueduct is not part of the Plan. The feasibility study remains in draft form.	The Desert Aqueduct or State Water Project Extension Project may be a future consideration for the WMP. See Section 10.
The Plan is addressing symptoms, not causes. There are too many golf courses in the groundwater basin using our limited water supplies. There should be less development.	The District has adopted a water use ordinance to limit irrigation water use. Development approval is not within the District's authority.	Meeting projected water demands is discussed in the Plan Update and associated impacts will be discussed in the SPEIR project description in Section 3, and in surface water and groundwater sections (Sections 5 and 6)
The District should consider biological treatment of agricultural drain water and fish farm effluent.	The District will consider in the Plan various applicable treatments for drain water and fish farm effluent	Water treatment and its impacts will be discussed in the SPEIR project description, and in surface water and groundwater sections (Sections 5 and 6)
The Arrowhead/Nestle bottling plant is stealing our replenishment water at the Banning Pass and selling it for profit. The District needs to pursue its lawsuit against the Nestle corporation.	The Nestle bottling plant and its effects are not part of the Plan and are the subject of an ongoing lawsuit	Until the lawsuit is settled, the matter cannot be discussed in the SPEIR.
Does the Plan address sewers north of I-10?	CVWD is currently preparing a wastewater system master plan that will identify the need for sewage collection improvements throughout the District's service area. Although the plan does not specifically address the construction of sewers, the plan recognizes the importance of protecting groundwater quality by limiting the use of septic tanks.	The SPEIR addresses water demand north of I-10. Sewer system improvements or extensions are discussed in the CVWD Wastewater System Master Plan.

**Appendix C – Notice of Preparation and Scoping**

**Table C-2 (Continued)  
Oral Comments on the Notice of Preparation Received at the Scoping Meeting**

<b>Comment</b>	<b>Response</b>	<b>Relationship to SPEIR Scope and Content</b>
<p>The Valley is diverse. Not all water customers have the same needs and not all areas of the Valley have the same water supply issues. Some areas have less secure water supplies than others. The West Valley benefits from Whitewater Recharge. The East Valley has Canal water. The EIR needs to address the variety of conditions in the Coachella Valley and not treat the valley as a homogeneous whole.</p>	<p>The SPEIR analysis, as in the 2002 PEIR, has the capability to address local issues within the Study Area with respect to water supply and related conditions.</p>	<p>The SPEIR analysis, as in the 2002 PEIR, will address local issues within the Study Area with respect to water supply and related conditions.</p>
<p>Does the Plan benefit CVWD more than Desert Water Agency (DWA)? Is DWA implementing Plan activities?</p>	<p>About 8 percent of the total water use in the Whitewater River Subbasin occurs within the DWA service area. DWA adopted the 2002 WMP and PEIR, as a responsible agency, and implements water conservation and reuse programs within its service area.</p>	<p>The SPEIR will discuss DWA's role in implementing the Plan within its service area.</p>
<p>Does DWA have its own Urban Water Management Plan?</p>	<p>Yes.</p>	<p>The DWA Urban Water Management Plan is considered part of existing conditions in the 2010 WMP Update.</p>
<p>The Plan does not address the Mission Springs area.</p>	<p>A separate water management plan is being prepared for the Mission Creek Subbasin.</p>	<p>The Mission Creek Subbasin is outside the WMP study area.</p>
<p>Does CVWD have a Wastewater Master Plan?</p>	<p>Yes, it is in progress.</p>	<p>The WMP will incorporate the Wastewater Master Plan, as relevant.</p>
<p>How will we supply 900,000 AF of demand?</p>	<p>By a combination of Colorado River water, water (QSA, Canal lining savings), SWP water transfers, conjunctive use, effluent recycling, conservation, and groundwater. Dave Ringel estimated quantities for each at the meeting.</p>	<p>Means of supplying projected demand will be presented in the SPEIR Project Description, and alternatives, as applicable.</p>

**Table C-2 (Continued)**  
**Oral Comments on the Notice of Preparation Received at the Scoping Meeting**

Comment	Response	Relationship to SPEIR Scope and Content
What is the acre to acre comparison of agriculture to urban water use? Is it still about the same?	Agriculture uses approximately 6.3 AF per acre and urban uses about 5.4 AF per acre.	The change in water demand per acre as land is converted from agriculture to urban use with project change in population will be discussed in the WMP, the SPEIR Project Description, and Sections 5 and 6, Surface and Groundwater Resources, respectively.
Is groundwater extraction 200,000 AFY?	Current groundwater extraction in the basin is approximately 380,000 AFY. Groundwater overdraft is estimated to be 120,000 AFY.	Current groundwater extraction and overdraft will be discussed in the SPEIR Project Description, and Section 6, Groundwater Resources.
Is there a concern about high groundwater levels?	In the East Valley, installed subsurface drains generally control this condition. Because of overdraft, filling the basin has a long way to go before high groundwater becomes an issue in the West Valley.	The SPEIR will address impacts of the Plan on groundwater levels in Section 6.
It is great to hear the District is concerned about eliminating overdraft and its plans to do so.	That has always been a central goal of the Water Management Plan	WMP goals and objectives will be presented in the SPEIR.
As the District develops a water management plan, it needs to look at the tribal plans.	Agreed. The District's coordination with the tribes has increased significantly in the last 5 years.	Tribal plans were considered in the 2002 Plan and will also be considered in the 2010 WMP Update and SPEIR, under Indian Trust Assets, as the information is made available.
How is the District addressing water rates charged for different types of water use? The cost of water for agriculture is subsidized. The Plan needs to compare what residential users are paying for water vs. golf courses.	Water rates are not established under separate procedures by the District Board. However, restructuring of water rates to increase water conservation is being considered as part of the update.	Water rates, <i>per se</i> , are not an environmental issue unless water rate changes result in physical environmental effects.

**Appendix C – Notice of Preparation and Scoping**

**Table C-2 (Continued)  
Oral Comments on the Notice of Preparation Received at the Scoping Meeting**

Comment	Response	Relationship to SPEIR Scope and Content
Relying on Colorado River water for recharge adds salt to the basin and degrades water quality. What is Colorado River water salinity and how will it be addressed in the update?	River salinity varies along the river. The Metropolitan exchange water has a TDS of approximately 650-700 mg/L; the Coachella Canal has a TDS of approximately 750-800 mg/L. The 2010 WMP Update will address this issue.	The impact of Colorado River water for recharge will be addressed in SPEIR Section 6, Groundwater Resources. .
Will the Water Management Plan consider water quality in general and the impacts of recharge on groundwater basin quality?	As above, the Plan will address water quality impacts, including groundwater quality.	The SPEIR will address impacts of the Plan on Surface Waters and Groundwaters in Sections 5 and 6, respectively.
Is the Plan looking at septic tanks and their affect on groundwater quality?	As the Valley develops, septic tanks are expected to be replaced with sewers. This will increase the amount of wastewater available for recycling and reduce the impact of septic tanks on groundwater quality.	The District will consider including a program to reduce the use of septic tanks, especially in areas that impact groundwater quality and have access to the sewer system. The SPEIR will address impacts of the Plan on groundwaters in Section 6.
Is the District looking at the effects of aquaculture on water quality?	In general, aquaculture effluent is of relatively good quality and is suitable for agricultural irrigation. The District encourages recycling of this effluent to reduce groundwater pumping.	Recycling of aquaculture effluent is an element of the Plan. The SPEIR will address impacts of the Plan on Surface Water in Section 5.
Someone mentioned something about a xeriscaping ordinance 14 years ago?	CVWD first developed landscape irrigation guidelines for multi-family and commercial developments in 1987. In 2003, CVWD adopted Ordinance No. 1032 that established a water budget for new developer-installed landscaping. This ordinance was revised in October 2007 to reduce the water budget amount by 25 percent and established a limitation on the amount of turf that can be installed by new golf courses.	The current Landscape Ordinance will be discussed in the Project Description Section 3 of the SPEIR.

**Table C-2 (Continued)**  
**Oral Comments on the Notice of Preparation Received at the Scoping Meeting**

Comment	Response	Relationship to SPEIR Scope and Content
<p>Page 4 of the NOP talks about potential environmental impacts, including impacts on the Salton Sea. It is predicted that if inflows to the Salton Sea decrease, then air quality will also decrease. Is this being addressed for new communities in the vicinity of the Salton Sea?</p>	<p>The northern inflows constitute approximately 6% to 8% of the total inflow to the Sea. Therefore, even a large change in inflow would probably not have a large impact on exposed shoreline. The impact will be addressed in the SPEIR.</p>	<p>Impacts on air quality at the Salton Sea of projected inflow changes will be discussed in the SPEIR Air Quality and Cumulative Impacts sections.</p>
<p>CVWD water from the State Water Project and the Colorado River will diminish due to climate change. This will cause increased demands on local sources. Agriculture will have to reduce its water use. What will urban areas do to reduce their water use? Will climate change and its affect on Colorado River water supplies be addressed?</p>	<p>The Plan and SPEIR will address impacts of climate change on the Plan and water supply from available sources. Increased conservation in all sectors is and will be a critical part of any Plan proposed</p>	<p>Effects of climate change on the project will be discussed in the Project Description Section 3 and in the Air Quality and Climate Change sections of the SPEIR (Sections 4 and 9, respectively).</p>
<p>Citizens will respond to water conservation goals and cut water use, but as soon as the water is available again, the goals will not be met. Everybody will return to their old ways because they believe the drought is over.</p>	<p>Comment noted. As described above, CVWD has adopted a Landscape Ordinance that limits the amount of water that can be used for landscape irrigation.</p>	<p>Water conservation is discussed in the Project Description Section 3 of the SPEIR.</p>
<p>The pricing structure for water needs to be looked at. The cost of domestic water obtained from wells does not reflect the cost of importing water from the State Water Project to replace well water. It should. Will water pricing strategies/structures be evaluated?</p>	<p>CVWD is evaluating changes to its rate structures to encourage water conservation. The cost of replenishing the groundwater basin with State Water Project water is included in existing water rates.</p>	<p>Water pricing strategies/ structures are not an environmental issue.</p>
<p>All water purveyors should encourage and require water conservation. The only way to assure conservation is by pricing.</p>	<p>Conservation is a cornerstone of the Plan. See comment above regarding the water rate structure.</p>	<p>Water pricing strategies/ structures are not an environmental issue.</p>

**Table C-2 (Continued)  
Oral Comments on the Notice of Preparation Received at the Scoping Meeting**

<b>Comment</b>	<b>Response</b>	<b>Relationship to SPEIR Scope and Content</b>
<p>Is there an economic opportunity for brine disposal / salt harvesting? That is, is it possible to sell salts from desalination, or are they too contaminated?</p>	<p>The District has considered this issue, and found that the brines would be small flows, and not suitable for drying. The salt residue is not suitable for consumption.</p>	<p>Brine disposal alternatives will be considered in a future feasibility study, as discussed in Sections 3 and 5.</p>
<p>A question was asked about CVWD’s delivery agreement with Metropolitan and Advance Deliveries. If advances cease, how would the Plan be affected?</p>	<p>The Advance Delivery Agreement allows Metropolitan to store up to 800,000 AF of water in the Coachella Valley. This water must be stored first before drawing it out at a later date. These advanced deliveries provide increased groundwater levels reducing pumping costs, while the water is stored in the basin. However, the Plan would not be affected if advanced deliveries were stopped, because Metropolitan would still be required to deliver CVWD’s and DWA’s SWP water. The Plan establishes a program to meet the needs of the Valley independent of the Advance Delivery Agreement. CVWD and DWA are working to obtain additional imported water supplies to meet current and future needs.</p>	<p>Since the Advance Delivery Agreement is an existing program, it is included in the baseline for the Plan.</p>

# Appendix D

## Coachella Valley Groundwater Model

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### D.1 BACKGROUND – MODEL DEVELOPMENT AND APPLICATION

A groundwater basin model was developed for the 2002 Water Management Plan (WMP) to evaluate present and future management options in the Coachella Valley. The model simulates groundwater flow from San Geronio pass to the Salton Sea and from the San Jacinto and Santa Rosa Mountains to the Banning and San Andreas faults. The base of the model represents the depth to which freshwater actively circulates. In the West Valley, the thickness of the active flow system is approximately 1,000 ft. In the East Valley, the thickness of the active flow system ranges from 1,000 to over 1,600 feet, based on well logs and geologic characterizations from the California Department of Water Resources (DWR) (DWR, 1964). The upper boundary of the flow system is the water table; processes affecting this boundary include recharge, drains and evapotranspiration from natural vegetation. The three-dimensionality of the model allows for good representation of the complex aquifer system in the East Valley, estimates of pumpage and recharge, the drainage network underlying agricultural lands, and the interaction between the groundwater basin and the Salton Sea.

The model was implemented with the computer code MODFLOW (McDonald and Harbaugh, 1988) because it was well suited for the simulation of groundwater flow in the Coachella Valley and because of its widespread acceptance in scientific and legal arenas. The model was calibrated using standard methods (ASTM D5490, D5981). Progressive improvements in the model were made by inclusion of increasing amounts of data to refine the conceptual model, which produced excellent agreement between measured and simulated groundwater levels and drains flows for the data period 1936-1996.

Three internationally respected experts in groundwater hydrology and modeling subjected the model to a peer review and recommended modifications were incorporated. The peer review committee concluded that the model calibration was excellent and that the model maybe used in conjunction with the evaluation and comparison of management scenarios.

The model was then used to simulate four project alternatives in the development and evaluation of the WMP and accompanying PEIR completed in 2002.

### D.2 THE 2010 WMP UPDATE

The model was revisited as part of the 2010 WMP Update. The review concluded that the model was appropriate for use in the evaluation and comparison of management scenarios in the 2010 WMP Update without further modification or recalibration.





# Appendix E

## Organizations and Persons Consulted, Preparers of the Subsequent PEIR

---

### E.1 ORGANIZATIONS AND PERSONS CONSULTED

US Army Corps of Engineers, Los Angeles District, Regulatory Division, South Coast Branch  
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US Fish and Wildlife Service

US Bureau of Indian Affairs

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John Ryzik Chief, DECRMS, Sacramento  
James Fletcher, Superintendent, Riverside Office (Retired)  
Kim Snyder, Superintendent, Palm Springs Agency  
Cynthia Morales, Palm Springs Agency  
Christina Mokhtarzadeh, Hydrogeologist, Riverside Office  
Lisa Northrup, Palm Springs Agency  
Dan Sanders  
Belinda Ray

California Department of Fish and Game, Bermuda Dunes Office

Kimberly Nicol  
James Sheridan

California Department of Water Resources

Chang Lee  
Abi Adero

California Regional Water Quality Control Board, Region 7

Robert Purdue, Executive Officer  
Jose Angel  
Joan Stormo  
Theresa Kinsey  
Jon Rokke

California Native American Heritage Commission

Dave Singleton

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Desert Water Agency

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Mission Springs Water District

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City of Palm Desert

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City of Rancho Mirage

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Kent BioEnergy Corporation/Kent SeaTech, Mecca, CA

James Carlberg, President

League of Women Voters

Charlotte Fox

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Hi-Lo Golf Course Superintendents Association  
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The Reserve Club  
Cal Hardin, Superintendent

Desert Lakes Golf Course  
Tom Banks, Superintendent

Desert Island Golf and Country Club  
Steve Shue, Superintendent

Stone Eagle Golf Course  
Ed Martinez, Superintendent

Thunderbird Golf and Country Club  
Roger Compton, Superintendent

Building Industry Association  
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## **Appendix E - Organizations and Persons Consulted, Preparers of the Subsequent PEIR**

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Ms. Patti Reyes, P.E., Planning and Special Program Manager  
Mr. Dan Farris, Director of Operations  
Ms. Carrie Oliphant, P.E., Engineering Manager  
Mr. Steve Bigley, Environmental Services Manager  
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Mr. Dave Koller, Conservation Coordinator  
Mr. Luke Stowe, Senior Environmental Specialist  
Mr. Brett Daniels, Biologist  
Dr. Monica Swartz, (Former) Biologist



# Appendix F

## Biological Surveys

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### F.1 INTRODUCTION

Where proposed facilities sites have not been identified, biological analyses for the 2010 WMP Update focus on habitat types in the Valley and on the elements of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). Sites are better known for two proposed facilities—a desalination plant at or near Coachella Valley Water District (CVWD) Water Reclamation Plant No. 4 (WRP-4), and CVWD groundwater recharge facilities near Martinez Canyon. A groundwater recharge facility is also proposed at Posse Park in Indio, but it will be developed by the city along with the park as a separate project.

For these two CVWD facilities, updated biological surveys were performed by the CVWD staff biologist in May 2011. The survey reports follow.

### F.2 MARTINEZ CANYON SITE

The survey found that the Martinez Canyon recharge site is part of a large bajada, characterized by desert scrub habitat traversed by drainages dry except during and after storms. The drainages have some desert riparian formation. The site is bounded on three sides by agriculture and on the west by a CVMSHCP Conservation Area which includes sheep habitat. No sensitive plant or animal species were observed on the site. The proposed recharge facility is a Covered Activity in the CVMSHCP, with the inclusion of mitigation to protect and exclude Peninsular bighorn sheep.

### F.3. WATER RECLAMATION PLANT NO. 4

Open areas in the vicinity of WRP-4 were surveyed. The site is bounded by agriculture on the north, west and south and on the east by the Coachella Valley Stormwater Channel (CVSC) and its access road. Approximately half of the area is occupied by WRP-4 treatment facilities. A concrete-lined agricultural drain lies along the southern boundary of the site and contains some cattail and marsh vegetation which is periodically cleared to maintain drainage and flood flow carrying capacity. No sensitive plant or animal species were observed on the site.





**BIOLOGICAL SURVEY REPORT**  
**Martinez Canyon Recharge Site**  
**Riverside County, California**

Prepared by  
Coachella Valley Water District  
Coachella, CA 92236

**May 2011**



## **INTRODUCTION**

This Biological Report (BR) discusses the results and observations made during a survey of the proposed Martinez Canyon recharge facility site on May 18<sup>th</sup> – 19<sup>th</sup>, 2011. This survey report characterizes the habitat occurring on site and the dominant vegetation and wildlife species observed during the course of the survey.

## **METHODOLOGY**

CVWD's Biologist completed a site visit on May 18<sup>th</sup>-19<sup>th</sup>, 2011. The purpose of the site visit was to characterize the habitat found onsite and document any sign of listed species or their habitat. Two site visits were performed to account for different activity periods of wildlife known to occur in the region. The first site visit occurred on May 18, 2011 at 8 am to account for early morning activity of birds and mammals. A second site visit occurred on May 19, 2011 at approximately 11:00 am to account for warmer activity periods that would be favored by reptiles.

The biological survey consisted of walking the Project site area to collect data and photographs for habitat characterizations and survey for listed species reported for the region. The surrounding areas were visually inspected with binoculars for nests, raptors, or past signs of raptor use, and migratory birds. In addition, the Biologist looked for evidence of desert tortoise and bighorn sheep use both on site and in the surrounding buffer habitat. A list of observed species is presented in Table 1.

Observed vegetation is presented in Table 2. Surveys noted vegetation and wildlife present within the site vicinity. Digital photographs are included as examples of the pre-existing conditions at the proposed project area and the most common vegetative types present.

## **BIOLOGICAL DESCRIPTION**

The project site is located within the Colorado Desert subdivision, a western extension of the Sonoran desert that covers southern Arizona and northwestern Mexico. This desert encompasses areas of much lower elevation than the Mojave Desert located to the north, and much of the land lies below 1,000 feet elevation. Mountain peaks rarely exceed 3,000 feet. Common habitat includes sandy desert, creosote scrub, palm oasis, and desert wash. Summers are hot and dry, and winters are cool and moist. Habitat found onsite consisted of both creosote desert scrub and desert wash. Dominant plant species included Palo Verde, Creosote bush, Brittlebush and small cacti. The site is bounded on the west side by Martinez Rock, a large boulder covered hillside with an elevation of approximately 400 feet, and by agricultural fields to the north, south and east. The majority of the site is situated upon an eastward sloping bajada which is crossed by several washes and erosion gullies. The bajada is covered by large boulder fields with smaller cobble-sized stone interspersed. Creosote bush and small cacti dominate the upper bajada with Palo Verde and Mesquite occurring in and along wash channels.

## **RESULTS**

The survey found no special status plant or animal species; however, the habitat could provide foraging and nesting habitat for a number of bird and reptile species as well as small mammals recorded for the region. It is unlikely the site is used by listed species such as Bighorn sheep, since there is a high level of disturbance in the area associated with agricultural activities. In addition, there is a 6-foot-high chain link fence to the west of the site which appears to serve as an exclusion fence for sheep that could be potentially found in the foothills above the project site. Listed reptile species (desert tortoise, Coachella Valley fringe toed lizard, flat tailed horned lizard and arroyo toad) are not expected on this site due to the lack of suitable habitat; the lizard species require loose Aeolian (wind-blown) sand complexes, while the desert tortoise prefers loose, friable soil suitable for burrowing. No tortoise burrows or resting palettes were observed onsite. While the habitat onsite is generally of good quality, the lack of habitat suitable for listed or sensitive species would likely preclude their use of this site. Disturbance-adapted species such

as coyote and raven are more dominant fixtures in this landscape, along with roadrunner, quail and non listed lizard species.

**Table 1**  
**Observed Wildlife**

Species	Scientific Name	Common Name	Comments
<b>INSECTS</b>			
<b>Order Lepidoptera - Butterflies and Moths</b>	<i>Danaus plexippus</i>	Monarch Butterfly	Observed
<b>REPTILES</b>			
<b>Phrynosomatidae – Horned lizards, Fringe Toed Lizards and their allies</b>	<i>Uta stansburiana</i>	Side blotch lizard	Observed
<b>Iguanidae – Iguanid lizards</b>	<i>Dipsosaurus dorsalis</i>	Desert Iguana	Observed
<b>Teiidae - Whiptails and Racerunners</b>	<i>Aspidocelis tigris munda</i>	California Whiptail	Observed
<b>BIRDS</b>			
<b>Columbidae - Pigeons and Doves</b>			
	<i>Columba livia</i>	Rock dove	Observed
	<i>Zenaida macroura</i>	Mourning dove	Observed
<b>Corvidae - Jays, Crows, and Magpies</b>			
	<i>Corvus corax</i>	Raven	Observed
<b>Chordeilinae – Nighthawks</b>	<i>Chordeiles minor</i>	Common Nighthawk	Observed
<b>Emberizidae - Sparrows, Buntings, Warblers, and Relatives</b>			
	<i>Melospiza melodia</i>	Song sparrow	Observed
<b>Fringillidae - Finches and Relatives</b>			
	<i>Carpodacus mexicanus</i>	House Finch	Observed
<b>Odontophoridae – Quail</b>			
	<i>Callipepla gambelii</i>	Gambels Quail	Observed

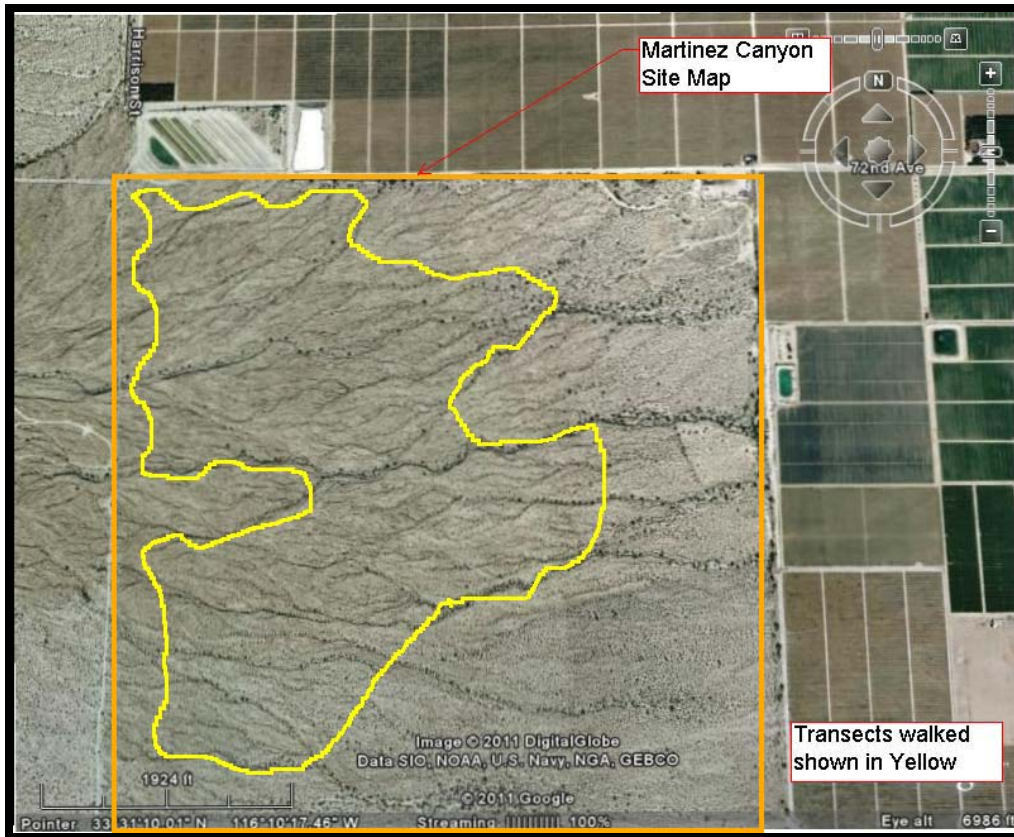
Species	Scientific Name	Common Name	Comments
<b>Sturnidae - Starlings</b>			
	<i>Sturnus vulgaris</i>	European Starling	Observed
<b>Tyrannidae – Tyrant Flycatchers</b>			
	<i>Tyrannus verticalis</i>	Western Kingbird	Observed
<b>MAMMALS</b>			
<b>Sciuridae – Ground Squirrels</b>	<i>Ammospermophilus leucurus</i>	Antelope Ground Squirrel	Observed
<b>Leporidae -Hares, Rabbits</b>			
	<i>Sylvilagus audubonii</i>	Desert Cottontail	Observed
	<i>Lepus californicus</i>	Black tailed Jackrabbit	Observed

**Table 2**  
**Observed Vegetation**

Family	Scientific Name	Common Name
<b>Liliaceae</b>		
	<i>Agave americana</i>	century plant
	<i>Encelia farinosa</i>	brittlebush
<b>Polygonaceae</b>		
	<i>Eriogonum spp.</i>	skeleton weed
<b>Viscaceae</b>		
	<i>Phoradendron californicum</i>	desert mistletoe
<b>Fabaceae</b>		
	<i>Parkinsonia microphylla</i>	foothill palo verde
	<i>Psoralea argophylla</i>	smoke tree
	<i>Psoralea argophylla</i>	indigo bush
<b>Fouquieriaceae</b>	<i>Fouquieria splendens</i>	ocotillo

# APPENDIX A

## MARTINEZ CANYON RECHARGE SITE LOCATION MAP



**Figure 1**

**Location Map Showing Biological Survey Transects**

**APPENDIX B  
SITE PHOTOGRAPHS**



**Figure 2  
Looking East Across Center of Site**



**Figure 3  
Looking South Across Site**

**BIOLOGICAL SURVEY REPORT**  
**CVWD Water Reclamation Plant No. 4 and Vicinity**  
**Riverside County, California**

Prepared by  
Coachella Valley Water District  
Coachella, CA 92236

**May 2011**





## INTRODUCTION

This Biological Report presents the results and observations made during a survey of the CVWD Water Reclamation Plant No. 4 (WRP-4) facility and vicinity on May 18 – 19, 2011. This survey report characterizes the habitat occurring on site and the dominant vegetation and wildlife species that were observed during the course of the survey.

## METHODOLOGY

CVWD's Biologist completed a site visit on May 18-19, 2011. The purpose of the site visit was to characterize the habitat found onsite and document any sign of listed species or their habitat. Two site visits were performed to account for different activity periods of wildlife known to occur in the region. The first site visit occurred on May 18, 2011 at 8:00 am to account for early morning activity of birds and mammals. A second site visit occurring on May 19, 2011 at approximately 11:00 am to account for warmer activity periods that would be favored by reptiles.

The biological survey consisted of walking the site to collect data and photographs for habitat characterizations and survey for listed species reported for the region. The surrounding areas were visually inspected with binoculars for nests, raptors, or past signs of raptor use, and migratory birds. In addition, the Biologist looked for evidence of desert tortoise and bighorn sheep use, both on site and in the surrounding buffer habitat. A list of observed species is presented in Table 1.

Surveys noted vegetation and wildlife present within the site vicinity. Observed vegetation is presented in Table 2. Digital photographs are included as examples of the existing conditions in the area and the most common vegetative types present.

## BIOLOGICAL DESCRIPTION

The project site is located within the Colorado Desert subdivision, a western extension of the Sonoran desert that covers southern Arizona and northwestern Mexico. This desert encompasses areas of much lower elevation than the Mojave Desert located to the north, and much of the land lies below 1,000 feet elevation. Mountain peaks rarely exceed 3,000 feet. Common habitat includes sandy desert, desert salt scrub, creosote scrub, palm oasis, and desert wash. Summers are hot and dry, and winters are cool and moist. Habitat found onsite consisted of Alkali desert scrub with some ruderal plant species and an agricultural drain to the south. Dominant plant species included *Atriplex* spp., brittle bush, and tamarisk with some cattails and emergent vegetation within the agricultural drain located along the southern boundary of the site. There are agricultural fields adjacent to the site on the western, northern and southern property boundaries. The Coachella Valley Stormwater Channel is located immediately to the east.

## RESULTS

The survey found no special status plant or animal species; however, the habitat could provide foraging and nesting habitat for a number of bird and reptile species as well as small mammals recorded for the region. It is unlikely the site is used by listed species such as Bighorn sheep since there is no suitable habitat onsite, in addition the level of agricultural disturbance in the immediate vicinity of the project site would preclude all but listed avian species from having access to the site. Listed reptile species (desert tortoise, Coachella Valley fringe toed lizard, Flat tailed horned lizard and Arroyo toad) are not expected on this site due to the lack of suitable habitat; the lizard species require loose Aeolian (wind-blown) sand complexes while the desert tortoise prefers loose, friable soil suitable for burrowing. No tortoise burrows or resting palettes were observed onsite. The lack of habitat suitable for listed or sensitive species would likely preclude their use of this site. Disturbance-adapted species such as coyote and raven are more dominant fixtures in this landscape along with roadrunner, quail and non listed lizard species.

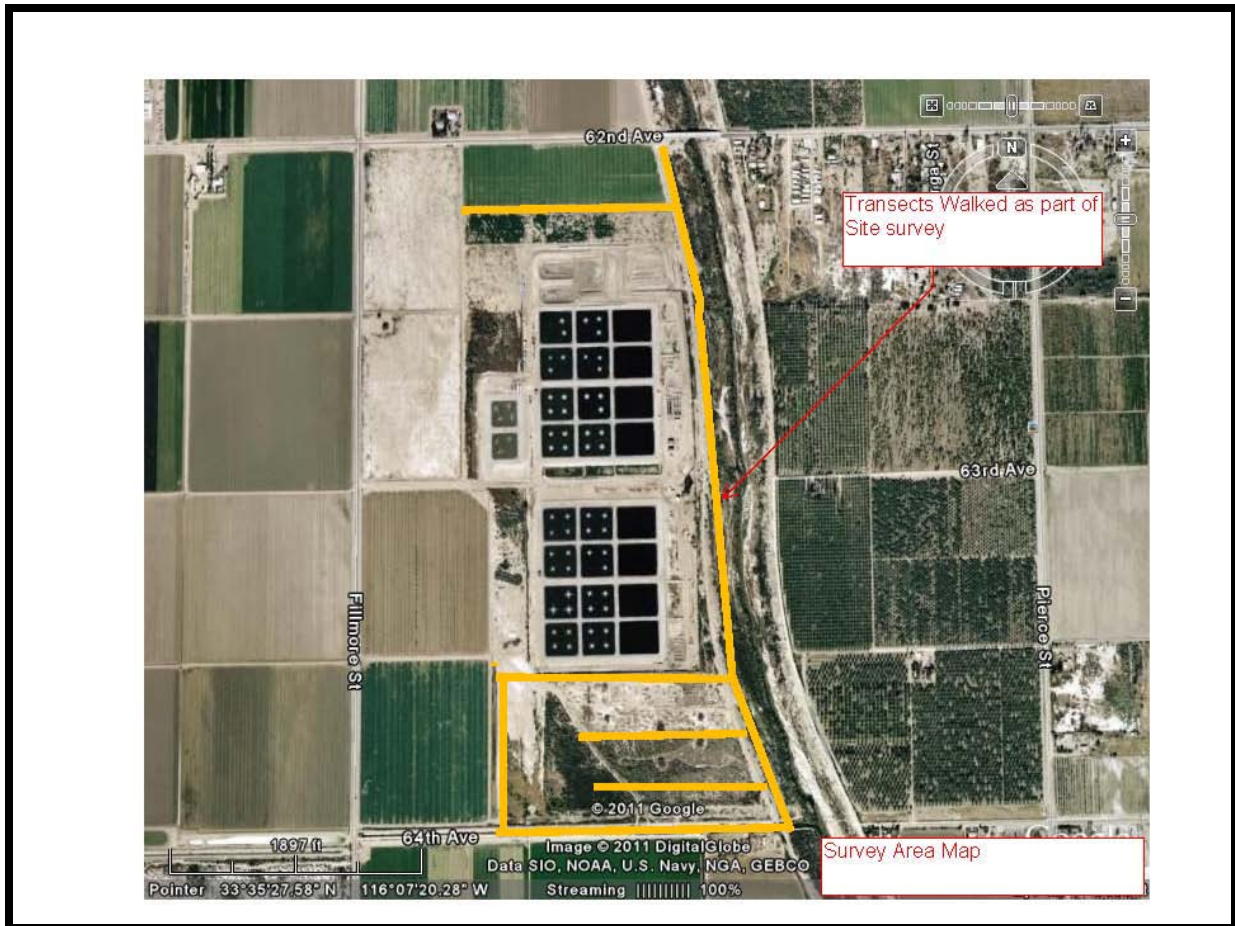
**TABLE 1**  
**Observed Wildlife**

Family	Scientific Name	Common Name	Comments
<b>INSECTS</b>			
<b>Order Lepidoptera - Butterflies and Moths</b>	<i>Danaus plexippus</i>	Monarch Butterfly	Observed
<b>REPTILES</b>			
<b>Phrynosomatidae – Horned lizards, Fringe Toed Lizards and their allies</b>	<i>Uta stansburiana</i>	Side blotch lizard	Observed
<b>Teiidae - Whiptails and Racerunners</b>	<i>Aspidocelis tigris munda</i>	California Whiptail	Observed
<b>BIRDS</b>			
<b>Columbidae - Pigeons and Doves</b>	<i>Columba livia</i>	Rock dove	Observed
	<i>Zenaida macroura</i>	Mourning dove	Observed
<b>Corvidae - Jays, Crows, and Magpies</b>	<i>Corvus corax</i>	Raven	Observed
<b>Emberizidae - Sparrows, Buntings, Warblers, and Relatives</b>	<i>Melospiza melodia</i>	Song sparrow	Observed
<b>Fringillidae - Finches and Relatives</b>	<i>Carpodacus mexicanus</i>	House Finch	Observed
<b>Odontophoridae – Quail</b>	<i>Callipepla gambelii</i>	Gambels Quail	Observed
<b>Sturnidae - Starlings</b>	<i>Sturnus vulgaris</i>	European Starling	Observed
<b>Tyrannidae – Tyrant Flycatchers</b>	<i>Tyrannus verticalis</i>	Western Kingbird	Observed
<b>MAMMALS</b>			
<b>Sciuridae – Ground Squirrels</b>	<i>Ammospermophilus leucurus</i>	Antelope Ground Squirrel	Observed
<b>Leporidae -Hares, Rabbits</b>	<i>Sylvilagus audubonii</i>	Desert Cottontail	Observed

**TABLE 2**  
**Observed Vegetation**

Family	Scientific Name	Common Name
Chenopodiaceae	<i>Atriplex canescens</i>	Fourwing Saltbush
	<i>Atriplex confertifolia</i>	Shadscale
Liliaceae	<i>Agave americana</i>	Century plant
	<i>Encelia farinosa</i>	Brittlebush
Polygonaceae	<i>Eriogonum spp.</i>	Skeleton Weed
Tamaracaceae	<i>Tamarisk chinensis</i>	Tamarisk
Viscaceae	<i>Phoradendron californicum</i>	Desert Mistletoe
Fabaceae	<i>Psoralea arborescens</i>	Indigo bush
Typhaceae	<i>Typha latifolia</i>	Cattail
Cyperaceae	<i>Scirpus sp.</i>	Bulrush

# APPENDIX A SITE LOCATION MAP



**Figure 1**  
**Site Location Map**  
**Showing Biological Survey Transects**

**APPENDIX B**  
**SITE PHOTOGRAPHS**



**Figure 2**  
**Concrete Lined Agricultural Drain at Southern End of Parcel**





**Figure 3**  
**Southern End of Parcel Looking West**



**Figure 4**  
**Middle of Parcel Looking West with Chain Link Fence at Southern End Drying Beds**