

CHAPTER 1

Introduction and Project Background

1.1 Purpose of the PEIR

The Los Angeles County Waterworks District No. 40, Antelope Valley (LACWWD40) has prepared this Final Program Environmental Impact Report (PEIR) to provide the public and trustee agencies with information about the potential effects on the local and regional environment associated with the North Los Angeles/Kern County Regional Recycled Water Project (proposed project). The LACWWD40 as the Lead Agency has prepared this Final PEIR in consultation with the following partner agencies: the City of Lancaster, the City of Palmdale, the Rosamond Community Services District (RCSD), the County Sanitation Districts Nos. 14 and 20 of Los Angeles County (LACSD Nos. 14 and 20), Palmdale Water District (PWD), Antelope Valley-East Kern Water Agency (AVEK), and Quartz Hill Water District (QHWD). This Final PEIR has been prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq., the State *CEQA Guidelines* in the Code of Regulations, Title 14, Division 6, Chapter 3, and CEQA-Plus requirements of the State Water Resources Control Board (SWRCB).

As described in Section 15121(a) of the *CEQA Guidelines*, this Final PEIR is intended to serve as an informational document for public agency decision makers. Accordingly, this Final PEIR has been prepared to identify the significant environmental effects of the proposed project, identify mitigation measures to minimize significant effects, and consider reasonable project alternatives. The environmental impact analyses in this Final PEIR are based on a variety of sources, including agency consultation, technical studies, and field surveys.

1.2 Intended Use of the PEIR

The proposed project is a multi-agency, multi-jurisdictional project that will be implemented collectively by LACWWD40 and the partner agencies listed above. According to CEQA, when a project is to be carried out by multiple public agencies, one agency is selected to be the lead agency and the other agencies are designated as responsible agencies (*CEQA Guidelines* §15050(a)). The decision-making bodies of the lead agency and responsible agencies are required to consider the PEIR prior to acting upon or approving the project (*CEQA Guidelines* §15050(b)).

For purposes of this PEIR, LACWWD40 is the Lead Agency, and the partner agencies are the Responsible Agencies. LACWWD40 and the Responsible Agencies intend to use this PEIR to consider implementation of the proposed project.

The LACWWD40 and the Responsible Agencies (with the exception of LACSD Nos. 14 and 20) are considering entering into a joint powers agreement to form a Joint Powers Authority (JPA) to oversee funding, construction, and operation of the proposed project. The JPA would be distinct from its member agencies, would have its own board of directors, and would be empowered to implement the proposed project. The JPA would include a representative from LACWWD40 and each Responsible Agency. If the JPA is formed prior to certification of this PEIR, the Board of Directors of the JPA would act as the Lead Agency and would consider this PEIR prior to approving and implementing the proposed project.

1.2.1 CEQA-Plus Requirements

The U.S. Environmental Protection Agency (USEPA) sponsors the State Revolving Fund (SRF) Loan Program to provide funding for construction of publicly-owned treatment facilities and water reclamation projects. This funding for capital improvements to wastewater treatment and water recycling facilities is authorized under the federal Clean Water Act. As a water recycling project, the proposed project is eligible for SRF funding. In order to comply with requirements of the SRF Loan Program, which is administered by SWRCB in California, an EIR must fulfill additional requirements known as CEQA-Plus. The CEQA-Plus requirements have been established by the EPA and are intended to supplement the *CEQA Guidelines* with specific requirements for environmental documents acceptable to the SWRCB when reviewing applications for wastewater treatment facility loans. They are not intended to supersede or replace *CEQA Guidelines*. (See Section 1.4 below for an explanation of the CEQA process.)

The USEPA's CEQA-Plus requirements have been incorporated into the SWRCB's *Environmental Review Process Guidelines for SRF Loan Applicants (SRF Guidelines)* (September, 2004). The SWRCB's *SRF Guidelines* include the following requirements for compliance with CEQA-Plus. Eight copies of the CEQA document must be sent to the SWRCB, which then forwards the copies directly to federally designated agencies. The federal agencies must have at least fifty-one calendar days to review the CEQA document from the date it was mailed to the reviewing agency. Federal consultation must be completed before an SRF funding agreement can be approved by the SWRCB. The proposed project must be in compliance with Section 7 of the federal Endangered Species Act (FESA); must undergo a Clean Air Act conformity analysis (if in a nonattainment area or an attainment area subject to a maintenance plan); and must be in compliance with Section 106 of the National Historic Preservation Act. The CEQA document must also disclose all project-specific information listed in the outline provided by the SWRCB. This PEIR has been prepared to comply with CEQA-Plus requirements and can be used to support the required federal consultations as described below.

Federal Endangered Species Act

The SWRCB Division of Financial Assistance (Division) is the designated non-federal representative under the FESA for water reclamation projects that involve a SRF loan. To ensure compliance with Section 7 of the FESA, the Division reviews all SRF projects to determine the potential effects to federally listed species. This PEIR includes the documentation required by the

Division to disclose the proposed project's effects on sensitive species (see Chapter 3.3), including a Biological Technical Report by BonTerra Consulting (see Appendix E). The Division staff will use this information to confer informally (and formally if necessary) with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service, as appropriate.

Federal Clean Air Act

The federal Clean Air Act (FCAA) requires the USEPA to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM_{10} , $PM_{2.5}$, and lead. Pursuant to the 1990 FCAA Amendments, the USEPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for these criteria air pollutants, based on whether or not the NAAQS had been achieved. The FCAA requires each state to prepare a State Implementation Plan (SIP), which is an air quality control plan that includes pollution control measures for states that violate the NAAQS. For SRF-funded projects, CEQA-Plus requirements include a FCAA general conformity analysis for projects in a federal nonattainment area or an attainment area subject to a SIP. The proposed project is in a federal nonattainment area for ozone, PM_{10} and $PM_{2.5}$, as explained in Chapter 3.2. If a FCAA general conformity analysis is required, the information provided in this PEIR would be used to support the analysis.

National Historic Preservation Act

CEQA-Plus requires SRF-funded projects to comply with Section 106 of the National Historic Preservation Act. Consultation with the State Historic Preservation Officer (SHPO) is required to demonstrate/confirm that Section 106 compliance has been achieved. The Division's Cultural Resources Officer (CRO) is responsible for the consultation with the SHPO. This PEIR and the administrative record includes the information and documentation that the Division CRO is required to provide to the SHPO to initiate the Section 106 consultation, including, (1) identification of the proposed project's Area of Potential Effects (APE), (2) cultural records searches for the APE at the appropriate Information Centers, (3) documentation of Native American consultation, (4) cultural resources field surveys of the APE, (4) evaluations of elements of the built environment in and around the APE that are eligible for the National Register of Historic Places, and (5) Determination of Eligibility for any cultural resources that cannot be avoided during project construction.

1.3 Organization of the Final PEIR

The chapters of this Final PEIR are as follows:

- ES. Executive Summary.** This chapter summarizes the contents of the Final PEIR.
- 1. Introduction and Project Background.** This chapter discusses the CEQA process and the purpose of the PEIR and provides background information for the proposed project.

2. **Project Description.** This chapter provides an overview of the proposed project, describes the need for and objectives of the proposed project, and provides detail on the characteristics of the proposed project.
3. **Environmental Setting, Impacts and Mitigation Measures.** This chapter describes the environmental setting and identifies impacts of the proposed project for each of the following environmental resource areas: Aesthetics; Air Quality; Biological Resources; Cultural Resources; Geology and Soils; Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Agriculture; Noise; Environmental Justice; Transportation and Traffic; and Utilities and Service Systems. Measures to mitigate the impacts of the proposed project are presented for each resource area where significant potential impacts have been identified.
4. **Cumulative Impacts.** This chapter describes the potential impacts of the proposed project when considered together with other related projects in the project area.
5. **Growth Inducement.** This chapter summarizes population projections and water demands within the Antelope Valley and describes the potential for the proposed project to induce development.
6. **Alternatives Analysis.** This chapter presents an overview of the alternatives development process and describes the alternatives to the proposed project that were considered.
7. **References.**
8. **Report Preparers.** This chapter identifies those involved in preparing this Final PEIR, including persons and organizations consulted.
9. **Acronyms.**
10. **Comment Letters.** This chapter includes all comment letter received during the Draft PEIR public comment period.
11. **Response to Comments.** This chapter includes written responses to all comment letters received during the Draft PEIR public comment period (Chapter 10).
12. **Lead Agency Revisions to Final PEIR:** This chapter includes revisions to the Draft PEIR made by the Lead Agency in addition to those included in Chapter 11 as a result of responses to comments.

1.4 CEQA Process

1.4.1 Notice of Preparation

In accordance with Sections 15063 and 15082 of the *CEQA Guidelines*, LACWWD40 prepared a Notice of Preparation (NOP) of a PEIR (see **Appendix A**). The NOP was circulated to local, state, and federal agencies, and to other interested parties in October 2007. As indicated in the

NOP, this Final PEIR addresses a full range of resource analyses. The NOP described the proposed project objectives, the proposed facilities, and the project location.

1.4.2 Public Scoping Meeting

CEQA recommends conducting early coordination with the general public, appropriate public agencies, and local jurisdictions to assist in developing the scope of the environmental document. Pursuant to *CEQA Guidelines* §15083, one public scoping meeting was held on November 6, 2007, at Larry Chimbole Cultural Center in Palmdale to allow agency consultation and public involvement for the Draft PEIR. Public notices were placed in local newspapers informing the general public of the scoping meeting and the availability of the NOP. The purpose of the meeting was to present to the public the proposed project and its potential environmental impacts. Attendees were provided an opportunity to voice comments or concerns regarding potential effects of the proposed project.

Verbal comments were received from the cities of Palmdale and Lancaster during the scoping meeting and are included in the scoping report in **Appendix B**. Written comments were received from the City of Palmdale Planning Department, County Sanitation Districts of Los Angeles County, Department of Water Resources, Southern California Association of Governments, and the Native American Heritage Commission. The comment letters are included in Appendix B.

1.4.3 Draft PEIR

The Draft PEIR was circulated for public review from August 5, 2008 through October 3, 2008. During this period, a public workshop and public hearing were held to provide interested persons with an opportunity to comment orally or in writing on the Draft PEIR and the project. The public workshop and public hearing were held at the Lancaster City Hall Council Chambers on September 11, 2008 and September 18, 2008, respectively. Eighteen comment letters were received on the Draft PEIR. Chapter 10 of this Final PEIR includes each comment received during the public review period. Chapter 11 of this Final PEIR provides responses to each comment received.

Initial Study

To assist in the preparation of the Draft PEIR, LACWWD40 completed an Initial Study Checklist as a screening tool to identify the potential range of impacts associated with the proposed project (see **Appendix C**) (*CEQA Guidelines* §15063(c)). The analyses in the Initial Study determined the proposed project would have no impact on the following environmental resources: mineral resources, population and housing, public services, and recreation. Accordingly, these resources areas are not discussed further and are not included in Chapter 3 of this PEIR.

1.4.4 Final PEIR

Written comments received in response to the Draft PEIR have been addressed in Chapter 11 of this Final EIR. The changes made to the Draft PEIR as a result of the responses to comment are reflected in the text of this Final PEIR.

Program and Project Level Analyses

In accordance with CEQA, a PEIR can be prepared on a series of related actions characterized as one large project or program (*CEQA Guidelines* §15168(a)). Prior to implementation, each action in the program must be evaluated to determine if additional environmental documentation is required (*CEQA Guidelines* §15168(c)). If the environmental effects resulting from an action are fully covered by the analysis in the PEIR and no new mitigation measures are required, then the action is within the scope of the PEIR and no additional environmental documentation is necessary (*CEQA Guidelines* §15168(c)(2)). If an action would result in environmental effects not included in the PEIR then additional environmental documentation, such as a Negative Declaration or EIR, would be required (*CEQA Guidelines* §15168(c)(1)). The mitigation measures developed in a PEIR may be incorporated into subsequent environmental documents (*CEQA Guidelines* §15168(c)(3)).

This Final PEIR provides an analysis of potential impacts of all construction and operational actions reasonably foreseeable with implementation of the proposed project, including construction and operation of pipelines, pump stations, and storage reservoirs, and the application of recycled water for various end uses, including landscape irrigation, agricultural irrigation, industrial uses (i.e. power plant cooling water), and groundwater recharge. The environmental baseline for determining potential impacts is the date the NOP for the proposed project is published (*CEQA Guidelines* §15125(a)), in this case October 2007. For each resource area assessed in this PEIR, the environmental setting describes existing conditions as of October 2007, unless otherwise indicated. The impact analysis is based on changes to existing conditions that result due to implementation of the proposed project.

It is the intention of this PEIR to provide **project-level** assessments of the following components of the proposed project. The analysis of these components is conducted at a sufficient level of detail such that additional environmental documentation is not necessary. In other words, the following project components are evaluated at a level of detail that is typically provided in a project EIR (*CEQA Guidelines* §15161).

- Construction and operation of proposed recycled water pipelines; and
- Application of recycled water for municipal and industrial (M&I) end uses (e.g., landscape irrigation) as identified in Table 1-2.¹

¹ Municipal and industrial (M&I) end uses do not include residential land uses. This PEIR does not include coverage of residential landscape irrigation.

This PEIR provides **program-level** assessments of the following components of the proposed project. Prior to implementation of these components, additional analysis is required to determine the need for subsequent environmental documentation:

- Construction and operation of the proposed pump stations and storage reservoirs; and
- Application of recycled water for agricultural irrigation, power plant cooling water, and groundwater recharge.

Other CEQA Requirements

This Final PEIR describes the proposed project and the existing environmental setting, identifies short-term, long-term, and cumulative environmental impacts, identifies mitigation measures for impacts found to be significant, and provides an analysis of project alternatives.

Significance criteria have been developed for each environmental resource analyzed in this Final PEIR. The significance criteria are defined at the beginning of each impact analysis section. Impacts are categorized as follows:

- **Significant and Unavoidable:** mitigation might be recommended but impacts are still significant;
- **Less than Significant with Mitigation:** potentially significant impact but mitigated to a less-than-significant level;
- **Less than Significant:** mitigation is not required under CEQA but may be recommended; or
- **No Impact.**

1.4.5 Final PEIR Certification and Approval

As the Lead Agency, LACWWD40 has the option to make the Final PEIR available for public review prior to considering the project for approval (*CEQA Guidelines* §15089(b)). The Final PEIR must be available to commenting agencies at least 10 days prior to consideration for approval.

Prior to considering the project for approval, the County of Los Angeles Board of Supervisors, who serve as the Board of Directors for LACWWD40 will review and consider the information presented in the Final PEIR and will certify that the Final PEIR has been adequately prepared in accordance with CEQA. Once the Final PEIR is certified, LACWWD40 may proceed to consider project approval (*CEQA Guidelines* §15090, §15096(f)). Prior to approving the project, LACWWD40 shall make Findings regarding any significant, unavoidable environmental effects identified in the Final PEIR, and if necessary, adopt Statements of Overriding Considerations regarding these impacts (*CEQA Guidelines* §15091, §15093).

Prior to approving the project, the County of Los Angeles Board of Supervisors acting as Lead Agency will certify the PEIR and file a Notice of Determination (NOD) with the County and the State Clearinghouse. The Responsible Agencies will then adopt the certified PEIR and file

separate NODs prior to implementing their segments of the proposed project. Each Responsible Agency also shall make Findings and adopt Statements of Overriding Considerations for any significant, unavoidable environmental effects identified in the Final PEIR (*CEQA Guidelines* §15096(h)).

1.4.6 Mitigation Monitoring and Reporting Program

CEQA requires lead agencies to adopt a reporting and mitigation monitoring program for the changes to the project that it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment (CEQA §21081.6, *CEQA Guidelines* §15097). A Mitigation Monitoring and Reporting Plan (MMRP) for the proposed project will be prepared based on the mitigation measures included in the Final PEIR and will be included in the Findings to be approved by the LACWWD40 and Responsible Agencies' Boards of Directors.

1.5 Project Background

1.5.1 Regional Water Planning

The Antelope Valley is faced with serious challenges with respect to management of water and wastewater resources in the region. The population in the Antelope Valley is expected to increase by 161 percent by 2035 (RWMG, 2007). Currently, the demand for potable water exceeds supply in the region, and by 2035 this demand is expected to double (RWMG, 2007). Wastewater discharges also will increase in the future as population increases.

The Regional Water Management Group (RWMG) is a collection of 11 local agencies that are working collectively to resolve the water management challenges in the Antelope Valley. LACWWD40 and the partner agencies that are sponsoring the proposed project are members of the RWMG. Currently, the demand for potable water in the region is met largely by water imported through the State Water Project and groundwater pumped from the Antelope Valley Groundwater Basin. Imported water supplies are becoming less reliable; the AV Groundwater Basin is facing overdraft conditions; and the water rights of overlying landowners of the AV Groundwater Basin have not yet been adjudicated (although this process is currently under way) (DWR, 2008; RWMG, 2007). Thus, under current conditions, imported water and groundwater can not be expected to accommodate the future water demands of a growing population in the Antelope Valley. As a result, the RWMG is tasked with finding creative solutions for finding new sources of water for Antelope Valley residents.

The RWMG has prepared the *Integrated Regional Water Management Plan (IRWMP)* for the Antelope Valley as a roadmap for resolving the water management challenges in the region. The planning process for the IRWMP has created a forum for discussing water supply issues and developing projects to address the needs for additional water supplies and effluent management strategies. The purpose of the IRWMP is to provide the region with information on how to meet shared objectives for long-term water management. Objectives include reliably providing quality drinking water to the growing population, satisfying agricultural users' demand for reliable

supplies of reasonable cost irrigation water, and protecting and enhancing the current water resources in the Antelope Valley.

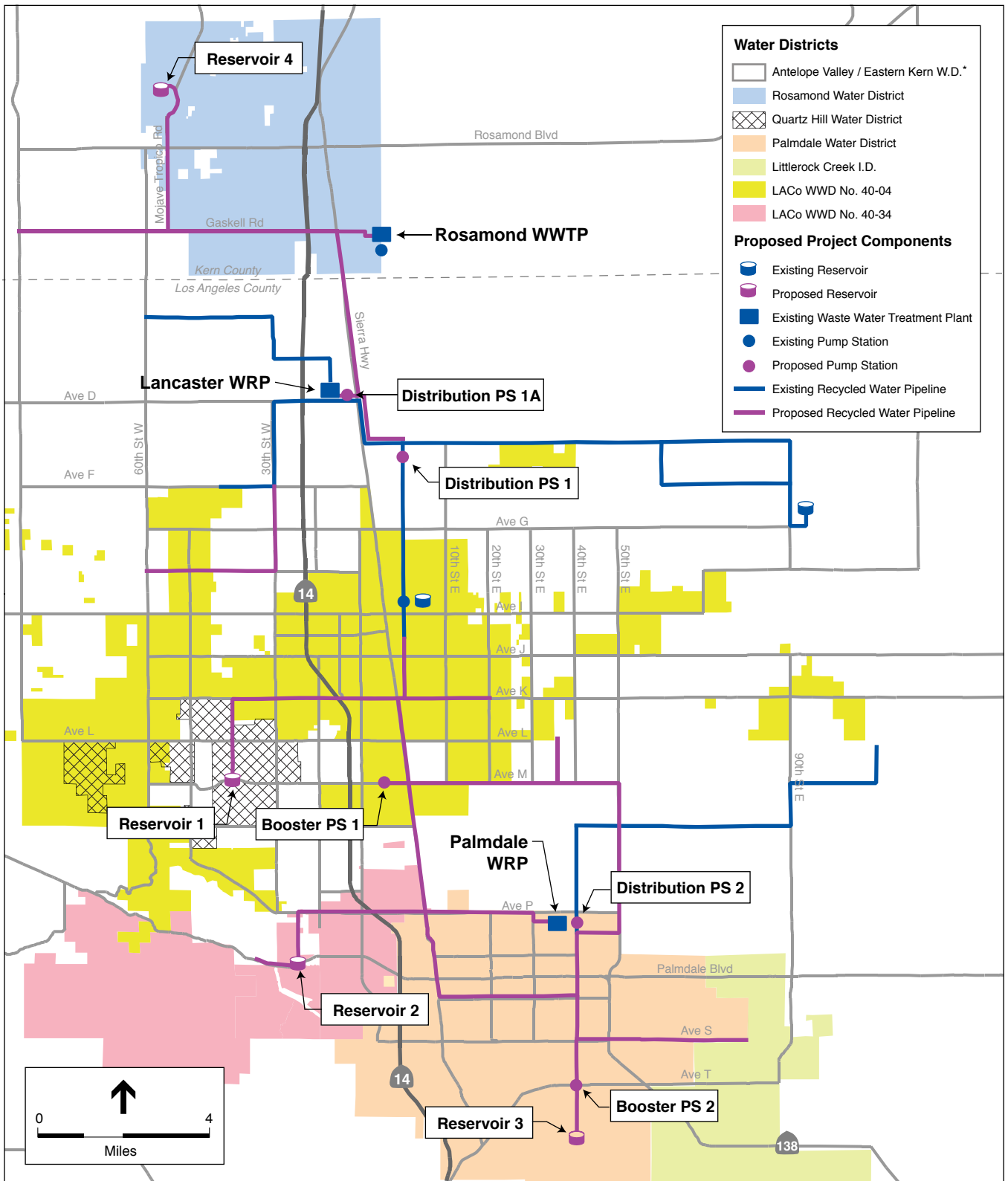
The proposed project, which is described in detail in **Chapter 2, Project Description**, is identified in the IRWMP as a project that addresses the need for both increased water supplies and wastewater effluent management. The proposed project would provide a backbone system for distribution of recycled water throughout the Antelope Valley. The recycled water would be used instead of potable water for landscape irrigation, agricultural irrigation, groundwater recharge and other Title 22 approved uses. The potable water that is being replaced by this recycled water thus would be available for other uses, ostensibly resulting in an increase in potable water supplies. In addition, using the recycled water for groundwater recharge would increase groundwater supplies. The proposed project also provides a management strategy for wastewater effluent by creating a system to distribute recycled water for beneficial use. The proposed project would distribute disinfected, tertiary-treated effluent that would be produced at the Lancaster Water Reclamation Plant (LWRP), Palmdale Water Reclamation Plant (PWRP), and Rosamond Wastewater Treatment Plant (RWWTP). The recycled water would be sold by the operators of the treatment plants to local water purveyors. The LWRP is operated by LACSD No. 14; the PWRP is operated by LACSD No. 20; and the RWWTP is operated by RCSD. The local water purveyors include LACWWD40, PWD, QHWD and RCSD. A brief description of each of these water resource agencies is provided below.

1.5.2 Antelope Valley Water/Wastewater Agencies

The proposed project requires coordination between water and wastewater agencies in the Antelope Valley in order to provide recycled water to end users in the region. The following agencies provide water to customers in the Antelope Valley in the vicinity of the proposed project: AVEK, PWD, LACWWD40, RCSD, and QHWD. Wastewater treatment services are provided by LACSD Nos. 14 and 20 in Los Angeles County and RCSD in Kern County. A brief profile of each agency is provided below and summarized in **Table 1-1**. The boundary of each agency's service area is shown in **Figure 1-1**.

Antelope Valley-East Kern Water Agency

AVEK is a wholesaler of raw water that is imported to the Antelope Valley through the State Water Project (SWP). Currently, AVEK has a contractual Table A amount of 141,400 acre-feet of water per year (afy) from the SWP. However, AVEK does not import its full entitlement, having imported an average of approximately 39,000 afy from the SWP during the period 2000 to 2004 (Kennedy/Jenks, 2006). AVEK treats the raw water imported from the SWP at one of four water treatment plants in the Antelope Valley: Quartz Hill Water Treatment Plant (WTP), Eastside WTP, Rosamond WTP and Acton WTP. AVEK does not have groundwater production wells and does not provide recycled water. AVEK supplies treated water to LACWWD40, RCSD, and QHWD.



*Antelope Valley / Eastern Kern W.D. is within the entire extent of this map

**TABLE 1-1
PROFILES OF ANTELOPE VALLEY WATER AGENCIES**

	PWD	LACWWD40	RCSD	QHWD	AVEK
Wholesale or Retail Supplier	Both	Retail	Retail	Retail	Wholesale
Service Area	46 sq mi	228 sq mi	31 sq mi	4.5 sq mi	2,300 sq mi
Population Served (2004)	105,755	144,357	15,510	15,500	285,458
Imported Raw Water Source	SWP	AVEK	AVEK	AVEK	SWP
SWP Table A contract amount (afy)	21,300	0	0	0	141,400
Imported Water Supply, 2004 (afy)	12,076	36,231	1,191	4,099	97,566
Groundwater Pumped, 2004 (afy)	11,046	21,357	1,990	1,348	0
Surface Water Supply (afy)	5,500 ^a	0	0	0	0

^a NOTE: PWD and Littlerock Creek Irrigation District have joint water rights to 5,500 afy from Littlerock Creek.

SOURCE: Kennedy/Jenks, 2006.

LACWWD40

LACWWD40 is a water retailer that provides treated potable water to the City of Lancaster, the western portion of the City of Palmdale, and the unincorporated communities of Pearblossom, Littlerock, Sun Village, Rock Creek, Lake Los Angeles, Desert View Highlands, and Northeast Los Angeles County. LACWWD40's water sources include imported SWP water through AVEK and groundwater from its own production wells (Table 1-1). Approximately 20 to 40 percent of LACWWD40's water supply is provided by groundwater. In 2004, LACWWD40 imported 36,231 acre-feet of water (af) and pumped 21,357 af (Kennedy/Jenks, 2006).

Palmdale Water District

Palmdale Water District is both a water wholesaler and retailer serving the eastern portion of the City of Palmdale. Palmdale's water sources include imported SWP water, surface water from Littlerock Creek, and local groundwater (Table 1-1). Surface water from Littlerock Creek is stored in Littlerock Reservoir, which has a storage capacity of 3,500 af and is jointly owned by PWD and Littlerock Creek Irrigation District. In 2004, PWD imported 12,076 af and pumped 11,046 af (Kennedy/Jenks, 2006).

Quartz Hill Water District

Quartz Hill Water District is a water retailer that provides treated potable water to the community of Quartz Hill, located in the southwest corner of the Antelope Valley in unincorporated Los Angeles County. QHWD's water sources include imported SWP water through AVEK and local groundwater (Table 1-1). In 2004, QHWD imported 4,099 af and pumped 1,348 af (Kennedy/Jenks, 2006).

Rosamond Community Service District

Rosamond Community Service District is a water retailer that provides treated potable water to the Town of Rosamond in unincorporated Kern County. RCSD's water sources include imported SWP water through AVEK and local groundwater (Table 1-1). In 2004, RCSD imported 1,191 af and pumped 1,990 af (Kennedy/Jenks, 2006). RCSD also provides sewer, lighting, and public park maintenance services within its service area.

County Sanitation Districts of Los Angeles County

Los Angeles County Sanitation Districts No. 14 and 20 provide wastewater management services for the Los Angeles County portions of the Antelope Valley. District No. 14 includes portions of the cities of Lancaster and Palmdale and adjacent unincorporated Los Angeles County areas. District 14 owns and operates the LWRP and the adjoining approximately 64-mile network of trunk sewers. District No. 20 serves an area that includes the majority of the City of Palmdale and portions of unincorporated County areas. District No. 20 owns and operates the PWRP and a network of approximately 40 miles of trunk sewers.

1.5.3 Water Reclamation Plants

Rosamond WWTP

RCSD owns and operates the RWWTP, which currently provides secondary treatment to all incoming wastewater effluent. The existing capacity of the RWWTP is 1.3 million gallons per day (mgd). Currently there is no discharge from the RWWTP; the treated wastewater is used for on-site landscape irrigation. RCSD is planning to upgrade the RWWTP with a new plant that will provide disinfected tertiary-treatment for an additional 0.5 mgd by 2010. The new disinfected tertiary treatment plant will be upgraded to handle a total of 1.0 mgd by 2010.

In addition to the recycled water backbone system alignments and facilities presented herein, RCSD recognizes the likelihood of future development and expansion of the RCSD service area in the region north of Rosamond. In order to meet the associated future recycled water demand, RCSD anticipates further expansion of the pipeline alignment north from the Rosamond WWTP along the Sierra Highway corridor, as well as construction of additional storage reservoir and pump station facilities.

Future demand for recycled water in the Rosamond area could surpass the projected treatment capacity of the Rosamond WWTP, in which case RCSD would attempt to acquire an additional 1.5 to 3.0 mgd of disinfected tertiary treated recycled water from suppliers in Los Angeles County, conveying it by pipeline to RCSD's recycled water distribution pipelines.

Lancaster WRP

The LWRP is owned and operated by LACSD No. 14 and is located north of the City of Lancaster. Currently, LWRP has a permitted capacity of 18 mgd, of which 0.6 mgd is tertiary-treated effluent and the remaining is secondary-treated effluent. Tertiary treatment is provided by

the Antelope Valley Tertiary Treatment Plant (AVTTP), which is located onsite at the LWRP. Currently, the effluent from the AVTTP is conveyed to Apollo Lakes Regional County Park and to agricultural irrigation at LACSD-owned facilities. The secondary-treated effluent from the LWRP currently is stored in reservoirs, or used for irrigation of fodder crops at Nebeker Ranch, or used to maintain Piute Ponds at its current area of 400 acres. Tertiary treated effluent is also being temporarily produced by a 1.0-mgd Membrane Bioreactor located at the LWRP.

The *LWRP 2020 Facilities Plan Final EIR* (LACSD, 2004) describes the proposed expansion of the LWRP to provide tertiary-treated recycled water. LACSD No. 14 plans to increase the capacity of the LWRP to 18 mgd by 2010, providing disinfected tertiary treatment for all incoming wastewater. To manage the increased effluent production, LACSD No. 14 has purchased land for additional storage reservoirs and for implementation of agricultural activities whereby the recycled water is used for irrigation. The proposed project would provide additional management options and beneficial uses for the disinfected tertiary-treated effluent produced at the LWRP. LACSD No. 14 has committed to diverting recycled water from its agricultural operations to serve other emerging recycled water end uses in the region as they become available.

Palmdale WRP

The PWRP is owned and operated by LACSD No. 20 and is located adjacent to Palmdale in unincorporated Los Angeles County. Currently, PWRP has a permitted capacity of 15 mgd, all of which receives secondary treatment. The effluent from the PWRP is used to irrigate trees and fodder crops on land leased from Los Angeles World Airports (LAWA).

The *PWRP 2025 Facilities Plan and Final EIR* (LACSD, 2005) describes the proposed expansion of the PWRP to provide tertiary-treated recycled water. LACSD No. 20 plans to upgrade the PWRP to 12 mgd of disinfected tertiary treatment by 2011. To manage the increased effluent production, LACSD No. 20 would cease land application and instead use the tertiary-treated effluent for agricultural irrigation such that recycled water is applied at agronomic rates in order to protect groundwater. Similar to LACSD No. 14, LACSD No. 20 has acquired land for storage reservoirs and for implementing agricultural reuse. LACSD No. 20 has committed to diverting recycled water from its agricultural operations to serve other emerging recycled water end uses in the region as they become available. The proposed project would provide such effluent management options and beneficial uses for the recycled water produced at the PWRP.

1.5.4 Previous Documents

The *Final Facilities Planning Report* (Kennedy/Jenks, 2006) for the proposed project was prepared in order to apply for financial assistance from the SWRCB through its Proposition 50 Recycled Water Construction Grants Program. The Facilities Planning Report contains a preliminary description of the proposed project, including background information on the project area and its existing water and wastewater supplies. The Facilities Planning Report also provides a market assessment of potential recycled water end users, develops project alternatives, and recommends a preferred project alternative. The Facilities Planning Report has provided a general

foundation for the Introduction (Chapter 1), Project Description (Chapter 2), and Alternatives Analysis (Chapter 6) of this Final PEIR.

RMC Water and Environment prepared the *Palmdale Recycled Water Facilities Planning Study* (Feasibility Study) for the City of Palmdale to define a set of alternatives for a new recycled water distribution system in the Palmdale vicinity (RMC, 2007). Completed after the LACWWD40 Facilities Planning Report, this Feasibility Study identifies additional demand opportunities for recycled water, including the Palmdale Hybrid Power Plant (PHPP) and groundwater recharge. The Feasibility Study identifies three alternative pipeline alignments for transmission of recycled water from the backbone system to end users in the Palmdale area. All alternative pipeline alignments and the PHPP have been included in this PEIR as part of the proposed project (see Chapter 2, Project Description).

1.5.5 Recycled Water

Title 22 Regulations

The California Department of Public Health (CDPH), formerly the California Department of Health Services (CDHS), is responsible for regulating the use of recycled water in California. Title 22 of the California Code of Regulations (CCR) includes Water Recycling Criteria (CCR Title 22, Division 4, Chapter 3) that regulate the use of recycled water through health-based water quality standards and treatment reliability criteria for recycled water. Title 22 identifies the allowable end uses for recycled water and the associated minimum treatment requirements for each end use (CCR Title 22, Division 4, Chapter 3, Article 3, Uses of Recycled Water). **Table 1-2** summarizes the suitable uses of recycled water as defined by the December 2000 revision of Title 22 and identifies in bold typeface the end uses covered at the project level in this PEIR, as explained above in Section 1.4.3.

Title 22 sets bacteriological water quality standards based on the expected degree of public contact with recycled water. Title 22 establishes four categories of recycled water: disinfected tertiary, disinfected secondary-2.2, disinfected secondary-23, and undisinfected secondary recycled water. Disinfected tertiary treatment of recycled water is required for use involving direct public contact. Disinfected tertiary recycled water is defined as a filtered and subsequently disinfected wastewater. Secondary treatment of recycled water is required for applications with a lower potential for public contact. There are three levels of secondary treatment based on the amount of disinfection: disinfected secondary-2.2; disinfected secondary-23; and undisinfected secondary. Disinfected secondary-2.2 recycled water is defined as recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (mpn) of 2.2 per 100 milliliters of sample. Disinfected secondary-23 recycled water has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a mpn of 23 per 100 milliliters of sample. Undisinfected secondary recycled water is oxidized

wastewater. Oxidized wastewater is wastewater in which the organic matter has been stabilized, is nonputrescible² and contains dissolved oxygen.

The proposed project would distribute disinfected tertiary recycled water to end users in the Antelope Valley as described in **Chapter 2, Project Description**.

Title 22 Groundwater Recharge Regulations

The proposed project includes groundwater recharge as a potential end use for recycled water. This PEIR provides a program-level assessment of groundwater recharge as a recycled water end use. Title 22 of the CCR regulates the use of recycled water for groundwater recharge (CCR Title 22, Division 4, Chapter 3, Article 5.1, Groundwater Recharge). The latest adopted version of Title 22 states that CDPH and the RWQCB will regulate and approve groundwater recharge projects on an individual case basis. CDPH is required to hold a public hearing prior to making final determinations regarding the public health aspects of a groundwater recharge project and submitting final recommendations to the RWQCB.

Currently, CDPH is preparing new draft regulations for groundwater recharge to be included in Title 22, Division 4, Chapter 3, Article 5.1. The purpose of the draft regulations is to protect public health and the quality of the groundwater resources to be used for drinking water supplies. The latest available draft regulations, published August 2008, define a groundwater recharge reuse project (GRRP) as a project that uses recycled water and has been planned and is operated for the purpose of recharging a groundwater basin designated in a Water Quality Control Plan (Basin Plan) for use as a source of domestic water supply, and that has been identified as a GRRP by a Regional Water Quality Control Board (RWQCB). The draft regulations identify the standards for recycled water used for a GRRP, blend requirements, operational requirements for underground retention of recharged water, and monitoring requirements.

² Solid wastes which are not capable of being decomposed by micro-organisms with sufficient rapidity as to cause odors, gases, attraction of vectors or other offensive conditions. For example, wastes that are putrescible, and do not qualify as nonputrescible, would include food wastes.

**TABLE 1-2
REGULATORY REQUIREMENTS FOR RECYCLED WATER USES IN CALIFORNIA^a**

Use of Recycled Water	Treatment Level			
	Disinfected Tertiary Recycled Water	Disinfected Secondary-2.2 Recycled Water	Disinfected Secondary-23 Recycled Water	Undisinfected Secondary Recycled Water
Irrigation				
Food crops where recycled water contacts the edible portion of the crop, including all root crops	Allowed	Not allowed	Not allowed	Not allowed
Parks and playgrounds	Allowed	Not allowed	Not allowed	Not allowed
School yards	Allowed	Not allowed	Not allowed	Not allowed
Residential landscaping	Allowed	Not allowed	Not allowed	Not allowed
Unrestricted-access golf courses	Allowed	Not allowed	Not allowed	Not allowed
Any other irrigation uses not prohibited by other provisions of the California Code of Regulations	Allowed	Not allowed	Not allowed	Not allowed
Food crops, surface-irrigated, above-ground edible portion, and not contacted by recycled water	Allowed	Allowed	Not allowed	Not allowed
Cemeteries	Allowed	Allowed	Allowed	Not allowed
Freeway landscaping	Allowed	Allowed	Allowed	Not allowed
Restricted-access golf courses	Allowed	Allowed	Allowed	Not allowed
Ornamental nursery stock and sod farms with unrestricted public access	Allowed	Allowed	Allowed	Not allowed
Pasture for milk animals for human consumption	Allowed	Allowed	Allowed	Not allowed
Nonedible vegetation with access control to prevent use as a park, playground or school yard	Allowed	Allowed	Allowed	Not allowed
Orchards with no contact between edible portion and recycled water	Allowed	Allowed	Allowed	Allowed
Vineyards with no contact between edible portion and recycled water	Allowed	Allowed	Allowed	Allowed
Non food-bearing trees, including Christmas trees not irrigated less than 14 days before harvest	Allowed	Allowed	Allowed	Allowed
Fodder and fiber crops and pasture for animals not producing milk for human consumption	Allowed	Allowed	Allowed	Allowed
Seed crops not eaten by humans	Allowed	Allowed	Allowed	Allowed
Food crops undergoing commercial pathogen-destroying processing before consumption by humans	Allowed	Allowed	Allowed	Allowed
Supply for Impoundment				
Nonrestricted recreational impoundments, with supplemental monitoring for pathogenic organisms	Allowed	Not allowed	Not allowed	Not allowed
Restricted recreational impoundments and publicly accessible fish hatcheries	Allowed	Allowed	Not allowed	Not allowed
Landscape impoundments without decorative fountains	Allowed	Allowed	Allowed	Not allowed
Supply for Cooling or Air Conditioning				
Industrial or commercial cooling or air conditioning involving cooling tower, evaporative condenser, or spraying that creates a mist	Allowed	Not allowed	Not allowed	Not allowed
Industrial or commercial cooling or air conditioning not involving cooling tower, evaporative condenser, or spraying that creates a mist	Allowed	Allowed	Allowed	Not allowed

TABLE 1-2 (continued)
REGULATORY REQUIREMENTS FOR RECYCLED WATER USES IN CALIFORNIA^a

Use of Recycled Water	Treatment Level			
	Disinfected Tertiary Recycled Water	Disinfected Secondary-2.2 Recycled Water	Disinfected Secondary-23 Recycled Water	Undisinfected Secondary Recycled Water
Other Uses				
Groundwater Recharge	Allowed under special case-by-case permits by RWQCBs ^d			
Flushing toilets and urinals	Allowed	Not allowed	Not allowed	Not allowed
Priming drain traps	Allowed	Not allowed	Not allowed	Not allowed
Industrial process water that may contact workers	Allowed	Not allowed	Not allowed	Not allowed
Structural fire fighting	Allowed	Not allowed	Not allowed	Not allowed
Decorative fountains	Allowed	Not allowed	Not allowed	Not allowed
Commercial laundries	Allowed	Not allowed	Not allowed	Not allowed
Consolidation of backfill material around potable water pipelines	Allowed	Not allowed	Not allowed	Not allowed
Artificial snow making for commercial outdoor uses	Allowed	Not allowed	Not allowed	Not allowed
Commercial car washes, not heating the water, excluding the general public from washing process	Allowed	Not allowed	Not allowed	Not allowed
Industrial process water that will not come into contact with workers	Allowed	Allowed	Allowed	Not allowed
Industrial boiler feed	Allowed	Allowed	Allowed	Not allowed
Nonstructural fire fighting	Allowed	Allowed	Allowed	Not allowed
Backfill consolidation around nonpotable piping	Allowed	Allowed	Allowed	Not allowed
Soil compaction	Allowed	Allowed	Allowed	Not allowed
Mixing concrete	Allowed	Allowed	Allowed	Not allowed
Dust control on roads and streets	Allowed	Allowed	Allowed	Not allowed
Cleaning roads, sidewalks and outdoor work areas	Allowed	Allowed	Allowed	Not allowed
Flushing sanitary sewers	Allowed	Allowed	Allowed	Allowed

NOTE: End uses identified in bold typeface and shading are covered at the project level in this PEIR.

^a Refer to the full text of the December 2, 2000 version of Title 22: California Code of Regulations, Chapter 3 Water Recycling Criteria. This chart is only an informal summary of the uses allowed in this version. The complete and final 12/02/2000 version of the adopted criteria can be downloaded from: <http://www.cdph.ca.gov/healthinfo/environhealth/water/Pages/Waterrecycling.aspx>.

^b Allowed with "conventional tertiary treatment." Additional monitoring for two years or more is necessary with direct filtration.

^c Drift eliminators and/or biocides are required if public or employees can be exposed to mist.

^d Refer to Groundwater Recharge Guidelines, available from the CDPH.

SOURCE: WaterReuse Association, Recycled Water Uses Allowed in California, <http://www.watereuse.org/ca/usestable.html>, 1/3/2008.

