COUNTY OF LOS ANGELES

REVISED

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

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December 9, 2008

IN REPLY PLEASE
REFER TO FILE: WW-1

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Dear Supervisors:

**LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY
CERTIFICATION OF FINAL PROGRAM ENVIRONMENTAL
IMPACT REPORT AND AUTHORIZATION TO PROCEED
NORTH LOS ANGELES/KERN COUNTY REGIONAL RECYCLED WATER PROJECT
(SUPERVISORIAL DISTRICT 5)
(3 VOTES)**

SUBJECT

This action is to approve the final Program Environmental Impact Report and authorize the Department of Public Works to proceed with the preconstruction phase of the North Los Angeles/Kern County Regional Recycled Water project in the Antelope Valley.

IT IS RECOMMENDED THAT YOUR BOARD ACTING AS THE GOVERNING BODY OF THE LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, ANTELOPE VALLEY:

1. Certify that the final Program Environmental Impact Report has been completed in compliance with the California Environmental Quality Act and reflects the independent judgment and analysis of the County of Los Angeles; find that your Board has reviewed and considered the information contained in the final Program Environmental Impact Report prior to approving the project; and determine that the potential significant adverse effects of the project can be reduced to insignificant levels by the proposed mitigation measures or are outweighed by the specific considerations of the project, as outlined in the Environmental Findings of Fact and Statement of Overriding Considerations, which findings and statement are adopted and incorporated by reference.

2. Approve the North Los Angeles/Kern County Regional Recycled Water project and authorize the Director of Public Works or her designee to proceed with the design of Phase 1 of the project, including approval of design plans, right-of-way acquisition, and obtaining all necessary permits.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

Approval of the recommended actions will certify the attached Program Environmental Impact Report (PEIR) and authorize Public Works to begin with the design of Phase 1 of the North Los Angeles/Kern County Regional Recycled Water project.

The proposed project would increase the water service reliability in the City of Lancaster, the City of Palmdale, and the surrounding County unincorporated communities in the Antelope Valley. The project would provide a reliable local source of recycled water to supplement the use of potable water for nonpotable applications.

Implementation of Strategic Plan Goals

The Countywide Strategic Plan directs the provision of Service Excellence (Goal 1) and Community Services (Goal 6). Public Works is committed to developing, operating, and maintaining an effective, safe, and sustainable infrastructure that meets the needs of our customers, complies with environmental regulations, and improves the quality of life in our communities. The recommended action will help fulfill these goals by providing residents and property owners in the Antelope Valley with a more reliable water supply.

FISCAL IMPACT/FINANCING

There will be no negative impact on the County General Fund.

The North Los Angeles/Kern County Regional Recycled Water project is a multi-phase, long-term project that consists of construction of a regional backbone recycled water system for the distribution of an estimated 21,000 acre-feet of disinfected tertiary treated water per year to customers in the Lancaster, Palmdale, and Rosamond (Kern County) areas of the Antelope Valley, at a total estimated cost of $120 million. The project will be constructed in six phases with each phase advertised and awarded for construction separately. Phase 1 consists of approximately 15 miles of 24-inch recycled water main and a booster pump station, at an estimated total cost of $22 million. This includes $2 million for design engineering scheduled to begin in Fiscal Year 2008-09. The remaining phases of the project will be designed and constructed following completion of Phase 1.

Sufficient funds to cover the $2 million cost of design engineering for Phase 1 of the project are included in the Los Angeles County Waterworks District No. 40, Antelope Valley, Accumulated Capital Outlay Fund (N64) Budget for Fiscal Year 2008-09. The Los Angeles County Waterworks District No. 40, Antelope Valley, will seek funding arrangements with project partners to finance the construction of the various phases of the project.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

On May 1, 2007, your Board adopted a recommendation to execute a Consultant Services Agreement with Environmental Science Associates, Inc., to provide engineering and related services for preparation of an Environmental Impact Report/Environmental Assessment (EIR/EA) for the project at a not-to-exceed fee of $366,000.

Under the California Environmental Quality Act (CEQA), any lead agency preparing an EIR must provide a public notice within a reasonable period of time prior to certification of the EIR. To comply with this requirement, a public Notice of Availability, pursuant to Section 21092 of the Public Resources Code, was published in the *Antelope Valley Press* on August 4, 2008. A copy of the draft PEIR was provided at the Lancaster Regional Library, the Palmdale City Library, the Quartz Hill Library, and the Wanda Kirk (Rosamond) Branch of the Kern County Public Library for public review. A public workshop, featuring an expert panel on recycled water, was offered to the public on September 11, 2008, at the Lancaster City Hall to answer questions and address concerns about the project. A Public Hearing was held on September 18, 2008, at the Lancaster City Hall to receive comments from the public regarding the draft PEIR. A Notice of Preparation for the PEIR was also mailed to all property owners adjacent to the preliminary alignment of the project.

The minimum 45-day public review period was extended to a 60-day public review period, which ended on October 3, 2008. We responded to comments we received from the Federal Aviation Administration, the State Department of Water Resources, the State Water Resources Control Board, the California Regional Water Quality Control Board, the California Department of Transportation, the County of Los Angeles Airport Land Use Commission, the County Sanitation Districts of Los Angeles County, the Mojave Desert Air Quality Management District, the Native American Heritage Commission, the California Department of Public Health, the Leona Valley Town Council, the Antelope Acres Town Council, the Rosamond Community Services District, City of Lancaster, and members of the public. The PEIR has also been reviewed and approved as to form by County Counsel. Copies of our responses to these agencies are included in Chapter 11 of the PEIR.

ENVIRONMENTAL DOCUMENTATION

An Initial Study was prepared for the project in compliance with CEQA. The Initial Study concluded that there is substantial evidence that the project may have a significant impact on the environment in the following areas: aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology, soils and seismicity, hazards and hazardous materials, hydrology and water quality, land use and land use planning, noise, transportation and traffic, utilities and service systems, and mandatory findings of significance. The Initial Study determined that an EIR would be required.

A PEIR was prepared for the project in accordance with Section 15165 of the CEQA Guidelines. This Section requires that the environmental impacts of a multi-phase, long-term project with components that could be modified due to unforeseen conditions be considered with a PEIR.

The PEIR has been prepared in compliance with CEQA. CEQA requires public agency decision makers to document and consider environmental implications of their actions. The PEIR was written pursuant to the CEQA Guidelines of 1970, as amended (Division 13, California Public Resources Code), and the CEQA Guidelines (Division 6, California Administrative Code). A Public Notice of the draft PEIR was published in the *Antelope Valley Press* on August 12 to August 13, 2008, pursuant to Section 21092.3. Comments were received from residents, local community groups, and Federal and State agencies. Responses to those comments are included in the final PEIR. Responses to all comments received from public agencies were sent to those agencies pursuant to Section 21092.5.

The final PEIR consists of the draft PEIR and Technical Appendices dated March 2008, the screencheck PEIR and Technical Appendices dated June 2008, the draft recirculated PEIR and Technical Appendices dated August 2008, comment letters, response to comments, and lead agency revisions. The Findings of Fact and Statement of Overriding Consideration, dated November 2008, is submitted as a separate attachment. Except for unavoidable significant impacts from noise, all identified significant environmental effects of the project can be avoided or reduced to a level of insignificance through the implementation of the mitigation measures identified in the final PEIR. As stated in the final PEIR and attached Findings of Fact and Statement of Overriding Considerations, the unavoidable significant impacts from noise have been reduced to the extent feasible, and the benefits of the proposed project, which include water supply and wastewater management, outweigh these unavoidable adverse impacts.

The documents and other materials constituting the record of the proceedings, upon which your Board's decision is based in this matter, are located at the Department of Public Works, Waterworks Division, 900 South Fremont Avenue, Alhambra, California 91803.

Upon approval of the PEIR by your Board, a Notice of Determination will be filed in accordance with the requirements of Section 21152(a) of the California Public Resources Code.

The project is not exempt from payment of a fee to the California Department of Fish and Game pursuant to Section 711.4 of the Fish and Game Code to defray the costs of fish and wildlife protection and management incurred by the California Department of Fish and Game. Upon your Board's certification of the PEIR, Public Works will file a Notice of Determination in accordance with Section 21152(a) of the California Public Resources Code and pay the required filing and processing fees with the County Clerk in the amount of $2,550.00.

CONTRACTING PROCESS

The project will be designed and constructed in phases and each phase contracted in sequential order on an open-competitive bid basis. The contracts will be awarded to the lowest responsible bidder, meeting the criteria established by your Board and the California Public Contract Code.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

There will be no negative impact on current County services or projects during the performance of the recommended contracts. The project will provide a reliable local water supply to offset the use of potable water on nonpotable applications.

CONCLUSION

Please return one adopted copy of this letter to the Department of Public Works, Waterworks Division.

Respectfully submitted,

for GAIL FARBER
Director of Public Works

GF:AA:lr

Attachments (2)

c: Chief Executive Office (Lari Sheehan)
County Counsel

NORTH LOS ANGELES/KERN COUNTY REGIONAL RECYCLED WATER PROJECT

Final Program Environmental Impact Report
SCH No. 2007101125

Prepared for:
Los Angeles County
Waterworks District 40,
Antelope Valley

November 2008

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Prepared for:
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Antelope Valley

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ESA

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EXECUTIVE SUMMARY

ES.1 Introduction

The Los Angeles County Waterworks District No. 40, Antelope Valley (LACWWD40) as the Lead Agency has prepared this Final Program Environmental Impact Report (PEIR) in consultation with the following Responsible 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 to provide 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 purpose of the proposed project is to construct a regional recycled water distribution system to help meet the growing demand for water in the region.

The proposed project would be located in the Antelope Valley, which encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County. The proposed project would be located within several cities including the City of Palmdale, the City of Lancaster, the Town of Rosamond, and portions of unincorporated Los Angeles County including Quartz Hill.

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.

Inquiries about the proposed project should be directed to:

Los Angeles County Waterworks District No. 40
Attn: Jonathan King
900 South Fremont Avenue
Alhambra, CA 91803
FAX: (626) 300-3385

ES.2 Background

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 proposed project 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.

ES.3 Project Objectives

The objectives of the proposed project are as follows:

- Provide recycled water conveyance backbone infrastructure sufficient to accommodate planned regional recycled water demands;
- Integrate regional recycled water production, distribution, and re-use capabilities in the Antelope Valley;
- Provide conveyance, storage, and pumping capacity sufficient to accommodate peak future demands;
- Reduce the region's dependency on imported water;
- Augment local water supplies;
- Promote the State's policies for beneficial reuse of recycled water to replace potable water where possible.

ES.4 Project Description

The proposed project would include the following components: approximately 70 miles of recycled water conveyance pipelines, four storage reservoirs, two distribution pump stations, and two booster pump stations (Figure ES-1). The proposed project would provide the primary backbone system for distribution of recycled water to end users in the Antelope Valley. The end users would include but would not be limited to the following:

- Municipal and industrial (M&I) applications;
- Agricultural irrigation[1];
- Cooling water for power plants; and
- Groundwater recharge.

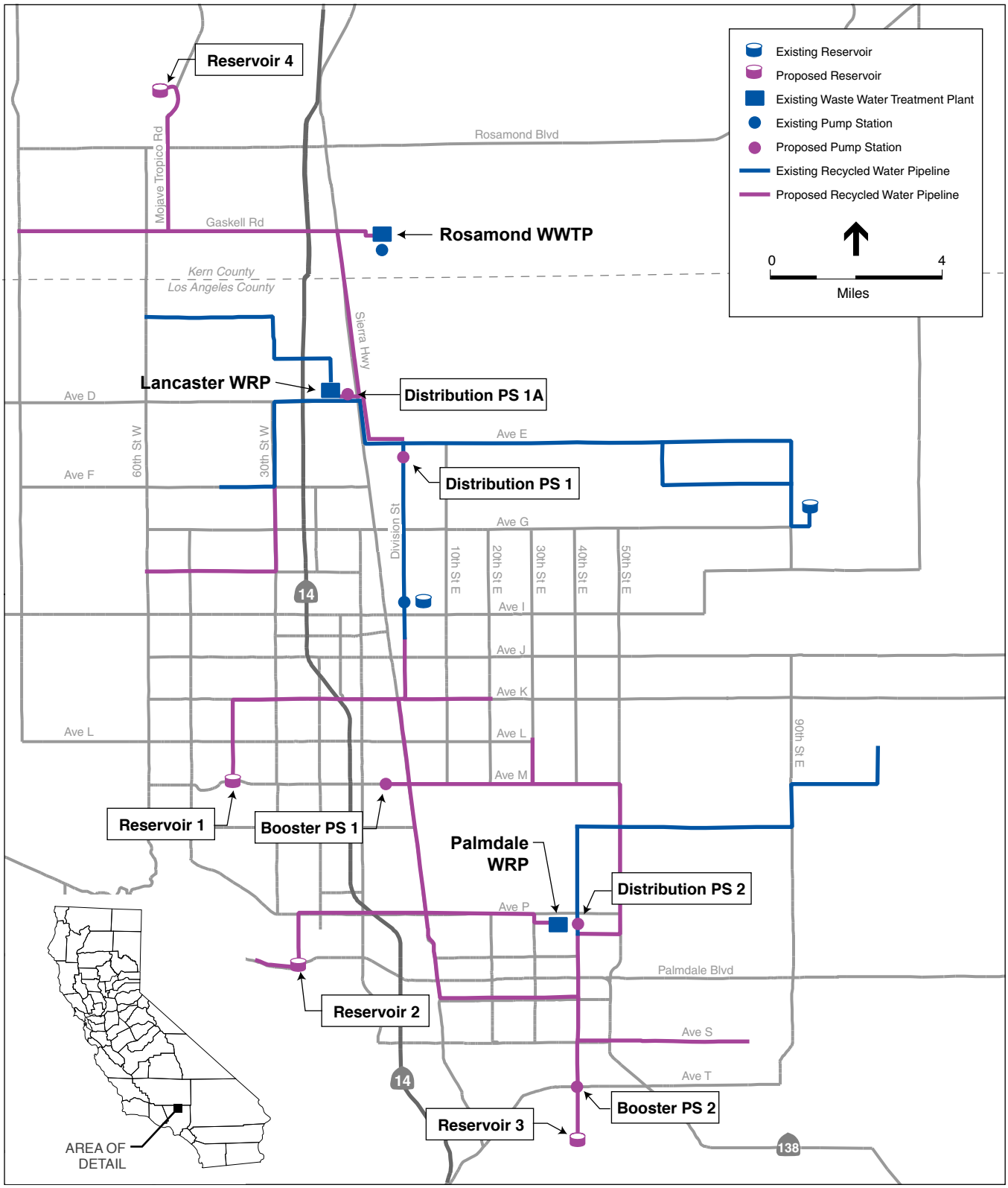
For existing and future end users identified to-date, the annual demand for recycled water in the Antelope Valley is estimated at 21,210 afy at buildout. The system capacity of the proposed project would be designed to meet this demand. This demand includes 17,491 afy for M&I end uses in Los Angeles County (Kennedy/Jenks, 2006), plus 1,119 afy for M&I end uses in Kern County (Seal, 2008), and 2,600 afy for use as cooling water at the planned Palmdale Hybrid Power Plant.

Recycled water use would comply with the California Department of Public Health recycled water regulations contained in Title 22 of the California Code of Regulations (see Chapter 1, Introduction for additional information). In addition, the proposed project would be subject to conditions imposed by the Regional Water Quality Control Board (RWQCB) pursuant to Water Recycling Requirements (WRRs). The proposed project would be constructed in phases, subject to funding and the identification of recycled water users. Each component would be constructed by LACWWD40 or one of the Responsible Agencies as part of the regional backbone distribution system.

This PEIR provides project-level coverage for the following project components: construction and operation of the recycled water pipelines and M&I applications for recycled water. The analysis of these components is conducted at a sufficient level of detail such that additional environmental documentation is not necessary. In other words, these project components are evaluated at a level of detail that is typically provided for a project EIR (*CEQA Guidelines* §15161).

Program-level coverage is provided for the remaining components of the proposed project, which include the following: construction and operation of the proposed pump stations and storage reservoirs, and the use of recycled water for agricultural irrigation (agricultural reuse), cooling water at power plants, and groundwater recharge. Prior to implementation of these components, additional analysis is required to determine the need for subsequent environmental documentation.

[1] The Facilities Plans for the PWRP and LWRP include agricultural effluent management sites for application of recycled water produced at both reclamation plants (LACSD No. 14, 2004; LACSD No. 20, 2005). The environmental effects of using recycled water for agricultural irrigation at these effluent management sites have been evaluated pursuant to CEQA in previous environmental documents (see Chapter 1, Section 1.5.2). This proposed project does not include these agricultural effluent management areas.



SOURCE: Kennedy/Jenks Consultants; ESA

North LA/Kern County Regional Recycled Water Project . 206359

Figure ES-1

Existing and Proposed Facilities

ES.5 Project Alternatives

An EIR must describe a range of reasonable alternatives to the proposed project or alternative project locations that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts to the proposed project. The alternatives analysis must include the "No Project Alternative" as a point of comparison. The No Project Alternative includes existing conditions and reasonably foreseeable future conditions that would exist if the proposed project were not approved (*CEQA Guidelines* §15126.6). The following alternatives are discussed further in Chapter 6, Alternatives Analysis. CEQA also requires that an EIR identify an environmentally preferred alternative (*CEQA Guidelines* §15126.6[e][2]).

No-Project Alternative

Under the No-Project Alternative, LACWWD40 and the partner agencies would not implement the Regional Recycled Water Project. The LWRP, PWRP, and RWWTP would be upgraded as planned to produce tertiary-treated effluent; however, there would be no integrated system to distribute this recycled water to end users in the Antelope Valley. LACSD Nos. 14 and 20 would manage recycled water with agricultural reuse only. RCSD would need to develop alternative measures for discharge or distribution of the recycled water produced at the RWWTP. Under the No-Project Alternative, future water demand in the Antelope Valley would continue to grow and would be met with increased quantities of groundwater, surface water, and imported water, and/or increased conservation measures.

Alternative 1: Non-Integrated System

Under Alternative 1, instead of implementing the proposed project, LACWWD40, PWD, QHWD, and RCSD would design, construct, and operate their own recycled water systems. Alternative 1 would result in four separate recycled water systems in the Antelope Valley instead of one integrated regional system. LACWWD40 would construct recycled water pipelines, pump stations, and storage reservoirs within its service area. LACWWD40 would contract independently with LACSD No. 14, LACSD No. 20, and RCSD to purchase recycled water for the end users in its service area.

ES.6 Summary of Impacts

Table ES-1, at the end of this chapter, presents a summary of the impacts and mitigation measures identified for the proposed project. The complete impact statements and mitigation measures are presented in Chapter 3, Environmental Setting, Impacts, and Mitigation Measures. The level of significance for each impact was determined using significance criteria (thresholds) developed for each category of impacts; these criteria are presented in the appropriate sections of Chapter 3. Significant impacts are those adverse environmental impacts that meet or exceed the significance thresholds; less-than-significant impacts would not exceed the thresholds. Table ES-

1 indicates the measures that will be implemented to avoid, minimize, or otherwise reduce significant impacts to a less-than-significant level.

ES.7 Organization of this PEIR

This Final PEIR has been organized into the following sections:

ES. Executive Summary. This chapter summarizes the contents of the Final PEIR.

1. Introduction and Project Background. This section discusses the CEQA process and the purpose of the PEIR.

2. Project Description. This section 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.

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 describes the potential for the proposed project to induce growth.

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 authors and consultants 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.

TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
Aesthetics		
3.1-1: Construction of the proposed recycled water pipeline could generate short-term impacts to aesthetic resources.	**3.1-1:** Following construction activities, the implementing agencies shall restore disturbed areas by reestablishing pre-existing conditions including topography, repaving roadways, replanting trees, and/or reseeding with a native seed mix typical of the immediate surrounding area. The implementing agencies shall be responsible for monitoring the replanted areas to ensure that revegetation is successful.	Less than significant
3.1-2: Construction and operation of the proposed storage reservoirs and pump stations could result in significant impacts to aesthetic resources.	**3.1-2a:** The implementing agencies shall attempt to locate pump stations and reservoirs in areas that are compatible with existing views and vistas. **3.1-2b:** During project design, the implementing agencies shall prepare a landscape plan for each aboveground project component. The landscape plan shall include measures to restore disturbed areas by reestablishing existing topography, including replanting trees and/or reseeding with a native seed mix typical of the immediately surrounding area. The landscape plan shall include a required seed mix and plant palate. Vegetation screening shall be included in the landscape plan in order to shield proposed aboveground facilities from public view. The landscape plan shall include a monitoring plan to ensure that the site restoration and the establishment of vegetation is successful. **3.1-2c:** The implementing agencies shall ensure that storage reservoir designs include non-glare exterior coatings that are colored an earth tone to blend in with the surrounding landscape.	Less than significant
3.1-3: Operation of the proposed storage reservoirs and pump stations could result in additional light and glare impacts due to nighttime security lighting.	**3.1-3:** The exterior lighting installed around the storage reservoirs and pump stations shall be of a minimum standard required to ensure safe visibility. Lighting shall be shielded and directed downward, away from neighboring land uses to minimize impacts of light and glare.	Less than significant
3.1-4: Application of recycled water for groundwater recharge could result in significant impacts to aesthetic resources.	Implement Mitigation Measure 3.1-2b.	Less than significant
Air Quality		
3.2-1: The proposed project could conflict with or obstruct implementation of the applicable air quality plan.	**3.2-1a:** The implementing agencies shall include in contractor specifications the implementation of a fugitive dust control program pursuant to the provisions of AVAQMD Rule 403 or KCAPCD Rule 402. **3.2-1b:** All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications. **3.2-1c:** General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues shall turn their engines off when not in use to reduce vehicle emissions. Construction	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	emissions shall be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts. **3.2-1d:** Electricity from power poles rather than temporary diesel- or gasoline-powered generators shall be used to the extent feasible. **3.2-1e:** All construction vehicles shall be prohibited from idling in excess of five minutes, both on- and off-site. **3.2-1f:** The project applicant shall utilize coatings and solvents that are consistent with applicable AVAQMD or KCAPCD rules and regulations.	
3.2-2: Construction activities associated with pipeline construction could generate substantial amounts of dust and other criteria pollutant emissions.	Implement Mitigation Measures 3.2-1a through 3.2-1f.	Less than significant
3.2-3: Operation of the pipelines would result in minimal emissions of criteria air pollutants.	None required.	Less than significant
3.2-4: Operation of the pipeline would not create objectionable odors affecting a substantial number of people.	None required.	Less than significant
3.2-5: The proposed project would result in fewer greenhouse gas emissions than would result from importing a similar amount of water.	None required.	Less than significant
3.2-6: Construction activities associated with reservoirs and pump stations could generate substantial amounts of dust and other criteria pollutant emissions.	Implement Mitigation Measures 3.2-1a through 3.2-1f.	Less than significant
3.2-7: Operation of the reservoirs and pump stations would result in minimal operational emissions of criteria air pollutants.	None required.	Less than significant
Biological Resources		
3.3-1: Construction of the pipeline could have a substantial adverse effect on listed, candidate or special-status ground dwelling wildlife species including the California red-legged frog and Mohave ground squirrel.	**3.3-1a:** The implementing agencies shall have a qualified biologist conduct a pre-construction field reconnaissance survey for special-status ground-dwelling species within the construction right-of-way. If potential for special-status ground-dwelling species is identified then presence absence protocol surveys shall be conducted. If protocol surveys identify the presence of special-status ground-dwelling species, the implementing agencies shall consult with CDFG to determine further required mitigation. **3.3-1b:** The implementing agencies shall avoid impacts on California red-legged frog by eliminating construction activities within areas where the species may occur. Implementing agencies shall employ tunneling or jack and bore construction methods under drainages that may support California red-legged frog in order to avoid impacting the species.	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	3.3-1c: The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project near areas that may support California red-legged frogs as determined by a qualified biologist. **3.3-1d:** The implementing agencies shall install a silt fence or some other impermeable barrier to exclude small wildlife species from entering the active work areas. Exclusion fencing can be limited to areas of documented occurrences of special-status wildlife as determined during pre-construction surveys by a qualified biologist. **3.3-1e:** Prior to project implementation, a habitat assessment will be conducted by a qualified biologist to determine the potential for the Mohave ground squirrel to occur within construction zones. If the habitat assessment determines that potential habitat for the Mohave ground squirrel is present in the impact zone or within 300 feet of the construction zone, then the implementing agencies have two options: 1) assume the Mohave ground squirrel is present and either take the steps necessary to avoid any potential direct or indirect impacts (i.e., construction noise and dust) that may be incurred by the Mohave ground squirrel or 2) arrange for a qualified biologist with the necessary permits to implement a trapping program to determine the presence or absence of the Mohave ground squirrel. If Mohave ground squirrel is identified as present or assumed present, implementing agencies shall obtain an incidental take permit from CDFG pursuant to Section 2081 of the California Fish and Game Code and provide compensation at a ratio determined by CDFG. **3.3-1f:** Prior to project implementation, a burrowing owl presence absence survey shall be conducted by a qualified biologist in accordance with CDFG s *1995 Staff Report on Burrowing Owl Mitigation* and the *Burrowing Owl Consortium s 1992 Burrowing Owl Protocol and Mitigation Guidelines* to determine the potential for the burrowing owl to occur within impacted areas and construction zones. If the survey results in discovery of burrowing owl, sign, or potential burrow sites in the impact zone, then additional surveys shall be performed during the breeding season (April 15 to July 15) in accordance with the *1992 Guidelines* to determine use of the site by burrowing owl. Following this survey, the implementing agencies shall consult with CDFG to determine avoidance or mitigation measure to minimize project impacts to burrowing owl.	
3.3-2: Construction of the pipeline could have a substantial adverse effect on listed, candidate or special-status bat and avian species including the Swainson s hawk, American peregrine falcon,	**3.3-2a:** Prior to any ground-disturbing activities, the implementing agencies shall have a qualified biologist conduct a pre-construction spring summer active season reconnaissance survey for nesting roosting special-status mobile bird and bat species, and other	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
southwestern willow flycatcher, and least Bell s vireo.	nesting birds within 300 feet (500 feet for raptors) of the construction limits of each project element to determine and map the location and extent of special-status species occurrence(s) that could be affected by the project. **3.3-2b:** The implementing agencies shall avoid direct impacts on any nesting birds located within the limits of construction. This could be accomplished by establishing the construction right of way and removal of plant material outside of the typical breeding season (February 1 through August 31). **3.3-2c:** If construction and vegetation removal is proposed for the bird nesting period February 1 through August 31, then preconstruction surveys for nesting roosting bird and bats species shall begin 30 days prior to construction disturbance with subsequent weekly surveys, the last one being no more than three days prior to work initiation. The surveys shall include habitat within 300 feet (500 feet for raptors) of the construction limits. Active nest sites located during the pre-construction surveys shall be avoided and a non-disturbance buffer zone established dependent on the species and in consultation with the USFWS and CDFG. This buffer zone shall be delineated in the field with flagging, stakes or construction fencing. Nest sites shall be avoided with approved non-disturbance buffer zones until the adults and young are no longer reliant on the nest site for survival as determined by a qualified biologist. For species with high site fidelity, such as Swainson s hawk, if direct take of nests outside of the breeding seasons is required, the implementing agency shall contact CDFG to determine appropriate mitigation measures. **3.3-2d:** If a natal bat roost site is located within the limits of construction during pre-construction surveys, it shall be avoided with non-disturbance buffer zone established by a qualified biologist in consultation with the USFWS and CDFG until the site is abandoned. **3.3-2e:** The implementing agencies shall minimize impacts on documented locations of special-status species and any nesting birds to the extent feasible and practicable by reducing the construction right-of-way through areas of occurrences to either avoid the occurrence or reduce impacts to the minimum necessary to complete the project. **3.3-2f:** The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would avoid and minimize impacts on special-status avian and bat species.	

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	3.3-2g: The implementing agencies shall instruct construction personnel on the importance of buffer zones and sensitivity of the delineated areas.	
3.3-3: Construction of the pipeline could have a substantial effect on special-status plant species and habitat types.	**3.3-3a:** The implementing agencies shall have a qualified biologist conduct a pre-construction spring summer floristic inventory and rare plant survey of the proposed project areas in accordance with CDFG s *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities*, (revised May 8, 2000) to determine and map the location and extent of special-status plant species populations within the construction right-of-way. The survey shall be conducted during the appropriate flowering time for target plant species. **3.3-3b:** If not possible to avoid, the implementing agencies shall minimize impacts on special-status plant species by reducing the construction right-of-way through areas with potential occurrences of special-status plant species. For unavoidable direct impacts to special-status species, consultation with CDFG shall be required to determine the impact area and further mitigation, which could include acquisition of habitat of equal or superior value at a ratio of at least 2:1. **3.3-3c:** The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would avoid and minimize impacts on special-status plant species. **3.3-3d:** The implementing agencies shall restore all disturbed areas back to pre-construction conditions and a restoration plan shall be developed and implemented that contains the following items: responsibilities and qualifications of the personnel to implement and supervise the plan; site preparation and planting implementation; schedule; maintenance plan guidelines; and monitoring plan. **3.3-3e:** Earth-moving equipment will avoid maneuvering in areas outside the identified limits of construction in order to avoid disturbing open space areas that will remain undeveloped. Prior to construction, the natural open space limits will be marked by the construction supervisor and a qualified biologist. These limits will be identified on the construction drawings. The implementing agencies will submit a letter to the appropriate agencies verifying that construction limits have been flagged and clearly delineated in the field. No earth-moving equipment will be allowed outside demarcated construction zones.	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
3.3-4: Construction of the pipeline could conflict with the Joshua Tree and Native Desert Vegetation Preservation Ordinance.	**3.3-4a:** The implementing agencies shall attempt to place all project components in areas exhibiting absence or a low density of Joshua trees and other native desert vegetation. **3.3-4b:** Prior to the commencement of grading activities for any component of the proposed project, within the City of Palmdale, a qualified biologist arborist shall be consulted to determine the biological aesthetic value of potentially impacted trees under the jurisdiction of the Palmdale Native Desert Vegetation Ordinance. For protected vegetation located within the final impact areas, a proposal application would be necessary, including a desert vegetation preservation plan which depicts the location of each Joshua tree and California juniper, details tree age and health, and describes which can be saved and maintained on the site or relocated. A permit must be obtained from the City of Palmdale s landscape architect prior to removal of protected vegetation in Los Angeles County, which may require mitigation in the form of replacement plantings of all impacted vegetation. Prior to the removal of protected vegetation in Kern County, the Kern County Environmental Health Services shall be contacted. **3.3-4c:** If avoidance of Joshua tree woodlands or other special-status vegetative community is not feasible, the implementing agencies shall acquire off-site habitat of equal or superior quality at a no less than a 2:1 ratio within remaining habitat in the Antelope Valley. Location, terms and conditions for habitat acquisition, protection, and maintenance shall be determined through consultation with resource agencies, including CDFG.	Less than significant
3.3-5: Construction of the pipeline could conflict with designated Significant Ecological Areas.	None required.	Less than significant
3.3-6: Construction of the pipeline could have a substantial adverse effect on wetlands considered waters of the state.	**3.3-6:** Prior to construction, the implementing agencies shall retain a qualified biologist to survey proposed construction zones including staging areas and access roads. If wetlands would be affected by construction, the qualified biologist would prepare a report outlining mitigation and compensation requirements to be implemented prior to construction. The mitigation requirements shall include the following at a minimum: • Implementing agencies shall avoid impacting previously undisturbed areas where possible. This would include employing tunneling or jack and bore methods under drainages. • If avoidance is not feasible for engineering or cost reasons, the implementing agencies shall conduct jurisdictional delineation of wetland features.	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	• Implementing agencies shall obtain WDRs from the RWQCB for impacts to waters of the state including wetland areas.	
3.3-7: Construction of the pump stations and reservoirs could have a substantial effect on special-status wildlife species including the California red-legged frog and Mohave ground squirrel.	Implement Mitigation Measures 3.3-1a through 3.3-1f.	Less than significant
3.3-8: Construction of the pump stations and reservoirs could have a substantial effect on special-status bat and avian species including the Swainson's hawk, American peregrine falcon, southwestern willow flycatcher, and least Bell's vireo.	Implement Mitigation Measures 3.3-2a through 3.3-2g.	Less than significant
3.3-9: Construction of the pump stations and reservoirs could have a substantial effect on special-status plant species.	Implement Mitigation Measures 3.3-3a through 3.3-3e.	Less than significant
3.3-10: Construction of the pump stations and reservoirs could conflict with the Joshua Tree and Native Desert Vegetation Preservation Ordinance.	Implement Mitigation Measures 3.3-4a through 3.3-4c.	Less than significant
3.3-11: Construction of the pump stations and reservoirs could conflict with designated Significant Ecological Areas.	None required.	Less than significant
3.3-12: Construction of the pump stations and reservoirs could have a substantial adverse effect on wetlands considered waters of the state.	Implement Mitigation Measure 3.3-6.	Less than significant
Cultural Resources		
3.4-1: Ground-disturbing activities during pipeline installation could unearth, expose, or disturb archaeological, historical, or Native American resources.	**3.4-1a:** Prior to initial construction of pipelines, the implementing agency shall retain the services of a qualified archaeologist to prepare a Cultural Resources Monitoring and Mitigation Plan (CMMP) and a Treatment Plan (TP) in accordance with CEQA Guidelines Sections 15064.5 and 15126.4. The CMMP shall set forth criteria for evaluating the significance of resources discovered during construction and identify appropriate data recovery methods and procedures to mitigate project impacts on significant resources. At a minimum, the CMMP shall include a summary of available information on known sites and sensitive locations in the project area; a historical context for the evaluation of resources that may be encountered during construction; a research design outlining important historical themes and research questions relevant to the known sites in the study area; data requirements and the appropriate field and laboratory methods to be used to acquire data needed for significance evaluation and impact mitigation. The CMMP will also identify specific pipeline segments where cultural resources monitors would be required during construction. The TP will identify reporting and curating requirements for artifacts uncovered during construction.	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	All project activities within or adjacent to the *Historical area of Old Palmdale and Old Lancaster* and *Old Rosamond and Tropico Mine* area shall be monitored by a professional archaeologist as there is a high probability for subsurface feature discovery, which includes (though is not limited to) foundations, cisterns, wells, cesspools, basements, or associated elements of the *Old Palmdale roundhouse spur of the Southern Pacific Railroad*.	
	3.4-1b: A Phase I cultural resources survey shall be conducted for the segments of pipeline not already assessed in the Phase I Assessment conducted for the proposed project. Following completion of the Phase I cultural resource survey, the CMMP and TP shall be updated to include these segments.	
3.4-2: Ground-disturbing activities during pipeline installation could unearth, expose, or disturb human remains.	**3.4-2:** If human skeletal remains are uncovered during project construction, the implementing agency shall immediately halt work, contact the Kern County or the Los Angeles County coroner, depending upon the location of the find, to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the *CEQA Guidelines*. If the County coroner determines that the remains are Native American, the implementing agency shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.	Less than significant
3.4-3: Installation of pipelines could potentially unearth, expose, or disturb paleontologic resources including fossil remains, localities, or known fossil-bearing geologic horizons.	**3.4-3:** The implementing agencies shall develop and implement a Paleontological Resource Monitoring and Mitigation Plan (PRMMP) prior to the onset of construction-related earth moving activities in order to either avoid or mitigate to a less-than-significant level the effects on paleontological resources. During earth-moving construction-related activities, additional previously-unknown fossil sites may be uncovered. The PRMMP must include mitigation protocol for discoveries as well. The PRMMP shall include provisions for the following: special consideration shall be made to collect sediment samples for potential fossiliferous locations as per the Society of Vertebrate Paleontology standards; stratigraphic cross-sections shall be recorded, mapping of the geologic units graphed, and fossil remains, cleaned, analyzed, and catalogued to be accepted for curation at a legal repository; all work must be conducted by a qualified Paleontologist and a final Report of Findings must be submitted upon completion of laboratory analysis.	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
3.4-4: Proposed ground-disturbing activities for storage reservoirs, pump stations and groundwater recharge facilities could unearth, expose, or disturb archaeological, historical, or Native American resources.	**3.4-4a:** Prior to initial construction of storage reservoirs, pump station, and recharge facilities, the implementing agency shall retain the services of a qualified archaeologist to prepare a Cultural Resources Monitoring and Mitigation Plan (CMMP) and a Treatment Plan (TP) in accordance with CEQA Guidelines Sections 15064.5 and 15126.4. The CMMP shall set forth criteria for evaluating the significance of resources discovered during construction and identify appropriate data recovery methods and procedures to mitigate project impacts on significant resources. At a minimum, the CMMP shall include a summary of available information on known sites and sensitive locations in the project area; a historical context for the evaluation of resources that may be encountered during construction; a research design outlining important historical themes and research questions relevant to the known sites in the study area; data requirements and the appropriate field and laboratory methods to be used to acquire data needed for significance evaluation and impact mitigation. The CMMP will also identify specific locations where cultural resources monitors would be required during construction. The TP will identify reporting and curating requirements for artifacts uncovered during construction. **3.4-4b:** *DPS1-Hist1* and *BPS1-Hist1* would be adversely impacted by the proposed construction activities and, therefore, shall be subjected to Phase II testing and evaluation for significance under CEQA and NHPA (see Section 3.4.2). **3.4-4c:** A Phase I cultural resources survey shall be conducted within areas affected by storage reservoir, pump stations, and recharge facilities not already assessed in the Phase I Assessment conducted for the proposed project. **3.4-4d:** Following completion of additional Phase I cultural resource surveys for sites not already surveyed, the CMMP and TP shall be updated to include these additional sites. **3.4-4e:** All project activities within or adjacent to the *Historical area of Old Palmdale and Old Lancaster* and *Old Rosamond and Tropico Mine area* shall be monitored by a professional archaeologist as there is a high probability for subsurface feature discovery, which includes (though is not limited to) foundations, cisterns, wells, cesspools, basements, or associated elements of the *Old Palmdale roundhouse spur of the Southern Pacific Railroad*. If these elements are identified, mitigation measures shall be employed that include in-field evaluation by a professional archaeologist (per Secretary of the Interior Standards) and possible data recovery, as needed, per a mitigation treatment plan. **3.4-4f:** If a prehistoric site is encountered in the vicinity of the concentration of isolated prehistoric artifacts within the northern portion	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	of the western parcel of Proposed Reservoir 3, mitigation measures shall be employed that include in-field evaluation by a professional archaeologist (per Secretary of the Interior Standards) and possible data recovery, as needed, per a mitigation treatment plan. **3.4-4g:** If human skeletal remains are uncovered during project construction, the implementing agency shall immediately halt work, contact the Kern County or the Los Angeles coroner, depending upon the location of the find, to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the *CEQA Guidelines*. If the County coroner determines that the remains are Native American, the implementing agency shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.	
3.4-5: Construction of storage reservoirs, pump stations, and recharge facilities could potentially unearth, expose, or disturb paleontologic resources including fossil remains, localities, or known fossil-bearing geologic horizons.	**3.4-5:** The implementing agencies shall develop and implement a Paleontological Resource Monitoring and Mitigation Plan (PRMMP) prior to the onset of construction-related earth moving activities in order to either avoid or mitigate to a less-than-significant level the effects on paleontological resources. During earth-moving construction-related activities, additional previously-unknown fossil sites may be uncovered. The PRMMP must include mitigation protocol for discoveries as well. The PRMMP shall include provisions for the following: special consideration shall be made to collect sediment samples for potential fossiliferous locations as per the Society of Vertebrate Paleontology standards; stratigraphic cross-sections shall be recorded, mapping of the geologic units graphed, and fossil remains, cleaned, analyzed, and catalogued to be accepted for curation at a legal repository; all work must be conducted by a qualified Paleontologist and a final Report of Findings must be submitted upon completion of laboratory analysis.	Less than significant
Geology and Soils		
3.5-1: In the event of a major earthquake within the region, underground pipelines could be subject to seismic hazards including surface rupture, liquefaction, landslide, and ground shaking capable of causing localized collapse or damage of engineered fills, structural damage, or pipeline rupture.	**3.5-1:** Prior to the approval of construction plans for the project, a design-level geotechnical investigation, including collection of site specific subsurface data shall be completed by the implementing agency. The geotechnical evaluation shall identify density profiles, approximate maximum shallow groundwater levels, a characterization of the vertical and lateral extent of the saturated sand silt layers that could undergo liquefaction during strong ground shaking, and	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	development of site-specific design criteria to mitigate potential risks. Recommendations made as a result of these investigations to protect new structures from seismic hazards shall become part of the proposed project.	
3.5-2: Construction of the proposed recycled water pipelines could result in substantial soil erosion or loss of topsoil, which would result in a significant impact.	**3.5-2:** To control water and wind erosion during construction of the project, the implementing agencies, shall ensure that contractors implement Best Management Practices (BMPs) to control wind and water erosion during and shortly after construction of the project and permanent BMPs to control erosion and sedimentation once construction is complete. The BMPs could include, but would not be limited to, sediment barriers and traps, silt basins, and silt fences.	Less than significant
3.5-3: The presence of yet undetermined local expansive soils in the project area could result in structural damage to the recycled water pipelines.	**3.5-3:** The implementing agencies shall require the preparation of site specific geotechnical investigations along the proposed pipeline alignments. These investigations shall identify appropriate engineering considerations, as recommended by a certified engineering geologist or registered geotechnical engineer for planned facilities, including engineering considerations to mitigate the effects of expansive soils. Recommendations made as a result of these investigations to protect new structures from expansive soils shall become part of the proposed project.	Less than significant
3.5-4: Construction of the proposed storage reservoirs and pump stations could result in substantial soil erosion or loss of topsoil, which would result in a significant impact.	Implementation of Mitigation Measure 3.5-2.	Less than significant
3.5-5: In the event of a major earthquake within the region, storage reservoirs and pump stations could be subject to seismic hazards including surface rupture, liquefaction, landslide, and ground shaking capable of causing localized collapse or damage of engineered fills or structural damage.	Implementation of Mitigation Measures 3.5-1 through 3.5-3.	Less than significant
3.5-6: Ground shaking, expansive soils, liquefaction, settlement, erosion and corrosive soils could damage recycled water end uses including the power plant cooling water system and the groundwater recharge basins and appurtenant facilities.	Implementation of Mitigation Measure 3.5-1 through 3.5-3.	Less than significant
Hazards and Hazardous Materials		
3.6-1: During construction of the proposed project, contaminated soils could be encountered during excavation activities, causing a risk of exposure to hazardous materials.	**3.6-1:** In the event that evidence of potential soil contamination, including soil discoloration, noxious odors, debris, or buried storage containers are encountered during construction, the implementing agencies shall require the construction contractor(s) to have a contingency plan for sampling and analysis of potentially hazardous substances and coordination with the appropriate regulatory agencies, if necessary. The required handling, storage, and disposal methods shall depend on the types and concentrations of chemicals identified in	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	the soil. Any site investigations or remedial actions shall comply with applicable laws.	
3.6-2: Accidental upset of hazardous materials used during project construction may increase the risk of exposure to the environment, workers, and the public.	**3.6-2a:** Construction contractor(s) shall be required to implement best management practices (BMPs) for handling hazardous materials during the project. The use of the construction BMPs shall minimize negative effects on groundwater and soils, and will include, without limitation, the following: • Follow manufacturers recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction. • Avoid overtopping construction equipment fuel tanks. • During routine maintenance of construction equipment, properly contain and remove grease and oils. • Properly dispose of discarded containers of fuels and other chemicals. **3.6-2b:** The implementing agencies shall require the construction contractor(s) to implement safety measures in accordance with General Industry Safety Orders for Spill and Overflow Control (CCR Title 8, Sections 5163-5167) to protect the project area from contamination due to accidental release of hazardous materials. The safety measures shall include, but not be limited to, the following: • Spills and overflows of hazardous materials shall be neutralized and disposed of promptly. • Hazardous materials shall be stored in containers that are chemically inert to and appropriate for the type and quantity of the hazardous substance. • Containers shall not be stored where they are exposed to heat sufficient enough to rupture the containers or cause leakage. • Specific information shall be provided regarding safe procedures and other precautions before cleaning or subsequent use or disposal of hazardous materials containers. Disposal of all hazardous materials shall be in compliance with applicable California hazardous waste disposal laws. The construction contractor shall contact the local fire agency and the County Department of Public Health, Environmental Health Division, for any site-specific requirements regarding hazardous materials or hazardous waste containment or handling.	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	3.6-2c: In the event of an accidental release of hazardous materials during construction, containment and clean up shall occur in accordance with applicable regulatory requirements.	
	3.6-2d: Oil and other solvents used during maintenance of construction equipment shall be recycled or disposed of in accordance with applicable regulatory requirements. All hazardous materials shall be transported, handled, and disposed of in accordance with applicable regulatory requirements.	
	3.6-2e: The implementing agencies shall require the construction contractor(s) to prepare a Site Safety Plan in accordance with applicable regulatory requirements.	
	3.6-2f: The implementing agencies shall require the construction contractor(s) to prepare and implement a Safety Program to ensure the health and safety of construction workers and the public during project construction. The Safety Program shall include an injury and illness prevention program, as site-specific safety plan, and information on the appropriate personal protective equipment to be used during construction.	
3.6-3: The proposed project could result in a safety hazard for people residing or working in the project area in the vicinity of airports.	**3.6-3:** The implementing agencies shall coordinate with appropriate airport agencies (such as LAWA, Caltrans, and FAA) and staff to ensure a safety program is developed and implemented during construction of the proposed project.	Less than significant
3.6-4: The proposed project could interfere with emergency response and evacuation plans during project construction.	Implementation of Mitigation Measure 3.11-1a.	Less than significant
3.6-5: Construction activities in grassland areas would have the potential to expose people or equipment to risk of loss, injury, or death involving wildland fires.	**3.6-5a:** The implementing agencies shall coordinate with local fire agencies to develop a fire safety plan, which describes various potential scenarios and action plans in the event of a fire.	Less than significant
	3.6-5b: During construction, all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the recycled water backbone, contractors shall require all vehicles and crews working at the project site to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.	

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
3.6-6: Accidental upset of hazardous materials used during construction of the storage reservoirs and pump stations may increase the risk of exposure to the environment, workers, and the public, resulting in a significant impact.	Implementation of Mitigation Measures 3.6-2a through 3.6-2f.	Less than significant
Hydrology and Water Quality		
3.7-1: Operation of the proposed recycled water pipelines could result in cross contamination of potable water pipelines, which could result in reduced water quality and potential public health concerns.	**3.7-1a:** Applicable backflow prevention devices, as outlined in Title 17 and the Purple Book, shall be incorporated into pipeline design to avoid potential for cross contamination. **3.7-1b:** Applicable minimum pipeline separation standards for potable and non-potable water pipelines, as outlined in Title 22, shall be incorporated into pipeline design to avoid potential for cross contamination. **3.7-1c:** All recycled water pipelines shall be painted purple or marked distinctly with purple tape. **3.7-1d**: Los Angeles County Department of Public Health (DPH), Cross Connection Control Program for Los Angeles County and the Kern County Department of Public Health in Bakersfield for Kern County shall be advised of each new site where recycled water is to be used prior to placing the site into service. **3.7-1e:** All recycled water sites shall be inspected and tested for possible cross connections with the potable water system, in accordance with Sections 60314(3) and 60316(a), Title 22, California Code of Regulations.	Less than significant
3.7-2: Construction of the proposed recycled water pipelines could result in increased soil erosion and transport of subsequent contaminants and sedimentation, with impacts to water quality. Additionally, accidental release of fuels and other hazardous materials during construction could degrade water quality.	**3.7-2:** The implementing agencies shall develop and implement BMPs to minimize erosion and sedimentation. The implementing agencies shall include in contractor specifications that the contractor is responsible for developing and implementing the BMPs. The BMPs shall be maintained at the site for the entire duration of construction. The objectives of the BMPs are to identify pollutant sources that may affect the quality of storm water discharge and to implement measures to reduce pollutants in storm water discharges. The BMPs for the proposed project shall include, but not be limited to, the implementation of the following elements: • Identification of all pollutant sources, including sources of sediment that may affect the quality of storm water discharges associated with construction activity from the construction site; • Identification of non-storm water discharges; • Estimate of the construction area and impervious surface area;	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	• Preparation of a site map and maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs); • Identification of all applicable erosion and sedimentation control measures, waste management practices, and spill prevention and control measures; • Maintenance and training practices; and, • A sampling and analysis strategy and sampling schedule for discharges from construction activities.	
3.7-3: Construction activities associated with the recycled water pipelines could result in the dewatering of shallow groundwater resources and contamination of surface water.	**3.7-3:** The implementing agencies shall obtain and comply with the requirements of dewatering permits issued by the Lahontan RWQCB for dewatering activities. Provisions of the permit may include treatment of flows prior to discharge.	Less than significant
3.7-4: Construction of the recycled water pipelines could temporarily alter drainage patterns at the construction sites, which could cause localized flooding.	**3.7-4:** The implementing agencies shall include in contractor specifications that all disturbed areas are to be restored back to pre-construction conditions.	Less than significant
3.7-5: Operation of the pipelines would result in the use of recycled water for municipal and industrial (M□I) applications, which could affect surface and groundwater quality. This could be a potential public health impact.	**3.7-5a:** The implementing agencies shall require the development and implementation of Recycled Water User Agreements with each recycled water end user. The Agreements shall include provisions that prohibit over-application of recycled water and fertilizer, such as requiring irrigation at agronomic rates to reduce the potential for runoff and increased nutrients into the groundwater basin. **3.7-5b:** The implementing agencies, in consultation with the Lahontan RWQCB, shall develop and implement a salt management plan, if needed in the future, to reduce the potential for salt and nutrient loading and minimize impacts to water quality in the Antelope Valley groundwater basin.	Less than significant
3.7-6: The use of recycled water for M□I applications could alter drainage patterns or increase local storm water runoff during storm events resulting in localized flooding.	**3.7-6:** The implementing agencies shall require recycled water end users to cease all irrigation activities during rain events, thereby minimizing off-site runoff.	Less than significant
3.7-7: Construction of the proposed storage reservoirs and pump stations could result in increased soil erosion and transport of contaminants, with impacts to water quality. Additionally, release of fuels or other hazardous materials associated with construction activities could degrade water quality.	Implementation of Mitigation Measure 3.7-2.	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
3.7-8: Construction and operation of the proposed storage reservoirs and pump stations would increase the amount of impervious surfaces at each site, altering the drainage patterns at each site and resulting in increased local storm water runoff. This could cause localized flooding or contribute to a cumulative flooding impact.	**3.7-7:** The implementing agencies shall ensure adequately sized and located storm water capture facilities are incorporated into the final design for each storage reservoir and pump station facility.	Less than significant
3.7-9: Placement of storage reservoirs and pump stations within a 100-year flood zone could expose people or property to risks related to flooding.	**3.7-8:** The implementing agencies shall require flood diversion facilities to be incorporated into each storage reservoir and pump station site and facility design that would not increase flood risk in other areas.	Less than significant
3.7-10: Use of recycled water for agricultural irrigation could potentially affect surface and groundwater quality.	Implementation of Mitigation Measure 3.7-5a and 3.7-5b.	Less than significant
3.7-11: The use of recycled water for groundwater recharge could result in significant water quality impacts if the native groundwater is degraded below existing or acceptable conditions.	**3.7-9a:** The implementing agencies shall operate recharge projects in compliance with CDPH Title 22 regulations as well as in coordination with the RWQCB. The recharge water shall be a blend of recycled water and diluent water at a ratio consistent with Title 22 regulations and CDPH criteria. **3.7-9b:** The implementing agencies shall develop and implement a monitoring program of the proposed recharge area in compliance with Title 22 regulations and CDPH criteria. As part of this program, some monitoring wells shall be placed between the proposed recharge area and down gradient drinking water supply wells. **3.7-9c:** The implementing agencies shall require recharged recycled water via surface spreading to remain in groundwater storage for the minimum time period stipulated by CDPH Title 22 Water Recycling Criteria prior to extraction.	Less than significant
Land Use and Agriculture		
3.8-1: The proposed pipeline could traverse through land controlled by other agencies.	None required.	Less than significant
3.8-2: The proposed pipeline would be constructed within the AIA for Palmdale Regional Airport, General William J. Fox Airfield, and Rosamond Skypark Airport.	**3.8-1a:** For project components occurring within an AIA, as identified by the ALUP, the implementing agencies shall submit their proposed project plans to the Los Angeles County ALUC for review and comment prior to final design. **3.8-1b:** Prior to conducting construction activities within an AIA, the implementing agencies shall prepare an airport construction safety plan that would identify best management practices. The plan would include, at a minimum, construction timeframes and hours, lighting and flagging requirements, air traffic control communication requirements, access and egress restrictions, equipment staging area requirements, and personal safety equipment requirements for construction workers, and appropriate notification to aviators. The plan would be reviewed and	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	approved by airport staff and implemented by both the airport and project construction staff and FAA. **3.8-1c:** Prior to final design of project components within an AIA, the implementing agencies shall identify the ground elevation associated with each project component and submit their project plans to airport staff for review and comment. Working with airport staff, the implementing agencies shall submit their design plans for airspace analysis (FAA Part 7460 review) to determine whether any of the proposed project components or proposed construction equipment would protrude into protected airspace. If such objects are identified, the implementing agencies, airport staff, and FAA will identify appropriate steps to adjust project plans or include appropriate markings to identify hazards to aviators pursuant to FAA Part 7460. **3.8-1d:** To prevent the creation of wildlife attractants, the implementing agency should coordinate with construction contractors to ensure that neither project design nor construction plans create temporary or permanent sources of open water, inappropriate seed mixtures, or inappropriate landscaping designs. Notes should be incorporated on construction plans to warn against the creation of potential wildlife hazards.	
3.8-3: The proposed pipeline would be constructed in the vicinity of three public use airports and potentially affect navigable airspace as defined by FAR Part 77.	Implementation of Mitigation Measure 3.8-1c.	Less than significant
3.8-4: Construction and operation of the proposed storage reservoirs and pump stations could result in short-term disturbance to some adjacent land uses or result in long-term effects to existing land uses.	**3.8-2:** The implementing agencies shall obtain conditional use permits and complete site plan reviews from the appropriate jurisdiction, as necessary, prior to construction of project facilities. The implementing agencies shall also coordinate with FAA regarding the locations and design of proposed reservoirs and pump stations. Implementation of Mitigation Measure 3.2-1a through 3.2-1f and Mitigation Measure 3.11-1a.	Less than significant
3.8-5: Construction and operation of the proposed groundwater recharge basins could result in short-term disturbance to some adjacent land uses or result in long-term effects to existing land uses.	**3.8-3:** The implementing agencies shall obtain a conditional use permit or a general plan amendment if necessary from the appropriate jurisdiction prior to construction of groundwater recharge facilities. The implementing agencies shall also coordinate with FAA regarding the locations and design of future recharge basins. Implementation of Mitigation Measure 3.2-1a through 3.2-1f and Mitigation Measure 3.11-1a.	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
Noise		

3.9-1: Construction of the proposed recycled water pipeline would intermittently and temporarily generate noise levels above existing ambient levels in the vicinity of those project elements.	**3.9-1a:** The implementing agencies shall implement procedures to reduce noise generation from project construction activities. Typical noise control procedures include the following:
	• Require construction contractors to comply with the construction hours and days limitations established in local noise ordinances. Night-time construction would require approval from local jurisdictions.
	• Require all construction contractors to locate fixed construction equipment (e.g., compressors and generators) as far as possible from noise-sensitive receptors.
	• Equipment used in the construction of individual project components shall be muffled and maintained in good operating condition. Internal combustion engine-driven equipment shall be fitted with intake and exhaust mufflers that are in good condition.
	• If pile driving is required for facility construction, the contract specifications for those projects shall incorporate the following requirements:
	  Wherever possible, sonic or vibratory pile drivers will be used lieu of impact pile drivers.
	  Wherever feasible, pile holes will be pre-drilled to reduce potential noise and vibration impacts.
	Additional noise attenuating measures include changing the location of stationary construction equipment and or staging areas; notifying adjacent residences and nearby sensitive receptors in advance of construction work; shutting off idling equipment; rescheduling construction activities; requiring on-going construction noise monitoring to assure adherence to City County construction equipment standards; and or installing temporary barriers around stationary construction noise sources.
	3.9-1b: To further address the nuisance impact of project construction, construction contractors shall implement the following:
	• Signs will be posted at the construction site that include permitted construction days and hours, a day and evening contact number for the job site, and a contact number for the applicable jurisdiction agency in the event of problems.
		Significant and unavoidable

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	• An onsite complaint and enforcement manager shall track and respond to noise complaints.	
3.9-2: Construction of the proposed recycled water pipeline would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.	**3.9-2:** When drilling or boring within 25 feet of any building or 50-100 feet of a historical building, a crack survey shall be undertaken. The crack survey must be taken before the start of construction with photo, video, or visual inventory of all existing cracks inside and outside buildings with sufficient detail for comparison after construction to determine whether actual vibration damage occurred. The implementing agencies shall be responsible for the costs of any damage caused by construction vibration.	Significant and unavoidable
3.9-3: Construction of the proposed storage reservoirs and pump stations would intermittently and temporarily generate noise levels above existing ambient levels in the vicinity of those project elements.	Implementation of Mitigation Measures 3.9-1a and 3.9-1b.	Significant and unavoidable
3.9-4: Operation of the proposed storage reservoirs and pump stations could result in substantial noise increases in the vicinity of project facilities.	**3.9-4:** The implementing agencies shall comply with local noise ordinances. In areas where pump and or stationary equipment operation would cause noise levels to exceed the normally acceptable range for a given land use, the operation of such equipment shall not cause noise levels to increase by 5 dBA CNEL or more. In areas where noise levels already exceed the normally acceptable range for a given land use, the operation of such equipment shall not cause noise levels to increase by 3 dBA CNEL or more. To accomplish these performance standards, the implementing agency shall consider the following: • Maximize the buffer area or setback distance between pump facilities and noise-sensitive land uses; • Design stationary equipment and pump enclosures such that building exhaust fans and louvers are oriented away from noise-sensitive uses. To the extent feasible, configure the facility layout such that noise-generating equipment is setback from noise-sensitive land uses; • Incorporate equipment enclosures, fan silencers, mufflers, acoustical treatments at vent openings, acoustical panels, etc. • Construct a perimeter wall at the site such that the line of site between the building openings (exhaust fans and louvers) at the pump facilities and nearby sensitive receptors is effectively blocked. Effective shielding can significantly reduce noise.	Less than significant
Environmental Justice		
3.10-1: The proposed storage reservoirs and pump stations could cause disproportionate impacts to minority or low income populations.	None required.	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
Transportation and Traffic		
3.11-1: Construction of the proposed pipelines could adversely affect traffic and transportation conditions in the project area.	**3.11-1a:** The implementing agencies construction contractor shall prepare and implement a Traffic Control Traffic Management Plan subject to approval by the appropriate local jurisdiction prior to construction. The plan shall: • Identify hours of construction and hours for deliveries; • Include a discussion of haul routes, limits on the length of open trench, work area delineation, traffic control and flagging; • Identify all access and parking restrictions, pavement markings and signage requirements (e.g., speed limit, temporary loading zones); • Maintain access to residence and business driveways at all times to the extent feasible; Minimize access disruptions to businesses and residences; • Layout a plan for notifications and a process for communication with affected residents and businesses prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access point driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints; • Include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times; • Include a plan to coordinate all construction activities with the Antelope Valley Union High School District and Southern Kern Unified School District at least two months in advance. The Antelope Valley Union High School District and Southern Kern Unified School District shall be notified of the timing, location, and duration of construction activities. The implementing agencies shall require its contractor to maintain vehicle, pedestrian, and school bus service during construction through inclusion of such provisions in the construction contract. The assignment of temporary crossing guards at designated intersections may be needed to enhance pedestrian safety during project construction.	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	Also the following provisions shall be met: □ Pipeline construction near schools shall occur when school is not in session (i.e., summer or holiday breaks). If this is not feasible, a minimum of two months prior to project construction, the implementing agencies shall coordinate with the Antelope Valley Union High School District and Southern Kern Unified School District to identify peak circulation periods at schools along the alignment(s) (i.e., the arrival and departure of students), and require their contractor to avoid construction and lane closures during those periods; □ A minimum of two months prior to project construction, the implementing agencies shall coordinate with the Antelope Valley Union High School District and Southern Kern Unified School District to identify alternatives to their Safe Routes to School program, alternatives for the school busing routes and stop locations, and other circulation provisions, as part of the Traffic Control□Traffic Management Plan; • Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access; and • Specify the street restoration requirements pursuant to agreements with the local jurisdictions. **3.11-1b:** The implementing agencies shall identify all roadway locations where special construction techniques (e.g., horizontal boring, directional drilling or night construction) will be used to minimize impacts to traffic flow. **3.11-1c:** The implementing agencies shall develop circulation and detour plans to minimize impact to local street circulation, including bikeways. This may include the use of signing and flagging to guide vehicles and cyclists through and□or around the construction zone. **3.11-1d:** The implementing agencies shall encourage construction crews to park at staging areas to limit lane closures in the public right-of-way. **3.11-1e:** Peak travel periods shall be avoided when considering partial road closures.	

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
	3.11-1f: The implementing agencies shall consult with the Antelope Valley Transit Authority and the East Kern Regional Transit Express that connects to Lancaster at least one month prior to construction to coordinate bus stop relocations (if necessary) and to reduce potential interruption of transit service.	
3.11-2: Construction of the proposed pipeline would have temporary effects on alternative transportation or alternative transportation facilities.	Implementation of Mitigation Measures 3.11-1c and 3.11-1f.	Less than significant
3.11-3: Parking demand would temporarily increase during construction of the proposed pipeline.	None required.	Less than significant
3.11-4: Construction and operation of the proposed pump stations, storage reservoirs, and groundwater recharge basins could adversely affect traffic and transportation conditions in the project area.	Implementation of Mitigation Measures 3.11-1a through 3.11-1f.	Less than significant
Utilities and Service Systems		
3.12-1: Construction of the pipelines could result in temporarily, planned or accidental disruption to utility services.	**3.12-1a:** The locations of overhead and underground utility lines, such as natural gas, electricity, sewage, storm drains, telephone, fuel, and water lines, shall be verified by contractors through field surveys and other methods prior to construction. In areas where unanticipated underground utilities are found, plans to minimize service impacts shall be developed and worked out with the affected utilities. **3.12-1b:** As necessary, detailed specifications shall be prepared as part of the design and engineering plans to include procedures for the excavation, support, and fill of areas around utility cables and pipes. Affected utility services shall be notified of construction plans and schedule. Arrangements shall be made with these entities regarding protection, relocation, or temporary disconnection of services. **3.12-1c:** Residents and businesses in the project area shall be notified of any planned utility service disruption, in conformance with county and state standards.	Less than significant
3.12-2: Construction activities associated with the pipelines would generate solid waste that would increase the demand for landfill capacity.	**3.12-2a:** Project facility design and construction methods that produce less waste, or that produce waste that could more readily be recycled or reused shall be encouraged. **3.12-2b:** A requirement for the contractor to describe plans for recovering, reusing, and recycling wastes produced through construction, demolition, and excavation activities shall be included in construction specifications.	Less than significant

TABLE ES-1 (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE NORTH LOS ANGELES / KERN COUNTY RECYCLED WATER PROJECT

Impacts	Mitigation Measures	Significance after Mitigation
3.12-3: Implementation of the storage reservoirs and pump stations could result in the need for new storm water drainage facilities or expansion of existing facilities.	None required.	Less than significant
3.12-4: Operation of the storage reservoirs and pump stations could result in effects to local and regional energy supplies.	**3.12-3:** During project design, LACWWD40 and the implementing agencies shall require the use of energy efficient equipment, including pumps and lighting. Project facility design and construction methods that produce less waste, or that produce waste that could more readily be recycled or reused shall be encouraged.	Less than significant
Cumulative Impacts		
4-1: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to air quality and water quality.	Implementation of Mitigation Measures 3.2-1a through 3.2-1f, 3.7-2, and 3.7-3.	Less than significant
4-2: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to noise.	Implementation of Mitigation Measures 3.9-1a, 3.9-1b and 3.9-2.	Significant and unavoidable
4-3: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to traffic.	**4-3:** The implementing agencies, shall communicate and coordinate project construction activities with other municipalities (e.g., Palmdale, Lancaster, and Rosamond CSD) and agencies (e.g., Caltrans, LA County DPW) in the Antelope Valley. Phasing of project construction shall be coordinated to minimize cumulative impacts to traffic and circulation.	Less than significant
4-4: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to biological resources.	Implementation of Mitigation Measures 3.3-1a-f, 3.3-2a-g, 3.3-3a-e, 3.3-4a-c and 3.3-6.	Less than significant
4-5: The proposed project and related projects could result in cumulative long-term impacts to groundwater resources.	Implementation of Mitigation Measures 3.7-5a, 3.7-5b, and 3.7-9a through 3.7-9c.	Less than significant

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 Guideline*s 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.

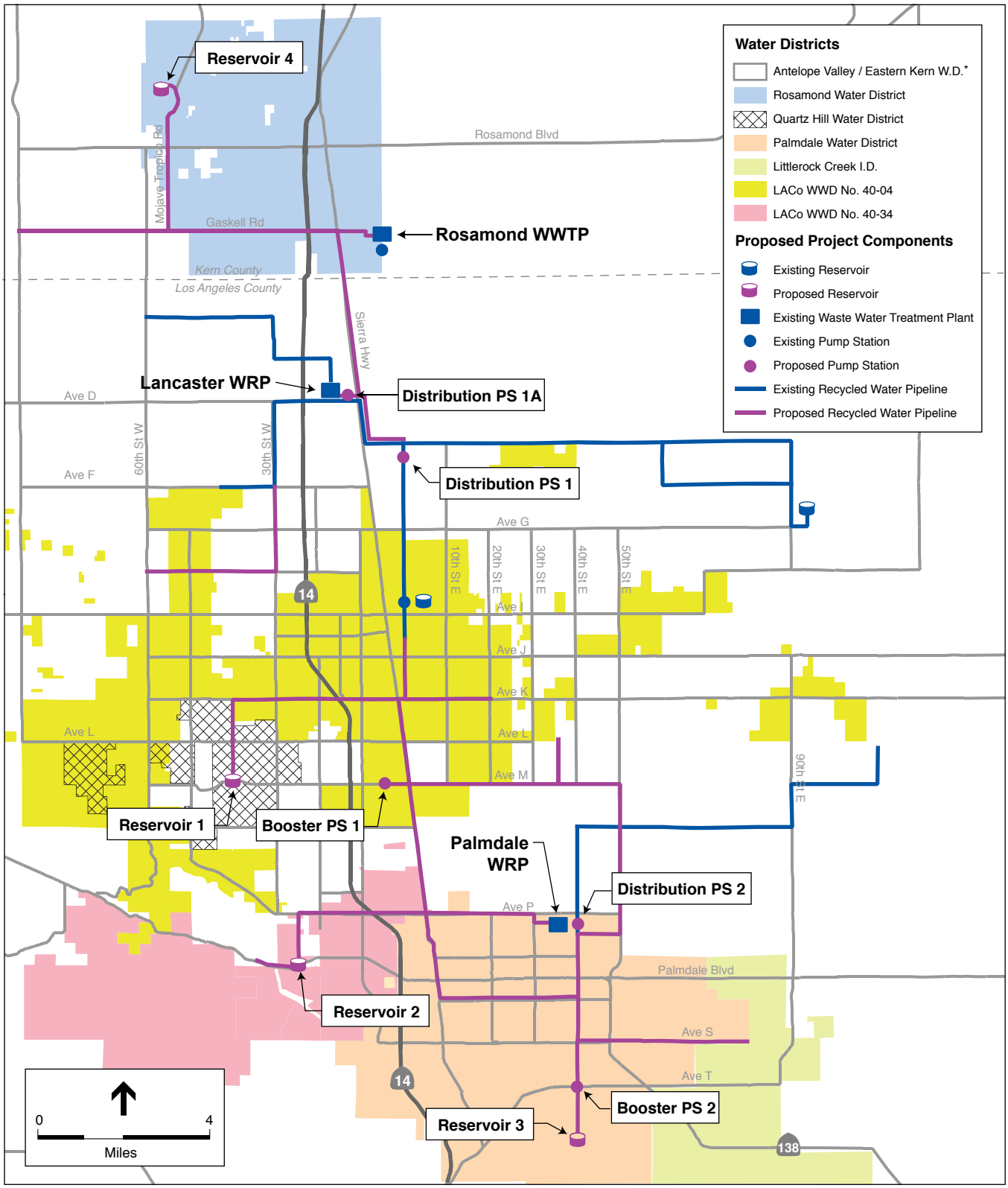
The proposed project, which is described in detail in **Chapter 2, Project Description**, is identified in the IRWMP as a project that addresses the need for both increased water supplies and wastewater effluent management. The proposed project would provide a backbone system for distribution of recycled 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

SOURCE: Kennedy/Jenks Consultants; ESA

North LA/Kern County Regional Recycled Water Project . 206359

Figure 1-1

Antelope Valley Service Areas

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 nonputrescible[2] 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	Disinfected Tertiary Recycled Water	Treatment Level: Disinfected Secondary-2.2 Recycled Water	Treatment Level: Disinfected Secondary-23 Recycled Water	Treatment Level: 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[b]	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[c]	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	Disinfected Tertiary Recycled Water	Treatment Level: 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: WateReuse Association, Recycled Water Uses Allowed in California, http://www.watereuse.org/ca/usestable.html, 1/3/2008.

CHAPTER 2
Project Description

2.1 Introduction

LACWWD40 proposes to implement the North Los Angeles/Kern County Regional Recycled Water Project (proposed project) to provide the primary backbone systems for distribution of recycled water to end users in the Antelope Valley. The project involves the construction of a regional recycled water distribution system that includes conveyance pipelines, storage reservoirs, and pump stations. The proposed project would be implemented in conjunction with the following partner agencies: the City of Lancaster, the City of Palmdale, RCSD, LACSD Nos. 14 and 20, PWD, AVEK, and QHWD.

The proposed project would be located in the Antelope Valley, which encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County. The area is bordered on the southwest by the San Gabriel Mountains, on the northwest by the Tehachapi Mountains, and on the east by a series of hills and buttes that generally follow the San Bernardino county line. The proposed project would be located within several cities including the City of Palmdale, the City of Lancaster, the Town of Rosamond, and portions of unincorporated Los Angeles County including Quartz Hill.

2.2 Background

LACWWD40 and the partner agencies provide potable water to the Antelope Valley, supplied primarily by local groundwater and surface water and water imported through the SWP. The Department of Water Resources (DWR) owns and operates the SWP, conveying water from the Sacramento River Delta to Southern California via the California Aqueduct. The East Branch of the California Aqueduct traverses the southern edge of the Antelope Valley from the Tehachapi Mountains to Silverwood Reservoir in San Bernardino County. AVEK as a SWP State Water Contractor has “Table A” entitlements to 141,400 acre-feet per year (afy) of SWP water. PWD is also a State Water Contractor with Table A entitlements to 21,300 afy. The SWP system reliability has historically been approximately 77 percent. Recent court rulings limiting pumping from the Sacramento Delta have reduced reliability of the system an additional 30 percent for the foreseeable future.

The Lancaster Water Reclamation Plant (LWRP), Palmdale Water Reclamation Plant (PWRP) and Rosamond Wastewater Treatment Plant (RWWTP) provide wastewater treatment for the major urbanized portions of the Antelope Valley. The LWRP and PWRP are owned and operated by LACSD Nos. 14 and 20. The RWWTP is owned and operated by the RCSD. Each of these facilities is in the process of being upgraded to provide 100 percent disinfected tertiary-treated

effluent that is suitable for all approved uses under Title 22. There is currently no regional recycled water distribution system to convey this treated water to locations where it can be beneficially used.

2.3 Purpose and Need for Project

The proposed project would construct a regional recycled water distribution system to help meet the growing demand for water in the region. Population in the Antelope Valley is experiencing rapid growth and as a result, the demand for water is increasing. Existing available water resources in the project area consist of local groundwater, surface water from Littlerock Creek reservoir, imported water from the SWP, and recycled water. The proposed project would support the use of recycled water for various end uses and reduce regional demands for imported potable water supplies. The proposed project would be consistent with California Water Code Sections 13575-13583 that sets state-wide recycled water use goals and standards.

The 2007 Antelope Valley *Integrated Regional Water Management Plan* (IRWMP) identifies an existing and projected water supply shortfall for the area (RWMG, 2007). The existing shortfall is expected to be offset by groundwater extraction, imported water, and recycled water. The proposed project would help to reduce the future regional demand for imported water and augment local water supplies.

2.4 Project Objectives

The objectives of the proposed project are as follows:

- Provide recycled water conveyance backbone infrastructure sufficient to accommodate planned regional recycled water demands;
- Integrate regional recycled water production, distribution, and re-use capabilities in the Antelope Valley;
- Provide conveyance, storage, and pumping capacity sufficient to accommodate peak future demands;
- Reduce the region's dependency on imported water;
- Augment local water supplies;
- Promote the State's policies for beneficial reuse of recycled water to replace potable water where possible.

2.5 Description of Proposed Project

The proposed project would include the following components: recycled water conveyance pipelines, four storage reservoirs, two distribution pump stations, and two booster pump stations. **Figure 2-1** identifies proposed pipeline routes and facility locations. The proposed project would provide the primary backbone system for distribution of recycled water to end users in the Antelope Valley. The end users would include but would not be limited to the following:

- Municipal and industrial (M&I) applications;
- Agricultural irrigation;[1]
- Cooling water for power plants; and
- Groundwater recharge.

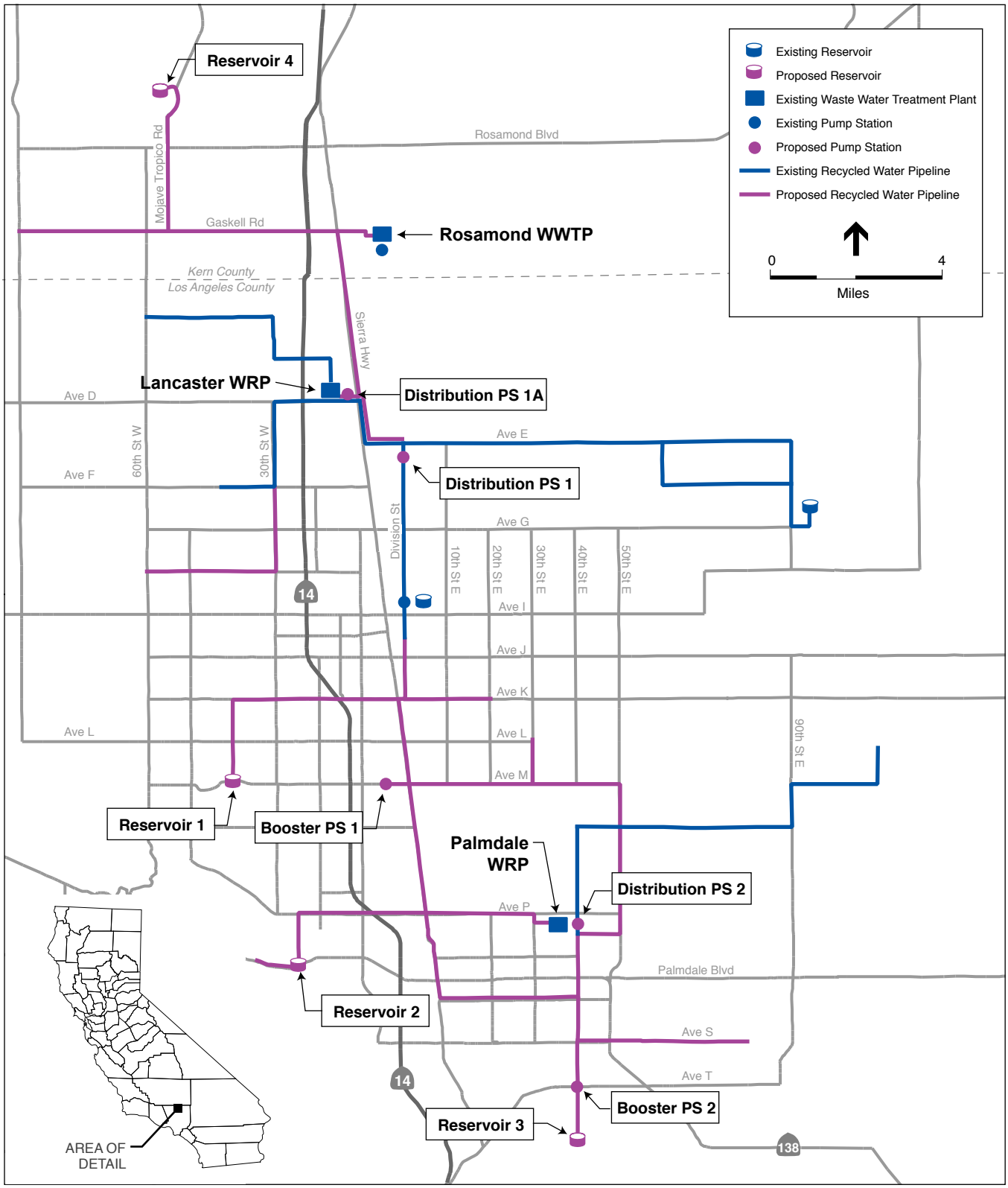
For existing and future end users identified to-date, the annual demand for recycled water in the Antelope Valley is estimated at a minimum of 21,210 afy at buildout. The system capacity of the proposed project would be designed to meet this demand. This demand includes 17,491 afy for M&I end uses in Los Angeles County as estimated in the *Final Facilities Planning Report* (Kennedy/Jenks, 2006), plus 1,119 afy for M&I end uses in the RCSD service area in Kern County (Seal, 2008), and 2,600 afy for use as cooling water at the planned Palmdale Hybrid Power Plant described further in Section 2.5.5 below.

Figure 2-2 identifies proposed locations for M&I recycled water end uses. Recycled water use would comply with the CDPH recycled water regulations contained in Title 22 of the CCR (see Chapter 1, Introduction for additional information). In addition, the proposed project would be subject to conditions imposed by the RWQCB pursuant to Water Recycling Requirements (WRRs). The proposed project would be constructed in phases as depicted in **Figure 2-3**, subject to funding and the identification of recycled water users. Each component described below would be constructed by LACWWD40 or one of the Responsible Agencies as part of the regional backbone distribution system.

2.5.1 CEQA Coverage by Project Component

As explained in Chapter 1, Introduction and Project Background, the analyses in this PEIR are intended to provide **project-level coverage** for the following project components: construction and operation of the recycled water pipelines and M&I applications for recycled water as identified in bold typeface in Table 1-2. The analyses in this PEIR provide **program-level coverage** for the remaining components of the proposed project, which include the following: construction and operation of the proposed pump stations and storage reservoirs, and the use of recycled water for agricultural irrigation (agricultural reuse), cooling water at power plants, and groundwater recharge. **Table 2-1** summarizes the level of analysis for each project component with respect to CEQA. All project components that are evaluated at the program level require additional environmental analysis and documentation prior to their implementation in order to be in compliance with CEQA.

[1] The Facilities Plans for the PWRP and LWRP include agricultural effluent management sites for application of recycled water produced at both reclamation plants (LACSD No. 14, 2004; LACSD No. 20, 2005). The environmental effects of using recycled water for agricultural irrigation at these effluent management sites have been evaluated pursuant to CEQA in previous environmental documents (see Chapter 1, Section 1.5.2). This proposed project does not include these agricultural effluent management areas.



SOURCE: Kennedy/Jenks Consultants; ESA

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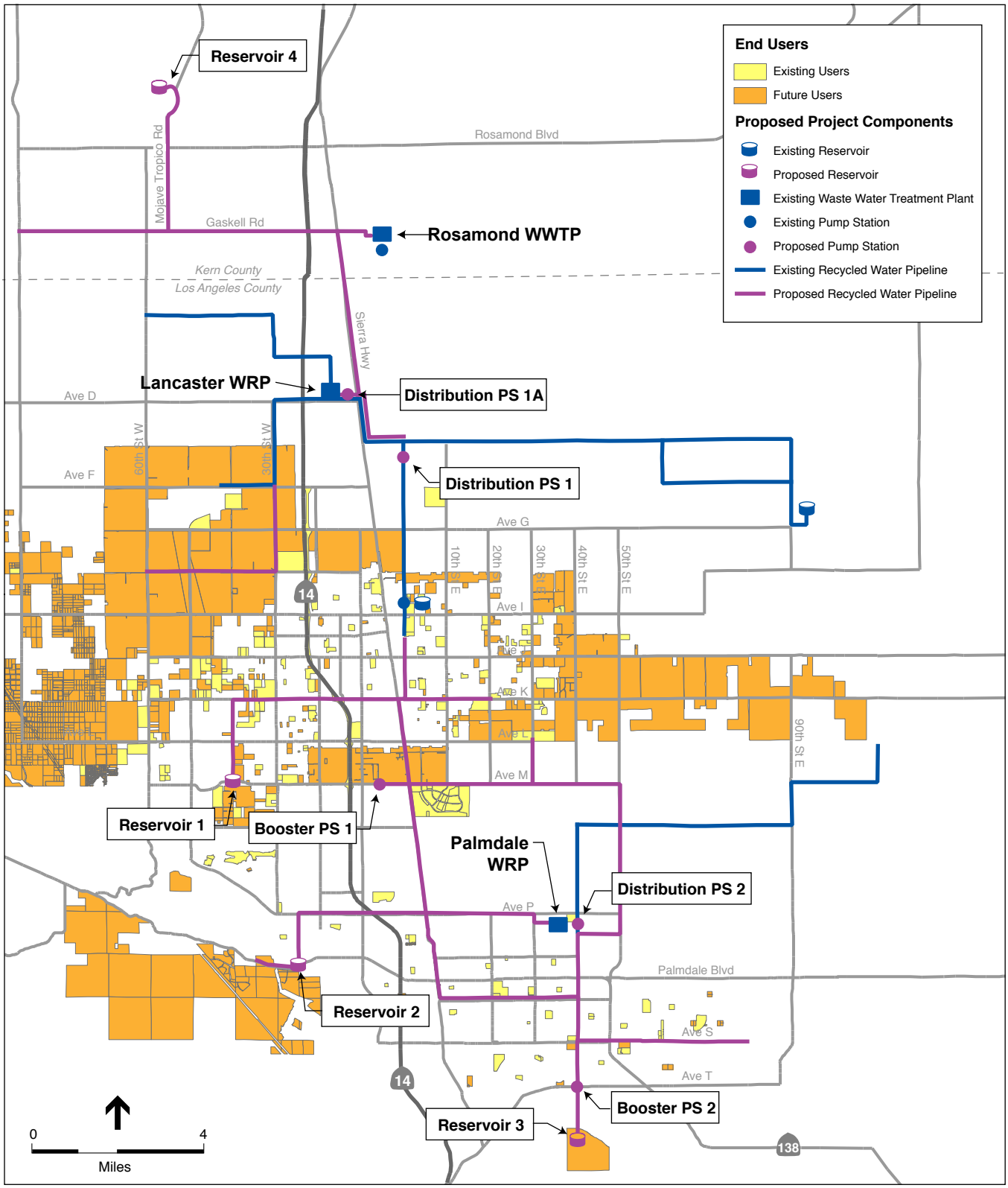
Figure 2-1

Existing and Proposed Facilities



SOURCE: Kennedy/Jenks Consultants; ESA, 2008.

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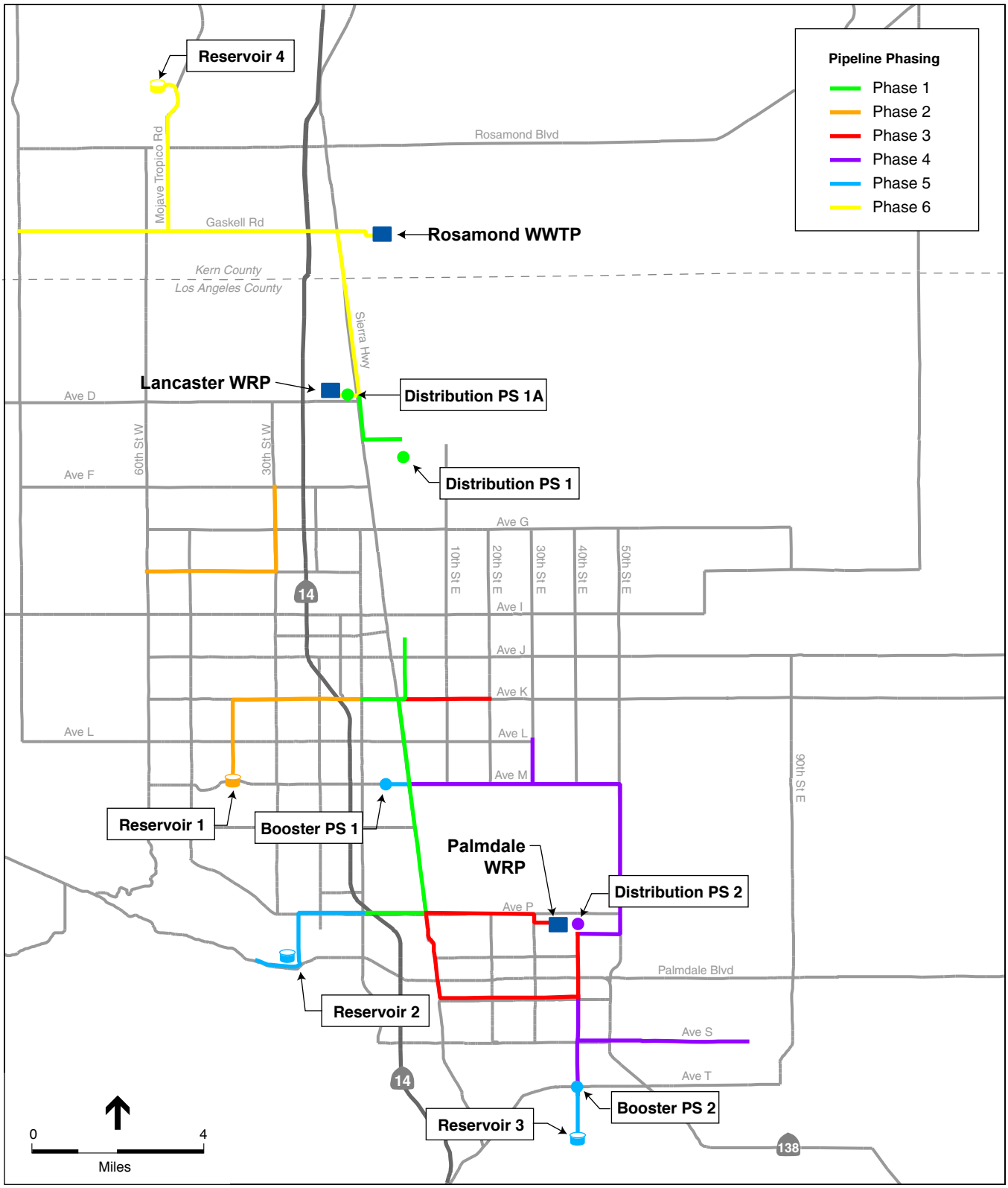
Figure 2-2

Recycled Water End Users



SOURCE: Kennedy/Jenks Consultants; ESA

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Figure 2-3

Proposed Construction Phases

TABLE 2-1
CEQA COVERAGE BY PROJECT COMPONENT

Project-Level Analysis	Program-Level Analysis
Construction Operation of Recycled Water Pipeline	Construction Operation of Pump Stations
End Use: M I Applications (see Table 1-2)	Construction Operation of Storage Reservoirs
	End Use: Agricultural Irrigation
	End Use: Power Plant Cooling Water
	End Use: Groundwater Recharge

SOURCE: ESA, 2008.

2.5.2 Pipelines

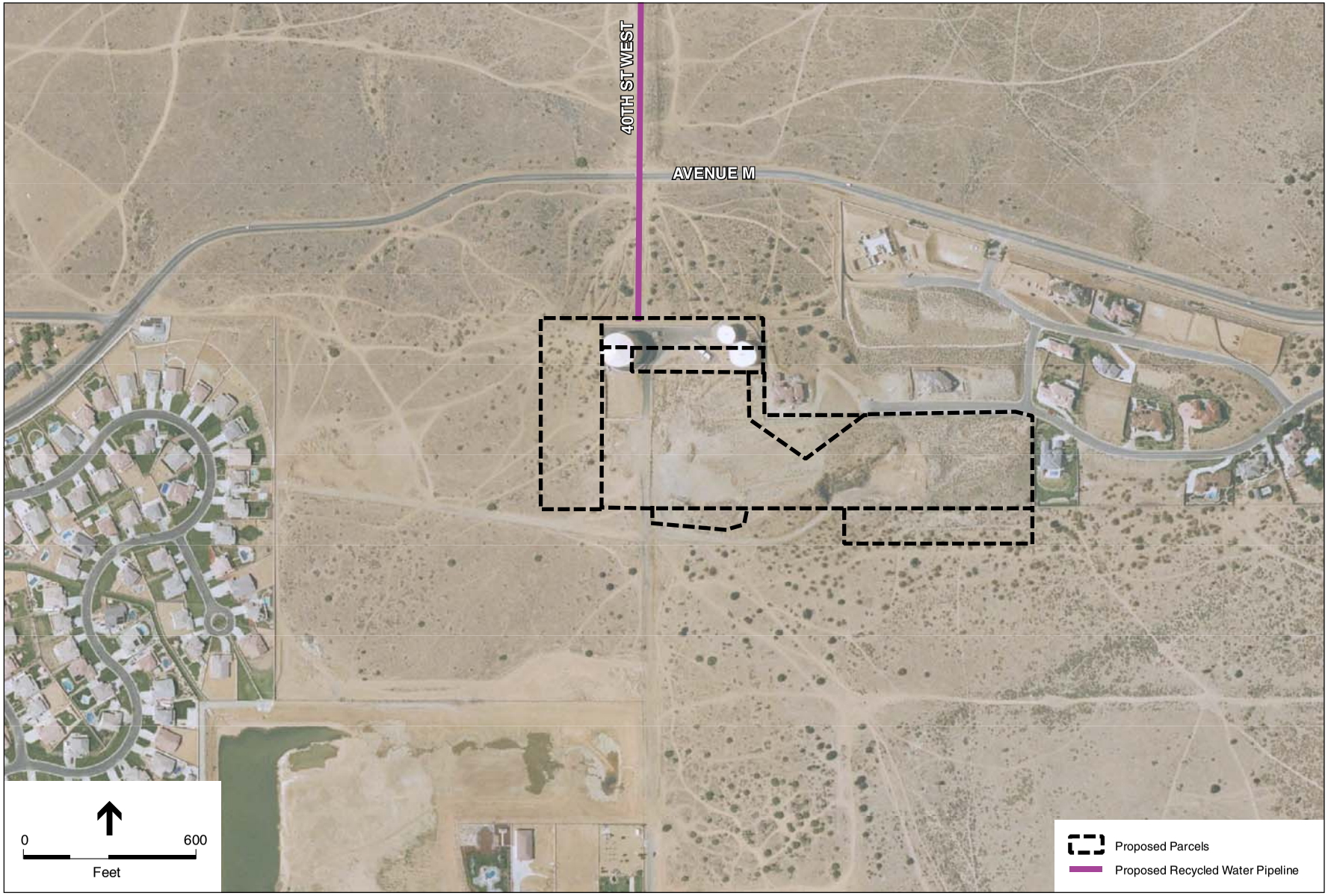
The proposed recycled water pipelines would distribute water from the three water reclamation plants to the surrounding area within the Antelope Valley. The project would consist of approximately 70 miles of 14 to 36-inch pipelines. The pipes would be colored purple or wrapped with purple tape, in accordance with the California Health and Safety Code requirements for recycled water pipelines (Division 104, Part 12, Chapter 5, Article 2, Section 116815). All pipelines would be aligned within the right-of-way of roadways as shown in Figure 2-1. Air-relief valves would be installed at peak elevations, pump stations, and as needed between valves to accommodate pipeline dewatering or system charging. The valves would typically be installed within sidewalk right-of-ways. Pipelines larger than 24 inches in diameter require that all valves be housed in vaults. The underground vaults would typically be constructed of concrete, with access hatches at ground surface either within the street or beneath the sidewalk.

2.5.3 Storage Reservoirs

The proposed project involves the construction of four storage reservoirs. The proposed locations and capacities of the storage reservoirs are identified in **Table 2-2**. **Figures 2-4** through **2-7** identify the specific parcels being considered for the storage reservoir locations. No land acquisition is required for Reservoirs 1, 2, and 4, because all parcels are owned by either LACWWD40 or one of the Responsible Agencies. Private land acquisition may be required for Reservoir 3 at the corner of 40th Street East and Barrel Springs Road. The aboveground steel reservoirs would be between 24–32 feet in height. Fencing and outside lighting would be installed around the reservoirs.

TABLE 2-2
PROPOSED STORAGE RESERVOIRS

Reservoir	Location	Capacity (MG)	Figure
Reservoir 1	40th Street West and Avenue M	3.0	Figure 2-4
Reservoir 2	25th Street West and Palmdale Blvd Elizabeth Lake Road	4.4	Figure 2-5
Reservoir 3	40th Street East and Barrel Springs Road	2.1	Figure 2-6
Reservoir 4	North of 60th Street West and Mojave-Tropico Road	2.0	Figure 2-7



SOURCE: GlobeXplorer, 2007; Kennedy/Jenks Consultants

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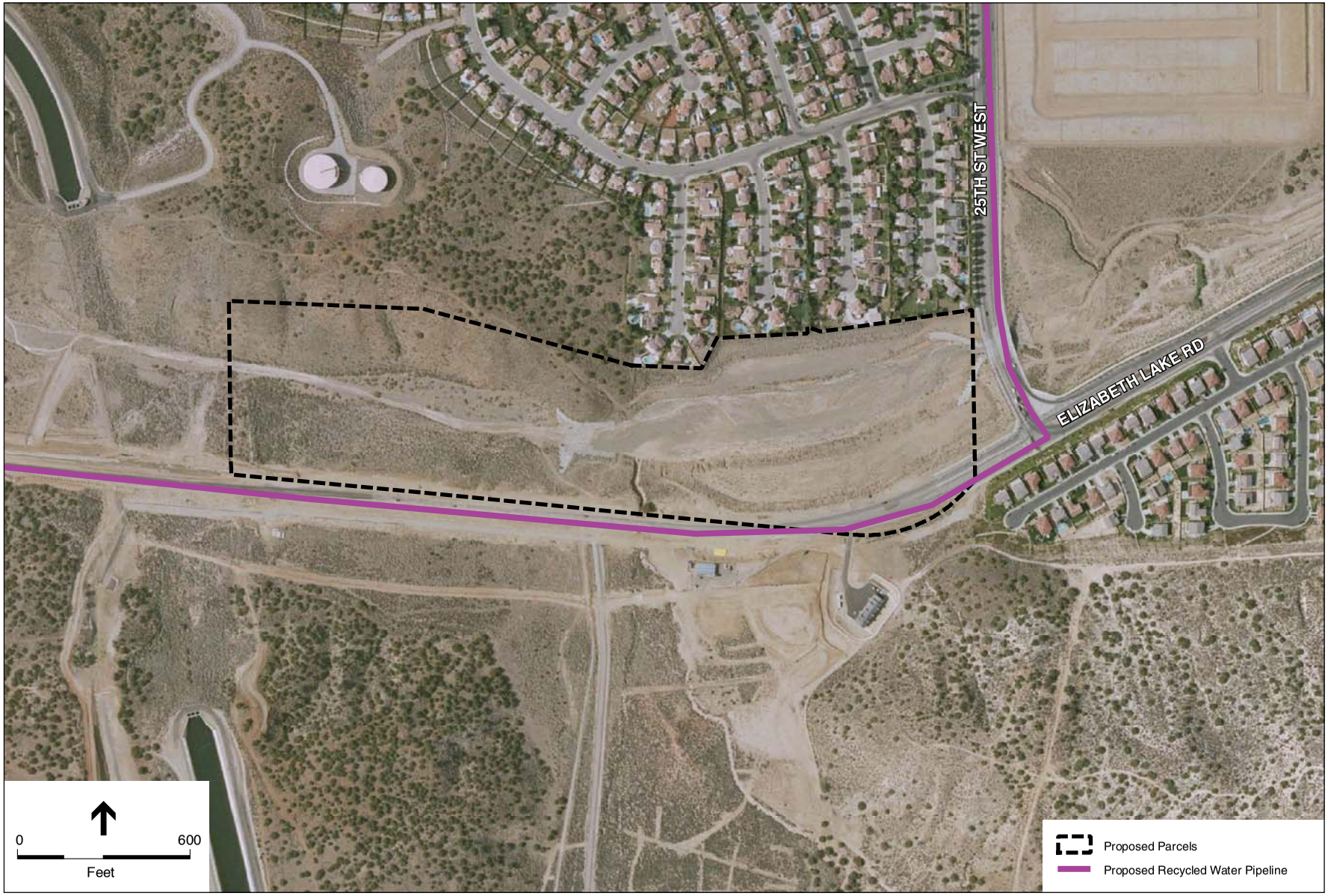
Figure 2-4

Parcels Being Considered for Storage Reservoir 1



SOURCE: GlobeXplorer, 2007; Kennedy/Jenks Consultants

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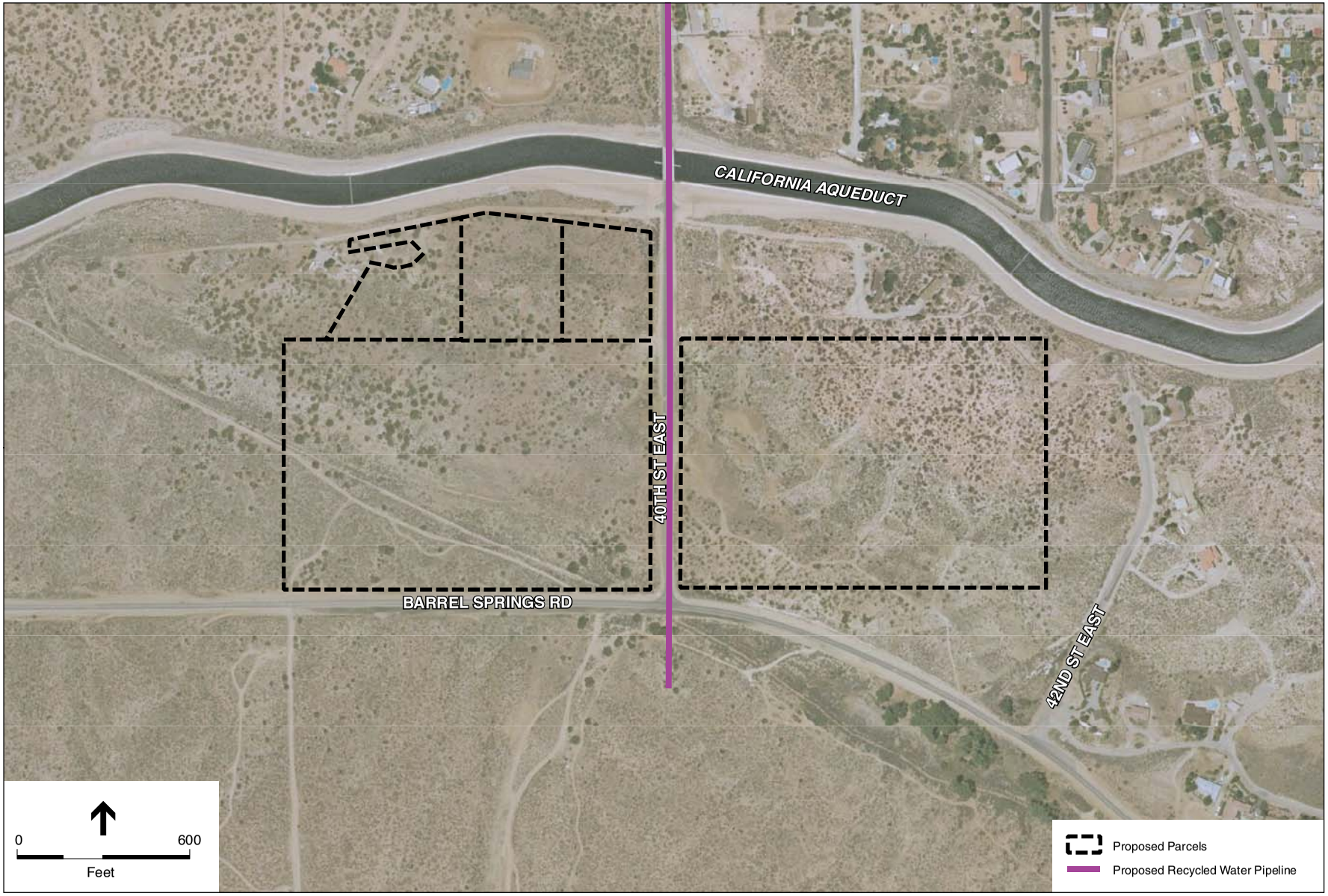
Figure 2-5

Parcel Being Considered for Storage Reservoir 2



SOURCE: GlobeXplorer, 2007; Kennedy/Jenks Consultants

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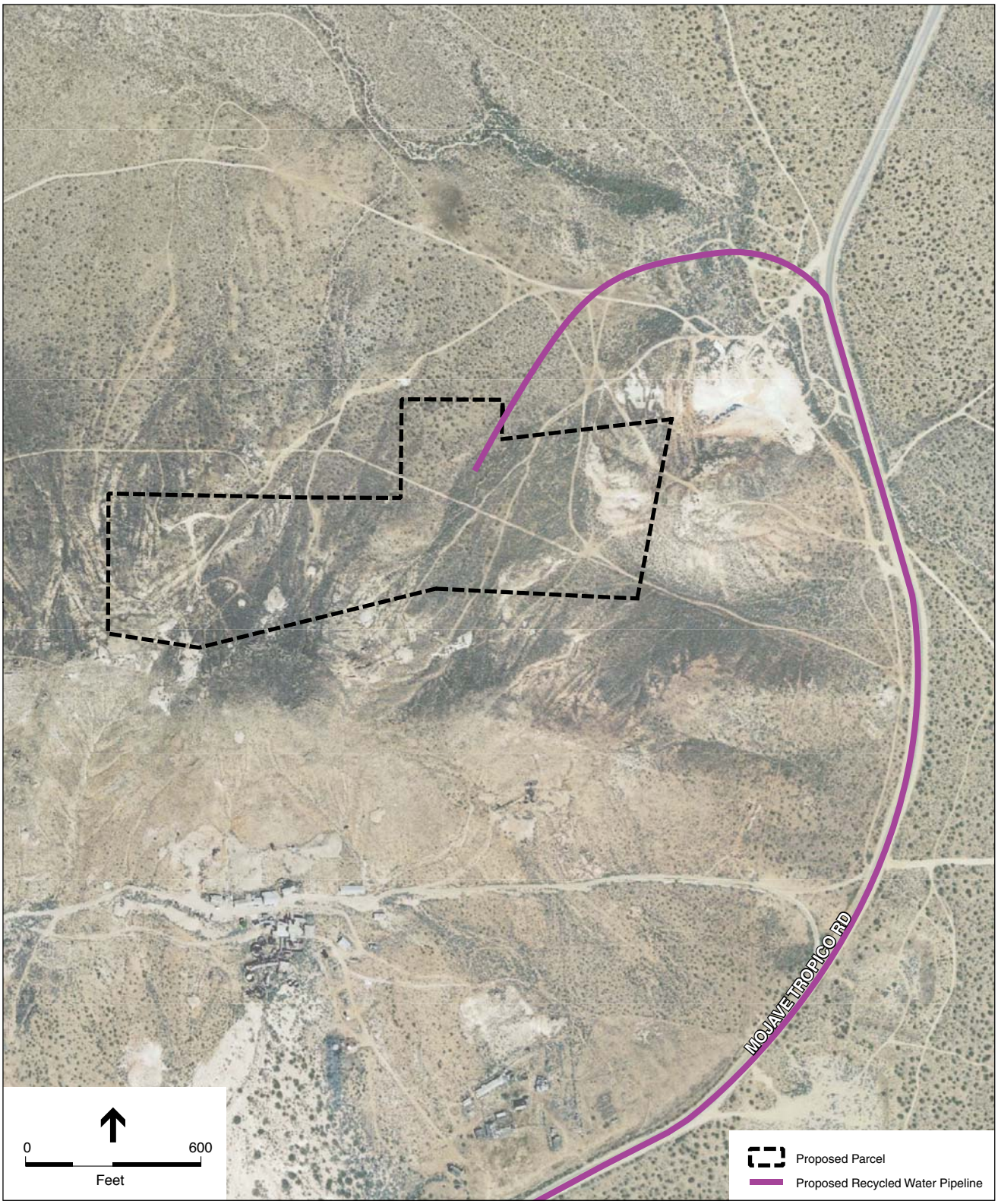
Figure 2-6

Parcels Being Considered for Storage Reservoir 3



SOURCE: GlobeXplorer, 2007; Kennedy/Jenks Consultants; Kern County, 2008.

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Figure 2-7
Parcel Being Considered for
Storage Reservoir 4

2.5.4 Pump Stations

The proposed project would include two distribution pump stations and two booster pump stations. The proposed pump stations, together with other existing and planned pump stations, would pump recycled water from the LWRP, PWRP, and RWWTP through the backbone system pipelines to the storage reservoirs. The proposed booster pump stations would maintain sufficient water pressure to transport recycled water through the backbone system pipelines.

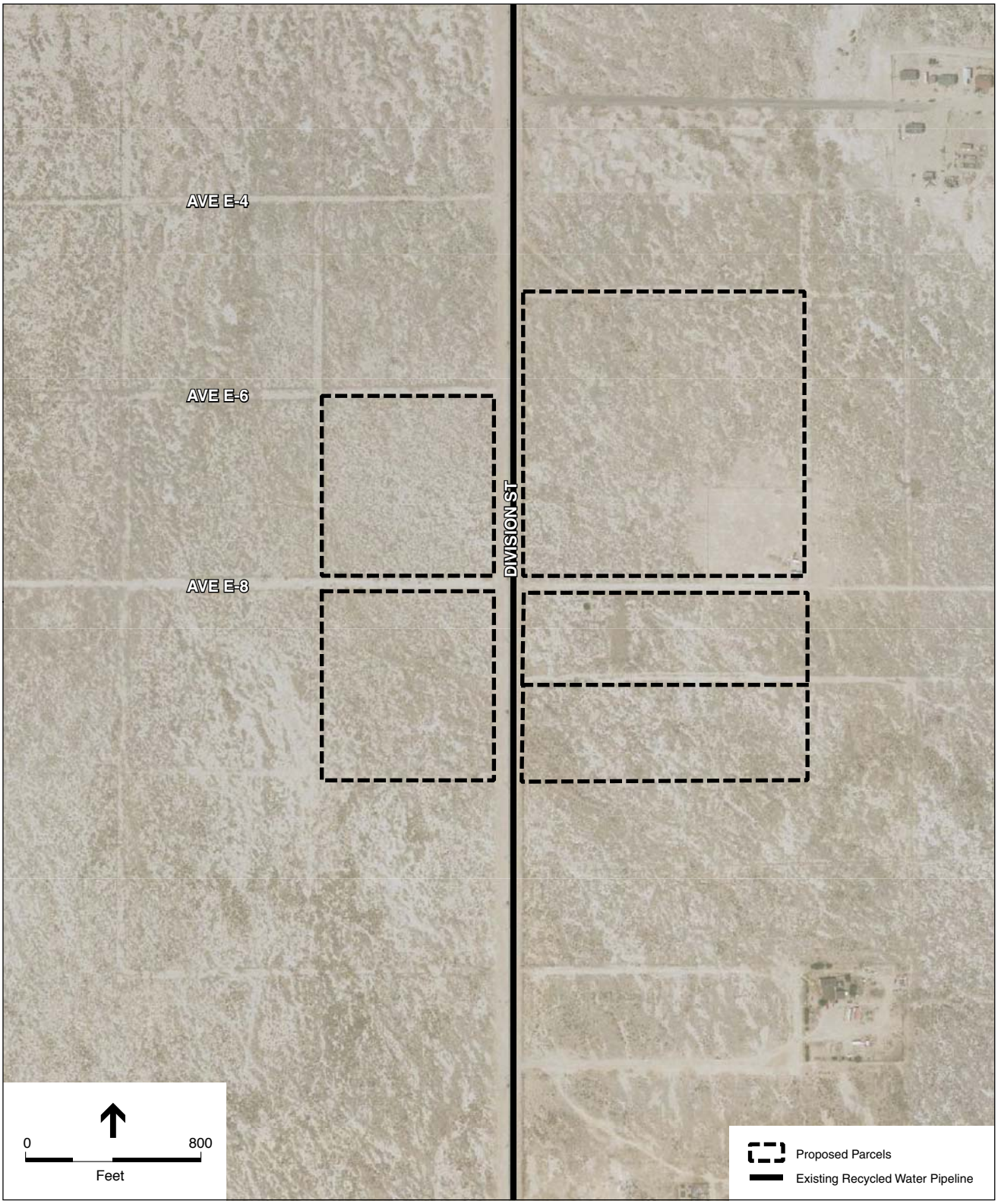
The proposed locations and pumping capacities are identified in **Table 2-3**. **Figures 2-8** through **2-11** identify the specific parcels being considered for the pump station locations. Land acquisition may be required to implement Distribution Pump Station 1 and Booster Pump Station 2 because the proposed parcels are privately owned. An alternative site for Distribution Pump Station 1 is the LWRP (indicated as Distribution Pump Station 1A in Figure 2-1 and Table 2-3), which would eliminate the need to acquire property for this pump station. Each distribution pump station structure would have an approximate footprint of 50 feet by 50 feet and be approximately 20 feet tall. Each booster pump station structure would have an approximate footprint of 20 feet by 20 feet and be approximately 20 feet tall. It is anticipated that portable generators, outside lighting, and fencing would be installed for each pump station. Each pump station must have stand-by capabilities in the event that a pump must be taken off-line.

TABLE 2-3
PROPOSED PUMP STATIONS

Pump Station	Location	Pumping Capability (gpm)	Figure
Distribution Pump Station 1	Ave E-8 and Division Street	20,833	Figure 2-8
Distribution Pump Station 1A	Avenue D and Sierra Highway (LWRP)	20,833	Figure 2-1
Distribution Pump Station 2	Ave P-8 and 30th St East (PWRP)	15,555	Figure 2-9
Booster Pump Station 1	Avenue M and 7th St West	8,460	Figure 2-10
Booster Pump Station 2	40th Street East and Ave T Pearblossom Highway	1,725	Figure 2-11

2.5.5 Recycled Water End Use

The project facilities would distribute recycled water from the LWRP, PWRP, and RWWTP throughout the Antelope Valley for beneficial use by various categories of end users in accordance with Title 22 of the CCR (see Chapter 1). These end uses are described below. Transmission pipelines would be required to connect all end users to the proposed recycled water backbone system. These transmission pipelines are not included as part of the proposed project and will be subject to subsequent approvals and environmental review pursuant to CEQA.



SOURCE: GlobeXplorer, 2007; Kennedy/Jenks Consultants

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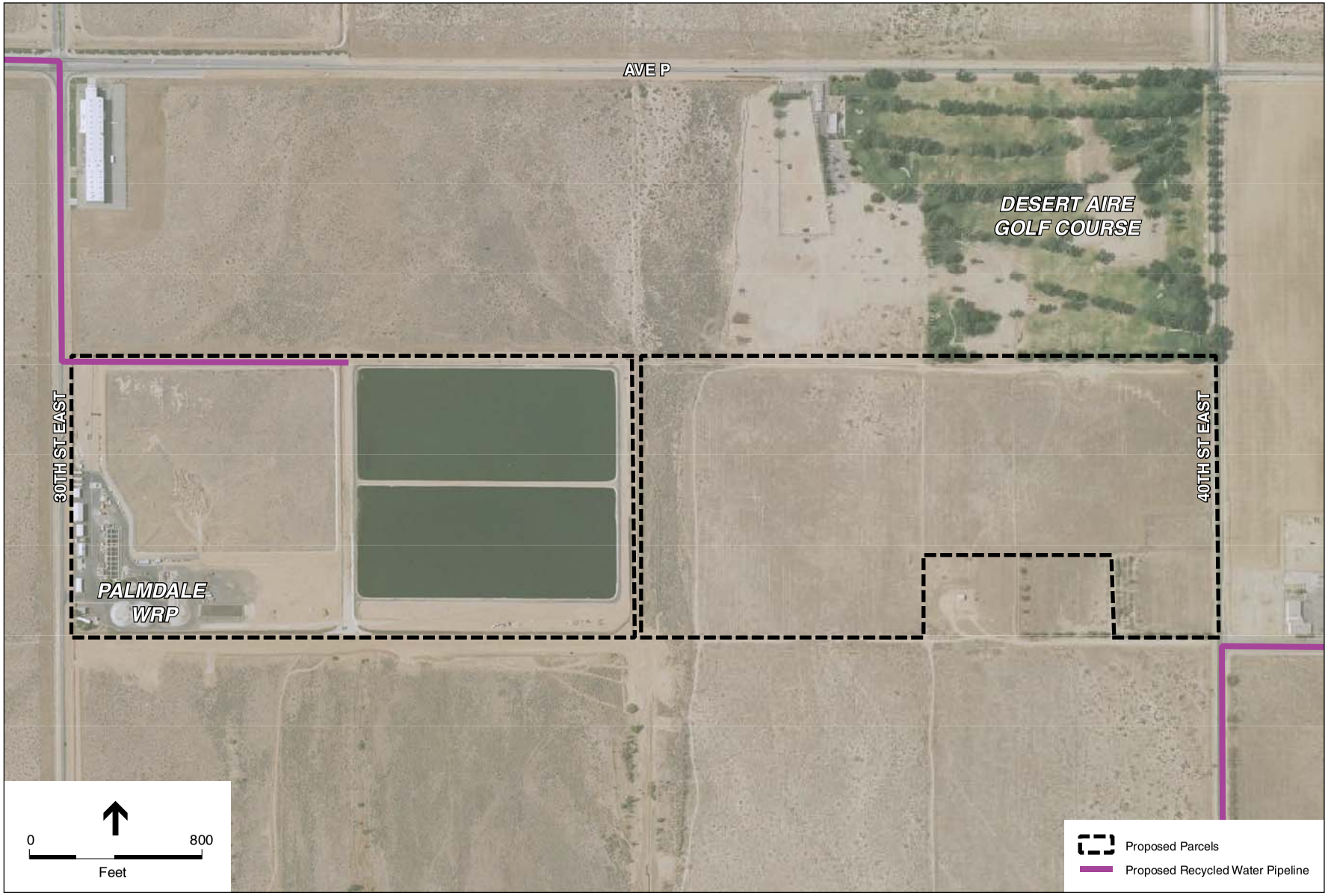
Figure 2-8
Parcels Being Considered for
Distribution Pump Station 1



SOURCE: GlobeXplorer, 2007; Kennedy/Jenks Consultants

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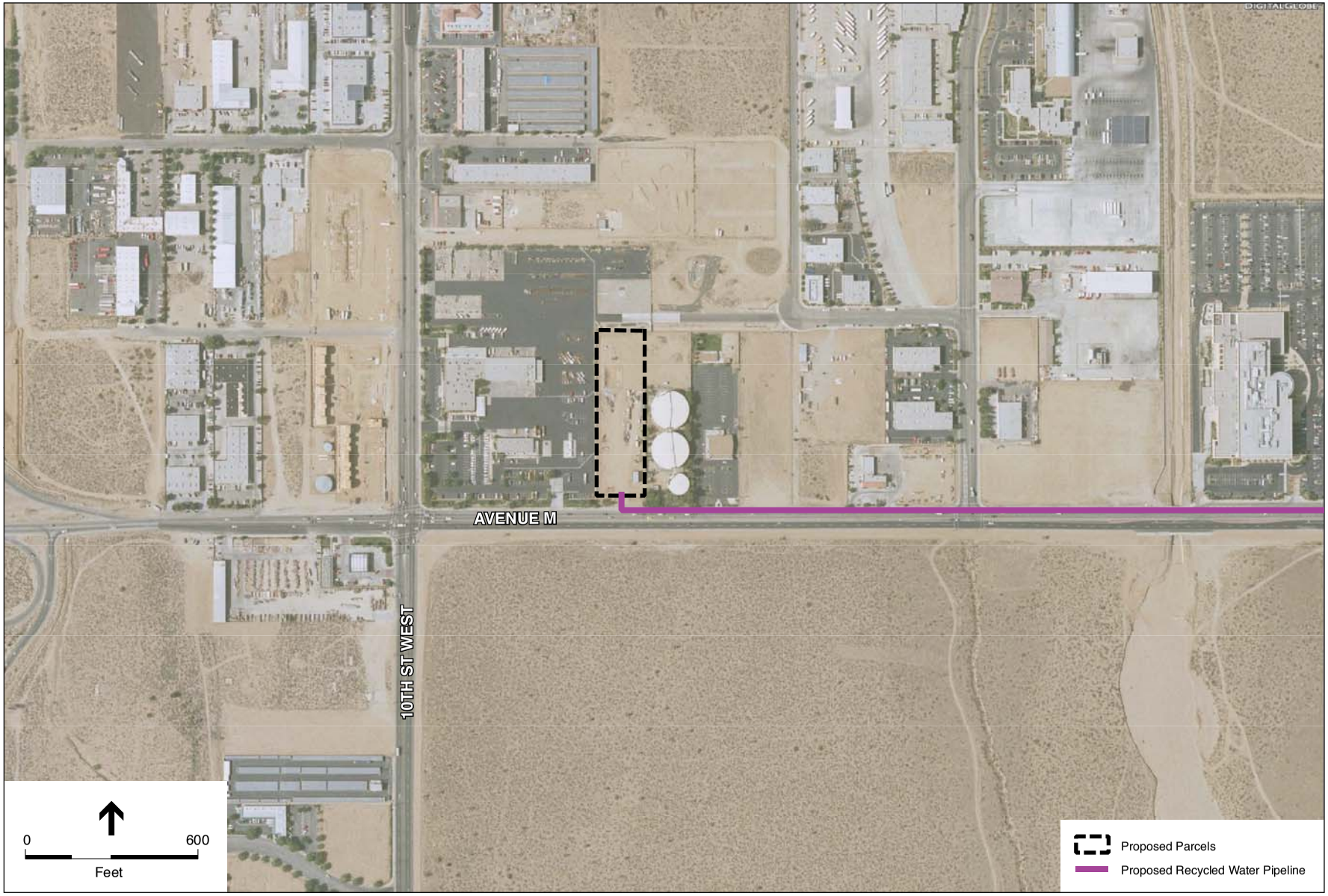
Figure 2-9

Parcels Being Considered for Distribution Pump Station 2



SOURCE: GlobeXplorer, 2007; Kennedy/Jenks Consultants

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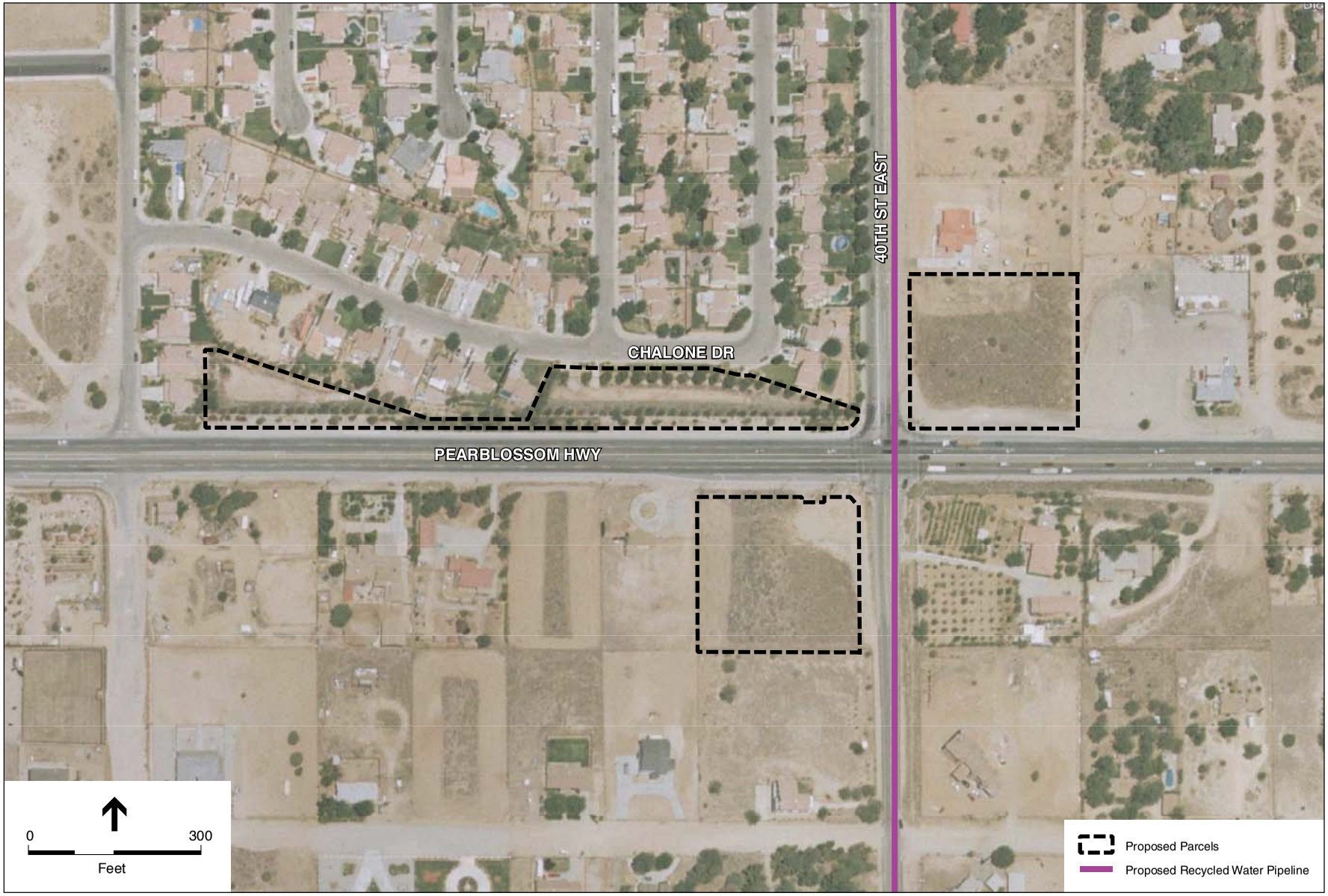
Figure 2-10

Parcel Being Considered for Booster Pump Station 1



SOURCE: GlobeXplorer, 2007; Kennedy/Jenks Consultants

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Figure 2-11

Parcels Being Considered for Booster Pump Station 2

M□I Applications

LACWWD40 conducted a market assessment of potential M&I recycled water customers as part of the preliminary design phase for the proposed project (Kennedy/Jenks, 2006). The customer locations, both existing and future, are identified in Figure 2-2. M&I applications for recycled water that are covered at the project level in this PEIR are highlighted in bold typeface in Table 1-2 and include, but are not limited to, the following: landscape irrigation of parks, schools, golf courses, sports complexes (e.g., Lancaster National Soccer Center), freeways, greenbelts, cemeteries, and landfills; landscape impoundments; fire suppression; city maintenance and street cleaning operations; culvert jetting; and construction applications, such as dust control.[2] Total estimated recycled water demand at buildout for M&I end users in the Antelope Valley identified to-date is 17,491 afy in Los Angeles County (Kennedy/Jenks, 2006) and 1,119 afy in Kern County (Seal, 2008).

This PEIR evaluates the effects of using recycled water for M&I applications at the project level, including the application of recycled water at the specific sites shown in Figure 2-2 or any other locations within the project area. Impacts of recycled water use by M&I customers not shown on Figure 2-2 would be similar in nature to those impacts identified in this PEIR and therefore would not require additional environmental review with respect to CEQA.

Agricultural Irrigation

The recycled water produced at the LWRP, PWRP, and RWWTP would be disinfected tertiary-treated effluent and would meet Title 22 standards for agricultural irrigation (agriculture reuse). As listed in Table 1-2, the product recycled water could be used for irrigation of all agricultural crops, including: ornamental nursery stock, sod farms, pastures for milk animals, orchards, vineyards, fodder and fiber crops for animals, seed crops, food crops where the recycled water does not touch the edible part of the plant, and food crops where the recycled water does touch the edible part of the plant.

The proposed project does not identify specific locations for agricultural reuse. The proposed project does not include existing agricultural reuse sites currently operated by LACSD Nos. 14 and 20 for effluent management, as described in Chapter 1. If agricultural reuse sites are identified in the future, additional environmental review and documentation would be required in accordance with CEQA prior to implementation of agricultural irrigation with recycled water.

Power Plant Cooling Water

The proposed project would serve the planned Palmdale Hybrid Power Plant (PHPP), a combined cycled power plant that is expected to be operational by 2011 and represents one of the largest single potential end users of recycled water. The average daily recycled water demand is estimated to be 2.3 mgd, or 2,600 afy (City of Palmdale, 2007). The planned location for the PHPP is a 300-acre site southeast of the intersection of Sierra Highway and Avenue M (see Figure 2-2). The PHPP would be a 550 megawatt power plant that would utilize recycled water for cooling tower and boiler feed demands (City of Palmdale, 2007). In accordance with

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

requirements set by the California Energy Commission, the PHPP must have a redundant source of water, which would be available through the proposed project by the connection to multiple reclamation plants and multiple sources of recycled water.

Construction and operation of the PHPP requires independent environmental review pursuant to CEQA. This PEIR evaluates the use of recycled water for power plant cooling at a program level. This end use will be thoroughly evaluated at the project level in any subsequent CEQA documentation produced for the PHPP or other future power plants.

Groundwater recharge

Recycled water would be used for GRRPs to recharge the underlying Antelope Valley Groundwater Basin using surface spreading with soil aquifer treatment. The California Department of Public Health (CDPH) defines surface spreading as "the controlled application of recycled water to a spreading area [i.e. percolation basin] resulting in the recharge of a groundwater basin" (Title 22 CCR, Division 4, Chapter 3, Article 1, Section 60301.850). The proposed project does not include Aquifer Storage and Recovery (ASR), direct injection, or injection wells.

A GRRP would require construction of recharge basins at locations where soils are suitable for percolation of water and where the local geology allows a hydrologic connection to the underlying aquifer. Typically, construction of recharge basins involves excavation of basins and recontouring of the site soils to form earthen berms. Basin walls vary in height, but could be as high as six feet above ground level. A GRRP may also require construction of production wells to extract the groundwater for later treatment and delivery to end users.

The proposed project does not identify specific locations for GRRPs. This PEIR evaluates groundwater recharge at a program level. In the future, as specific GRRPs are developed, the site-specific impacts of using recycled water for groundwater recharge will be further evaluated at a project level pursuant to CEQA. Additional environmental analysis and documentation is required prior to implementation of any GRRPs in order to be in compliance with CEQA.

2.6 Construction Details

2.6.1 Pipelines

Construction of the proposed recycled water pipelines would primarily involve trenching and jack-and-bore tunneling or directional drilling. The pipelines would be installed generally within the existing roadway right-of-way, where feasible, to minimize land acquisitions or easement requirements. Tunneling and directional drilling would be required in order to pass under existing aqueducts, waterways and railways. Road closures are not anticipated, though traffic control would be necessary. It is anticipated that some soil would be removed from the construction sites. Typical construction activities for these methods are described below.

Trenching

Trenching within city streets would utilize a conventional cut and cover construction technique. The trenching technique would include saw cutting of the pavement where applicable, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition. The trench is typically three to six feet deep and approximately two to three feet wide. The pipeline would be installed a minimum of three feet below ground surface (bgs). The construction corridor would be approximately 20 feet wide to allow for staging areas and vehicle access. Construction staging areas would be identified by the contractor for pipe lay-down, soil stockpiling, and equipment storage. On average, 50 to 100 feet of pipeline may be installed per day.

Trenches would be temporarily closed at the end of each work day, by covering with steel trench plates and installing barricades to restrict access to staging areas. The construction equipment needed for pipeline construction typically includes the use of backhoes, excavators, dump trucks, shoring equipment and traffic control devices.

Jack and Bore Tunneling

Jack and bore tunneling may be employed in areas where open cut trenching is not feasible, such as under freeways, busy intersections, railroad lines, or waterways. Jack and bore tunneling is used for installing underground pipelines short distances without disturbing the ground surface. This method employs a horizontal boring machine or an auger that is advanced in a tunnel bore to remove material ahead of the pipe. Temporary bore pits and receiving pits are excavated on either side of the segment. Powerful hydraulic jacks are used to push a steel casing pipe from a launch (bore) pit to a receiving pit. As the tunneling machine is driven forward, a jacking pipe is added into the pipe string. After installment of the casing pipe, a smaller carrier pipe is inserted into the casing pipe. The carrier pipe will convey the recycled water. A jacking pit typically measures as little as 10 feet by five feet up to approximately 30 feet by 10 feet. The temporary pits typically would be excavated to a depth of 5 to 20 feet, as needed. Recycled water pipeline installation by this method would require approximately one to two weeks per crossing; excavated soils would be retained for backfill.

Directional Drilling

Horizontal directional drilling is another trenchless construction method that could be utilized for installing underground pipelines without disturbing the ground surface. This method could be used for traversing underneath highways or waterways. Using a horizontal drill rig, the pipeline is installed in two stages: (1) a small diameter pilot hole is directionally drilled along a designed directional path, and (2) the pilot hole is then enlarged to a diameter that would accommodate the casing pipeline and the pipeline is pulled back into the enlarged hole. After installment of the casing pipe, a smaller carrier pipe is inserted into the casing pipe. The carrier pipe would convey the recycled water. Slurry, typically bentonite (an inert clay), is used as a drilling lubricant. Recycled water pipeline installation by this method would require approximately one to two weeks per segment crossing. All excavated soils would be retained on-site.

2.6.2 Storage Reservoirs

Construction of new storage reservoirs would include site preparation and clearing, excavation, grading, reservoir construction, and site restoration. Each reservoir would require substantial earthwork and foundation work to stabilize hillsides and make room for the reservoir.

Each reservoir would be an aboveground storage tank constructed with structural steel. This type of construction involves the erection of structural steel panels and reinforcing beams. Erection of steel plates and reinforcing beams entails extensive welding work. Once welding is completed, the steel needs to be sandblasted, primed, painted and treated. Excavated soil is expected to be reused on site with no off-site hauling or disposal required for each reservoir. Construction of each reservoir would take approximately nine months.

The construction equipment needed for reservoir construction typically includes bulldozers, excavators, scrapers, cranes, rollers, dump trucks, concrete trucks, pre-stressing equipment and construction delivery tractor-trailers.

2.6.3 Pump Stations

The pump stations would be housed in single-story buildings with pump rooms and an electric control room. Construction of the pump stations would involve excavation and structural foundation installation, pump house construction, pump installation, and final site restoration. The pump station exteriors would be built in accordance with standard construction methods for roofed masonry buildings. After the pump houses are built and the pumps installed, electrical equipment (e.g., machinery control consoles, switchboards, lighting, etc.) would be installed. Pump stations would be equipped with portable emergency generator connections and manual transfer switches. All pump stations would have flow meters, suction and discharge pressure gauges, and remote telemetry units. Power to the pump stations would be provided through underground service to minimize possibility of damage during fires. Excavated soil is expected to be reused on site with no off-site hauling or disposal required for each pump station. Construction of the pump stations is estimated to take approximately eight months.

2.7 Project Construction Schedule

The project would be constructed in phases to accommodate developing demands. Each Responsible Agency would implement the system components in its service area as needed to meet demands. Figure 2-3 identifies the project phases. Construction of the first phase could begin in 2009 and the last phase in 2015. The actual construction schedule would be determined as funds become available and as recycled water users are identified. Construction for pipelines would proceed at 50 to 100 feet per day with entire phases taking up to a year to complete. Storage reservoirs and pump stations would require eight to nine months to complete.

2.8 Operation and Maintenance Details

The proposed project would distribute recycled water produced at the LWRP, PWRP, and RWWTP to a wide variety of end-users for non-potable irrigation, industrial applications, and

groundwater recharge. The system would be designed to connect the water discharged from the three reclamation facilities. Recycled water would be purchased from LACSD Nos. 14 and 20 and the RCSD. The backbone system would be owned and operated by a combination of one or more of the following stakeholders: LACWWD40, the City of Lancaster, the City of Palmdale, RCSD, PWD, AVEK, and QHWD. The retail water agencies would contract with LACSD Nos. 14 and 20 and/or RCSD to purchase recycled water produced at the treatment plants for distribution through the backbone system to their respective customers. The LACWWD40 and the Responsible Agencies shall consider 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, with the exception of LACSD. If the JPA is formed, then the Board of Directors of the JPA would consider this PEIR prior to approving and implementing the proposed project.

The direction and control of the recycled water flow would be variable dependent on local demands and supplies. Local water supply agencies would be responsible for constructing delivery pipelines from the backbone system evaluated in this PEIR to the actual end users. These delivery systems would be operated and maintained by the local agencies. End uses would be identified by the local agencies including irrigation, industrial uses, and groundwater recharge. Irrigation systems, feed systems, storage facilities, and recharge basins would be installed by local water supply agencies. Operational agreements stipulating use restrictions and commitments would be established by local water agencies with end users for each end use.

Maintenance inspection of distribution pump stations and booster pump stations would occur approximately two times per week. The reservoirs would be serviced once a week and the pipelines would be largely underground and serviced on an as-need basis.

2.9 Alternatives

2.9.1 No-Project Alternative

According to Section §15126.6(e) of the *CEQA Guidelines*, discussion of the No-Project Alternative must include a description of existing conditions and reasonably-foreseeable future conditions that would exist if the project were not approved. Under the No-Project Alternative, LACWWD40 and the partner agencies would not implement the Regional Recycled Water Project. The LWRP, PWRP, and RWWTP would be upgraded as planned to produce tertiary-treated effluent; however, there would be no integrated system to distribute this recycled water to end users in the Antelope Valley.

2.9.2 Alternative 1: Non-Integrated System

Under Alternative 1, instead of implementing the proposed project, LACWWD40, PWD, QHWD, and RCSD would design, construct, and operate their own recycled water systems. Alternative 1 would result in four separate recycled water systems in the Antelope Valley instead of one integrated regional system. LACWWD40 would construct recycled water pipelines, pump

stations, and storage reservoirs within its service area. LACWWD40 would contract independently with LACSD No. 14, LACSD No. 20, and RCSD to purchase recycled water for the end users in its service area.

2.10 Project Approvals

LACWWD40 intends to use this PEIR to consider implementation of the proposed project. As Lead Agency, LACWWD40 may use this EIR to approve the proposed project, make Findings regarding identified impacts, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts. Responsible Agencies having discretionary approval over components of the project include the City of Lancaster, the City of Palmdale, RCSD, LACSD Nos. 14 and 20, PWD, AVEK, and QHWD.

LACWWD40 and the Responsible Agencies would use the analysis contained within this PEIR to support the acquisition of the following regulatory permits or approvals:

- RWQCB: WDR/WRR/Master Reclamation Permit for water reuse;
- Department of Public Health: Approval to operate recycled water system;
- Caltrans: Roadway Encroachment Permit / Easement;
- Union Pacific Railroad: Encroachment Permit
- Department of Water Resources: Encroachment Permit
- County of Los Angeles: Roadway Encroachment Permit / Easement;
- County of Kern: Roadway Encroachment Permit / Easement;
- County of Los Angeles, Department of Public Works, Flood Control District: Easement;
- City of Lancaster: Roadway Encroachment Permit / Easement;
- City of Palmdale: Roadway Encroachment Permit / Easement.

CHAPTER 3

Environmental Setting, Impacts, and Mitigation Measures

In compliance with Section 15126 of the *CEQA Guidelines*, **Chapter 3** provides an analysis of the environmental effects of the North Los Angeles/Kern County Regional Recycled Water Project (proposed project) with respect to existing conditions at the time the NOP was published (Appendix A). The following environmental resources are assessed in this chapter:

- 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.

Each environmental resource section includes the following subsections:

- Environmental Setting;
- Regulatory Framework; and
- Impacts and Mitigation Measures.

The proposed project would have no impact on the following environmental resources, as described in the Initial Study (see Appendix C). Further evaluation was determined to be unnecessary. Therefore, these environmental resources are not included in this chapter:

- Mineral Resources;
- Population and Housing;
- Public Services; and
- Recreation.

3.1 Aesthetics

This section addresses the aesthetic and visual quality impacts associated with construction and operation of the proposed project. This section includes a description of existing visual conditions in the project area and an evaluation of potential effects on visual resources and public view corridors. Presumed views from public viewpoints are also discussed, based on existing visual conditions at the project site and surrounding area.

For purposes of this analysis, visual or aesthetic resources are generally defined as the natural and built landscape features that can be seen. The overall visual character of a given area results from the combination of natural landscape features, including landform, water and vegetation patterns, as well as the presence of built features such as buildings, roads, and other structures.

The impact analysis considers view obstruction, negative aesthetic effects, and light and glare effects. This visual assessment is based on field observations of the project site and surroundings in addition to a review of topographic maps, project drawings, and technical data, and aerial and ground-level photographs of the project areas.

3.1.1 Setting

Regional Setting

The Antelope Valley encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County and western San Bernardino County. It is located within the western portion of the Mojave Desert. The area is bordered on the southwest by the San Gabriel Mountains, on the northwest by the Tehachapi Mountains, and on the east by a series of hills and buttes that generally follow the San Bernardino county line. Lake Palmdale is a reservoir located in the southern area of the City of Palmdale that provides water storage and offers recreational uses to members of the Palmdale Fin and Feather Club.

Major roadway corridors in the project vicinity include the Antelope Valley Freeway (State Route 14), State Route 138, and the Angeles Forest Highway. The two state routes overlap on a shared segment between Avenue D in Lancaster and Palmdale Boulevard in Palmdale. The Angeles Forest Highway connects Palmdale to the Angeles Crest Highway (State Route 2).

Project Area Setting

The proposed project would be located within the City of Palmdale, the City of Lancaster, the Town of Rosamond, and unincorporated communities within Los Angeles and Kern Counties. The Antelope Valley is a triangular shaped, topographically closed basin that primarily has a desert climate. Vegetation is typical of the western Mojave Desert that includes creosote and desert shrubs. Certain portions of the valley contain large stands of Joshua Trees. The perimeter of the valley includes low brush covered hills transitioning into the Tehachapi Mountains and San Gabriel Mountains to the west and south.

In the City of Lancaster, major visual resources include the local views of the surrounding buttes, Quartz Hill, and long distance panoramas of the San Gabriel Mountains and desert expanses. In the City of Palmdale, the Lamont Odett Vista Point, just off the Antelope Valley Freeway, provides a view of Lake Palmdale and the city. The Godde Hills Road winds up the Portal Ridge Mountains and overlooks the entire Antelope Valley.

The proposed pump stations and reservoirs would be located in open, low brush covered areas as shown in **Figure 3.1-1**. Proposed reservoirs would primarily be located atop hillsides while proposed pump stations would be located in both hilly and flat areas.

3.1.2 Regulatory Framework

State

State Scenic Highway Program

The California Department of Transportation (Caltrans) administers the State Scenic Highways Program to preserve and protect scenic highway corridors from projects that would diminish the aesthetic value of lands adjacent to highways (Sections 260 *et seq*. of the California Streets and Highways Code). Scenic highway corridors are defined as the land generally adjacent to and visible by motorists from a scenic highway. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code.

There are no officially designated state scenic highways within the project area (Caltrans, 2007).

Local

Kern County General Plan

The following policies of the Land Use/Conservation/Open Space Element, General Provision of the General Plan are relevant to the proposed project.

> **Policy 47:** Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.
>
> **Policy 48:** Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.

Los Angeles County General Plan

The following policy of the Conservation and Open Space Element of the General Plan is relevant to the proposed project:

> **Policy C/OS 11.1:** Identify and protect scenic resources, especially those threatened by potential development.

1. View of proposed Reservoir 1 location

2. View of proposed Distribution Pump Station 1.

3. View of proposed Reservoir 3 location

4. View of proposed Booster Pump Station 1

SOURCE: ESA, 2008.

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Figure 3.1-1

Visual Character of Project Components

Palmdale Hillside Management Ordinance

The Palmdale Hillside Management Ordinance was designed to help maintain the visual, open space, and recreational amenities provided by hillside areas bordering the city. The ordinance protects against insensitive development and contains standards which apply to areas with a natural slope of ten percent or more. The standards were designed to preserve open space, natural grades, scenic views, and visually prominent landforms.

Section 100.18D: Development is sited in a manner that substantially retains the visual qualities and natural elevations of the significant ridgelines and prominent landforms forming the City's skyline backdrop, as defined in this Article, and preserves those portions of the ridgelines visible from the Antelope Valley floor, or adjacent valleys, as a scenic skyline backdrop to the City.

City of Palmdale General Plan

The Environmental Resources section of the City of Palmdale General Plan (City of Palmdale, 1993) governs the aesthetic resources of the city. The City of Palmdale General Plan policy that is related to scenic resources is as follows:

> **Policy ER1.2.2:** The following roadways are designated as City scenic highways. Apply special design standards for projects adjacent to these highways (as contained in the implementation section) in order to protect their scenic qualities.

- Barrel Springs Road
- Tierra Subida Highway
- Sierra Highway, South of Avenue S
- Elizabeth Lake Road
- Pearblossom Highway
- Bouquet Canyon Road
- Godde Hill Road
- Antelope Valley Freeway, south of Rayburn Road

The proposed project corridor is adjacent to or is visible from Elizabeth Lake Road, Barrel Springs Road, and Pearblossom Highway.

City of Lancaster General Plan

The Scenic Resources section of the City of Lancaster General Plan (City of Lancaster, 1997) governs the aesthetic resources of the city. The section states that the protection of scenic resources is critical to Lancaster's long-term objective of achieving and maintaining the character of designated scenic corridors.

3.1.3 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this PEIR and consistency with Appendix G of the *CEQA Guidelines*, applicable local plans, and agency and professional standards, the project would have a significant impact on aesthetics if it would:

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

The significance determination is based on several evaluation criteria, including the extent of project visibility from sensitive viewing areas such as designated scenic routes, public open space, or residential areas; the degree to which the various project elements would contrast with or be integrated into the existing landscape; the extent of change in the landscape's composition and character; and the number and sensitivity of viewers.

Impacts Discussion

The project area does not include any designated or eligible State Scenic Highways as designated by Caltrans. Therefore, the proposed project would not impact scenic resources within a state scenic highway corridor.

The use of recycled water for municipal and industrial applications, agricultural irrigation, and power plant cooling would also not result in significant impacts to designated scenic resources as such uses would not change the visual character or quality of the area.

All other impacts to existing aesthetic resources resulting from construction and operation of the proposed project at both the project level and program level are discussed below. The impacts are considered for all proposed project components, including both short-term construction and long-term operational phases.

Project-Level Impacts

Recycled Water Pipeline

Impact 3.1-1: Construction of the proposed recycled water pipeline could generate short-term impacts to aesthetic resources. Less than Significant with Mitigation.

Construction of the proposed recycled water pipelines would result in short-term impacts to aesthetic resources. Construction activities would require the use of heavy equipment and storage of materials at construction sites. During construction, excavated areas, stockpiled soils, and other materials within the construction easement and staging areas would constitute negative aesthetic elements in the visual landscape. These negative aesthetic elements would directly affect scenic vistas as viewed from scenic highways designated by the Palmdale General Plan. The proposed pipeline construction would coincide with Elizabeth Lake Road and be visible from Pearblossom Highway and Barrel Springs Road that are designated scenic highways by the City of Palmdale. However, with incorporation of Mitigation Measure 3.1-1, the disturbed areas would be restored to preconstruction conditions and impacts would be less than significant.

Mitigation Measures

Mitigation Measure 3.1-1: Following construction activities, the implementing agencies shall restore disturbed areas by reestablishing pre-existing conditions including topography, repaving roadways, replanting trees, and/or reseeding with a native seed mix typical of the immediate surrounding area. The implementing agencies shall be responsible for monitoring the replanted areas to ensure that revegetation is successful.

Significance after Mitigation: Less than significant.

Program-Level Impacts

Storage Reservoirs Pump Stations

Impact 3.1-2: Construction and operation of the proposed storage reservoirs and pump stations could result in significant impacts to aesthetic resources. Less than Significant with Mitigation.

Construction of the proposed storage reservoirs and pump stations would result in short-term impacts to aesthetic resources. Construction activities would require the use of heavy equipment and storage of materials on-site. During construction, excavated areas, stockpiled soils, and other materials at the construction site and staging areas would constitute negative aesthetic elements in the visual landscape. However, these effects would be temporary during project construction and would not significantly impact the long-term visual character of the area.

Operation of the storage reservoirs and pump stations would cause permanent long-term impacts to aesthetic resources. The structures would contrast with the surrounding landscape and potentially would be incompatible with the existing views and vistas within the project area. Reservoir 1 would be located on Quartz Hill and would be visible from Avenue M. Other reservoirs and pump stations would be visible from scenic highways designated by the City of Palmdale. Reservoir 2 may be visible from Elizabeth Lake Road, Reservoir 3 from Barrel Springs Road, and Booster Pump Station 2 from Pearblossom Highway. This would have a potentially significant effect on scenic highway corridors. The following mitigation measures would reduce impacts to less than significant levels by requiring implementation of landscaping and design elements to minimize the visual contrast of the reservoirs and pump stations and blend these facilities into the surrounding landscape.

Mitigation Measures

Mitigation Measure 3.1-2a: The implementing agencies shall attempt to locate pump stations and reservoirs in areas that are compatible with existing views and vistas.

Mitigation Measure 3.1-2b: During project design, the implementing agencies shall prepare a landscape plan for each aboveground project component. The landscape plan shall include measures to restore disturbed areas by reestablishing existing topography, including replanting trees and/or reseeding with a native seed mix typical of the immediately surrounding area. The landscape plan shall include a required seed mix and

plant palate. Vegetation screening shall be included in the landscape plan in order to shield proposed aboveground facilities from public view. The landscape plan shall include a monitoring plan to ensure that the site restoration and the establishment of vegetation is successful.

Mitigation Measure 3.1-2c: The implementing agencies shall ensure that storage reservoir designs include non-glare exterior coatings that are colored an earth tone to blend in with the surrounding landscape.

Significance after Mitigation: Less than significant.

Impact 3.1-3: Operation of the proposed storage reservoirs and pump stations could result in additional light and glare impacts due to nighttime security lighting. Less than Significant with Mitigation.

Exterior lighting would be installed around the proposed storage reservoirs and pump stations. Exterior lighting could adversely affect day and nighttime views by introducing a new source of light and glare. Implementation of the following mitigation measure would reduce potentially significant lighting impacts to a less-than-significant level.

Mitigation Measures

Mitigation Measure 3.1-3: The exterior lighting installed around the storage reservoirs and pump stations shall be of a minimum standard required to ensure safe visibility. Lighting shall be shielded and directed downward, away from neighboring land uses to minimize impacts of light and glare.

Significance after Mitigation: Less than significant.

Recycled Water End Users

Impact 3.1-4: Application of recycled water for groundwater recharge could result in significant impacts to aesthetic resources. Less than Significant with Mitigation.

Implementation of future GRRPs would require construction of recharge basins at suitable locations. As described in Chapter 2, Project Description, construction of recharge basins would involve recontouring of site soils to form earthen berms which could be as tall as six feet above ground level. Construction of the recharge basins would introduce a new contrasting element into the landscape. Depending on the locations selected, recharge basins could degrade the existing visual character or quality of the site and its surroundings. It is anticipated that recharge basins would be constructed in open space, rural, or agricultural areas and berms would be revegetated to blend in with the visual character of the area. Implementation of Mitigation Measure 3.1-2b would reduce impacts to visual character by requiring implementing agencies to develop landscape plans during the design phase of future GRRPs. The landscape plan would require site

restoration after construction of recharge basins, revegetation using native and local species, and vegetation screening, if necessary and appropriate, to screen facilities from public view. Implementation of the landscape plan would minimize the visual contrast of the recharge basins and blend these facilities into the surrounding landscape, resulting in less than significant impacts to visual character and aesthetic resources.

Mitigation Measure

Implementation of Mitigation Measure 3.1-2b.

Significance after Mitigation: Less than significant.

3.2 Air Quality

This section provides an overview of the existing air quality in the North Los Angeles/Kern County Recycled Water Project area (proposed project), the regulatory framework, a general analysis of potential impacts to air quality that would result from implementation of the proposed project, and identification of mitigation measures.

3.2.1 Environmental Setting

The proposed project is located in the Antelope Valley, which is within the Antelope Valley Air Quality Management District (AVAQMD). A portion of the project also is within the jurisdiction of the Kern County Air Pollution Control District (KCAPCD). Both the AVAQMD and KCAPCD maintain monitoring stations within the Valley that monitor air quality and compliance with associated ambient standards. The closest station to the proposed project is Lancaster-43301 Division Street. The following pollutants are monitored at this station: ozone (O_3) and particulate matter less than 10 and 2.5 microns (PM10 and PM2.5). The most recent published data for the Lancaster-43301 Division Street Monitoring Station is presented in **Table 3.2-1,** which encompasses the years 2004 through 2006. In addition, a discussion of the air pollutants of interest to the regulatory agencies for their potential adverse impacts on the environment and sensitive receptors are described below.

Criteria Air Pollutants

Ozone

Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Ozone, the main component of photochemical smog, is primarily a summer and fall pollution problem. Ozone is not emitted directly into the air but is formed through a complex series of chemical reactions involving other compounds that are directly emitted. These directly emitted pollutants (also known as ozone precursors) include reactive organic gases (ROG) and nitrogen oxides (NO_x). The time period required for ozone formation allows the reacting compounds to spread over a large area, producing a regional pollution problem. Ozone problems are the cumulative result of regional development patterns rather than the result of a few significant emission sources.

Once formed, ozone remains in the atmosphere for one or two days. Ozone is then eliminated through reaction with chemicals on the leaves of plants, attachment to water droplets as they fall to earth (“rainout”), and absorption by water molecules in clouds that later fall to earth with rain (“washout”).

TABLE 3.2-1
AIR QUALITY DATA SUMMARY (2004–2006)

Pollutant	Monitoring Data by Year			
	Standard[a]	2004	2005	2006
Ozone – Lancaster-43301 Division Street				
Highest 1 Hour Average (ppm)[b]	0.09	**0.121**	**0.127**	**0.123**
Days over State Standard		37	42	22
Highest 8 Hour Average (ppm)[b]	0.08	**0.101**	**0.103**	**0.105**
Days over National Standard		**0**	**1**	**2**
Particulate Matter (PM10) – Lancaster-43301 Division Street				
Highest 24 Hour Average ($\mu g/m^3$)[b]	50	33	47	**58**
Est. Days over State Standard[c]		NA	NA	25.7
Highest 24 Hour Average ($\mu g/m^3$)[b] – National Measurement	150	83	55.5	65.8
Est. Days over National Standard[c]		0	0	0
State Annual Average ($\mu g/m^3$)[b]	20	NA	NA	**25.2**
Particulate Matter (PM2.5) – Lancaster-43301 Division Street				
Highest 24 Hour Average ($\mu g/m^3$)[b]	35	18	28	18
Days over National Standard		0	0	0
State Annual Average ($\mu g/m^3$)[b]	12	NA	8.9	7.4

a Generally, state standards and national standards are not to be exceeded more than once per year.
b ppm – parts per million; $\mu g/m^3$ – micrograms per cubic meter.
c PM10 is not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.

NOTES: Values in **bold** are in excess of at least one applicable standard. NA – Not Available.

SOURCE: California Air Resources Board, 2007a. *Summaries of Air Quality Data*, 2004, 2005, 2006; http://www.arb.ca.gov/adam/cgi-bin/db2www/polltrendsb.d2w/start

Carbon Monoxide

Ambient carbon monoxide concentrations normally are considered a local effect and typically correspond closely to the spatial and temporal distributions of vehicular traffic. Wind speed and atmospheric mixing also influence carbon monoxide concentrations. Under inversion conditions, carbon monoxide concentrations may be distributed more uniformly over an area that may extend some distance from vehicular sources.

When inhaled at high concentrations, carbon monoxide combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses.

Carbon monoxide concentrations have declined dramatically in California due to existing controls and programs. Carbon monoxide concentrations are expected to continue declining due to the ongoing retirement of older, more polluting vehicles from the mix of vehicles on the road network.

Respirable Particulate Matter (PM10 and PM2.5)

PM10 and PM2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. A micron is one-millionth of a meter. PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis and respiratory illnesses in children. Recent mortality studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Particulates can also damage materials and reduce visibility. One common source of PM2.5 is diesel particulate emissions.

Traffic generates particulate matter and PM10 emissions through entrainment of dust and dirt particles that settle onto roadways and parking lots. PM10 also is emitted by burning wood in residential wood stoves and fireplaces and open agricultural burning. PM10 can remain in the atmosphere for up to seven days before gravitational settling, rainout and washout remove it.

Nitrogen Dioxide

NO_2 is a reddish brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, nitrogen dioxide can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

Greenhouse Gases

Gases that trap heat in the atmosphere are called greenhouse gases. The major concern is that increases in greenhouse gases are causing global climate change. Global climate change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation and temperature. Although there is tremendous disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, most agree that there is a direct link between increased emission of so-called greenhouse gases and long term global temperature. What greenhouse gases have in common is that they allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation and warm up the air. The process is similar to the effect greenhouses have in raising the internal temperature, hence the

name greenhouse gases. Both natural processes and human activities emit greenhouse gases. The accumulation of greenhouse gases in the atmosphere regulates the earth's temperature; however, emissions from human activities such as electricity production and motor vehicles have elevated the concentration of greenhouse gases in the atmosphere. This accumulation of greenhouse gases has contributed to an increase in the temperature of the earth's atmosphere and contributed to global climate change. The principal greenhouse gases are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF6), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H_2O). Carbon dioxide is the reference gas for climate change and is considered the most important greenhouse gas. To account for the warming potential of greenhouse gases, greenhouse gas emissions are often quantified and reported as CO_2 equivalents (CO_2E). Large emission sources are reported in million metric tons of CO_2E ($MMTCO_2E$). HFCs are used in refrigeration systems as substitutes for CFCs, which were banned for destroying the ozone layer.

Toxic Air Contaminants (TACs)

Non-criteria air pollutants or TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds, including particulate emissions from diesel-fueled engines.

Diesel particulate matter (DPM) is the most complex of diesel emissions. Diesel particulates, as defined by most emission standards, are sampled from diluted and cooled exhaust gases. This definition includes both solids and liquid material that condenses during the dilution process. The basic fractions of DPM are elemental carbon, heavy hydrocarbons derived from the fuel and lubricating oil and hydrated sulfuric acid derived from the fuel sulfur. DPM contains a large portion of the polycyclic aromatic hydrocarbons (PAH) found in diesel exhaust. Diesel particulates include small nuclei mode particles of diameters below 0.04µm and their agglomerates of diameters up to 1µm. Ambient exposures to diesel particulates in California are significant fractions of total TAC levels in the State.

Odorous Emissions

Though offensive odors from stationary sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Sensitive Receptors

Some land uses are considered more sensitive to air pollutants than others. Residences, hotels, schools, rest homes, and hospitals are generally more sensitive to air emissions than commercial and industrial land uses. Many different types of land uses are located in the communities

throughout the proposed project area. . The proposed pipeline runs near residences, including 30th Street West, 25th Street West, Elizabeth Lake Road, 40th Street East, Avenue S, Avenue R Avenue K and Gaskell Road. Pump stations and reservoirs could be near sensitive receptors around Elizabeth Lake Road, 25th Street West, Avenue M, Charlone Drive, 40th St East, Pearblossom Highway, and 42nd Street East.

3.2.2 Regulatory Setting

Federal Regulations

The federal Clean Air Act (FCAA) requires the U.S. Environmental Protection Agency (USEPA) to identify National Ambient Air Quality Standards (NAAQS or national standards) to protect public health and welfare. National standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM10, PM2.5, and lead. **Table 3.2-2** shows current national and state ambient air quality standards and provides a brief discussion of the related health effects and principal sources for each pollutant.

Pursuant to the 1990 FCAA Amendments, the USEPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for criteria air pollutants, based on whether or not the NAAQS had been achieved. **Table 3.2-3** shows the current attainment status of the proposed project area.

The FCAA requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAA added requirements for states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has responsibility to review all state SIPs to determine if they conform to the mandates of the FCAA and will achieve air quality goals when implemented. If the USEPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the nonattainment area and may impose additional control measures. Failure to submit an approvable SIP or to implement the plan within mandated timeframes can result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

State Regulations

The California Air Resources Board (CARB) manages air quality, regulates mobile emissions sources, and oversees the activities of county Air Pollution Control Districts and regional Air Quality Management Districts. CARB establishes state ambient air quality standards and vehicle emissions standards.

California has adopted ambient standards that are more stringent than the federal standards for the criteria air pollutants. These are shown in Table 3.2-2. Under the California Clean Air Act

TABLE 3.2-2
STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour 8 hours	0.09 ppm 0.070 ppm[a]	--- 0.08 ppm	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO_X) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Carbon Monoxide	1 hour 8 hours	20 ppm 9.0 ppm	35 ppm 9 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
Nitrogen Dioxide	1 hour Annual Avg.	0.18 ppm 0.030 ppm	--- 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide	1 hour 3 hours 24 hours Annual Avg.	0.25 ppm --- 0.04 ppm ---	--- 0.5 ppm 0.14 ppm 0.03 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Respirable Particulate Matter (PM-10)	24 hours Annual Avg.	50 g/m³ 20 g/m³	150 g/m³ ---	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
Fine Particulate Matter (PM-2.5)	24 hours Annual Avg.	--- 12 g/m³	35 g/m³ 15 g/m³	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_X, sulfur oxides, and organics.
Lead	Monthly Avg. Quarterly	1.5 g/m³ ---	--- 1.5 g/m³	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Geothermal Power Plants, Petroleum Production and refining	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)
Sulfates	24 hour	25 g/m³	No National Standard	Produced by the reaction in the air of SO2.	Breathing difficulties, aggravates asthma, reduced visibility
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism.	See PM2.5.

NOTE: ppm parts per million; $\mu g/m^3$ micrograms per cubic meter.

[a] This concentration was approved by the Air Resources Board on April 28, 2005 and became effective May 17, 2006.

SOURCE: California Air Resources Board, 2007b. *Ambient Air Quality Standards,* available at http:www.arb.ca.gov aqs aaqs2.pdf, February 22, 2007; California Air Resources Board, 2001. *ARB Fact Sheet: Air Pollution Sources, Effects and Control,* http:www.arb.ca.gov research health fs fs2 fs2.htm, page last updated December 2005.

TABLE 3.2-3
COUNTY ATTAINMENT STATUS

	Designation/Classification			
	Federal Standards		State Standards	
Pollutant	**Los Angeles**	**Kern**	**Los Angeles**	**Kern**
Ozone one hour	No Federal Standard[a]	No Federal Standard[a]	Nonattainment	Nonattainment
Ozone eight hour	Nonattainment; Classified Severe-17	Nonattainment	Unclassified	Unclassified
PM10	Unclassified	Nonattainment	Nonattainment	Nonattainment
PM2.5	Unclassified attainment	Nonattainment	Nonattainment	Unclassified
CO	Unclassifiable Attainment	Attainment	Attainment	Unclassified
Nitrogen Dioxide	Unclassified Attainment	Unclassified	Attainment	Attainment
Sulfur Dioxide	Unclassified	Unclassified	Attainment	Attainment
Lead	No Designation	No Designation	Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	No Federal Standard	Unclassified	Unclassified
Sulfates	No Federal Standard	No Federal Standard	Attainment	Unclassified
Visibility-Reducing Particles	No Federal Standard	No Federal Standard	Unclassified	Unclassified

[a] Federal One Hour Ozone National Ambient Air Quality Standard was revoked on June 15, 2005

SOURCES: California Air Resources Board, 2007c. *Area Designation Maps,* http: www.arb.ca.gov desig adm adm.htm, page updated February 2006; Federal Ozone 8-hour: http: www.epa.gov air oaqps greenbk gncs.html CALIFORNIA; Federal PM-10: http: www.epa.gov air oaqps greenbk pncs.html CALIFORNIA

(CCAA) patterned after the FCAA, areas have been designated as attainment or nonattainment with respect to the state standards. Table 3.2-3 summarizes the attainment status with California standards in the proposed project area.

Toxic Air Contaminants

California State law defines TACs as air pollutants having carcinogenic effects. A total of 243 substances have been designated as TACs under California law; they include the 189 hazardous air pollutants (HAPs) that have been identified by the federal government. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources but AB 2588 does not regulate air toxics emissions. Toxic air contaminant emissions from individual facilities are quantified and prioritized. Depending on the risk levels, emitting facilities are required to implement varying levels of risk reduction measures. The proposed project does not include developing facilities that may be categorized as "High-priority," which are required to perform a health risk assessment.

In August of 1998, CARB identified particulate emissions from diesel-fueled engines (diesel particulate matter, or DPM) as TACs. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB, 2000). The document represents a proposal to reduce diesel particulate emissions, with the goal to reduce emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020. The

program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra low sulfur diesel fuel on diesel-fueled engines.

CARB recently published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB, 2005). The primary goal in developing the handbook was to provide information that will help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution. The handbook highlights recent studies that have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities. However, the health risk is greatly reduced with distance. For that reason, CARB provided some general recommendations aimed at keeping appropriate distances between sources of air pollution and sensitive land uses, such as residences.

Greenhouse Gases

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of greenhouse gas would be progressively reduced, as follows:

- By 2010, reduce greenhouse gas emissions to 2000 levels;
- By 2020, reduce greenhouse gas emissions to 1990 levels; and
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires the CARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide greenhouse gas emissions are reduced to 1990 levels by 2020 (representing an approximate 25 percent reduction in emissions).

In June 2007 CARB directed staff to pursue 37 early actions for reducing greenhouse gas emissions under the California Global Warming Solutions Act of 2006 (AB 32). The broad spectrum of strategies to be developed – including a Low Carbon Fuel Standard, regulations for refrigerants with high global warming potentials, guidance and protocols for local governments to facilitate greenhouse gas reductions, and green ports – reflects that the serious threat of climate change requires action as soon as possible (CARB, 2007d).

In addition to approving the 37 greenhouse gas reduction strategies, CARB directed staff to further evaluate early action recommendations made at the June 2007 meeting, and to report back to CARB within six months. The general sentiment of CARB suggested a desire to try to pursue greater greenhouse gas emissions reductions in California in the near-term. Since the June 2007 CARB hearing, CARB staff has evaluated all 48 recommendations submitted by several stakeholders and several internally-generated staff ideas and published the *Draft List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration* in September 2007 (CARB, 2007d). Based on its additional analysis, CARB staff is recommending the expansion of the early action list to a total of 44 measures, which are shown below in **Table 3.2-4**.

TABLE 3.2-4
RECOMMENDED AB32 GREENHOUSE GAS MEASURES TO BE INITIATED BY CARB BETWEEN 2007 AND 2012

ID	Sector	Strategy Name
1	Fuels	Above Ground Storage Tanks
2	Transportation	Diesel Offroad equipment (non-agricultural)
3	Forestry	Forestry protocol endorsement
4	Transportation	Diesel Port trucks
5	Transportation	Diesel Vessel main engine fuel specifications
6	Transportation	Diesel Commercial harbor craft
7	Transportation	Green ports
8	Agriculture	Manure management (methane digester protocol)
9	Education	Local gov. Greenhouse Gas (GHG) reduction guidance protocols
10	Education	Business GHG reduction guidance protocols
11	Energy Efficiency	Cool communities program
12	Commercial	Reduce high Global Warming Potential (GWP) GHGs in products
13	Commercial	Reduction of PFCs from semiconductor industry
14	Transportation	SmartWay truck efficiency
15	Transportation	Low Carbon Fuel Standard (LCFS)
16	Transportation	Reduction of HFC-134a from DIY Motor Vehicle AC servicing
17	Waste	Improved landfill gas capture
18	Fuels	Gasoline disperser hose replacement
19	Fuels	Portable outboard marine tanks
20	Transportation	Standards for off-cycle driving conditions
21	Transportation	Diesel Privately owned on-road trucks
22	Transportation	Anti-idling enforcement
23	Commercial	SF_6 reductions from the non-electric sector
24	Transportation	Tire inflation program
25	Transportation	Cool automobile paints
26	Cement	Cement (A): Blended cements
27	Cement	Cement (B): Energy efficiency of California cement facilities
28	Transportation	Ban on HFC release from Motor Vehicle AC service dismantling
29	Transportation	Diesel offroad equipment (agricultural)
30	Transportation	Add AC leak tightness test and repair to Smog Check
31	Agriculture	Research on GHG reductions from nitrogen land applications
32	Commercial	Specifications for commercial refrigeration
33	Oil and Gas	Reduction in venting leaks from oil and gas systems
34	Transportation	Requirement of low-GWP GHGs for new Motor Vehicle ACs
35	Transportation	Hybridization of medium and heavy-duty diesel vehicles
36	Electricity	Reduction of SF_6 in electricity generation
37	Commercial	High GWP refrigerant tracking, reporting and recovery program
38	Commercial	Foam recovery destruction program
39	Fire Suppression	Alternative suppressants in fire protection systems
40	Transportation	Strengthen light-duty vehicle standards
41	Transportation	Truck stop electrification with incentives for truckers
42	Transportation	Diesel Vessel speed reductions
43	Transportation	Transportation refrigeration electric standby
44	Agriculture	Electrification of stationary agricultural engines

SOURCE: CARB, 2007d

The 2020 target reductions are currently estimated to be 174 $MMTCO_2E$. In total, the 44 recommended early actions have the potential to reduce greenhouse gas emissions by at least 42 million metric tons of carbon dioxide (CO_2) equivalent ($MMTCO_2E$) emissions by 2020, representing about 25% of the estimated reductions needed by 2020. The 44 measures are in the sectors of fuels, transportation, forestry, agriculture, education, energy efficiency, commercial, solid waste, cement, oil and gas, electricity, and fire suppression.

In addition to identifying early actions to reduce greenhouse gases, CARB will soon require mandatory reporting of greenhouse gases. The regulations are expected to require reporting for certain types of facilities that make up the bulk of the stationary source emissions in California. Currently, the draft regulation language identifies major facilities as those that generate more than 25,000 metric tons of CO_2 per year (CO_2/yr). This reporting limit is consistent with European Union reporting. Cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 MT CO_2/yr, make up 94 percent of the point source CO_2 emissions in California (CARB, 2007e).

Local Regulations

AVAQMD and KCAPCD have jurisdiction over air quality for the project area. AVAQMD has adopted an AQMP for determination of the significance of a project's contribution to local or regional pollutant concentrations. In addition, the Air Quality Attainment Plan (AQAP) for the AVAB establishes a program of rules and regulations directed at attainment of state and national air quality standards. Accordingly, conformance with the AQAP for development projects is determined by demonstrating compliance with local land use plans. The proposed project will be required to comply with the existing rules of the AVAQMD and KCAPCD as they apply.

City of Lancaster General Plan

The City of Lancaster General Plan governs Lancaster's air resources. The City of Lancaster General Plan Objective and Policies that are related to air resources and implementation of the proposed project are as follows.

Objective 3.3: Preserve acceptable air quality by striving to attain and maintain national and state air quality standards.

> **Policy 3.3.1:** Minimize the amount of vehicular travel generated by new development.
>
> **Policy 3.3.2:** Facilitate the development and use of public transportation and travel modes such as bicycle riding and walking.
>
> **Policy 3.3.3:** Minimize air pollutant emissions generated by new and existing development.
>
> **Policy 3.3.4:** Protect sensitive uses, homes, schools and medical facilities, from the impacts of air pollution.
>
> **Policy 3.3.5:** Cooperate with other agencies to protect air quality in the Antelope Valley.

City of Lancaster Municipal Code

The following sections of the City of Lancaster Municipal Code are relevant to the proposed project.

> **Section 8.16.030 Disturbing surface of land or causing wind erosion prohibited.** No person who owns or is in possession or control of land shall disturb or cause to be disturbed the surface or subsurface of said land by excavating, grading, leveling, cultivating, plowing, discing, removing any existing vegetation or by depositing or spreading a quantity of soil on said land, or by any other act likely to cause or contribute to dust emission or wind erosion of said land. No person shall cause or aggravate an existing dust or wind erosion condition without providing sufficient protection so as to prevent the soil on said land from being eroded by wind, creating dust, or blowing into a public road or roads or other public or private property.
> (Prior code § 5-5.3)
>
> **Section 8.16.040 Exceptions.** The provisions of this chapter shall not apply to: A. Activities that are performed by the forester and fire warden, agricultural commission, road department or person acting in compliance with a specific order of that department because of required ordinances, statutes, rules or regulations; B. Unpaved roadways open to public travel or unimproved public rights-of-way.
> (Prior code § 5-5.4)
>
> **Resolution No. 06-16.** A Resolution of the Planning Commission of the City of Lancaster, California, adopting certain standardized conditions of approval for conditional use permits. Per the direction of the Public Works Director, a Dust Control Plan shall be prepared and submitted to the Antelope Valley Air Quality Management District (AVAQMD) in accordance with Rule 403 of the AVAQMD. An approved copy of the Dust Control Plan shall be submitted to Public Works prior to issuance of a grading permit within the City for residential projects of 10 acres or larger and for commercial/industrial projects of 5 acres or larger.

City of Palmdale General Plan

The City of Palmdale General Plan Environmental Resources Element contains goals and policies associated with regulation of the air quality environment. Goals and policies applicable to the proposed project are provided below.

Objective ER5.3: Reduce and/or eliminate unnecessary sources of air pollution.

> **Policy ER5.3.1:** Promote the Antelope Valley Air Quality Management District's (AVAQMD) efforts to eliminate emissions from such sources as excessive car dealership cold starts, excessive curb idling, emissions from advertising vehicles, and emissions from leaf blowers, among others, through assisting with implementation and enforcement of district programs once they are adopted. (General Plan Amendment 04-01, adopted by City Council April 14, 2004.)
>
> **Policy ER5.3.3:** Reduce reactive organic gas (ROG) and particulate emissions from building materials and construction methods, by promoting the use of nonsolvent-based,

high-solid, or water-based coatings, and requiring compliance with all pertinent AVAQMD rules. (General Plan Amendment 04-01, adopted by City Council April 14, 2004.)

Objective ER5.4: Minimize emissions of air toxins and pollutants which contribute to global warming and ozone depletion.

Policy ER5.4.2: Through the environmental review process for new development applications, ensure that emissions of air toxins as defined by AVAQMD are minimized. (General Plan Amendment 04-01, adopted by City Council April 14, 2004.)

3.2.3 Impacts and Mitigation Measures

Significance Criteria

According to *CEQA Guidelines* Appendix G, the proposed project would have a significant effect on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any nonattainment pollutant (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

The proposed project also would have a significant effect on air quality if it would:

- Conflict with the state goal of reducing greenhouse gas emissions in California to 1990 levels by 2020, as set forth by the timetable established in AB 32, California Global Warming Solutions Act of 2006; or
- Generate emissions of criteria air pollutants that exceed the significance thresholds provided in **Table 3.2-5**.

TABLE 3.2-5
AIR QUALITY SIGNIFICANCE THRESHOLDS (TONS PER YEAR)

Pollutant	KCAPCD	AVAQMD
CO	NA	100
ROC	50	25
NO_x	50	25
SO_2	NA	25
PM_{10}	15	15

NOTE: NA Not Available
SOURCE: AVAQMD CEQA Guidelines, May 2005. KPACD New Source Review Rule 210.1

Construction. The proposed project would result in a significant construction air quality impact if regional emissions exceed the significance thresholds set forth in Table 3.2-5.

Operations. The proposed project would result in a significant operational air quality impact if either of the following occur:

- Regional emissions exceed the significance thresholds set forth in Table 3.2-5.
- The proposed project would not be compatible with AVAQMD or KCAPCD air quality rules and regulations.

Stationary sources that comply, or that would comply, with AVAQMD or KCAPCD Rules and Regulations are generally not considered to have a significant air quality impact.

The operation of any project with the potential to expose sensitive receptors to substantial levels of TACs would be deemed to have a potentially significant impact. More specifically, proposed development projects that have the potential to expose the public to TACs in excess of the following thresholds would be considered to have a significant air quality impact:

- Probability of contracting cancer for the Maximally Exposed Individual[1] (MEI) exceeds 10 in one million.
- Ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index greater than 1 for the MEI.

Lastly, any project that would individually have a significant air quality impact could also be considered to have a significant cumulative air quality impact. Impacts of local pollutants are cumulatively significant if modeling shows that the combined emissions from the project and other existing and planned projects in the area will exceed air quality standards.

Impacts Discussion

Project-level Impacts

Impact 3.2-1: The proposed project could conflict with or obstruct implementation of the applicable air quality plan. Less than Significant with Mitigation.

The proposed project would conflict with the AQMP if it would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emission reductions specified in the AQMP. The AQAP control measures and related emission reduction estimates are based upon emissions projections for future development derived from land use, population, and employment characteristics defined in consultation with local governments. The project may result in emissions that would exceed AVAQMD or KCAPCD significance thresholds during the short-term duration of construction. Although temporary emissions from construction would contribute

[1] MEI represents the worst-case risk estimate based on a theoretical person continuously exposed for 70 years at the point of highest compound concentration in air.

to air pollution in the basin, these activities would not result in measurably more frequent or more severe air quality violations. The AQMP identifies construction activities as factors contributing to overall emissions sources and provides source control measures to reduce this contribution. The AQMP does not, however, conclude that individual construction projects would delay the attainment of air quality standards for the basin. Compliance with the rules established by AVAQMD or KCAPCD to reduce construction emissions, including fugitive dust control measures and vehicle maintenance measures, would ensure that project construction would not conflict with the current AQMP. The measures required by AVAQMD to reduce construction emissions shall be implemented during construction of the proposed project as described below in Mitigation Measures 3.2-1a through 3.2-1f.

Operation of the project is not expected to exceed AVAQMD or KCAPCD significance thresholds associated with project-related vehicle traffic (see Impact 3.2-3 below). Conformance with the AQAP is determined by demonstrating compliance with local land use plans and/or population projections, meeting the land use designation set forth in the local General Plan, and comparing assumed emissions in the AQAP to proposed emissions. The proposed project is consistent with the current General Plan. As the current AQAP is based on land uses, population estimates, and employment projections set forth in the applicable General Plan, implementation of the proposed project would not conflict with the current AQAP. Therefore, impacts related to conflicts with applicable air quality plans would be less-than-significant.

Mitigation Measures

Mitigation Measure 3.2-1a: The implementing agencies shall include in contractor specifications the implementation of a fugitive dust control program pursuant to the provisions of AVAQMD Rule 403 or KCAPCD Rule 402.

Mitigation Measure 3.2-1b: All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.

Mitigation Measure 3.2-1c: General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues shall turn their engines off when not in use to reduce vehicle emissions. Construction emissions shall be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.

Mitigation Measure 3.2-1d: Electricity from power poles rather than temporary diesel- or gasoline-powered generators shall be used to the extent feasible.

Mitigation Measure 3.2-1e: All construction vehicles shall be prohibited from idling in excess of five minutes, both on- and off-site.

Mitigation Measure 3.2-1f: The project applicant shall utilize coatings and solvents that are consistent with applicable AVAQMD or KCAPCD rules and regulations**.**

Significance after Mitigation: Less than significant.

Impact 3.2-2: Construction activities associated with pipeline construction could generate substantial amounts of dust and other criteria pollutant emissions. Less than Significant with Mitigation.

Construction of individual project components involving development of new facilities and/or disturbance of land would generate substantial amounts of dust (including PM10) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) and lesser amounts of criteria air pollutants primarily from operation of heavy equipment construction machinery (mostly diesel operated) and construction worker commute trips. Construction activities would also generate evaporative emissions of Reactive Organic Gases (ROG) from asphalt paving and the use of architectural coatings on structures.

Construction of surface pipelines would be installed generally within the existing roadway rights-of-way where feasible to minimize land acquisitions or easement requirements. Additionally, in order to avoid highly sensitive areas, and road closures, tunneling, jack and bore, or other methods would be utilized to tunnel under the potentially affected area. These methods would require staging and receiving areas, located on either side of the sensitive feature.

The new pipeline segments would extend for approximately 70 miles and could affect air quality at sensitive receptor locations along the pipeline alignments for the duration of pipeline installation. The anticipated rate of pipeline installation along segments where open trench construction methods are used would be about 50 to 100 feet per day, which is typical for this type of construction in public roadway rights-of-way. At any one location along the pipeline segments, the duration of air quality impacts would be relatively brief, approximately three to five days, from the commencement of trenching to the completion of backfilling and paving, if necessary. Emissions of the following criteria air pollutants were estimated for pipeline construction based on maximum crew, truck trip, and construction activity data: NO_x, ROG, PM_{10}, $PM_{2.5}$, CO, and CO_2. Emissions calculations are based on criteria pollutant emission factors from URBEMIS 2007. The results of the analysis are included in Appendix D and are summarized in **Table 3.2-6**. While the emissions are less than significant, to avoid unnecessary emissions from construction, it is important that the project comply with local rules related to construction and standard construction mitigation measures identified below.

In regards to TAC emissions, the greatest potential generation would be related to diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. According to AVAQMD and KCAQCD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. The proposed project would not result in a long-term (i.e., 70 years) substantial source of TAC emissions. In addition, there would be no residual emissions after construction and corresponding individual cancer risk. As such, project-related toxic emission impacts during construction would be less-than-significant.

TABLE 3.2-6
UNMITIGATED EMISSIONS FROM PIPELINE PROJECT CONSTRUCTION
(TONS PER YEAR)[a]

Project Component	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$	CO_2
Pipeline						
2009	2	8	4	□1	□1	844
AVAQMD Thresholds of Significance	25	25	100	25	NA	NA
KCAPCD Thresholds of Significance	50	50	NA	15	NA	NA
Significant (Yes or No)?	**No**	**No**	**No**	**No**	**No**	**No**

[a] Project construction emissions estimates for off-road equipment were made using URBEMIS2007, version 9.2. 4. 2. Based on up to 100 feet per day of pipeline construction. See Appendix D for URBEMIS results.

NOTE: Values in **bold** are in excess of the applicable AVAQMD or KCAQCD significance threshold. NA □ Not Available

SOURCE: ESA, 2008.

Mitigation Measures

Implement Mitigation Measures 3.2-1a through 3.2-1f.

Significance After Mitigation: Less than significant.

Impact 3.2-3: Operation of the pipelines would result in minimal emissions of criteria air pollutants. Less than Significant.

All pipelines would be located below grade. Operational activities would be limited to periodic inspections of the pipeline alignments to check for signs of leaks. The vehicle trips associated with these maintenance inspections would not generate emissions that would trigger an exceedance of the AVAQMD or KCAQCD significance thresholds. This would be a less-than-significant impact.

Mitigation Measures

None required.

Impact 3.2-4: Operation of the pipeline would not create objectionable odors affecting a substantial number of people. Less than Significant.

The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source, wind speed and direction, and the sensitivity of receptors. Generally, increasing the distance between the receptor and the source will mitigate odor impacts. Types of land uses that typically pose potential odor problems include agriculture, wastewater treatment plants, food processing and rendering facilities, chemical plants, composting facilities, landfills, transfer

stations and dairies. Although the recycled water may be used at such facilities, the recycled water would not be the source of objectionable odors. Therefore, the project would not create objectionable odors that would affect a substantial number of people and odor impacts would be less-than-significant without mitigation.

Mitigation Measures

None required.

Impact 3.2-5: The proposed project would result in fewer greenhouse gas emissions than would result from importing a similar amount of water. Less than Significant.

Greenhouse gas (GHG) impacts are considered to be exclusively cumulative impacts. As with other individual relatively small projects (i.e., projects that are not cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, or hydrogen plants or other stationary combustion sources that emit more than 25,000 metric tons CO_2E/yr), the project specific emissions from this proposed project would not be expected to individually have a cumulative impact on global climate change (AEP, 2007). Rather, the proposed project would be inherently energy efficient since it would produce less CO_2 than is required for importing a similar amount of water.

The proposed project would provide the primary backbone system for distribution of recycled water to local users in the Antelope Valley, which would use less energy in the long term relative to alternative water sources. A recently published resource book on the significance of greenhouse gas emissions in California from various projects presents an example “Green List” of the types of projects that may have a beneficial effect on greenhouse gas emissions and climate change. The draft Green List includes recycled water projects that reduce energy consumption related to water supplies that service existing development, such as the proposed project (CAPCOA, 2008). For the proposed project, the end uses for the recycled water would otherwise be met with imported potable water if the proposed project were not implemented. The imported water would be delivered through the SWP, which consumes a substantial amount of energy to convey water to southern California from the Sacramento-San Joaquin River Delta in northern California. A recent study by West Basin Municipal Water District has shown that the energy required to import SWP water is over six times the energy requirement for Title 22 recycled water when considering kilowatt-hours per acre-foot (West Basin, 2007). In addition, the same study indicates that Title 22 recycled water produces 338 tons of CO_2 for every 1,000 af of water produced, while the SWP produces 2,250 tons of CO_2 for every 1,000 af of water imported (West Basin, 2007; USEPA, 1995).[2] Based on this analysis, the proposed project would be considered to be inherently energy efficient and would have a less than significant impact on greenhouse gases.

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[2] Conversion factor: kWh/1333.333 = tons CO_2. (USEPA, 1995)

project could be in conflict with the state goals for reducing greenhouse gas emissions. The analyses are reviews of:

A. The potential conflicts with the CARB 44 early action strategies; and

B. The basic parameters of the project to determine whether its design is inherently energy efficient.

With regard to Item A, the proposed project does not pose any apparent conflict with the most recent list of the CARB early action strategies (see Table 3.2-4). With regard to Item B, as discussed above, the proposed project design is inherently energy efficient. The proposed project would not conflict with state goals for reducing greenhouse gas emission. There would be no impact.

Mitigation Measures

None required.

Program-level Impacts

Impact 3.2-6: Construction activities associated with reservoirs and pump stations could generate substantial amounts of dust and other criteria pollutant emissions. Less than Significant with Mitigation.

Construction of individual project components involving development of new facilities and/or disturbance of land would generate substantial amounts of dust (including PM10) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) and lesser amounts of criteria air pollutants primarily from operation of heavy equipment construction machinery (mostly diesel operated) and construction worker commute trips. Construction activities would also generate evaporative emissions of ROG from asphalt paving and the use of architectural coatings on structures.

Construction of new above ground storage tanks (reservoir construction) would include site preparation and clearing, excavation, grading and reservoir construction. Typical equipment includes bulldozers, excavators, scrapers, cranes, rollers, dump trucks, concrete trucks, pre-stressing equipment and construction delivery tractor-trailers. Construction would take approximately nine months. NO_x, ROG, PM_{10}, $PM_{2.5}$, CO, and CO_2 construction emissions were estimated based on maximum crew, truck trip, and construction activity data. Emissions are based on criteria pollutant emission factors from URBEMIS 2007. The results of the analysis are included in Appendix D and are summarized in **Table 3.2-7**. While the emissions are less than significant, to avoid unnecessary emissions from construction, it is important that the project comply with local rules related to construction and standard construction mitigation measures (see Mitigation Measures 3.2-1a through 3.2-1f).

TABLE 3.2-7
UNMITIGATED EMISSIONS FROM RESERVOIR AND PUMP STATION CONSTRUCTION (TONS PER YEAR)[a,b]

Project Component	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$	CO_2
Pump Stations and Reservoirs						
2009	□1	1	1	□1	□1	89
AVAQMD Thresholds of Significance	25	25	100	15	NA	NA
KCAPCD Thresholds of Significance	50	50	NA	15	NA	NA
Significant (Yes or No)?	**No**	**No**	**No**	**No**	**No**	**No**

[a] Project construction emissions estimates for off-road equipment were made using URBEMIS2007, version 9.2. 4. See Appendix D for URBEMIS results.
[b] Based on concurrent construction of four reservoirs and two pump stations.

NOTE: Values in **bold** are in excess of the applicable AVAQMD or KCAPCD significance threshold. NA □ Not Available

SOURCE: ESA, 2008.

Construction of single story pump stations would involve excavation and structural foundation installation, pump house construction, pump installation, and final site restoration. Construction is estimated to take approximately eight months. NO_x, ROG, PM_{10}, $PM_{2.5}$, CO, and CO_2 construction emissions were estimated based on maximum crew, truck trip, and construction activity data provided by the applicant. Emissions are based on criteria pollutant emission factors from URBEMIS 2007. The results of the analysis are included in Appendix D and are summarized in Table 3.2-7. While the emissions are less than significant, to avoid unnecessary emissions from construction, it is important that the project comply with local rules related to construction and standard construction mitigation measures (see Mitigation Measures 3.2-1a through 3.2-1f).

In regards to TAC emissions, the greatest potential generation would be related to diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. According to AVAQMD and KCAPCD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. “Individual Cancer Risk” is the likelihood that a person exposed to concentrations of TACs over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. The proposed project would not result in a long-term (i.e., 70 years) substantial source of TAC emissions. In addition, there would be no residual emissions after construction and corresponding individual cancer risk. As such, project-related toxic emission impacts during construction of reservoirs and pump stations would be less-than-significant.

Mitigation Measures

Implement Mitigation Measures 3.2-1a through 3.2-1f.

Significance after Mitigation: Less than significant.

Impact 3.2-7: Operation of the reservoirs and pump stations would result in minimal operational emissions of criteria air pollutants. Less than Significant.

Reservoir operations, which are limited to water storage, would not generate air quality emissions. Inspection and periodic maintenance operations would generate only a few worker vehicle trips per week and would not generate emissions that would substantially contribute to project emissions that would trigger an exceedance of the AVAQMD or KCAQPD significance thresholds. The operation of reservoirs would be a less-than-significant impact.

The operation impacts associated with pump stations would be limited to those associated with operation of electric-powered pumps and back-up emergency generators (if required). Other operational activities would be limited to periodic inspections of the intake sites. The vehicle trips associated with these maintenance inspections would be minor and would not exceed AVAQMD or KCAPCD significance thresholds. This would be a less-than-significant impact.

Mitigation Measures

None required.

3.3 Biological Resources

This section establishes the existing conditions and provides an evaluation of potential impacts to biological resources associated with the proposed project. A Biological Resources Technical Report that provides the primary source of the following section is included in **Appendix E**. This section incorporates directly analysis prepared for the Biological Resources Technical Report prepared by BonTerra Consulting.

3.3.1 Methodology

A general survey of the project area for amphibians, reptiles, birds, and mammals was conducted simultaneously with the general survey of vegetation on January 30 and 31, 2008 by BonTerra Consulting. During the surveys, the proposed project area was evaluated for its potential to support special-status species that are known to occur or are expected to occur in the region. Vegetation types and wildlife habitats were characterized on the basis of accepted classification systems and field observations. All species observed during the course of the surveys were documented in field notes and are listed in the Plant and Wildlife Compendia A of Appendix E. Prior to the surveys, the following sources were consulted for information on biological resources within the project area:

- U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps: Soledad Mountain, Bissell, Rosamond, Rosamond Lake, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale;
- California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDB) record search for USGS 7.5-minute topographic quadrangle maps: Soledad Mountain, Bissell, Rosamond, Rosamond Lake, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale (CDFG, 2008);
- Los Angeles County Significant Ecological Area Study prepared by England and Nelson Environmental Consultants (1976) for Los Angeles County Department of Regional Planning and Environmental Systems Research Institute;
- Various literature specific to descriptions of the habitat, vegetation types, and special status species occurring in the project region (see References); and
- Aerial photographs (Aerial Express, 2006).

For purposes of this report, taxonomy and nomenclature for wildlife generally follows Stebbins (2003) for amphibians and reptiles, American Ornithologists Union (2007) for birds, and Baker *et al.* (2003) for mammals. Plants were identified using taxonomic keys in Hickman (1993) and Munz (1974). Taxonomy follows Hickman (1993) or current scientific journals for scientific and common names. Vegetation in the study area was classified into vegetation types based on the CDFG's List of California Terrestrial Natural Communities (CDFG, 2003). It should be noted that the surveys were conducted during the winter following a regional drought, so most annual species were not observable and some shrubs could not be identified.

3.3.2 Setting

Regional Setting

The proposed project would be located in the Antelope Valley at the western end of the Mojave Desert bordered on the south by the San Gabriel Mountains and on the northwest by the Tehachapi Mountains. The proposed project spans from Rosamond to the north to the San Gabriel Mountains to the south, including the cities of Palmdale and Lancaster (Figure 2-1).

The proposed project site ranges in elevation from 2,300 feet on the valley floor to just over 3,000 feet in the vicinity of Palmdale at the base of the San Gabriel Mountains. Little Rock Creek and Amargoso Creek drain the valley toward the Rosamond Dry Lake bed.

Land uses in the project area vary, including residential, commercial, industrial, institutional, agricultural, and open space. Prominent land uses in the area include the aerospace and agricultural industries. The area surveyed for the proposed project includes all project components and immediate surrounding areas as generally shown on Figure 2-1.

Local Setting

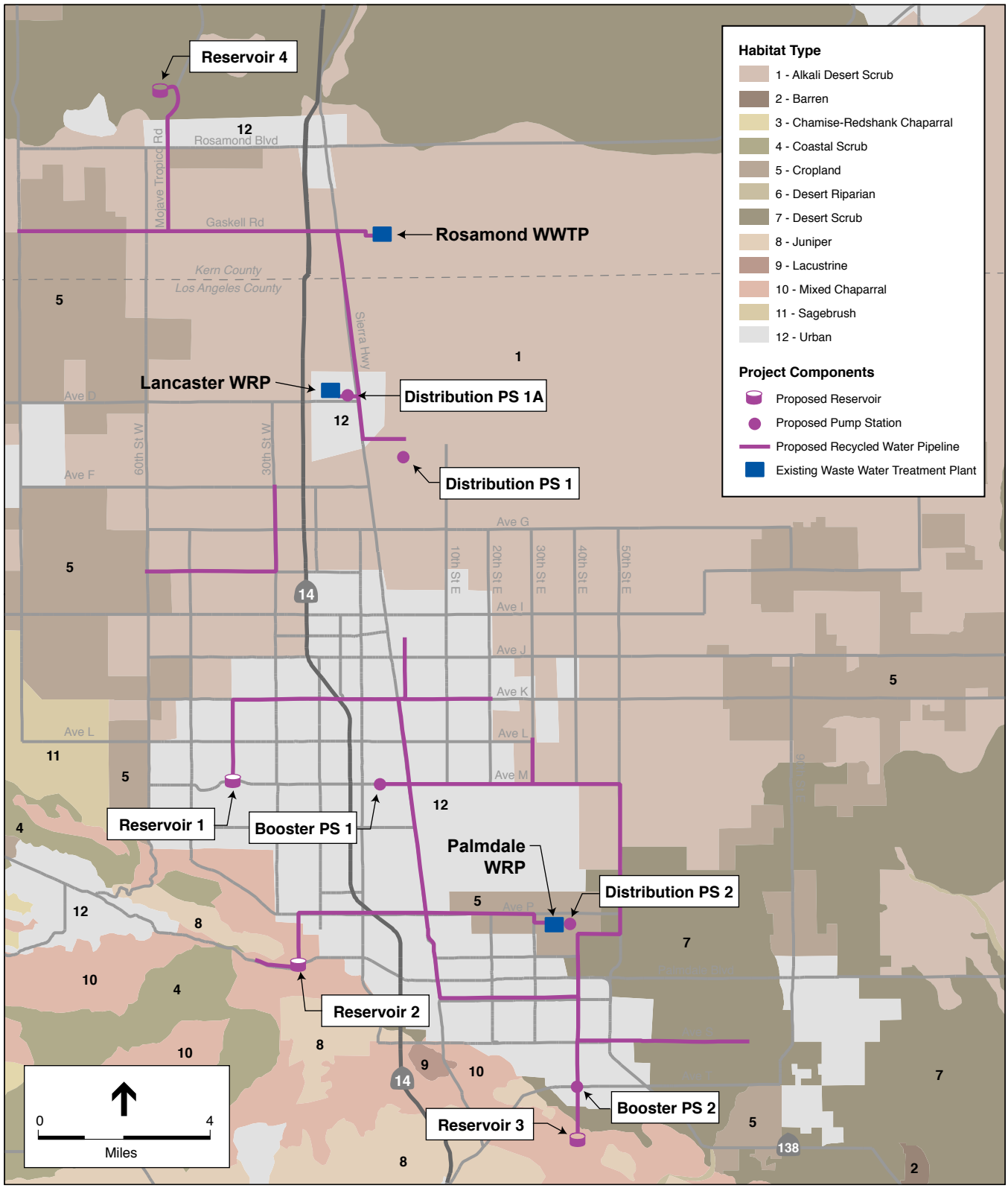
Habitat Types

The proposed project area supports 12 habitat types. **Figure 3.3-1** depicts these habitat types and a detailed description of each can be found in Appendix E within the Biological Technical Report. Wildlife habitats within the proposed project area vary in quality. High quality habitats are present where native habitat types are undisturbed and have connectivity to other open space areas. Native habitat types within the proposed project area include chaparral habitats associated with the foothills of the San Gabriel Mountains and desert scrub habitats (e.g., creosote bush scrub, Joshua tree woodland, rabbitbrush scrub, saltbush scrub, and California juniper scrub) of the valley floor. In addition, some riparian habitats exist within Amargosa Creek, especially west of Palmdale. Non-native habitats generally provide low quality wildlife habitat; though, agricultural areas can provide habitat for certain wildlife species (i.e., raptor foraging habitat discussed below). A list of plant species observed during field reconnaissance can also be found within Appendix E.

Common Wildlife

Amphibians

The valley floor from Palmdale northwards supports a limited community of amphibians due to the general lack of water, but the chaparral habitats in the higher altitudes south of Palmdale, especially Amargosa Creek, support a more diverse assemblage of amphibian species. Desert scrub habitats on the valley floor from Palmdale northward may provide suitable habitat for red-spotted toad (*Bufo punctatus*). Amphibian species that may occur in the chaparral habitats in the vicinity of Palmdale include the western toad (*Bufo boreas*), black-bellied salamander (*Batrachoseps nigriventris*), and California (*Pseudacris* [*Hyla*] *cadaverina*) and Pacific



SOURCE: California GAP Analysis, 1998.

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Figure 3.3-1
Habitat Type

(*Pseudacris* [*Hyla*] *regilla*) treefrogs. The introduced bullfrog (*Rana catesbeiana*) is also expected to occur throughout the proposed project area wherever permanent or even semi-permanent surface water occurs.

Reptiles

The desert scrub habitats of the valley floor of Palmdale northward provide potential habitat for a wide variety of lizards and snakes. Lizards that may occur in the proposed project area include banded gecko (*Coleonyx variegatus*), desert iguana (*Dipsosaurus dorsalis*), common chuckwalla (*Sauromalus obesus*), Great Basin collared lizard (*Crotaphytus bicinctores*), long-nosed leopard lizard (*Gambelia wislizenii*), zebra-tailed lizard (*Callisaurus craconoides*), desert spiny lizard (*Sceloporus magister*), side-blotched lizard (*Uta stansburiana*), long-tailed brush lizard (*Urosaurus graciosus*), desert horned lizard (*Phrynosoma platyrhinos*), yucca night lizard (*Xantusia vigilis*), and western whiptail (*Cnemidophorus tigris*). Snake species that may occur include western blind snake (*Leptotyphlops humilis*), rosy boa (*Charina trivirgata*), spotted leaf-nosed snake (*Phyllorhynchus decurtatus*), coachwhip (*Masticophis flagellum*), western patch-nosed snake (*Salvadora hexalepis*), glossy snake (*Arizona elegans*), gopher snake (*Pituophis melanoleucus*), common kingsnake (*Lampropeltis getulus*), long-nosed snake (*Rhinocheilus lecontei*), western shovel-nosed snake (*Chionactis occipitalis*), night snake (*Hypsiglena torquata*), speckled rattlesnake (*Crotalus mitchelli*), Mojave rattlesnake (*Crotalus scutulatus*), and sidewinder (*Crotalus cerastes*).

The variety of lizard and snake species that inhabit the foothills of the San Gabriel Mountains near Palmdale are expected to differ from those found on the valley floor northward, though several species are expected to occur in both areas. Lizards that may occur in the chaparral habitats in the vicinity of Palmdale include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard, western skink (*Eumeces skiltonianus*), Gilbert's skink (*Eumeces gilberti*), and southern alligator lizard (*Elgaria multicarinata*). Snakes that may occur include ring-necked snake (*Diadophis punctatus*), western yellow-bellied racer (*Coluber constrictor*), coachwhip, California whipsnake (*Masticophis lateralis*), glossy snake, gopher snake, common kingsnake, long-nosed snake, blackheaded snake (*Tantilla planiceps*), lyre snake (*Trimorphodon bisculatus*), night snake, and western rattlesnake (*Crotalis oreganus*).

Birds

A variety of bird species are expected to be residents in the proposed project area, using the habitats throughout the year. Other species are present only during certain seasons. For example, the yellow-rumped warbler (*Dendroica coronata*) and white-crowned sparrow (*Zonotrichia leucophrys*) are common in the proposed project area during the winter season and then migrate north in spring to breed north of region during the summer season.

Birds expected to be resident of the desert scrub habitats on the valley floor of the proposed project area from Palmdale northward include California quail (*Callipepla californica*), greater roadrunner (*Geococcyx californianus*), ladder-backed woodpecker (*Picoides scalaris*), common raven (*Corvus corax*), verdin (*Auriparus flaviceps*), cactus wren (*Campylorhynchus brunneicapillus*), rock wren (*Salpinctes obsoletus*), and bewick's wren (*Thryomanes bewickii*).

For the spring/summer breeding season, resident birds are joined by migratory species that arrive in spring and depart southward in fall. Migratory species expected to breed in the desert scrub habitats of the proposed project area include lesser nighthawk (*Chordeiles acutipennis*), Costa's hummingbird (*Calypte costae*), ash-throated flycatcher (*Myiarchus cinerascens*), sage sparrow (*Amphispiza belli*), blackthroated sparrow (*Amphispiza bilineata*), and Scott's oriole (*Icterus parisorum*).

The variety of resident bird species that inhabit the foothills of the San Gabriel Mountains near Palmdale are expected to differ from those found on the valley floor northward, though several species are expected to occur in both areas of the proposed project area. Birds expected to be resident along Amargosa Creek or the chaparral habitats in the vicinity of Palmdale include the California quail, Nuttall's woodpecker (*Picoides pubescens*), western scrub jay (*Aphelocoma californica*), common raven, bushtit (*Psaltriparus minimus)*, Bewick's wren, California thrasher (*Toxostoma redivivum*), California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculates*), and lesser goldfinch (*Carduelis psaltria*). Migratory species expected to breed in this portion of the proposed project area include black-chinned hummingbird (*Archilochus alexandri*), Costa's hummingbird, ash-throated flycatcher, black-chinned sparrow (*Spizella atrogularis*), and blackheaded grosbeak (*Pheuticus melanocephalus*).

The non-native habitats of the proposed project area include agricultural habitats that can provide habitat for birds at all seasons. Depending on the stage of crop rotation, agricultural fields often provide an abundance of foraging opportunities for birds of prey (raptors). Prey for raptors can include mammals, birds, reptiles, and insects. The red-tailed hawk (*Buteo jamaicensis*) is a common year-round resident in the Antelope Valley that forages primarily on mammals. Another common year-round resident is the American kestrel (*Falco sparverius*), a small species of falcon, that forages on a variety of small prey from mammals to birds to reptiles, but will also take insects such as dragonflies. The agricultural fields during the winter season often support large flocks of wintering birds such as the horned lark (*Eremophila alpestris*), mountain bluebird (*Sialia currucoides*), American pipit (*Anthus rubescens*), red-winged blackbird (*Agelaius phoeniceus*), and western meadowlarks (*Sturnella neglecta*). These species can form large wintering flocks on agricultural fields and provide abundant prey for those raptors, particularly the larger falcon species that specialize in capturing birds. The Antelope Valley has long been known for supporting a high density and diverse assemblage of raptors during the winter season.

Mammals

The desert scrub habitats of the valley floor of Palmdale northward provide potential habitat for a wide variety of small ground dwelling mammals in this portion of the proposed project area. Those species that may occur in these habitats of the proposed project area include Crawford's desert shrew (*Notiosorex crawfordi*), desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), white-tailed antelope squirrel (*Ammospermophilus leucurus*), Botta's pocket gopher (*Thomomys bottae*), little pocket mouse (*Perognathus longimembris*), long-tailed pocket mouse (*Chaetodipus formosus*), desert pocket mouse (*Chaetodipus penicillatus*), chiseltoothed kangaroo rat (*Dipodomys microps*), Panamint kangaroo rat (*Dipodomys panamintinus*), Merriam's kangaroo rat (*Dipodomys merriami*), western harvest

mouse (*Reithrodontomys megalotis*), cactus mouse (*Peromyscus eremicus*), deer mouse (*Peromyscus maniculatus*), canyon mouse (*Peromyscus crinitus*), and desert woodrat (*Neotoma lepida*).

The variety of small ground dwelling mammals that inhabit the foothills of the San Gabriel Mountains near Palmdale are expected to differ from those found on the valley floor northward, though several species are expected to occur in both areas of the proposed project area. Species that may occur in the chaparral habitats in the vicinity of Palmdale include ornate shrew (*Sorex ornatus*), desert shrew, broad-footed mole (*Scapanus latimanus*), brush rabbit (*Sylvilagus bachmani*), desert cottontail, Merriam's chipmunk (*Tamias merriami*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher, California pocket mouse (*Chaetodipus californicus*), agile kangaroo rat (*Dipodomys agilis*), western harvest mouse, cactus mouse, California mouse (*Peromyscus californicus*), deer mouse, brush mouse (*Peromyscus boylii*), pinyon mouse (*Peromyscus truei*), desert woodrat, and California vole (*Microtus californicus*).

Bats occur throughout most of southern California and a variety of species are expected to occur within the proposed project area. Foraging is expected to occur throughout the proposed project area, but potential roosting sites appear limited and include trees, mines, and buildings. Most of the bats that occur in the proposed project area are either inactive during the winter (hibernate) or migrate south to warmer climates. Bats expected to forage in the proposed project area include California myotis (*Myotis californicus*), western pipistrelle (*Pipistrellus hesperus*), big brown bat (*Eptesicus fuscus*), and the Brazilian free-tailed bat (*Tadarida brasiliensis*).

Larger mammals expected to occur within the proposed project area include the coyote (*Canis* latrans), kit fox (*Vulpes macrotis*), gray fox (*Urocyon cinereoargenieus*), ringtail (*Bassariscus astutus*), raccoon (*Procyon lotor*), long-tailed weasel (*Mjustela frenata*), western spotted skunk (*Spilogale gracilis*), striped skunk (*Mephitis mephitis*), mountain lion (*Felis* concolor), bobcat (*Felis* rufus), and mule deer (*Odocoileus hemionus*). The kit fox is the only one of these species that is restricted to the desert scrub habitats on the valley floor from Palmdale northward. Of the rest, only the coyote and western spotted skunk have the potential to occur throughout the proposed project area.

Natural Communities of Special Concern

The CNDDB tracks the occurrence of what the CDFG terms "Terrestrial Natural Communities" that are "considered rare and worthy of consideration by CNDDB." Joshua tree woodlands, which occur in scattered locations throughout the proposed project area, are considered "rare and worthy of consideration by CNDDB" according to CDFG (2003).

Portions of the City of Palmdale with Joshua tree occurrences are under the jurisdiction of the Palmdale Native Desert Vegetation Ordinance. This ordinance applies to all public and private property which contains Joshua trees or other native desert vegetation including California juniper. For development in these areas, a proposal application would be necessary, including a desert vegetation preservation plan which depicts the location of each Joshua tree and California juniper, details tree age and health, and describes which can be saved and maintained on the site

or need to be relocated. A permit must be obtained from the City of Palmdale's landscape architect prior to removal of protected vegetation. Project components within the City of Palmdale must be in compliance with the Palmdale Native Desert Vegetation Ordinance.

Special-Status Species

Special-Status Plants

Eleven special-status plant species are known to occur or have the potential to occur in the proposed project region. These plants and their potential to occur within the vicinity of the proposed project are listed in Table 1 of the Biological Technical Report contained in Appendix E.

Special-Status Wildlife

A total of 35 special-status wildlife species are known to occur or potentially occur in the proposed project area. A list of these species as well as the potential for their occurrence within the proposed project area is provided in Table 2 of the Biological Technical Report contained in Appendix E.

Wildlife Movement

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic landbridges, for example. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix that connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. The nature of corridor use and wildlife movement patterns varies greatly among species.

Open space areas within the proposed project area are highly fragmented by existing development. Construction of the pipeline would occur mostly through existing roads and developed areas, but several reservoirs and pump stations would be located on undisturbed open space areas. Prominent features expected to convey wildlife movement include Amargosa Creek and Little Rock Wash. Amargosa Creek follows the San Andreas Rift Zone to Palmdale where it turns to the north, essentially following State Highway 14, before draining into the Piute Ponds near Rosamond Lake. This creek is severely fragmented by existing development in the surrounding cities and would not be expected to support regional wildlife movement. Little Rock wash also moves north from the San Gabriel Mountains onto the Antelope Valley floor before draining into the Rosamond dry lake bed. Little Rock Wash is expected to support some regional wildlife movement; however, the components of the proposed project fall outside of Little Rock

Wash. The foothills of the San Gabriel Mountains which surround the proposed project area to the east, west and south, are also expected to support regional wildlife movement.

Jurisdictional Resources

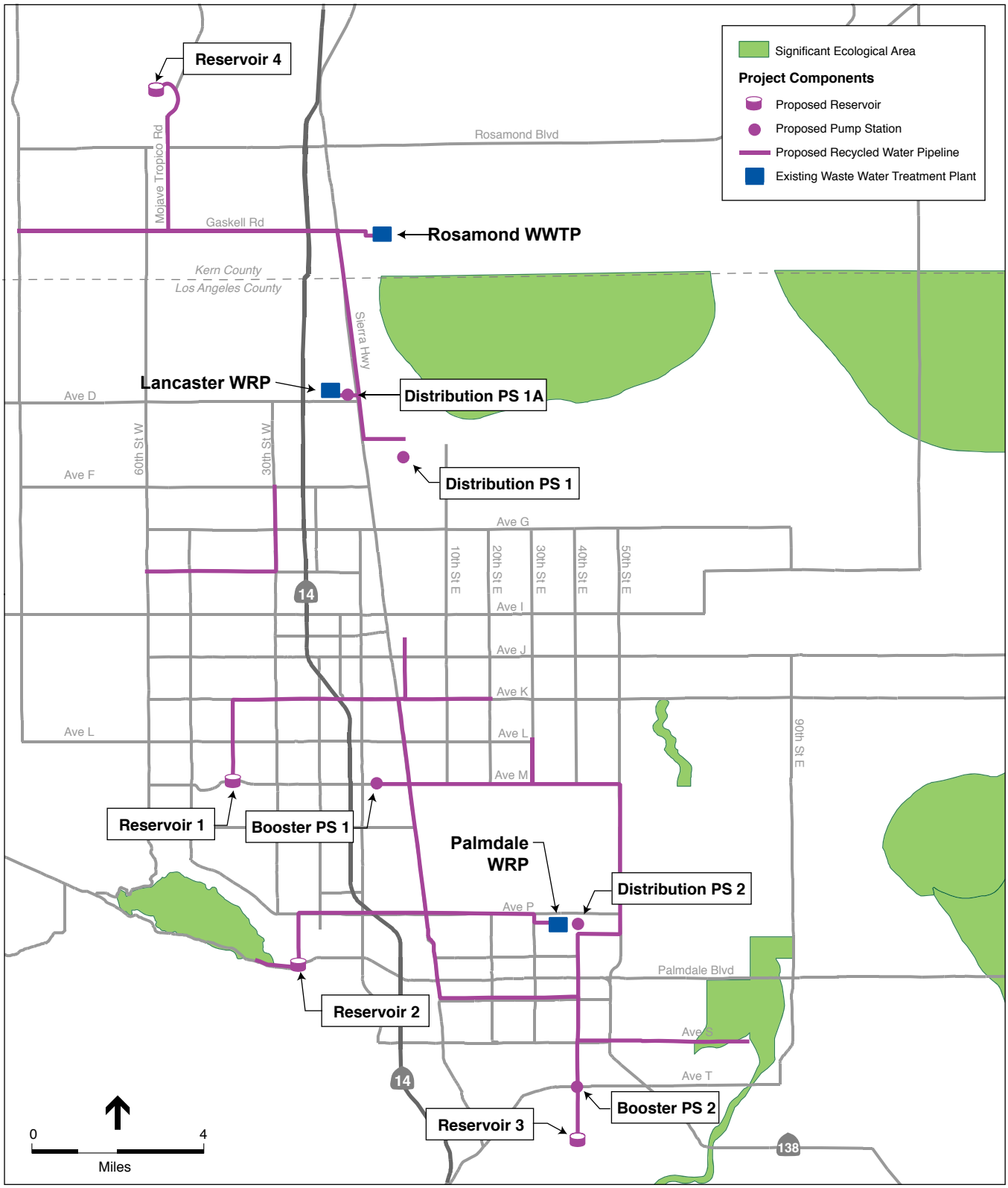
Wetlands and permanent and intermittent drainages, creeks, and streams identified as waters of the US are generally subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) under Section 404 of the Federal Clean Water Act. However, the Corps has determined that surface water features within the Antelope Valley are not considered waters of the US due to their isolation from navigable waters. Therefore, projects affecting surface waters and wetlands are not subject to Section 404 permitting.

Streambeds are subject to regulation by the CDFG under Section 1602 of the California Fish and Game Code. A stream is defined under these regulations as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. This definition includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFG jurisdiction typically extends to the edge of the riparian vegetation canopy.

Other Sensitive Biological Resources

Within the proposed project area, no regional Habitat Conservation Plans or Natural Community Conservation Plans have been adopted. However, some unincorporated portions of the service area are within Los Angeles County Significant Ecological Area (SEA) general plan designations, which indicate the presence of sensitive resources and require county environmental review.

The SEA program was originally adopted in the 1970s, and currently the County of Los Angeles is reviewing the SEA program as part of the General Plan Update. A part of this update includes SEA boundary revisions in order to group smaller SEAs into larger, connected SEAs. The existing SEAs in the Antelope Valley identified in the General Plan are shown in **Figure 3.3-2**. The General Plan Update has proposed conjoining these SEAs into a single SEA covering a considerably larger area, containing the similar resources present within the existing SEA boundaries. The revised General Plan and SEA program is not expected to be adopted until late 2008. The proposed Antelope Valley SEA would cover 222,325 total acres and encompass a wide variety of topographic features. The orientation and extent of the proposed SEA recognizes the importance of the Little Rock and Big Rock Creek watershed contributions to the surface and subsurface hydrology of the Antelope Valley, and the desert dry lakes. It also encompasses the remaining undeveloped portions of Lovejoy Butte and all of Alpine, Piute, Black, and Saddleback Buttes (PCR 2000).



SOURCE: Los Angeles County GIS, 2008.

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Figure 3.3-2

Significant Ecological Areas

3.3.2 Regulatory Framework

Federal

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) in the Department of the Interior, has responsibility for administration of the federal Endangered Species Act (FESA). The FESA provides broad protection for species of fish, wildlife and plants that are listed as threatened or endangered in the United States or elsewhere. The FESA has four major components: 1) provisions are made for listing species, 2) requirements for federal agency consultation with USFWS or NMFS, 3) prohibitions against "taking" of listed species, and 4) the provisions for permits that allow incidental "take" of listed species for otherwise lawful activities. The FESA also requires the preparation of recovery plans and the designation of critical habitat for listed species.

The Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711) makes it unlawful to possess, buy, sell, purchase, barter or "take" any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. "Take" is defined as possession or destruction of migratory birds, their nests or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the Migratory Bird Treaty Act.

Clean Water Act Section 404

Wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by the Corps which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation. Under Section 404 of the Clean Water Act (CWA), the Corps is responsible for regulating the discharge of dredged or fill material into waters of the United States. The term "waters" includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations. The Corps has indicated that the isolated washes within the Antelope Valley watershed are not considered navigable water of the U.S. as defined in the CWA and therefore are not within their jurisdiction to regulate under Section 404 of the CWA.

State

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the main provisions of the FESA and is administered by the California Department of Fish and Game (CDFG). Unlike its federal counterpart, CESA applies the take prohibitions to not only listed threatened and endangered species, but also to state candidate species for listing. Section 86 of the Fish and Game Code

defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CDFG maintains lists for Candidate-Endangered Species and Candidate-Threatened Species, which have the same protection as listed species. Under CESA the term "endangered species" is defined as a species of plant, fish, or wildlife, which is "in serious danger of becoming extinct throughout all, or a significant portion of its range" and is limited to species or subspecies native to California.

Clean Water Act Section 401 Certification or Waiver, and State Discharge Permit under the Porter-Cologne Act

The State of California (State) regulates water quality related to discharge of fill material into waters of the State pursuant to Section 401 of the Clean Water Act. Section 401 compliance is a federal mandate regulated by the State. The local Regional Water Quality Control Boards (RWQCB) have jurisdiction over all those areas defined as jurisdictional under Section 404 of the CWA. In addition, the State regulates water quality for all waters of the State, that may also include isolated wetlands as defined under the California Porter-Cologne Water Quality Control Act (Porter Cologne; Ca. Water Code, Div. 7, §13000 et seq.). The RWQCB regulates discharges that can affect water quality, even if there is no significant nexus to a traditional navigable water body required for Corps determination of jurisdiction over waters of the US. In such instances, a Waste Discharge Permit is required to comply with the Porter-Cologne Water Quality Control Act even though the federal Clean Water Act, including Section 401 water quality certifications or Section 404 permits, would not apply.

Section 1602 Lake and Streambed Alteration Agreement

Jurisdictional authority of the CDFG over the bed, bank, or channel of a river, stream, or lake is established under Section 1600 *et. seq.* of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream, or lake resulting in a substantial effect on a fish or wildlife resource without notifying the CDFG and completing the Streambed Alteration Agreement process.

Local

Los Angeles County Significant Ecological Areas (SEAs)

As part of the General Plan Conservation/Open Space and Land Use elements, the County had identified and adopted policies for SEAs. The purpose of establishing an SEA is to maintain biological diversity by establishing natural biological parameters, including species, habitat types, and linkages. The County General Plan includes recommended management practices for each SEA. The Antelope Valley SEA is located in the vicinity and generally to the east of the proposed project area. Figure 3.3-2 shows the existing SEAs in the project area.

Palmdale Native Plant Ordinance

The Joshua Tree and Native Desert Vegetation Preservation Ordinance (Chapter 14.04 of Title 14 of the Palmdale Municipal Code) applies to all public and private property which contains Joshua trees or other desert vegetation including California juniper. For development in these areas, a proposal application would be necessary, including a desert vegetation preservation plan which depicts the location of each Joshua tree and California juniper, details tree age and health, and describes which can be saved and maintained on the site or relocated. A permit must be obtained from the City of Palmdale's landscape architect prior to removal of protected vegetation.

3.3.3 Impacts and Mitigation Measures

Significance Criteria

To determine the level of significance of an identified impact, the criteria outlined in the CEQA Guidelines were used. The following is a discussion of the approaches to, and definitions of, significance of impacts to biological resources drawn from several distinct guidelines sections.

CEQA Guidelines Section 15065 directs lead agencies to find that a project may have a significant effect on the environment if it has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory. CEQA Guidelines Section 15206 further specify that a project shall be deemed to be of statewide, regional, or area-wide significance if it would substantially affect sensitive wildlife habitats including, but not limited to, riparian lands, wetlands, bays, estuaries, marshes, and habitats for rare and endangered species as defined by the Fish and Game Code Section 903. CEQA Guidelines (Section 15380) provide that a plant or animal species, even if not on one of the official lists, may be treated as "rare or endangered" if, for example, it is likely to become endangered in the foreseeable future. Additional criteria to assess significant impacts to biological resources due to the proposed project are specified in CEQA Guidelines Section 15382 (Significant Effect on the Environment) "…*a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance*."

Appendix G of the *CEQA Guidelines* (as revised) indicates that a project would have a significant effect on the environment if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Impacts Discussion

Wildlife Movement

The proposed pipeline construction would be temporary, generally within city streets, and would occur in short segments. Once constructed, the pipelines would be underground and would not impede wildlife movement. Therefore wildlife movement would not be adversely affected. The construction of reservoirs and pump stations would result in permanent structures. These structures would not affect regional movement because their locations would not be within canyon bottoms or drainages where such movement normally occurs. In addition, the size of the above ground structures are relatively small and wildlife would be expected to easily travel around them. No impacts on wildlife movement would occur and no mitigation would be required.

Habitat Conservation Plans

The proposed project area does not fall within the jurisdiction of an adopted habitat conservation plan or natural community conservation plan and therefore would not conflict with any such provisions. No impact would occur and no mitigation would be required.

Project-level Impacts

Special-Status Species

Impact 3.3-1: Construction of the pipeline could have a substantial adverse effect on listed, candidate or special-status ground dwelling wildlife species including the California red-legged frog and Mohave ground squirrel. Less than Significant with Mitigation.

There is potential for six species listed as state and/or federally Threatened and Endangered to occur within the vicinity of the proposed project. These include two ground dwelling species, the California red-legged frog and Mohave ground squirrel; the other four are avian species and are discussed below under Impact 3.3-2. USFWS Critical Habitat for one of these species, the California red-legged frog, is located at least partially within the proposed project area along Amargosa Creek. Although no direct impacts would be expected to be incurred by this species, there is the potential for indirect impacts such as noise and dust during construction of the proposed project components in Amargosa Creek. Impacts on the California red-legged frog

would be reduced to less than significant with implementation of Mitigation Measure 3.3-1a through 3.3-1d. Implementation of the mitigation measures would ensure that the California red-legged frog would not be affected.

The Mohave ground squirrel and burrowing owl have the potential to occur in the native habitats of the proposed project area. Any impacts to these species would be considered significant and mitigation would be required. Implementation of Mitigation Measure 3.3-1e and 3.3-1f would reduce these impacts to less than significant.

Mitigation Measures

Mitigation Measure 3.3-1a: The implementing agencies shall have a qualified biologist conduct a pre-construction field reconnaissance survey for special-status ground-dwelling species within the construction right-of-way. If potential for special-status ground-dwelling species is identified then presence/absence protocol surveys shall be conducted. If protocol surveys identify the presence of special-status ground-dwelling species, the implementing agencies shall consult with CDFG to determine further required mitigation.

Mitigation Measure 3.3-1b: The implementing agencies shall avoid impacts on California red-legged frog by eliminating construction activities within areas where the species may occur. Implementing agencies shall employ tunneling or jack and bore construction methods under drainages that may support California red-legged frog in order to avoid impacting the species.

Mitigation Measure 3.3-1c: The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project near areas that may support California red-legged frogs as determined by a qualified biologist.

Mitigation Measure 3.3-1d: The implementing agencies shall install a silt fence or some other impermeable barrier to exclude small wildlife species from entering the active work areas. Exclusion fencing can be limited to areas of documented occurrences of special-status wildlife as determined during pre-construction surveys by a qualified biologist.

Mitigation Measure 3.3-1e: Prior to project implementation, a habitat assessment shall be conducted by a qualified biologist to determine the potential for the Mohave ground squirrel to occur within construction zones. If the habitat assessment determines that potential habitat for the Mohave ground squirrel is present in the impact zone or within 300 feet of the construction zone, then the implementing agencies have two options: 1) assume the Mohave ground squirrel is present and either take the steps necessary to avoid any potential direct or indirect impacts (i.e., construction noise and dust) that may be incurred by the Mohave ground squirrel or 2) arrange for a qualified biologist with the necessary permits to implement a trapping program in accordance with CDFG's trapping protocol to determine the presence or absence of the Mohave ground squirrel. If Mohave ground squirrel is identified as present or assumed present, implementing agencies shall obtain an incidental take permit from CDFG pursuant to Section 2081 of the California Fish and Game Code and provide compensation at a ratio determined by CDFG.

Mitigation Measure 3.3-1f: Prior to project implementation, a burrowing owl presence/absence survey shall be conducted by a qualified biologist in accordance with

CDFG's *1995 Staff Report on Burrowing Owl Mitigation* and the *Burrowing Owl Consortium's 1992 Burrowing Owl Protocol and Mitigation Guidelines* to determine the potential for the burrowing owl to occur within impacted areas and construction zones. If the survey results in discovery of burrowing owl, sign, or potential burrow sites in the impact zone, then additional surveys shall be performed during the breeding season (April 15 to July 15) in accordance with the *1992 Guidelines* to determine use of the site by burrowing owl. Following this survey, the implementing agencies shall consult with CDFG to determine avoidance or mitigation measure to minimize project impacts to burrowing owl.

Significance After Mitigation: Less than significant.

Impact 3.3-2: Construction of the pipeline could have a substantial adverse effect on listed, candidate or special-status bat and avian species including the Swainson's hawk, American peregrine falcon, southwestern willow flycatcher, and least Bell's vireo. Less than Significant with Mitigation.

The federal Migratory Bird Treaty Act (16 USC, Sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior, including take of bird nests and eggs. Birds of prey are protected in California under the State Fish and Game Code, Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Project impacts to these species would not be considered significant unless they are known or have a high potential to nest in the project area or to rely on it for primary foraging.

Four listed special-status avian species with potential to occur in the project area include the Swainson's hawk, American peregrine falcon, southwestern willow flycatcher, and least Bell's vireo. Although rare in the proposed project area, there is potential for the Swainson's hawk to nest in the vicinity of the proposed project wherever there are clumps of trees adjacent to open space habitats (native and non-native). Any direct or indirect impacts on nesting Swainson's hawk would be considered as potentially significant. Implementation of Mitigation Measure 3.3-2a through 3.3-2c, 3.3-2e, and 3.3-2f would reduce impacts on Swainson's hawk to less than significant. The American peregrine falcon is expected to occur as a rare migrant and not expected to nest. Potential project impacts on this species would not be considered significant and no mitigation would be required. Willow riparian habitats along Amargosa Creek provide potentially suitable habitat for the southwestern willow flycatcher and least Bell's vireo and both species may occur. Any impacts on these species would be considered significant. Implementation of Mitigation Measure 3.3-2a through 3.3-2c, 3.3-2e, and 3.3-2f would reduce impacts on the southwestern willow flycatcher and least Bell's vireo to less than significant.

Implementation of the proposed project may result in loss of foraging habitat for thirteen special-status raptor species, both temporary and permanent, through construction of the project

components. These 13 raptor species are Cooper's hawk, sharp-shinned hawk, golden eagle, ferruginous hawk, Swainson's hawk (addressed above for potential impacts on nesting), northern harrier, white-tailed kite, merlin, prairie falcon, American peregrine falcon, short-eared owl, long-eared owl, and burrowing owl. Construction of the pipeline components would result in temporary loss of foraging habitat for these species. This impact would represent an incremental loss of foraging habitat for these species that is adverse, but not substantial enough to warrant a finding of significance.

Although the burrowing owl is not an Endangered or Threatened species, potential impacts on this species through loss of an occupied burrow would meet the significance criteria in Section 15380 of the CEQA guidelines, and mitigation would be required. Impacts on the burrowing owl would be reduced with implementation of Mitigation Measure 3.3-2a through 3.3-2c, 3.3-2e, and 3.3-2f. In addition, the loss of an active raptor nest would also be considered a violation of the California Fish and Game Code 3505.5. Mitigation Measures 3.3-2a through 3.3-2f ensure that implementing agencies avoid impacts on raptor nests and bat roost sites, resulting in a less than significant impact.

Mitigation Measures

Mitigation Measure 3.3-2a: Prior to any ground-disturbing activities, the implementing agencies shall have a qualified biologist conduct a pre-construction spring/summer active season reconnaissance survey for nesting/roosting special-status mobile bird and bat species, and other nesting birds within 300 feet (500 feet for raptors) of the construction limits of each project element to determine and map the location and extent of special-status species occurrence(s) that could be affected by the project.

Mitigation Measure 3.3-2b: The implementing agencies shall avoid direct impacts on any nesting birds located within the limits of construction. This could be accomplished by establishing the construction right of way and removal of plant material outside of the typical breeding season (February 1 through August 31).

Mitigation Measure 3.3-2c: If construction and vegetation removal is proposed for the bird nesting period February 1 through August 31, then preconstruction surveys for nesting/roosting bird and bats species shall begin 30 days prior to construction disturbance with subsequent weekly surveys, the last one being no more than three days prior to work initiation. The surveys shall include habitat within 300 feet (500 feet for raptors) of the construction limits. Active nest sites located during the pre-construction surveys shall be avoided and a non-disturbance buffer zone established dependent on the species and in consultation with the USFWS and CDFG. This buffer zone shall be delineated in the field with flagging, stakes or construction fencing. Nest sites shall be avoided with approved non-disturbance buffer zones until the adults and young are no longer reliant on the nest site for survival as determined by a qualified biologist. For species with high site fidelity, such as Swainson's hawk, if direct take of nests outside of the breeding seasons is required, the implementing agency shall contact CDFG to determine appropriate mitigation measures.

Mitigation Measure 3.3-2d: If a natal bat roost site is located within the limits of construction during pre-construction surveys, it shall be avoided with non-disturbance

buffer zone established by a qualified biologist in consultation with the USFWS and CDFG until the site is abandoned.

Mitigation Measure 3.3-2e: The implementing agencies shall minimize impacts on documented locations of special-status species and any nesting birds to the extent feasible and practicable by reducing the construction right-of-way through areas of occurrences to either avoid the occurrence or reduce impacts to the minimum necessary to complete the project.

Mitigation Measure 3.3-2f: The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would avoid and minimize impacts on special-status avian and bat species.

Mitigation Measure 3.3-2g: The implementing agencies shall instruct construction personnel on the importance of buffer zones and sensitivity of the delineated areas.

Significance After Mitigation: Less than significant.

Impact 3.3-3: Construction of the pipeline could have a substantial effect on special-status plant species and habitat types. Less than Significant with Mitigation.

The precise location of vegetation types within construction zones has not been delineated and the precise location of project impacts has not been determined. Based on general information regarding the vegetation occurring in the proposed project area, it is assumed that much of the proposed project would be located in areas not supporting native vegetation (i.e., developed areas or roads within Lancaster and Palmdale). Most pipeline impacts are expected to occur within areas along existing roadways that do not support native vegetation; however, some soil removal would be necessary and the proposed pipeline construction could impact minor amounts of native desert scrub vegetation adjacent to the roadways. Impacts on special status vegetation types would be reduced to less than significant with implementation of Mitigation Measures 3.3-3a through 3.3-3e.

Mitigation Measures

Mitigation Measure 3.3-3a: The implementing agencies shall have a qualified biologist conduct a pre-construction spring/summer floristic inventory and rare plant survey of the proposed project areas in accordance with CDFG's *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities*, (revised May 8, 2000) to determine and map the location and extent of special-status plant species populations within the construction right-of-way. The survey shall be conducted during the appropriate flowering time for target plant species.

Mitigation Measure 3.3-3b: If not possible to avoid, the implementing agencies shall minimize impacts on special-status plant species by reducing the construction right-of-way through areas with potential occurrences of special-status plant species. For unavoidable

direct impacts to special-status species, consultation with CDFG shall be required to determine the impact area and further mitigation, which could include acquisition of habitat of equal or superior value at a ratio of at least 2:1.

Mitigation Measure 3.3-3c: The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would avoid and minimize impacts on special-status plant species.

Mitigation Measure 3.3-3d: The implementing agencies shall restore all disturbed areas back to pre-construction conditions and a restoration plan shall be developed and implemented that contains the following items: responsibilities and qualifications of the personnel to implement and supervise the plan; site preparation and planting implementation; schedule; maintenance plan/guidelines; and monitoring plan..

Mitigation Measure 3.3-3e: Earth-moving equipment will avoid maneuvering in areas outside the identified limits of construction in order to avoid disturbing open space areas that will remain undeveloped. Prior to construction, the natural open space limits will be marked by the construction supervisor and a qualified biologist. These limits will be identified on the construction drawings. The implementing agencies will submit a letter to the appropriate agencies verifying that construction limits have been flagged and clearly delineated in the field. No earth-moving equipment will be allowed outside demarcated construction zones.

Significance After Mitigation: Less than significant.

Local Policies and Ordinances

Impact 3.3-4: Construction of the pipeline could conflict with the Joshua Tree and Native Desert Vegetation Preservation Ordinance. Less than Significant with Mitigation.

Joshua trees and native desert vegetation are found throughout the proposed project area and removal of Joshua trees for construction of the proposed pipeline within the City of Palmdale is subject to provisions of the Palmdale Native Desert Vegetation Ordinance, which prohibits removal of desert vegetation (Joshua and juniper trees). Adherence to, and implementation of, the applicable measures specified in the Palmdale Native Desert Vegetation Ordinance will reduce this impact to less than significant.

Mitigation Measures

Mitigation Measure 3.3-4a: The implementing agencies shall attempt to place all project components in areas exhibiting absence or a low density of Joshua trees and other native desert vegetation.

Mitigation Measure 3.3-4b: Prior to the commencement of grading activities for any component of the proposed project, within the City of Palmdale, a qualified biologist/arborist shall be consulted to determine the biological/aesthetic value of

potentially impacted trees under the jurisdiction of the Palmdale Native Desert Vegetation Ordinance. For protected vegetation located within the final impact areas, a proposal application would be necessary, including a desert vegetation preservation plan which depicts the location of each Joshua tree and California juniper, details tree age and health, and describes which can be saved and maintained on the site or relocated. A permit must be obtained from the City of Palmdale's landscape architect prior to removal of protected vegetation in Los Angeles County, which may require mitigation in the form of replacement plantings of all impacted vegetation. Prior to the removal of protected vegetation in Kern County, the Kern County Environmental Health Services shall be contacted.

Mitigation Measure 3.3-4c: If avoidance of Joshua tree woodlands or other special-status vegetative community is not feasible, the implementing agencies shall acquire off-site habitat of equal or superior quality at a no less than a 2:1 ratio within remaining habitat in the Antelope Valley. Location, terms and conditions for habitat acquisition, protection, and maintenance shall be determined through consultation with resource agencies, including CDFG.

Significance After Mitigation: Less than significant.

Impact 3.3-5: Construction of the pipeline could conflict with designated Significant Ecological Areas. Less than Significant.

The proposed project involves construction of a pipeline within the boundaries of the proposed Antelope Valley SEA (Figure 3.3-2). A portion of the pipeline traveling along Avenue S and a portion along Palmdale Boulevard, both are within the Antelope Valley SEA. Although the SEA has not been adopted, the County has developed and made available the proposed SEA locations to be used for planning purposes.

The Los Angeles County General Plan specifies policies for development within SEAs relating to the protection of biotic resources. The policies call for the protection of core populations of sensitive species and rare communities and the preservation of habitat linkages.

A project within an SEA will be subject to one of two regulatory processes; Minor Conditional Use Permit for SEA (Minor SEA-CUP) without Significant Ecological Area Technical Advisory Committee (SEATAC) review or a Conditional Use Permit for SEA (SEA-CUP) with SEATAC review. A SEA-CUP is required before any building or grading permits are issued for any project in an SEA (County Code 22.56.215). Public utilities are not exempt from SEA-CUPs. The implementing agencies could be required to obtain a SEA-CUP for construction of all project components within a proposed SEA if the SEA is adopted prior to the start of construction. The SEA-CUP application would be submitted to SEATAC for review and comment. SEATAC would provide recommended measures in support of the County's SEA policies. SEATAC's recommendations would be submitted to the County Planning Commission for consideration

prior to approval of the SEA-CUP. With issuance of the SEA-CUP, no conflicts with the County SEA land use policies would be anticipated for construction of any project component.

Mitigation Measures

None required.

Wetlands

Impact 3.3-6: Construction of the pipeline could have a substantial adverse effect on wetlands considered waters of the state. Less than Significant with Mitigation.

Construction of pipelines through areas with wetland features would require RWQCB and CDFG approval. The Corps has determined that Amargosa Creek is not defined as a water of the United States because it flows to a closed internal dry lake basin (Rosamond Dry Lake), which is wholly within the State of California. For similar reasons, the Lahontan RWQCB has determined that other dry washes in the Antelope Valley (e.g., Big Rock Creek and Little Rock Creek) are not defined as waters of the United States (Lahontan RWQCB, 2004). Implementation of Mitigation Measure 3.3-6 would ensure compliance with state and federal regulations.

Features within the proposed project area which could potentially be jurisdictional include: along the proposed pipeline, an existing city-owned reservoir filled with water and ringed with nonnative ornamental vegetation, located at the southwest corner of Division Road and Milling Street; along the proposed pipeline and at Storage Reservoir 2, Amargosa Creek riparian drainage and debris basin are located on the north side of Elizabeth Lake Road; existing culverts along the proposed pipeline on Rancho Vista Boulevard between 25th Street and 20th Street, on Avenue R east of Sierra Highway, and on 40th Street south of Avenue R; along the proposed pipeline where 40th Street (south of Pearblossom Highway) crosses the California Aqueduct; drainages vegetated with rabbitbrush and saltbush scrub in the two large southern-most parcels being considered for Storage Reservoir 3; alkali meadows at parcels being considered for Distribution Pump Station 1; existing oxidation ponds within the Palmdale Water Reclamation Plant at a parcel being considered for Distribution Pump Station 2; and, a small existing debris basin next to residential development at a parcel being considered for Booster Pump Station 2.

After project designs are finalized and actual impact areas are decided, exact locations and acreages of jurisdictional areas within the impact areas would be determined through a jurisdictional delineation.

In compliance with existing regulations, the implementing agencies will obtain California Fish and Game Code Section 1602 compliance in the form of a completed Streambed Alteration Agreement or written documentation from the CDFG that an agreement is not required. The implementing agencies will implement all the terms and conditions of the CDFG Streambed Alteration Agreement.

Mitigation Measures

Mitigation Measure 3.3-6: Prior to construction, the implementing agencies shall retain a qualified biologist to survey proposed construction zones including staging areas and access roads. If wetlands would be affected by construction, the qualified biologist would prepare a report outlining mitigation and compensation requirements to be implemented prior to construction. The mitigation requirements shall include the following at a minimum:

- Implementing agencies shall avoid impacting previously undisturbed areas where possible. This would include employing tunneling or jack and bore methods under drainages.
- If avoidance is not feasible for engineering or cost reasons, the implementing agencies shall conduct jurisdictional delineation of wetland features.
- Implementing agencies shall obtain WDRs from the RWQCB for impacts to waters of the state including wetland areas.

Significance After Mitigation: Less than significant.

Program-level Impacts

Special-Status Species

Impact 3.3-7: Construction of the pump stations and reservoirs could have a substantial effect on special-status wildlife species including the California red-legged frog and Mohave ground squirrel. Less than Significant with Mitigation.

Construction of the pump stations and reservoirs has the potential to impact several special-status wildlife species. In addition, there is potential for two ground dwelling wildlife species listed as state and/or federally Threatened and Endangered to occur within the vicinity of the proposed project. These species are the California red-legged frog and Mohave ground squirrel. USFWS Critical Habitat for one of these species, the California red-legged frog, is located at least partially within the proposed project area along Amargosa Creek. All potential impacts to the two listed species are explained in detail in Impact 3.3-1 and all apply to the construction of the pump stations and reservoirs. Implementation of Mitigation Measures 3.3-1a through 3.3-1f would reduce such impacts to a less than significant level.

Mitigation Measures

Implement Mitigation Measures 3.3-1a through 3.3-1f.

Significance After Mitigation: Less than significant.

Impact 3.3-8: Construction of the pump stations and reservoirs could have a substantial effect on special-status bat and avian species including the Swainson's hawk, American peregrine falcon, southwestern willow flycatcher, and least Bell's vireo. Less than Significant with Mitigation.

Construction of the pump stations and reservoirs could potentially impact several special-status bat and avian species. There is potential for four avian species listed as State and/or Federally Threatened and Endangered to occur within the vicinity of the proposed project including the Swainson's hawk, American peregrine falcon, southwestern willow flycatcher, and least Bell's vireo. Implementation of Mitigation Measures 3.3-2a through 3.3-2g would reduce such impacts to a less than significant level.

Implementation of the proposed project may result in loss of foraging habitat for thirteen special-status raptor species, both temporary and permanent, through construction of the project components. These 13 raptor species are Cooper's hawk, sharp-shinned hawk, golden eagle, ferruginous hawk, Swainson's hawk (addressed above for potential impacts on nesting), northern harrier, white-tailed kite, merlin, prairie falcon, American peregrine falcon, short-eared owl, long-eared owl, and burrowing owl. Construction of above ground structures such as storage reservoirs and pump stations would result in the permanent loss of potential foraging habitat for these and other species. All potential impacts to the 13 raptor species are explained in detail under Impact 3.3-2 and all apply to the construction of the pump stations and reservoirs. Implementation of Mitigation Measures 3.3-2a through 3.3-2g would reduce these impacts to a less than significant level.

Mitigation Measures

Implement Mitigation Measures 3.3-2a through 3.3-2g.

Significance After Mitigation: Less than significant.

Impact 3.3-9: Construction of the pump stations and reservoirs could have a substantial effect on special-status plant species. Less than Significant with Mitigation.

Construction of proposed storage reservoirs and pump stations will likely present a greater impact to native vegetation, but the type and extent must be determined after the final parcel selection is complete. Within the proposed project area, the precise location of special-status vegetation types has not been delineated and the precise location of impacts has not been determined. Based on general information regarding the special-status vegetation occurring in the region and the general location of proposed project components, it is assumed that special-status vegetation types (i.e., Joshua tree woodlands) may be impacted. Due to the rarity of these vegetation types and the potentially large amount of vegetation to be removed as part of the entire project, this impact may be substantially adverse and is considered potentially significant. Impacts on special-status

vegetation types would be reduced to less than significant with implementation of Mitigation Measures 3.3-3a through 3.3-3e.

The presence or absence of special-status plants within the proposed project area has not been determined due to the lack of finalized impact areas. Based on existing information, many special-status plant species have the potential to be impacted. Due to the special status of these species, this impact may be substantially adverse and is therefore considered potentially significant. Impacts to these species would be reduced to less than significant with implementation of Mitigation Measure 3.3-3a through 3.3-3e.

Mitigation Measures

Implement Mitigation Measures 3.3-3a through 3.3-3e.

Significance After Mitigation: Less than significant.

Local Policies and Ordinances

Impact 3.3-10: Construction of the pump stations and reservoirs could conflict with the Joshua Tree and Native Desert Vegetation Preservation Ordinance. Less than Significant with Mitigation.

Any Joshua trees and California junipers located within the City of Palmdale which may be impacted by the construction of the proposed pump stations and reservoirs are under the jurisdiction of the Palmdale Native Desert Vegetation Ordinance.

The proposed location for Storage Reservoir 2 contains Joshua trees and California junipers, while Storage Reservoir 3 is covered with California juniper scrub. Booster Pump Station 1 contains undeveloped parcels east of Sierra Highway that are completely covered with Joshua tree woodlands, and some Joshua trees occur on the parcels west of the Sierra Highway. The rabbitbrush scrub habitat which would be affected by the construction of Booster Pump Station 2 contains a few Joshua trees also. Implementation of Mitigation Measures 3.3-4a through 3.3-4c would reduce impacts to Joshua trees and native vegetation within the City of Palmdale to less than significant.

Mitigation Measures

Implement Mitigation Measures 3.3-4a through 3.3-4c.

Significance After Mitigation: Less than significant.

Impact 3.3-11: Construction of the pump stations and reservoirs could conflict with designated Significant Ecological Areas. Less than Significant.

Once all project components have been decided, and the design and locations have been finalized, an evaluation regarding SEAs should be conducted to determine if any of the new project components are located within an SEA. As depicted in Figure 3.3-2, none of the proposed pump stations and reservoirs would be located within an existing SEA. Although the proposed SEA has not been adopted, the County has developed and made available the proposed SEA locations to be used for planning purposes.

The Los Angeles County General Plan specifies policies for development within SEAs relating to the protection of biotic resources. The policies call for the protection of core populations of sensitive species and rare communities and the preservation of habitat linkages.

A project within an SEA will be subject to one of two regulatory processes; Minor Conditional Use Permit for SEA (Minor SEA-CUP) without Significant Ecological Area Technical Advisory Committee (SEATAC) review or a Conditional Use Permit for SEA (SEA-CUP) with SEATAC review. A SEA-CUP is required before any building or grading permits are issued for any project in an SEA (County Code 22.56.215). Public utilities are not exempt from SEA-CUPs. The implementing agencies could be required to obtain a SEA-CUP for construction of all project components within a proposed SEA if the SEA is adopted prior to the start of construction. The SEA-CUP application would be submitted to SEATAC for review and comment. SEATAC would provide recommended measures in support of the County's SEA policies. SEATAC's recommendations would be submitted to the County Planning Commission for consideration prior to approval of the SEA-CUP. With issuance of the SEA-CUP, no conflicts with the County SEA land use policies would be anticipated for construction of any project component.

Mitigation Measures

None required.

Wetlands

Impact 3.3-12: Construction of the pump stations and reservoirs could have a substantial adverse effect on wetlands considered waters of the state. Less than Significant with Mitigation.

Once the design and locations of project components have been finalized, and prior to the construction of any phase or component of the project, a jurisdictional wetland delineation must be conducted by a qualified biologist in order to assess the effects on wetlands and other waters of the state.

The Corps has determined that Amargosa Creek is not defined as a water of the US because it flows to a closed internal dry lake basin (Rosamond Dry Lake), which is wholly within the State

of California. For similar reasons, the Lahontan RWQCB has determined that other dry washes in the Antelope Valley (e.g., Big Rock Creek and Little Rock Creek) are not defined as waters of the United States (Lahontan RWQCB, 2004). Implementation of Mitigation Measure 3.3-6 would ensure compliance with state and federal regulations.

Mitigation Measures

Implement Mitigation Measure 3.3-6.

Significance After Mitigation: Less than significant.

3.4 Cultural Resources

A cultural resource is defined as any prehistoric archaeological, historic archaeological, historic architectural resource, or a significant paleontological resource. Federal, state, and local guidelines have been established by which an item, object, structure, building, or any other such entity, can be considered or defined as a cultural resource (See Section 3.4.2, below). All projects that can potentially impact identified cultural resources must be assessed in order to ascertain the extent of the impact. Mitigation measures, preferably avoidance, must be proposed so as to preserve those resources. The assessment of project impacts on cultural resources under CEQA (*CEQA Guidelines*, Section 15064.5) is a two-step process: (1) determine whether the project site contains cultural resources then, (2) if the site is found to contain a cultural resource, determine whether the project would cause a substantial adverse change to the resource.

This section discusses the overall setting for the proposed project, which includes a summarization of the prehistoric, ethnographic, historic, and paleontological contexts, as it defines and explains all applicable regulatory frameworks under which the current project must be evaluated. The methodology enacted as part of the assessment of cultural resources within the Area of Potential Effect (APE) is defined. Likewise, any existing or newly identified cultural resources found to be within the proposed project APE are introduced, and all anticipated impacts are identified. Mitigation measures for the preservation or protection of potentially impacted cultural resources also are included.

3.4.1 Setting

ArchaeoPaleo Resource Management, Inc. (APRMI) archaeologists Shannon L. Loftus and Robin D. Turner performed the Phase I Cultural Resource and Paleontologic Assessment (Phase I Assessment) of the proposed project APE. The results of the study are documented in a confidential archaeological technical report titled *Cultural Resource and Paleontologic Assessment: North Los Angeles/Kern County Regional Recycled Water Master Plan, Los Angeles/East Kern Counties, California*. This technical report serves as the primary reference source for the following summary discussion of the archaeological and paleontologic investigation of the proposed project.

Prehistoric Context

General scholarship notes the prehistoric occupation of southern California by various hunter-gatherer groups to at least 12,000 years before present (B.P.) (Moratto, 1984). Specifically, the Antelope Valley foothill region has been identified as an axis between coastal and desert populations, as well as northern populations of the Eastern Sierra and northern California (Loftus and Turner, 2008). Prehistoric human subsistence is believed to have involved the seasonal exploitation of natural resources by small groups, a strategy that was successfully employed until approximately 2,000 B.P. After that time changes in the cultural adaptations of these prehistoric communities occurred, changes believed to have been caused by an increase in population, among other potential catalysts. Other potential catalysts for this change include changes in the

environment, social organization, technology, or perhaps a combination of all. Specific changes that have been identified include a shift towards more sedentary settlement pattern with the appearance of semi-permanent villages and an increase in small campsites associated with these larger villages (Loftus and Turner, 2008).

Loftus and Turner (2008) identify a generally accepted chronology for dating the various cultural phases of the prehistoric populations that occupied the Mojave Desert and the Great Basin area, which can likewise be applied to the Antelope Valley. This chronology proposes seven specific cultural phases: Pre-projectile Point Period (20000 – 10000 B.P.), Paleo-Indian Period (ca. 10000 B.C. – 8000 B.C.), Lake Mojave Period (8000 B.C. - 5000 B.C.), Pinto Period (5000 B.C. – 2000 B.C.), Gypsum Period (2000 B.C. – A.D. 500), Rose Spring Period (A.D. 500 – 1000), and the Late Prehistoric Period (A.D. 1000 to contact).

The *Pre-projectile Point Period* is a contentious cultural phase that is proponed by some researchers to place early lithic traditions such as Calico, Lake China, and Lake Manix. Specific references can be found in the Loftus and Turner archaeological report (2008). The *Paleo-Indian Period* is the period associated with Big Game Hunting Traditions that utilized fluted points for hunting late Pleistocene megafauna. A few of these Paleo-Indian fluted points have been found in the Mojave Desert. Examples of Paleo-Indian fluted projectile points include the Clovis and Dalton point types. During the *Lake Mojave Period*, a diversification of artifact and ecofact assemblages occurs, suggesting the adoption of broader adaptation strategies by prehistoric populations. Artifacts associated with this period include the long-stemmed Lake Mojave and shorter-stemmed Silver Lake projectile points, finds which are often associated with terminal Pleistocene lake shore locations. Relatively few millingstone artifacts have been found in Lake Mojave Period contexts, suggesting a subsistence pattern that emphasized hunting.

The following *Pinto Period* is characterized by generalized hunter-gatherer populations that occupied seasonal camps in small numbers; it is most likely that the earliest occupants of the project area can be placed within this period. Artifacts of this period are exemplified by the Pinto projectile point type, probably evidence of atlatl use, and the appearance of settlement sites near to ephemeral lakes and now-dry springs or creeks. There is a noticeable lack of groundstone or millingstone artifacts at Pinto Period archaeological sites. Cultural adaptations occurred during the *Gypsum Period* to more arid desert conditions, adaptations that resulted in an increased emphasis on socioeconomic ties through trade, the development of new technologies and more complex ritual activities. Artifacts commonly associated with the Pinto Period include a wide variety of projectile point types including, but not limited to, the Humboldt Concave base, Gypsum cave, and Elko Eared or Elko Corner-notched, as well as the first appearance of trade artifacts made of shell. A continuation of these artifacts extends into the next period, the *Rose Spring Period*, as does an increased social complexity due to larger populations and extensive long distance trade contacts. Specific projectile point types associated with this period are the Rose Spring and Eastgate; research attests to the existence of several semi-permanent villages that made use of multiple ecological zones, as well as the establishment of extensive trade routes throughout Southern California.

The final prehistoric period here mentioned is the *Late Prehistoric Period*; key indicators associated with this period include a broad diffusion of pottery west from the Colorado River area, an abundance of coastal shell beads, and two particular projectile points (Desert Side-notched and the Cottonwood). With the presence of well-established trade, complex socioeconomic and sociopolitical organization developed and by approximately 1,000 to 500 years before the present, social complexity had likely reached the chiefdom level. An increase in population resulted in the gradual intensification of much broader environments and food resources. By the mid 17th Century, occupation levels decreased in the Antelope Valley, effectively marginalizing the area as one of limited socio-cultural complexity. Most researchers consider the Late Prehistoric Period an extension of the ethnographic present, a claim that is supported by both recorded oral traditions as well as the archaeological record.

Ethnographic Background

The project area is located in the western portion of the Antelope Valley, a region in which the prehistoric cultural history is poorly documented and/or understood (Kroeber, 1925; Moratto, 1984; Sutton, 1996). Two primary ethnographic populations are known to have inhabited regions that are transected by the current project APE, the Tataviam and the Kitanemuk. Various Native American culture groups such as the Chumash, the Serrano/Vanyume, and the Tongva, are also known from areas surrounding the Antelope Valley. It is also noted by Sutton (1988; 1996) that existing archaeological evidence attests to regional trade actively occurred between local population groups and other Western Mojave culture groups (e.g. Mojave or the Chemehuevi), indicating that these desert groups may also have utilized or otherwise traveled through the Antelope Valley region.

Geographically, the Tataviam occupied territory in the southern Antelope Valley, while the Kitanemuk occupied land to the north of the Tataviam, principally in the region around, and farther north of, the Tehachapi Mountains. During the period of European contact Tataviam territory may have ranged east of Piru, through the entire upper Santa Clara River region, northwards to Pastoria Creek and east to Mount Gleason (King and Blackburn, 1978). Likewise, the Kitanemuk territorial sphere covered the western Antelope Valley, which they may have contentiously shared with their southerly neighbors the Tataviam, north to include the Tehachapi Mountains and the eastern High Sierras.

Kroeber (1925) and others recognize the Tataviam as part of the Fernandeño group, a generalization referring to all Native populations that were eventually assimilated by the San Fernando Mission. The subsistence strategy of the Tataviam was that of a complex hunter-gatherer society living in small villages and satellite camps that were established near reliable water sources such as streams or rivers sourcing from the local mountains and foothills or shoreline settlements around established lakes within the flat desert valley. At a more recent period, it is believed that a chiefdom-type societal structure was adopted, with a single chief overseeing the people inhabiting villages. Plant and animal varieties of particular importance for Tataviam subsistence include, but are not limited to, acorns, seeds, berries, yucca, cactus, and game such as deer and rabbit. Specific knowledge of cultural traits of the Tataviam is scarce, as

little culturally significant information regarding traditions such as religious believes, oral histories, or folklore have been lost as a result of the forced subjugation of this population by European occupation and Missionization. Material culture types associated with the Tataviam are similar to those of their neighbors and include elaborate basketry, ornamental and functional items crafted from shell, steatite, stone and bone.

The Kitanemuk are associated with the Serrano division of the Shoshonean group and as is the case with their neighbors the Tataviam, little archaeological or ethnographic data exists that details this obscure population (Blackburn and Bean, 1978; Kroeber, 1925). Blackburn and Bean (1978) described the Kitanemuk as mountain people who occasionally ventured to the lower desert valleys during cooler seasons. Similarly to the Tataviam, the Kitanemuk most likely practiced a seasonal hunter-gatherer subsistence strategy dictated by the seasons. Primary camps and villages were mostly situated in the Tehachapi Mountains and foothills, as well as farther to the north. Important plant and animal varieties include the acorn, pinon pine nuts, native tobacco, yucca, as well as the hunting of small and large game. Material culture types associated with the Kitanemuk are similar to those of the Tataviam, including the manufacture of lithic projectile points and tools, wooden vessels with shell inlay, as well as advanced basketry. It is noted that the Kitanemuk, unlike their surrounding neighbors' preference for cremation, appeared to have buried their dead (Kroeber, 1925).

Historical Background

Antelope Valley Historical Overview

Historic cultural resources are generally more than 45 years of age and range from the earliest time of contact with Europeans to around the year 1960. Numerous types of historical cultural resources can include trails and highways, homesteads and other structures or buildings, remnants of single or time based use activities such as trash deposits, and historically documented landscape sites such as the camp sites of Spanish explorers. Any cultural resource that may be evaluated as significant, important, or unique under current cultural resource protection laws and that can date to more than 45 years of age is considered to be an historic cultural resource. The historical setting for the current APE can be divided into three parts: The Spanish Period (ca. 1533 to 1821), the Mexican Period (1821 to 1848), and the American Period (1848 to Present).

The Spanish were the first known Europeans to explore and colonize the land area of what is known today as California, territory known to them as Alta California (area known as the present-day State of California, U.S.A.) and Baja California (presently known as the Mexican states of Baja California Norte and Baja California Sur). This period of Spanish exploration of eventual colonization is now known as the *Spanish Period*. Early reconnaissance of California began in 1540 with Hernando de Alarcon's ocean expedition traveling northward up the Gulf of California and into the mouth of the Colorado River, thus making those travelers the first Europeans to enter California. From 1542 to 1543, Juan Rodríguez Cabrillo led an ocean expedition to explore the coastal perimeter of California (Laylander, 2000). Cabrillo and his crew first stepped ashore at the present day harbor of San Diego, claiming California for the King of Spain. In addition, the expedition visited most of the Channel Islands and the land near the City of Ventura, and sailed as

far north as Monterey Bay, maybe as far north as Point Reyes while failing to site San Francisco Bay.

By the 1560s established sea-trade routes controlled by the Spanish ferried goods from Asian commercial outposts to territories in present-day Mexico by way of the California Coast. The long and arduous trip resulted in many galleons stopping along the coast looking for food and water, thus bringing Europeans into contact with the local Native Californians. With this elevated traffic of goods across the Pacific, raids against Spanish galleons, particularly by Sir Francis Drake, motivated the Spanish to better map California with the intent of establishing ports along its coastline to protect and refurbish the Manila galleons. It took several years after these early explorations of California before official Spanish colonization occurred. In 1769 Franciscan administrator Junípero Serra and the Spanish military under the command of Gaspar de Portolá arrived in San Diego. Thus began the eventual establishment of twenty-one California Missions and Spanish Missionization efforts, the purpose of which was to "convert" the Native Californians to Catholicism within a ten year period and then return the Mission lands to the Indians.

The first documented Europeans in the Antelope Valley were the Spanish explorers Captain Pedro Fages in 1772 and Father Francisco Garcés in the late 1770's. At this time, the Tataviam and Kitanemuk culture and life ways were being heavily disrupted as the process of Spanish Missionization had commenced. The founding of the San Fernando Mission in 1797 instituted a direct impact on the region's native inhabitants. Within a few generations, most of the knowledge regarding the language and culture of these local groups had vanished. At the time of the Spanish arrival, population estimates of California Indians are placed at about 310,000 individuals. By the end of the Spanish reign, through unhygienic Spanish population centers (essential labor camps), European disease, incarceration of Indians, excessive manual labor demands and poor nutrition, the population declined as a result of over 100,000 fatalities, nearly 1/3 of the California Indians (Castillo, 1998). Between the first founding of the Spanish Mission, increased migration and settlement occurred in the territories of Alta California until unrest among these new residents impacted Spanish control of the area.

The *Mexican Period* is marked as beginning in 1821 and is synonymous with Mexico's independence from Spain. Mexico becomes California's new ruling government and at first, little changed for the California Indians. The Franciscan missions continued to enjoy the free unpaid labor the natives provided, despite the Mexican Republic's 1924 Constitution that declared the Indians to be Mexican citizens. This monopoly of Indian labor by a system which accounted for nearly 1/6 of the land in the state angered the newly land-granted colonial citizens. This led to an uprising of the Indian population against the Mexican government and the eventual secularization and collapse of the mission system by 1834. After the fall of the missions, return of the land to the California Indians was mandated by the government, though little land was.

Other European countries increased their presence in California during the Mexican Period, among them the Russians and the Americans. American ships from Boston traded with the towns and Missions mostly for tallow and hides. In addition, trappers and hunters begin to operate in the

state entering by land from the east. William Manley and John Rogers, American explorers, were among the first non-Native Americans to traverse the antelope Valley in 1850. Prior to Manley and Roger's arrival in the Antelope Valley came Jedidiah Smith, Kit Carson, Ewing Young, among others, who entered the area in the late 1820s and 1830s. During the Mexican Period, occupation of the Antelope Valley was virtually non-existent. Occasionally, hunting parties concerned with the rounding up of runaway Indians ventured into the valley and the surrounding areas. At this time, it is estimated that very few California Indians peopled the Antelope Valley on a regular basis.

In 1846, armed conflict erupted between Mexico and American forces, resulting in the increased presence of American military forces within California. Rapidly, Mexican resistance deteriorated and the United States occupied Mexico City in 1848, marking the beginning of the *American Period*. California becomes a U.S. holding with the signing of the Treaty of Guadalupe Hidalgo in February 1848, thereby ending the Mexican-American War and ceding much of the southwest territories to the United States. Just prior to the signing of the Treaty, gold was discovered along the American River near Sacramento, sparking the major influx of American adventurers into California. In 1850, California was formally admitted into the Union as the 31st state.

At the beginning of the American Period, little notice was paid to colonizing the Antelope Valley. In fact, most of the late 19th Century can be described as a time when people were mostly passing through to other destinations. However, sparsely dispersed ranches were established in the Antelope Valley during the 1860s. The Homestead Act of 1862 and the Desert Land Act of 1877 greatly contributed to the settlement of the Antelope Valley. The Homestead Act opened up public lands to citizens for settlement, based on very minimal requirements. The Desert Land Act intended to "encourage and promote the economic development of arid and semi-arid public lands of the western United States. Through this Act, individuals may apply for a desert-land entry to reclaim, irrigate, and cultivate arid and semi-arid public lands."[1]

Agriculture, gas and mining endeavors, and settlement stimulus endeavors such as the Homestead Act and the Desert Land Act contributed to the increased population of the Antelope Valley during the later stages of the 1800s. It was also during the late 1800s that established transportation routes were formed between Los Angeles and the Antelope Valley, including the Butterfield Stage Overland Mail route (1858), the Los Angeles & Independence Railroad, Southern Pacific Railroad (1876), Antelope Valley Line, Union Pacific Lone Pine Branch, the Santa Fe Railroad Branch, among many others. The early 1900s was a period of innovation, which included mechanical irrigation and electricity. Also during this period, an avid pursuit of alfalfa cultivation occurred, quickly elevating this as the Antelope Valley's major crop.

Lancaster

The city of Lancaster was settled by an influx of people associated with the railroad, mining, oil prospecting, and agriculture. Mr. B.F. Morris purchased 6,000 acres of land in and around what would become Lancaster from the Southern Pacific Railroad, including ground that had

[1] www.blm.gov/nhp/landfacts/desertland.html accessed 2/2/2008

previously been laid out as the townsite by M. L. Wicks. The construction of railroad related maintenance buildings and staff housing, as well as the increased interest in agriculture and mining activities contributed to the firm establishment of Lancaster as an Antelope Valley city, status that has been re-affirmed in modern times thanks to the establishment of the Muroc Army Airfield (later, Edwards Air force base) and other aerospace industry related endeavors.

Rosamond and the Tropico Gold Mine

The city of Rosamond was another depot on the Southern Pacific Rail Line in 1876 and a trading post for local mines. First known as Bayle Station or Baylesville after postmaster David Bayles (1885), the town was later renamed Rosamond (Rosamond County Library vertical file, n.d.). Rosamond town site lots were obtained from the Southern Pacific by an E.H. Seymour in 1904 and sold to a C.C. Calking three years later (Settle,1967), who then "sold the mortgage to Charles M. Stinson, who in turn presented [deeded] it to the Union Rescue Mission of Los Angeles who foreclosed the mortgage in 1916. In 1935, the Rescue Mission began selling lots in the townsite, later presenting the remaining property to the community" (Darling, 2003).

Prior to the settling and eventual development of Rosamond, Tropico Hill was being mined for clay by Dr. L.A. Crandall who purchased the mine in 1882. Hamilton renamed the mine "Hamilton Hill" and during the course of the clay-mining activities, gold was discovered. Having changed names again, the then known "Lida Mine" was sold to the Antelope Mining Company in 1908 and again to the Tropico Mining and Milling Company in 1909. Eventually the mine was acquired by the Burton brothers in 1912, who were former employees of the Tropico Mining and Milling Company. For a brief period between 1942 and 1946, in support of World War II war-time mining efforts, the mine closed. Once the war was past, the mine reopened and remained in operation until 1956. The Tropic Gold Mine was "one of the most successful gold mines in California" (Cunkelman, 2001).

Palmdale & Pearland

Initially settled by German-Swiss immigrants from the Midwest in 1884, "Palmenthal" prospered as a fruit and grain agricultural operation until the drought of the 1890s. A second settlement known as Harold or Alpine Station followed, located at the intersection of the Southern Pacific Rail Line and modern day Barrel Springs Road.[2] Each of these settlements failed as a result of the Southern Pacific moving its booster engine station farther north. The name officially became Palmdale in 1890, during a time of immense growth and prosperity. The construction and completion of the "Palmdale Ditch" between 1918 and 1919 brought residents of Palmdale a reliable source of fresh water, stretching between the Little Rock Dam and the Palmdale Reservoir.

Located southwest of Palmdale, Pearland is a short-lived community that has since been incorporated as part of on-going development. As its namesake, Pearland was never officially recognized as an autonomous town, but rather "a crossroads in a community dominated by pear

2 http://www.colapublib.org/history/antelopevalley.faq.html

orchards" consisting of but a few buildings at the intersection of Avenue S and 47th Street. The pears eventually died off and were replaced by peaches, though the name remained.

California Aqueduct

One of the most notable technological developments of early 20th Century California history was the construction of the California Aqueduct. Completed in 1913, the aqueduct connects the Owens Valley water source with the population of Los Angeles by means of surface and subsurface canals bisecting the Antelope Valley. Earmarked and funded in large part by Los Angeles residents in 1904, "the project revived the economy of Antelope Valley communities Lancaster, Mojave, Fairmont, and Elizabeth Lake whose farms and business had been decimated by a decade-long drought beginning in 1894."[3]

Paleontological Resources

Paleontology is a branch of geology that studies the life forms of the past, especially prehistoric life forms, through the study of plant and animal fossils. Paleontological resources represent a limited, non-renewable, and impact-sensitive scientific and educational resource. As defined in this section, paleontological resources are the fossilized remains or traces of multi-cellular invertebrate and vertebrate animals and multi-cellular plants, including their imprints from a previous geologic period. Fossil remains such as bones, teeth, shells, and leaves are found in the geologic deposits (rock formations) where they were originally buried. Paleontological resources include not only the actual fossil remains, but also the collecting localities, and the geologic formations containing those localities.

Methods

Archival – Archaeological and Paleontologic Research

ArchaeoPaleo Resource Management, Inc. conducted a records search for the Los Angeles portion of the project area at the South Central Coastal Information Center at California State University, Fullerton and at the San Joaquin Valley Information Center located at California State University in Bakersfield for the Kern County portion. These locations are divisions of the California Historic Resources Information System (CHRIS) and are the local legal repositories for the State's archaeological archives. Included in this research effort was a search of historical publications for additional cultural resources near the project area, including the *California State Historic Resources Inventory*, the *National Registry of Historic Places*, *California Historical Landmarks* (1990), and *California Points of Historical Interest* (1992).

A Vertebrate Paleontology Records Check was conducted at the Natural History Museum of Los Angeles County by Samuel A. McLeod, Ph.D. APRMI provided Dr. McLeod with the appropriate 7.5 minute Topographic maps outlining the proposed backbone line and projected reservoir and pump station locations. The maps provided were the Soledad Mountain, Little Buttes, Rosamond, Lancaster West, Lancaster East, Ritter Ridge, Palmdale, and Little Rock

[3] http://www.colapublib.org/history/antelopevalley

USGS topographic quadrangles. Archival research was also completed by Robin D. Turner at the Buena Vista Museum in Bakersfield.

Survey Methodology

Shannon Loftus, MA/RPA and Robin Turner, MA/RPA of APRMI conducted an intensive archaeological and paleontologic pedestrian survey of the project corridor, including the backbone line, four proposed reservoir locations, two distribution pump stations, and two booster pump stations between January 26, 2008 and February 5, 2008. Survey methodology consisted of pedestrian survey using 10-15 meter transects in a linear fashion when in portions where one archaeologist covered the ground and 15-30 meter transects walking in tandem. Strategic survey methods were employed in areas of steep terrain; all finger mesas and ridges were investigated, as were slopes deemed reasonable or likely to possess cultural materials. Methodology specific to each parcel is discussed below in the Survey Results section. The backbone portion of the project is planned within the roadbed, thus windshield surveys were primarily employed in residential, commercial and industrial areas. Pedestrian surveys were employed for all dirt roads and trails.

Artifacts and sites identified during the reconnaissance were geographically recorded with a Garmin® Etrex Legend Global Positioning System (GPS) Receiver. Notation was made of all artifacts and sites, and photographs of unique isolates and sites were taken. In addition, photographs of the backbone and the eight parcels were taken to illustrate the various environmental settings and built environment and are included in the survey results section of the original Loftus and Turner archaeological report (2008).

One proposed parcel was entirely inaccessible (Distribution Pump Station 2), and one was partially inaccessible (Reservoir 3). These instances of no-access are further discussed in the survey results section.

Proposed Distribution Pump Station 2 (40th Street East and Avenue P), adjacent to the Palmdale WRP, was not accessible due to fencing and signage indicating “No Trespassing” and “Airport Property”. Attempts to locate personnel at the Palmdale WRP for access were unsuccessful. The property was visually inspected from the public side of the fence and a portion of a historic period homesite was evident. The homesite proper is excluded from the parcel, but contributing elements such as ornamental trees and a small orchard are visible. Should this parcel be selected, access will be required for comprehensive inventory of the property.

The eastern portion of the proposed parcel for Reservoir 1 (south face of Quartz Hill) was also inaccessible as it was fenced. No signage was visible, and attempts to contact personnel for access were unsuccessful. This portion of the parcel was visually inspected from the public side of the fence and appears highly disturbed. Mechanical push-and-redeposit activities have leveled portions of the land within the fence, as well as created large earthen berms and boulder piles along the interior of the fence. Should this parcel be selected, access will be required for comprehensive inventory of the property.

Since the pedestrian survey was completed, the locations of the following project components have been refined:, (1) the location of Booster Pump Station 1 has been changed to the proposed location indicated in Figure 2-1; (2) a pipeline has been added along Avenue M to connect Booster Pump Station 1 to the backbone pipeline along Sierra Highway; (3) the location of Reservoir 4 has been refined; (4) the overland pipeline leading to Reservoir 4 from Mojave Tropico Road has been realigned; (5) an alternative Distribution Pump Station 1A has been added at the LWRP; and (6) a pipeline connecting the LWRP to Distribution Pump Station 1 has been added. Additional reconnaissance surveys and record searches for cultural resources would be required prior to implementation of these project components.

3.4.2 Regulatory Framework

Cultural Resources

Numerous laws and regulations require federal, state, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Office and the Advisory Council on Historic Preservation). The National Historic Preservation Act (NHPA) of 1966, as amended; the California Environmental Quality Act (CEQA); and the California Register of Historical Resources, Public Resources Code (PRC) 5024, are the primary federal and state laws governing and affecting preservation of cultural resources of national, state, regional, and local significance.

Federal

First authorized by the Historic Sites Act of 1935, the National Register of Historic Places (National Register) was established by the NHPA of 1966, as “an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (Code of Federal Regulations [CFR] 36 Section 60.2). The National Register recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels. In the context of this project, which does not involve any historical-period structures, the following National Register criteria are given as the basis for evaluating archaeological resources.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (U.S. Department of the Interior, 1995):

- Are associated with events that have made a significant contribution to the broad patterns of our history;
- Are associated with the lives of persons significant in our past;

- Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least fifty years old to be eligible for National Register listing (U.S. Department of the Interior, 1995).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance" (U.S. Department of the Interior 1995). The National Register recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

State

The State implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions.

California Register of Historical Resources

The California Register of Historical Resources (California Register) is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change." (California Public Resources Code § 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (California Public Resources Code § 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register of Historic Places.

To be eligible for the California Register of Historical Resources, a prehistoric or historical-period property must be significant at the local, state, and/or federal level under one or more of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;

- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register of Historic Places and those formally Determined Eligible for the National Register of Historic Places.
- California Registered Historical Landmarks from No. 770 onward.
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.
- Other resources that may be nominated to the California Register include:
- Historical resources with a significance rating of Category 3 through 5 (Those properties identified as eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, and/or a local jurisdiction register).
- Individual historical resources.
- Historical resources contributing to historic districts.
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Environmental Quality Act

The CEQA is the principal statute governing environmental review of projects occurring in the state. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources. CEQA is codified at Public Resources Code sec. 21000 et seq. As defined in Section 21083.2 of CEQA a “unique” archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.

- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition, the *CEQA Guidelines* recognize that certain historical resources may also have significance. The Guidelines recognize that a historical resource includes: (1) a resource in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site is to be treated in accordance with the provisions of CEQA Section 21083, which is a unique archaeological resource. The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

Paleontological Resources

Federal

A variety of federal statutes specifically address paleontological resources. They are generally applicable to a project if that project includes federally-owned or federally-managed lands or involves a federal agency license, permit, approval, or funding. Federal legislative protection for paleontological resources stems from the Antiquities Act of 1906 (PL 59-209; 16 United States Code 431 et. seq.; 34 Stat. 225), which calls for protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federal lands.

State

Paleontological resources are also afforded protection by CEQA. Appendix G (Part V) of the *CEQA Guidelines* provides guidance relative to significant impacts on paleontological resources, stating that a project will normally result in a significant impact on the environment if it will "…disrupt or adversely affect a paleontologic resource or site or unique geologic feature, except as part of a scientific study." Section 5097.5 of the Public Resources Code specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for the damage or removal of paleontological resources.

Professional Standards

The Society for Vertebrate Paleontology (SVP) has established standard guidelines for acceptable professional practices in the conduct of paleontologic resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional paleontologists in the nation adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most California state regulatory agencies accept the SVP standard guidelines as a measure of professional practice.

3.4.3 Results

Archival Archaeological and Paleontologic Research

Archaeological Archival Search

Archival records indicate that five (5) archaeological studies have been undertaken within the project corridor in Kern County, and twenty-eight (28) archaeological studies have been completed within the project corridor in Los Angeles County. Additionally, twenty-eight (28) archaeological studies have been undertaken within ¼ mile of the project in Kern County and one hundred twenty-nine (129) archaeological studies have been undertaken within ¼ mile of the project in Los Angeles County. These projects range in size from small lots to several miles wide, or hundreds of miles in length, and are comprised of positive and negative findings, as well as hundreds of prehistoric and historic archaeological sites, and assessed historic buildings. A detailed listing of previously performed archaeological investigations and previously identified cultural resources was included in the archaeological report authored by Loftus and Turner (2008).

Four (4) previously recorded prehistoric and four (4) historic archaeological sites are within or adjacent to the project APE in Kern County, while two (2) previously recorded prehistoric and nineteen (19) historic archaeological sites are within or adjacent to the project APE in Los Angeles County. One Point of Historic Interest was identified, "KER-001", as a result of the archival search performed by APRMI. KER-001 is the Hamilton clay pits associated with the Tropico Mine in Rosamond, California. **Tables 3.4-1** and **3.4-2** summarize previously recorded cultural resources that are within or adjacent to the current project APE in both Kern and Los Angeles Counties.

Archival research indicates that the Pine Canyon area associated with Ritter Ridge and the Sierra Pelona Mountains is one of the densely concentrated prehistoric sites associated with the Tataviam culture. This includes a massive village complex, satellite camps, base camps, hunting features, and pit-and-groove or cupule sites, cemeteries, roasting pit/hearth features, and artifacts indicative of complex socio-cultural affiliation with neighboring coastal and northern groups. Depth of deposit is varied, from surface scatters to extensive deposits. A granitic stone bowl was recovered 8-feet below the surface south of the current project area (Parker et al., 2004). Many sites are commonly found tucked into canyons or atop ridges with commanding views of the desert valley and mountains beyond.

TABLE 3.4-1
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN OR ADJACENT TO THE PROJECT APE (Kern County)

Site Number (CA-KEr or 15-)	Age	Description	Report Title	Author
7591	Historical	Clay pits at Tropico Mine, also known as KER-001, a California Point of Historical Interest (6 2 1968)	Survey and Evaluation Report for Proposed Acton Phase I Land Exchange Near Tropico Mine	Cunkelman, S.
12460	Historical	Historic building; corrugated steel	A Phase I Cultural Resource Survey for Property at Avenue A and 60th St. West, Rosamond, Kern County, California	Hudlow, S.
5732H 5731	Historical Prehistoric	5732H is an historic homesite; 5731 is a prehistoric lithic deposit	Phase I Cultural Resource Investigation for Wastewater Treatment Plant Expansion, 20 Acres Adjacent to United Street (10th Street West); Rosamond, Kern County, California	Norwood, R.
492	Prehistoric	Isolated chalcedony tool	Archaeological Assessment of 72.2 Acres of Land in Rosamond, Kern County, California. CRF 90-26	Parr, R.E.
4774H	Historical	HPRD small	(Site Record)	Samuelson, A.
4775	Prehistoric	Isolated chert flake	(Site Record)	Unknown
522	Prehistoric	Lithic scatter	(Site Record)	Unknown

Also of particular note with respect to the project APE and ¼ mile archival search around that APE are several archaeological studies within the historic portion of Lancaster, or Old Lancaster. In 1995, Richard Norwood undertook an archaeological study of the Cedar Street Parking lot; south of Lancaster Boulevard, west and adjacent to Cedar Ave. Norwood (1995) did not observe any prehistoric or historic archaeological sites or isolates but noted the project area was adjacent to a building complex listed in the National Registry of Historic Places, therefore indicating a greater possibility for the discovery of subsurface archaeological deposits. Another historic resource survey of downtown Lancaster, completed by CRM Tech (Tang & Hogan, 2003), indicates the recordation of 138 historic period buildings, resources not yet updated in the archival records library of the SCCIC. Other significant historical resources have been identified within the area of downtown Lancaster, as well as the Palmdale Ditch and the Tropico Gold Mine (Rosamond).

To summarize, results of the archival research indicate that the project corridor is located within a highly sensitive and archaeologically important prehistoric cultural region, as well as a regionally significant historic period.

TABLE 3.4-2
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN OR ADJACENT TO THE PROJECT APE
(Los Angeles County)

Site Number (CA-LAn or 19-)	Age	Description	Report Title	Author
1553H	Historical	Homestead and three HPRDs	Archaeological Survey of Tract Map 45823, Palmdale, California (RECON Number R-1983)	Hector, S.
3679H	Historical	HPRD	Phase I Cultural Resource Survey for Property at 40th St. West and Avenue H, City of Lancaster, California	Hudlow, S.
3663H	Historical	HPRD	An Archeological Walk Through for Stats Group's Property at 50th Street East and Palmdale Boulevard, City of Palmdale, California	Hudlow, S.
150148	Historical	Pearland Store	A Phase I/II Cultural Resource Survey and Evaluation for the Proposed Chevron/McDonalds at the corner of 47th Street East and Avenue S, City of Palmdale, California	Hudlow, S.
1534H	Historical	Palmdale Ditch	Archaeology Report for T.T. 47113 near Sierra Highway and the Los Angeles Aqueduct, Palmdale, Los Angeles County, California	Love, B.
2656H	Historical	HPRD	Phase I Cultural Resource Investigation for a 10 Acre Property at West Ave,L-8 and 40th Street West, Lancaster, Los Angeles County, California	Norwood, R.
2911H 2912H 2913H	Historical	2911H and 2912H are standpipes; 2913H is a residential foundation/slab	Archaeological Survey and Historic Study Report for the Acquisition of Right-of-Way along the Avenue P-8 Corridor between State Route 14 and 15th Street East, Los Angeles County, California	Sriro, A, Barber, S.
3190H	Historical	HPRD	Historical/Archaeological Resources Survey Report: Sierra Gateway Project, Tentative Tract No. 42991, City of Palmdale, Los Angeles County, California	Tang, B. et al.
2711H 2715H 2716H 2719H 2720H	Historical	2711H, 2715H, 2719H, and 2720H are HPRD; 2716H is an Air Force Gunnery Range/Berm	Cultural Resources Investigation for Air Force Plant /42	Unknown EARTHTECH
2808H	Historical	Palmdale Sheriff's Station	(Site Record)	Ferraro, D.
3514H	Historical	HPRD	(Site Record)	McIntosh, D. et al.
765	Prehistoric	Lithic scatter	(Site Record)	Unknown
950	Prehistoric	Temporary camp site	(Site Record)	Unknown
3688	Historical	HPRD large	(Site Record)	Unknown
3658	Historical	HPRD large	(Site Record)	Sanka, J.

Paleontological Archival Search

Results of the Vertebrate Paleontology Records Check requested by APRMI from Dr. Samuel A. McLeod of the Los Angeles Museum of Natural History noted that the outlying mountain ranges on the north, west, and east sides of the proposed project line are mostly comprised of bedrock devoid of vertebrate fossils. The Pelona Ranges, southwest of the proposed Reservoir 2 are metamorphic rocks from the Pelona Schist. This mountain range does not contain known vertebrate fossil localities. The southernmost segment of the proposed project route in the area that courses south along 40th Street just south of Avenue T, consists of exposures of granitic rock that will also be devoid of fossils. On Tropico Hill, at the northern most part of the proposed project route, the bedrock consists of igneous rock that will also be devoid of vertebrate fossils.

There is however, a significant locality consisting of fossil terrestrial leaves that is part of the Anaverde formation found directly south of the Proposed Reservoir 2 location and north of the Pelona Range. The San Andreas Rift Zone crosses through the older Quaternary and Plio-Pleistocene deposits of the Anaverde Formation and elsewhere throughout the proposed project line. The fossil leaves are observed in the 75 foot section in the middle formation that consists of alternating grey-brown sandstones, finely laminated brown shales, and an occasional thin lens of limestone (Axelrod 1950). The Anaverde Formation has produced extremely important and unique fossil specimens including elephants (*Elephantoidea*) and horse (*Equus*). The leaves are comprised of 21 species from 17 genera and 12 families that have been collected throughout the years.

Dr. McLeod states that two vertebrate fossil localities are located in the southernmost segment of the proposed project route, one of which is possibly within the Anaverde Formation. He notes that this area "may well uncover significant vertebrate fossils" and should be monitored. He likewise notes that,

> "…vertebrate remains, however, may be quite small and would be missed in typical paleontologic excavation monitoring. It is recommended, therefore, that sediment samples from substantial subsurface excavations be collected and processed to determine their small fossil potential. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution…"

The second vertebrate fossil locality is located in the far eastern section of the proposed project line along Avenue S, north of 90th Street East and eastward almost to the San Bernardino County line, where Quaternary Alluvium and older Quaternary sediments have produced small vertebrates including gopher snake (*Pituophis*), kingsnake (*Lampropeltis*), leopard lizard (*Gambelia wislizenii*), cottontail rabbit (*Sylvilagus*), pocket mouse (*Chaetodipus*), kangaroo rat (*Dipodomys*), and pocket gopher (*Thomomys*). Vertebrate fossil localities have also been found within the easternmost part of the segment of the proposed project route along Avenue S between Little Rock Wash and 90th Street East.

The low-lying basin of the Antelope Valley is comprised of surficial deposits of younger Quaternary alluvium with older Quaternary deposits occurring at varying depths. Dr. McLeod states that the "younger Quaternary deposits usually do not contain significant vertebrate fossils,

at least in the uppermost layers. Significant vertebrate remains have been encountered at deeper levels."

Results from the archival search completed at the Buena Vista Museum in Bakersfield found that a late Pleistocene site containing mammoth (*Mammuthus* sp.), camel (*Camelops* sp.), bison (*Bison* sp.), and other Rancholabrean age large terrestrial specimens were found in the town of Rosamond south of Rosamond Boulevard on the west side of Highway 14, located in the ancient Rosamond Lake bed deposit.

Several additional fossil localities are found nearby, but outside of the project APE, coming from sedimentary deposits that are similar to those that occur within the proposed project route. Known fossil localities can be found in the southern part of the valley around the historic Palmdale Ditch and Barrel Springs, westward crossing Elizabeth Lake Road in the Anaverde valley, throughout the valley floor within the towns of Rosamond and Lancaster, and northeast throughout the Mojave Desert.

Survey Results

Archaeological Survey Results

The survey results are presented in order of proposed construction Phases 1-5 (**Table 3.4-3**). Two historic period sites were identified at Distribution Pump Station 1 (Phase 1) and Booster Pump Station 2 (Phase 4). Site *DPS1-Hist1* (Temporary Designation) is located at Distribution Pump Station 1 and is comprised of foundation and footing features, as well as historic period refuse deposits. Six prehistoric and two historic period isolates were identified at Reservoir 3 and Booster Pump Station 2 (Phase 4). In addition, a segment of the concrete chute portion of the historic Palmdale Ditch (CA-LAn-1534H) is located in the southern portion of Reservoir 3. A portion of the transitional period of Old Lancaster and historic Palmdale is traversed by the project backbone corridor (Phase 2 and 4). The Tropico Mine is located adjacent to the Reservoir 4 proposed location (Phase 5).

Phase 1

The parcel proposed for Distribution Pump Station 1 was surveyed in single person transects, north to south, 15-meters apart. Visibility was less than 50 percent. The pan-and-dune complex was full of rainwater, frozen over, with all vegetation frosted over. Vegetation is Desert Saltbush Scrub with a mild integration of Desert Sink Scrub. No prehistoric or historic period artifacts were identified. Modern trash comprised of sofas, mattresses, clothes, toilet porcelain, modern plastics and glass that litters the area. Approximately ¼ mile away, to the south and west of these parcels, large lithic scatters of 200+ artifacts and isolates have been identified (Robinson 1993).

Two small historic period refuse deposits comprised of late historic sanitary seam cans and modern refuse are visible along the berm near Division Street. These deposits appear isolated and may be re-deposited from a nearby site, thus were not recorded as sites, but noted on the newly

TABLE 3.4-3
SUMMARY OF CONSTRUCTION PHASES, APE SEGMENTS, AND CULTURAL/PALEONTOLOGICAL RESOURCES

Phase	Description	APE Area/Street Segments	Cultural Resources
1	Distribution Pump Station 1, Distribution Pump Station 1A, Backbone, and Reservoir 1	• Distribution Pump Station 1 and 1A • Avenue F to Avenue H, south on 30th Street West • West along Avenue H to 60th Street West • Lancaster Blvd. south along Division Street to Avenue K • Avenue K west from Division Street to 40th Street West • 40th Street West south from Avenue K to Avenue M • Reservoir 3-Quartz Hill	• *DPS1-Hist1(Distribution Pump Station 1)*
2	Distribution Pump Station 2 and Backbone	• Distribution Pump Station 2 • Palmdale WRP south along 40th Street East to Avenue R • 40th Street East to Sierra Highway west along Avenue R • Sierra Highway north to Avenue P • Avenue P from Sierra Highway east to Palmdale WRP • Avenue K east from Division Street to 20th Street East	• Numerous historical structures adjacent • Portions of Old Lancaster □ historic Palmdale
3	Backbone	• Avenue M east from Sierra Highway to 50th Street East • 40th Street East, north from Avenue M to Avenue L • 50th Street East, south to Avenue P-8 • 50th Street East to 40th Street east, along Avenue P-8 • Avenue R to Avenue T□Pearblossom Highway at Booster Pump Station 2 • Avenue S, east from 40th Street East to 90th Street East	• USAF Plant □42 • Previously Recorded 150148 (demolished)
4	Backbone, Booster Pump Stations 1 □ 2, Reservoirs 2 □ 3	• Booster Pump Station 1 • Booster Pump Station 1 to Sierra Highway along Avenue M • Sierra Highway from Avenue K south to Avenue P • Avenue P, west from Sierra Highway to 25th Street West • 25th Street West south to Elizabeth Lake Road at Reservoir 2 • Reservoir 2 • Booster Pump Station 2 • 40th Street East from Avenue T south to Reservoir 3 • Reservoir 3 • Reservoir 3 □East Parcel • Reservoir 3 □West Parcel	• USAF Plant □42 • Numerous Tataviam sites□features (Reservoir 2) • Portions of Old Lancaster □ historic Palmdale • BPS2-ISO-1 • BPS2-Hist1 (Booster Pump Station 2) • CA-LAn-1534H (Reservoir 3 □West) • *R3-ISO1* • *R3-ISO2* • *R3-ISO3* • *R3-ISO4* • *R3-ISO5* • *R3-ISO6* • *R3-ISO7*
5	Reservoir 4, Backbone	• Reservoir 4 • Mojave Tropico Road south to Gaskell□Patterson Road • Gaskell□Patterson Road, east from 90th Street West to 10th Street West at Rosamond WRP • Sierra Highway south from Patterson Road to Avenue D at Lancaster WRP	• Tropico Hill Mine (Reservoir 4) • CPHI KER-001 • Tropico Hill Mine □ Camp (tourist attraction) • Multiple prehistoric sites (Mojave Tropico Road □ Gaskell□Patterson Road)

recorded site record sketch map. One historic period refuse deposit appears to be associated with the newly recorded historic period site (Temporary designation: *DPS1-Hist1*), was recorded as a site locus.

DPS1-Hist1

DPS1-Hist1 is comprised of three features and four historic period refuse deposits designated as Loci 1-4. The site measures approximately 500 feet^2, and is located east of Division Street and south of Ave. E-8. The site appears to be a combination of residential and industrial use, and of later historic period age based upon initial field analysis of the artifacts present. Historic features associated with *DPS1-Hist1* are a tamarisk tree and pit or trench that measures 8-feet by 3 to 4-feet (Feature 1), cement foundation and evidence of milled wood, brick, and sidewalk that are possibly indicative of residential use (Feature 2), and a continuous footing of cement with bolts every 3-4 feet along the length and width (Feature 3). Feature 3 has no foundation, however a small pile of milled wood was observed on the east side of the feature; the feature is suggestive of a Quonset hut type of utility building footing, possibly post World War II (Loftus and Turner 2008). Historical artifacts observed at Loci 1-4 include metal sanitary seam cans (mechanically and church-key opened), bottle and jar glass fragments of several colors (blue, clear, aqua, etc.), milled wood, chicken wire, porcelain fragments, earthenware crockery, among other artifacts.

Several possible historical sites were observed outside the APE within the Phase 1 area, including remnants of an historical home site or homestead, a water tank, historical refuse deposits, and portions of the aforementioned Old Lancaster. These resources are noted as areas of archaeological concern, though should not be impacted by project activities due to their location outside of the proposed APE.

Phase 2

The Distribution Pump Station 2 parcel could not be accessed for survey due to fencing and signage indicating “Private Property” and “Airport Site Property”. Area was visually assessed from the public side of the fence line along 40th Street and along an open semi-paved lot accessed from the south at Avenue O, west of a culvert. Remnants of an historical homesite or possible homestead and associated historical tree line and orchard were visible. A review of historical maps of this location does not indicate the presence of historical structures (Pearland 6’ topographic quad 1934/reprint 1943 and Palmdale 7.5’ topographic quad 1958/reprint 1974). Should this parcel be selected, access will be required for comprehensive inventory and assessment of this historic period homesite/homestead.

Along Sierra Highway between Avenue R and Avenue P, there are numerous historical structures located adjacent to the project APE. These structures are depicted on the Palmdale 6’ topographic quadrangle and are indicative of old Palmdale, specifically post-Palmenthal colony relocation (1888-1889); few of these structures remain. Subsurface historic structures, features, and artifacts may be present. Previous archaeological surveys conducted within the APE did not identify historic buildings or structures of interest.

Phase 3

Beginning at Site 1 Road (15th Street West) and continuing east to 50th Street East, the south side of the APE is fenced and inaccessible. United States Air Force Plant #42, a World War II and Cold War era military property comprised of three NRHP eligible properties and nine properties that warrant further investigation for NRHP eligibility are present (Trnka, J. et al., 1997).

The remainder of the Phase 3 area consists of intermittent stretches of fallow and active agricultural land, desert landscapes, as well as modern residential and industrial facilities. At 47th Street East, the community of Pearland was once present and *The Pearland Store* was anticipated, as its location was suggested in Hudlow's 1996 Primary Record and Building structure, Object Record (150148). The building is no longer present, however, as it was demolished and replaced by a Chevron and McDonalds.

Phase 4

The majority of this portion of the APE is comprised of modern era and marginally late historic period industrial and commercial developments interspersed with empty fields of natural desert. Several later historic period hotels are noteworthy, near the intersection of Avenue M and the Sierra Highway, west of the APE (the *Sahara*, *Palmdale Pelican*, and *Rega Lodge*). These structures should not be impacted, as the backbone is proposed within the roadbed.

The proposed parcel for construction of Reservoir 2 is located west of the spillway in the Pine Canyon area within the creek bottom of the Amargosa Creek, as well as upslope and north of the creek. The parcel was surveyed in duo transects 15-20 meters apart, north to south. No prehistoric or historic period resources were observed within the creek bottom or adjacent to Elizabeth Lake Road.

As previously stated in the Archaeological Archival Search results, the Reservoir 2 proposed location is highly sensitive for archaeological resources. A large Tataviam village complex and associated temporary camps, satellite camps, base camps, hunting blinds, pit-and-groove or cupule sites, large roasting pit/heart features, and known Tataviam burials are present.

At the time of the pedestrian survey, the proposed parcels being considered for Booster Pump Station 1 included US Air Force Plant 42 and the Lockheed Plant 10 complex. These parcels were inaccessible due to fencing. To avoid federal property, the proposed location for Booster Pump Station 1 has since been changed to that shown on Figure 2-1.

A new prehistoric isolate and one historic period site were identified within the Phase 4: Booster Pump Station 2 area, *BPS2-ISO-1* and *BPS2-Hist1* (Temporary Designation).

BPS2-ISO-1

This prehistoric isolate is located in the Booster Pump Station 2 parcel southwest of the intersection of Pearblossom Highway/Avenue T and 40th Street East. The isolate is a shoulder fragment of a schist mano.

BPS2-Hist1

Historic site BPS2-Hist1 is a large, historic period refuse deposit comprised of four loci, located in the Booster Pump Station 2 parcel, northeast of the Pearblossom Highway/Avenue T and 40th Street East intersection. Chronological estimates for the site are approximately late 1930s to the mid 1950s. Artifacts observed in all loci include metal sanitary seam cans (machine, church-key, and knife opened), Standard Oil Cans, glazed sewer pipe fragments, peach and blue Asian patterned porcelain fragments, white milk-glass fragments, cut bone, glass bottle and jar fragments (amber, green, and clear colored), among other assorted metal, rubber, wire items.

CA-LAn-1534H

The previously recorded cultural resource CA-LAn-1534H, the Palmdale Ditch, bisects the southern portion of the Phase 4: Reservoir 3 – West Parcel; entering from beneath Barrel Springs Road just west of 40th Street East, trending southeast to northwest. This portion is a segment of the concrete chute, measuring approximately 3 feet deep in this location. A dirt trail is located south of the Palmdale Ditch and nearly parallels this historic feature; it is not clear if this trail is part of the Barrel Springs Trail system. The Palmdale Ditch dates back to the early 20th Century, part of an engineering effort to bring water from the Little Rock Creek to the residents of Palmdale (see the Historical Setting discussion above).

R3-ISO1, R3-ISO2, R3-ISO3, R3-ISO4, R3-ISO5

Five prehistoric isolates were identified and recorded in the northern portion of the "Phase 4: Reservoir 3 – West Parcel", along the lower slope, near random drainages and along the access road cut/berm (*R3-ISO1*, *R3-ISO2*, *R3-ISO3*, *R3-ISO4*, *R3-ISO5*). Isolates include a tufa stone groundstone bowl fragment (shoulder and base), a granitic unifacial mano, and three schist metates (Appendix C in Loftus and Turner 2008). The artifacts are too scattered to comprise a site *per se*, however two large prehistoric campsites/quasi village sites are nearby; east of the parcel and north of the California Aqueduct. These sites are comprised of lithic and groundstone materials, faunal (shell and bone), and hearth features.

R3-ISO6

One beverage bottle glass fragment (green), with legible white decal "7UP" was identified in the southwestern corner of the "Phase 4: Reservoir 3 – West Parcel". No base or maker's mark was visible; however, the bottle appears of historic nature, thus was recorded as an isolate and is also included in Appendix C (Loftus and Turner 2008).

R3-ISO7

One square medicinal bottle of blue glass with metal screw cap was identified near Barrel Springs Road in the central portion of the "Phase 4: Reservoir 3 – West Parcel". No maker's mark was visible, however, the bottle was recorded as an isolate (Appendix C, Loftus and Turner 2008).

Phase 5

The proposed parcel for the Phase 5: Reservoir 4 area had not been specifically located at the time of the pedestrian survey and records search for the Phase I Assessment; only a general

location was provided. Locational information (Latitude 34˚ 52’ 48”, Longitude 118˚ 131 52”) provided the week prior to the in-field assessment places the location of Reservoir 4 on the Soledad Mountain 7.5’ (1973) topographic quadrangle, on the west side of the historic Tropico Hill Mine. However, driving instructions (1.2 miles north of Rosamond Blvd/.2 mile west of Mojave Tropico Road) places the proposed Reservoir 4 on the northwest side of the Tropico Mine in a saddle between the historic Tropico Hill Mine and a small hill to the northwest of the mine. A solo survey was undertaken on the west side of the Tropico Hill Mine, according to the latitude/longitude coordinates.

No prehistoric or historical resources were identified in either possible location for Reservoir 4, though the existence of known prehistoric sites to the west of the mine, outside of the project APE, suggests that this area is of high prehistoric archaeological sensitivity. It was also mentioned by one-time mine owner Glen Settle (see below) in the Tropico Gold Camp brochure, 1967, that an “Indian Pictograph Cave” is located at the foot of the Tropico Hills, within the Gold camp.

The combined visual observations of the mine and archival research results indicate that the recorded site is locally significant under CEQA and the NRHP, thus warranting further investigation should the Phase 5: Reservoir 4 area, as identified by the provided latitude/longitude coordinates, be selected.

California Point of Historical Interest KER-001(Hamilton Clay Pits) and the Tropico Hill Mine

Located in the northeast quadrant of the currently active Tropico Gold Mine property (private), KER-001 represents the original clay pits prospected by Ezra Hamilton in the early 1900s. Numerous mine shafts and adits are visible along the face of the mine hill, and several historic period refuse camps associated with the mine were identified on the west-southwest side of the mine proper (recorded by Cunkelman in 2001).

Several historic buildings of local interest, as well as others were relocated to the southeast quadrant of the site by former owner Glen Settle in the 1960s for the purpose of creating a historical-era mining ghost town (Leadabrand 1965). The original Rosamond post office/hotel/store was relocated to the Tropico Gold Mine. Although dilapidated, the buildings retain the recognizable features of post offices, school houses and stores that may contribute to the historical significance of the tourist attraction that maintains the feeling and association of the Tropico Gold Mine and Camp. The buildings are not eligible as independent entities under CEQA or NHPA as their relocation has compromised integrity of setting and location. The Tropico Gold Mine and camp was a successful tourist attraction for Rosamond until its closure in 1980; in addition, the mine itself houses the world’s largest time capsule.

Review of archival records and archaeological maps for the Phase 5 pipeline APE indicates that this area of the project, as well as all of Gaskell/Patterson Road, is dotted with prehistoric archaeological sites; as such, these areas can be considered as highly sensitive areas for archaeological resources.

Paleontological Survey Results

Fossil localities are found throughout the Antelope Valley from Barrel Springs and the historic Palmdale Ditch area in southeast Palmdale, in the Anaverde Valley to the southwest, throughout the desert basin into the towns of Lancaster and Rosamond. Fossil specimens vary in type and species from Pliocene leaves, Miocene and Pleistocene microfauna and ancient pollen in the deeper basin sediments, to Rancholbrean age megafauna from the late Pleistocene Epoch associated in lake bed deposits and along the foothills. More than a dozen significant fossil localities are within, or close to, the proposed project line and proposed reservoirs and pump station properties. These sites range in size and type from the identification of a single microfaunal remain, to a stratigraphic bed or lens of specimens such as with the Anaverde Formation leaf deposits, to multiple species found together as recorded Rancholabrean megafauna localities. Many of these fossil sites are on, or close to, the San Andreas Rift Zone. Since this, and other local fault activities allow ground water to percolate to the surface, extinct and modern-day animals congregated to and are found in these areas.

A single fossil leaf was located near the proposed Phase 4: Reservoir 2 area, though directly south of the APE and outside of the project boundaries.

3.4.4 Project Impacts and Mitigation Measures

Significance Criteria

The criteria used to determine the significance of an impact are based on the *CEQA Guidelines*. For this analysis, implementation of the proposed project would result in significant impacts to cultural resources if proposed project activities would:

- Cause a substantial adverse change in the significance of a historical resource [inclusive of archaeological resources] which is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historic Resources, or a local register of historic resources.
- Cause a substantial adverse change in the significance of a unique archaeological resource (i.e., an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it contains information needed to answer important scientific research questions, has a special and particular quality such as being the oldest or best available example of its type, or is directly associated with a scientifically recognized important prehistoric or historic event or person).
- Result in physical demolition, destruction, relocation, or alteration of an important Native American Resource or its immediate surroundings such that its significance would be materially impaired. A resource is “materially impaired” if those physical characteristics that convey its religious, spiritual or traditional significance are demolished or materially altered. Native American resources include but are not necessarily limited to villages, burials, rock art, rock features, or spring locations.
- Disturb any human remains, including those interred outside of formal cemeteries.
- Restrict existing religious or sacred uses within the potential impact area.

- Disturbance or destruction of a unique paleontological resources or site or unique geologic feature

Impacts Discussion

Project-level Impacts

Impact 3.4-1: Ground-disturbing activities during pipeline installation could unearth, expose, or disturb archaeological, historical, or Native American resources. Less than Significant with Mitigation.

The project APE is located within an area of high archaeological sensitivity for cultural resources. Some areas of the project APE are prone to prehistoric sites and others to historic period sites, or a combination of the two. This includes the historic communities of Old Palmdale, Old Lancaster, and the communities of Rosamond and Pearland. In addition, the Anaverde/Amargosa Creek corridor associated with Ritter Ridge is one of intensive prehistoric archaeological sensitivity, as it is a large village complex dating back thousands of years relative to the Tataviam. The pan-and-dune complex north of Lancaster is one of high sensitivity for prehistoric sites and isolates: an area exploited by the Tataviam and Kitanemuk cultures. Additionally, prehistoric sites and cemeteries are reported west of the Tropico Mine, an area likely utilized by the Kitanemuk. Many of the historic period refuse deposits observed throughout the APE are indicative of single episode dumping, likely associated with a nearby homestead and generally do not warrant formal recordation, as such single episode deposits are considered less-than-significant.

Four previously recorded historic period sites and four previously recorded prehistoric period sites are present within or adjacent to the APE in Kern County; 19 previously recorded historic period sites and two previously recorded prehistoric sites are present within or adjacent to the APE in Los Angeles County (see Table 3.4-1 and Table 3.4-2). Some of these sites are adjacent to the backbone corridor, but appear unaffected by the project given the use of the roadbed as the location for backbone pipeline construction. With respect to the placement of the backbone pipeline within existing roadbed, it is unknown what lies beneath in terms of prehistoric, historical, or Native American resources. Mitigation Measure 3.4-1a would minimize potential impacts to previously unknown cultural resources.

The pipeline segment connecting Booster Pump Station 1 with the proposed pipeline along Sierra Highway was not included in the APE evaluated in the Phase I Assessment by APRMI. Mitigation Measure 3.4-1b would ensure that this segment of pipeline is surveyed and evaluated appropriately for cultural resources prior to construction. Any potential impacts to known or unknown cultural resources along this pipeline corridor would be reduced to less than significant impacts by implementation of a Cultural Resources Monitoring, Mitigation and Treatment Plan as described in Mitigation Measure 3.4-1a.

The pipeline segment connecting the Lancaster WRP with Distribution Pump Station No. 1 was not included in the APE evaluated in the Phase I Assessment by APRMI. The pipeline crosses Amargosa Creek within the Sierra Highway and is therefore within a potentially sensitive area for

pre-historic sites. This segment follows the exact route of the Lancaster WRP Eastside Agricultural Pipeline installed within the last two years. Mitigation Measure 3.4-1b would ensure that the segment of pipeline is surveyed and evaluated appropriately prior to construction. Since the segment follows an existing pipeline route installed within the last two years that did not encounter significant cultural resources, impacts within this corridor would be less than significant.

Mitigation Measures

Mitigation Measure 3.4-1a: Prior to initial construction of pipelines, the implementing agency shall retain the services of a qualified archaeologist to prepare a Cultural Resources Monitoring and Mitigation Plan (CMMP) and a Treatment Plan (TP) in accordance with CEQA Guidelines Sections 15064.5 and 15126.4. The CMMP shall set forth criteria for evaluating the significance of resources discovered during construction and identify appropriate data recovery methods and procedures to mitigate project impacts on significant resources. At a minimum, the CMMP shall include a summary of available information on known sites and sensitive locations in the project area; a historical context for the evaluation of resources that may be encountered during construction; a research design outlining important historical themes and research questions relevant to the known sites in the study area; data requirements and the appropriate field and laboratory methods to be used to acquire data needed for significance evaluation and impact mitigation. The CMMP will also identify specific pipeline segments where cultural resources monitors would be required during construction. The TP will identify reporting and curating requirements for artifacts uncovered during construction.

All project activities within or adjacent to the *Historical area of Old Palmdale and Old Lancaster* and *Old Rosamond and Tropico Mine* area shall be monitored by a professional archaeologist as there is a high probability for subsurface feature discovery, which includes (though is not limited to) foundations, cisterns, wells, cesspools, basements, or associated elements of the *Old Palmdale roundhouse spur of the Southern Pacific Railroad*.

Mitigation Measure 3.4-1b: A Phase I cultural resources survey shall be conducted for the segments of pipeline not already assessed in the Phase I Assessment conducted for the proposed project. Following completion of the Phase I cultural resource survey, the CMMP and TP shall be updated to include these segments.

Significance after Mitigation: Less than Significant.

Impact 3.4-2: Ground-disturbing activities during pipeline installation could unearth, expose, or disturb human remains. Less than Significant with Mitigation.

No previously recorded human burial sites were identified within the APE as a result of the archival research or the archaeological reconnaissance survey. Results of both the archival research and archaeological reconnaissance indicate that the proposed project area is within an area of high sensitivity for cultural resources, both prehistoric and historic. Prehistoric sites and cemeteries are reported west of the Tropico Mine, an area likely utilized by the Kitanemuk. Since

the nature of the proposed project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously unknown human remains. With implementation of Mitigation Measure 3.4-2, the proposed project would have less than significant impacts regarding the disturbance of human remains.

Mitigation Measures

Mitigation Measure 3.4-2: If human skeletal remains are uncovered during project construction, the implementing agency shall immediately halt work, contact the Kern County or the Los Angeles County coroner, depending upon the location of the find, to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the *CEQA Guidelines*. If the County coroner determines that the remains are Native American, the implementing agency shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Significance after Mitigation: Less than Significant.

Impact 3.4-3: Installation of pipelines could potentially unearth, expose, or disturb paleontologic resources including fossil remains, localities, or known fossil-bearing geologic horizons. Less than Significant with Mitigation.

Fossil remains are considered unique and significant to the scientific community. If a paleontological resource is uncovered and inadvertently damaged, the impact to the resource could be substantial. Implementation of the proposed project could result in significant impacts to paleontological resources. More than a dozen significant fossil localities are within, or close to, the proposed project line and proposed reservoirs and pump station properties. These sites range in size and type from the identification of a single microfaunal remain, to a stratigraphic bed or lens of specimens such as with the Anaverde Formation leaf deposits, to multiple species found together as recorded Rancholabrean megafauna localities. Many of these fossil sites are on, or close to, the San Andreas Rift Zone. With implementation of Mitigation Measure 3.4-3, the proposed project would have less than significant impacts regarding the disturbance of paleontologic resources.

Mitigation Measures

Mitigation Measure 3.4-3: The implementing agencies shall develop and implement a Paleontological Resource Monitoring and Mitigation Plan (PRMMP) prior to the onset of construction-related earth moving activities in order to either avoid or mitigate to a less-than-significant level the effects on paleontological resources. During earth-moving

construction-related activities, additional previously-unknown fossil sites may be uncovered. The PRMMP must include mitigation protocol for discoveries as well. The PRMMP shall include provisions for the following: special consideration shall be made to collect sediment samples for potential fossiliferous locations as per the Society of Vertebrate Paleontology standards; stratigraphic cross-sections shall be recorded, mapping of the geologic units graphed, and fossil remains, cleaned, analyzed, and catalogued to be accepted for curation at a legal repository; all work must be conducted by a qualified Paleontologist and a final Report of Findings must be submitted upon completion of laboratory analysis.

Significance after Mitigation: Less than Significant.

Program-level Impacts

Impact 3.4-4: Proposed ground-disturbing activities for storage reservoirs, pump stations and groundwater recharge facilities could unearth, expose, or disturb archaeological, historical, or Native American resources. Less than Significant with Mitigation.

Two historic period sites (*DPS1-Hist1* and *BPS2-Hist1*), and two historic period isolates (*R3-ISO6* and *R3-ISO7*) were identified and recorded as a result of the archaeological reconnaissance survey. *DPS1-Hist1*, a historic period site with three historical features and four historical refuse deposits, is within the proposed location of Distribution Pump Station 1. *BPS2-Hist1*, a large historic period refuse deposit comprised of four loci, is located in the Booster Pump Station 2 parcel. *R3-ISO6*, a single glass fragment of a beverage bottle and one square medicinal bottle of blue glass with metal screw cap (*R3-ISO* 7) were identified at the proposed location of Reservoir 3 in the vicinity of the historic Palmdale Ditch. Two additional historic period sites were identified yet remain unrecorded due to a lack of accessibility: the historical *Tropico Mine* near the proposed Reservoir 4 site in Rosamond and the historical homesite at proposed Distribution Pump Station 2 site, adjacent to the Palmdale WRP. Six prehistoric isolates were identified and recorded as a result of the archaeological reconnaissance survey (*BPS2-ISO1, R3-ISO1, R3-ISO2, R3-ISO3, R3-ISO4*, and *R3-ISO5*).

California Point of Historical Interest KER-001, the Hamilton Clay Pits, is present within the proposed location of Reservoir 4, and one previously recorded resource “the Palmdale Ditch”, *CA-LAn-1534H*, is within the southern portion of the proposed location of Reservoir 3. Numerous prehistoric sites are immediately adjacent to the project backbone corridor and within the proposed location of Reservoir 2, particularly in the Anaverde/Amargosa Creek area.

The latest locations of proposed Distribution Pump Station 1A, Booster Pump Station 1, and Reservoir 4, as depicted in Figure 2-1, were not included in the APE evaluated in the Phase I Assessment by APRMI. The location of both project components changed after the Phase I Assessment was completed. Mitigation Measures 3.4-4c and 3.4-4d would ensure that these project components are surveyed and evaluated appropriately for cultural resources prior to construction.

Mitigation Measures

Mitigation Measure 3.4-4a: Prior to initial construction of storage reservoirs, pump stations, and recharge facilities, the implementing agency shall retain the services of a qualified archaeologist to prepare a Cultural Resources Monitoring and Mitigation Plan (CMMP) and a Treatment Plan (TP) in accordance with CEQA Guidelines Sections 15064.5 and 15126.4. The CMMP shall set forth criteria for evaluating the significance of resources discovered during construction and identify appropriate data recovery methods and procedures to mitigate project impacts on significant resources. At a minimum, the CMMP shall include a summary of available information on known sites and sensitive locations in the project area; a historical context for the evaluation of resources that may be encountered during construction; a research design outlining important historical themes and research questions relevant to the known sites in the study area; data requirements and the appropriate field and laboratory methods to be used to acquire data needed for significance evaluation and impact mitigation. The CMMP will also identify specific locations where cultural resources monitors would be required during construction. The TP will identify reporting and curating requirements for artifacts uncovered during construction.

Mitigation Measure 3.4-4b: *DPS1-Hist1* and *BPS1-Hist1* would be adversely impacted by the proposed construction activities and, therefore, shall be subjected to Phase II testing and evaluation for significance under CEQA and NHPA (see Section 3.4.2).

Mitigation Measure 3.4-4c: A Phase I cultural resources survey shall be conducted within areas affected by storage reservoir, pump stations, and recharge facilities not already assessed in the Phase I Assessment conducted for the proposed project.

Mitigation Measure 3.4-4d: Following completion of additional Phase I cultural resource surveys for sites not already surveyed, the CMMP and TP shall be updated to include these additional sites.

Mitigation Measure 3.4-4e: All project activities within or adjacent to the *Historical area of Old Palmdale and Old Lancaster* and *Old Rosamond and Tropico Mine area* shall be monitored by a professional archaeologist as there is a high probability for subsurface feature discovery, which includes (though is not limited to) foundations, cisterns, wells, cesspools, basements, or associated elements of the *Old Palmdale roundhouse spur of the Southern Pacific Railroad*. If these elements are identified, mitigation measures shall be employed that include in-field evaluation by a professional archaeologist (per Secretary of the Interior Standards) and possible data recovery, as needed, per a mitigation treatment plan.

Mitigation Measure 3.4-4f: If a prehistoric site is encountered in the vicinity of the concentration of isolated prehistoric artifacts within the northern portion of the western parcel of Proposed Reservoir 3, mitigation measures shall be employed that include in-field evaluation by a professional archaeologist (per Secretary of the Interior Standards) and possible data recovery, as needed, per a mitigation treatment plan.

Mitigation Measure 3.4-4g: If human skeletal remains are uncovered during project construction, the implementing agency shall immediately halt work, contact the Kern County or the Los Angeles coroner, depending upon the location of the find, to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the

CEQA Guidelines. If the County coroner determines that the remains are Native American, the implementing agency shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Significance after Mitigation: Less than Significant.

Impact 3.4-5: Construction of storage reservoirs, pump stations, and recharge facilities could potentially unearth, expose, or disturb paleontologic resources including fossil remains, localities, or known fossil-bearing geologic horizons. Less than Significant with Mitigation.

Fossil remains are considered unique and significant to the scientific community. If a paleontological resource is uncovered and inadvertently damaged, the impact to the resource could be substantial. Implementation of the proposed project could result in significant impacts to paleontological resources. More than a dozen significant fossil localities are within, or close to, the proposed project line and proposed reservoirs and pump station properties. These sites range in size and type from the identification of a single microfaunal remain, to a stratigraphic bed or lens of specimens such as with the Anaverde Formation leaf deposits, to multiple species found together as recorded Rancholabrean megafauna localities. Many of these fossil sites are on, or close to, the San Andreas Rift Zone. With implementation of Mitigation Measure 3.4-5, the proposed project would have less than significant impacts regarding the disturbance of paleontologic resources.

Mitigation Measures

Mitigation Measure 3.4-5: The implementing agencies shall develop and implement a Paleontological Resource Monitoring and Mitigation Plan (PRMMP) prior to the onset of construction-related earth moving activities in order to either avoid or mitigate to a less-than-significant level the effects on paleontological resources. During earth-moving construction-related activities, additional previously-unknown fossil sites may be uncovered. The PRMMP must include mitigation protocol for discoveries as well. The PRMMP shall include provisions for the following: special consideration shall be made to collect sediment samples for potential fossiliferous locations as per the Society of Vertebrate Paleontology standards; stratigraphic cross-sections shall be recorded, mapping of the geologic units graphed, and fossil remains, cleaned, analyzed, and catalogued to be accepted for curation at a legal repository; all work must be conducted by a qualified Paleontologist and a final Report of Findings must be submitted upon completion of laboratory analysis.

Significance after Mitigation: Less than Significant.

3.5 Geology and Soils

This section describes the geologic, seismic, and soil conditions in the vicinity of the proposed project, and assesses the impact of project implementation on these conditions.

3.5.1 Setting

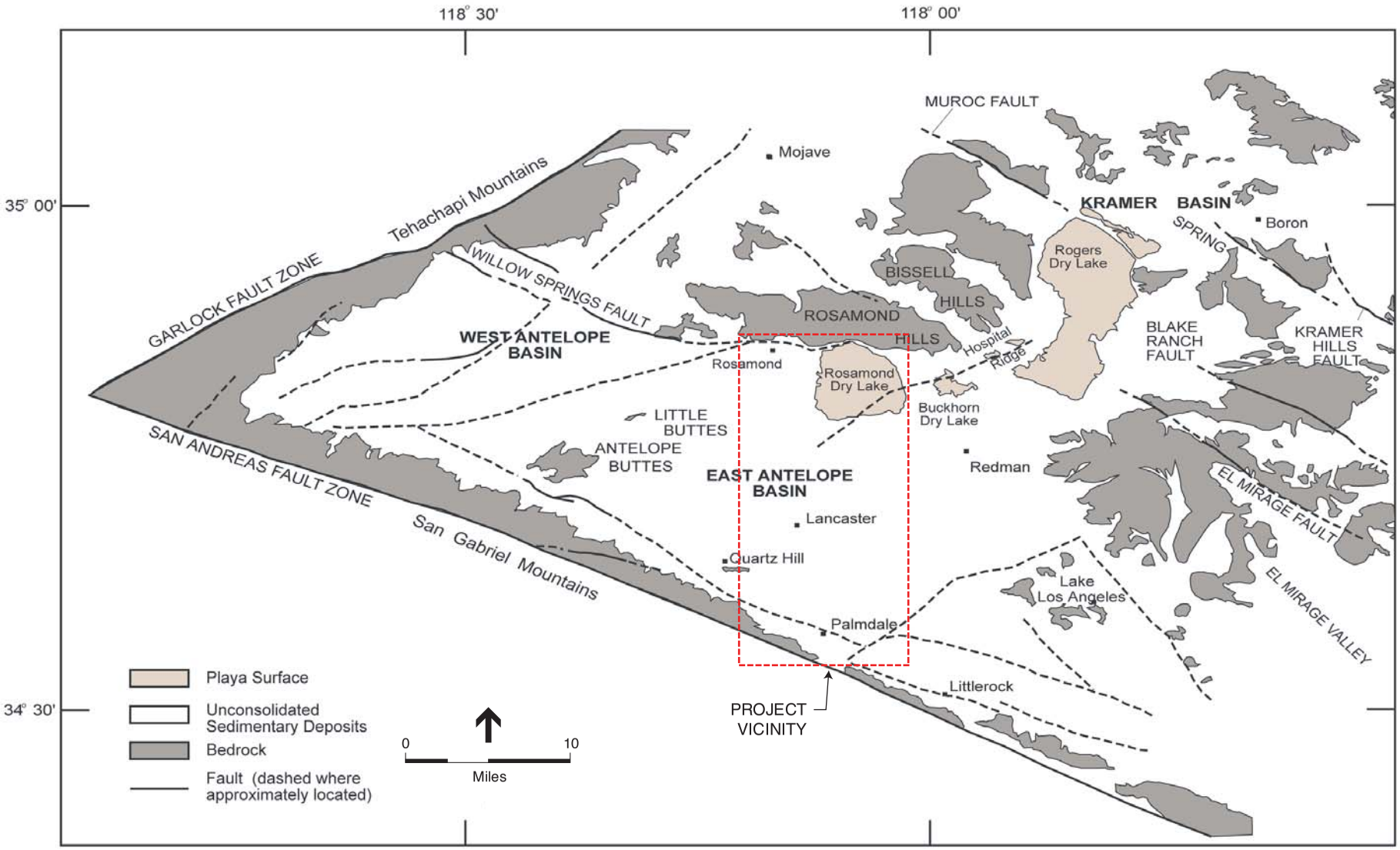
Geology Soils

The project is located in the Antelope Valley, which encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County. The Antelope Valley represents a large topographic and groundwater basin in the western part of the Mojave Desert in southern California. It is an undrained, closed basin. The region occupies part of a structural depression that has been downfaulted between the Garlock, Cottonwood-Rosamond, and San Andreas Fault Zones (**Figure 3.5-1**). The Valley is bound on the southwest by the San Andreas Fault and San Gabriel Mountains, the Garlock Fault and Tehachapi Mountains to the northwest, and San Bernardino County to the east. Consolidated rocks that yield virtually no water underlie the basin and crop out in the highlands that surround the basin. They consist of igneous and metamorphic rocks of pre-Tertiary age that are overlain by indurated continental rocks of Tertiary age interbedded with lava flows (USGS, 1995).

Alluvium and interbedded lacustrine deposits of Quaternary age form the important aquifers within the closed basin and have accumulated to a thickness of as much as 1,600 feet. The alluvium is unconsolidated to moderately consolidated, poorly sorted gravel, sand, silt, and clay. Older units of the alluvium are somewhat coarser grained, and are more compact and consolidated, weathered, and poorly sorted than the younger units. The rate at which water moves through the alluvium, also known as the hydraulic conductivity of the alluvium, decreases with increasing depth (USGS, 1995).

During the depositional history of the Antelope Valley region, a large intermittent lake occupied the central part of the basin and was the site of accumulation of fine-grained material. The rates of deposition varied with the rates of precipitation. During periods of relatively heavy precipitation, massive beds of blue clay formed in a deep perennial lake. During periods of light precipitation, thin beds of clay and evaporative salt deposits formed in playas or in shallow intermittent lakes. Individual beds of the massive blue clay can be as much as 100 feet thick and are interbedded with lenses of coarser material as much as 20 feet thick. The clay yields virtually no water to wells, but the interbedded, coarser material can yield considerable volumes of water.

Soils within the area are derived from downslope migration of loess and alluvial materials, mainly from granitic rock sources originating along the eastern slopes of the Tehachapi and San Gabriel Mountains.



SOURCE: Londquist, 1993.

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Figure 3.5-1
Regional Faults

Geologic Subunits

The complex Antelope Valley Groundwater Basin (AVGB) is divided by the USGS into twelve subunits. Groundwater basins are generally divided based upon differential groundflow patterns, recharge characteristics, and geographic location, as well as controlling geologic structures. The AVGB's subunits[1] are: Finger Buttes, West Antelope, Neenach, Willow Springs, Gloster, Chaffee, Oak Creek, Pearland, Buttes, Lancaster, North Muroc, and Peerless. Refer to Chapter 3.7, Hydrology and Water Quality for descriptions of these subunits.

Topography

The Antelope Valley region is a closed topographic basin with no outlet to the ocean. Land slopes gently inward from the slopes encircling the basin towards three playas (dry lake beds) located in the lowest portions of the valley floor. All water that enters the region either infiltrates into the groundwater basin, evaporates, or flows toward the three dry lakes on Edwards Air Force Base (EAFB): Rosamond Lake, Buckhorn Lake, and Rogers Lake. Elevations range from a high of 2,385 feet above mean sea level (amsl) to approximately 2,273 feet amsl on Rosamond Dry Lake. In general, groundwater flows northeasterly from the mountain ranges to the dry lakes.

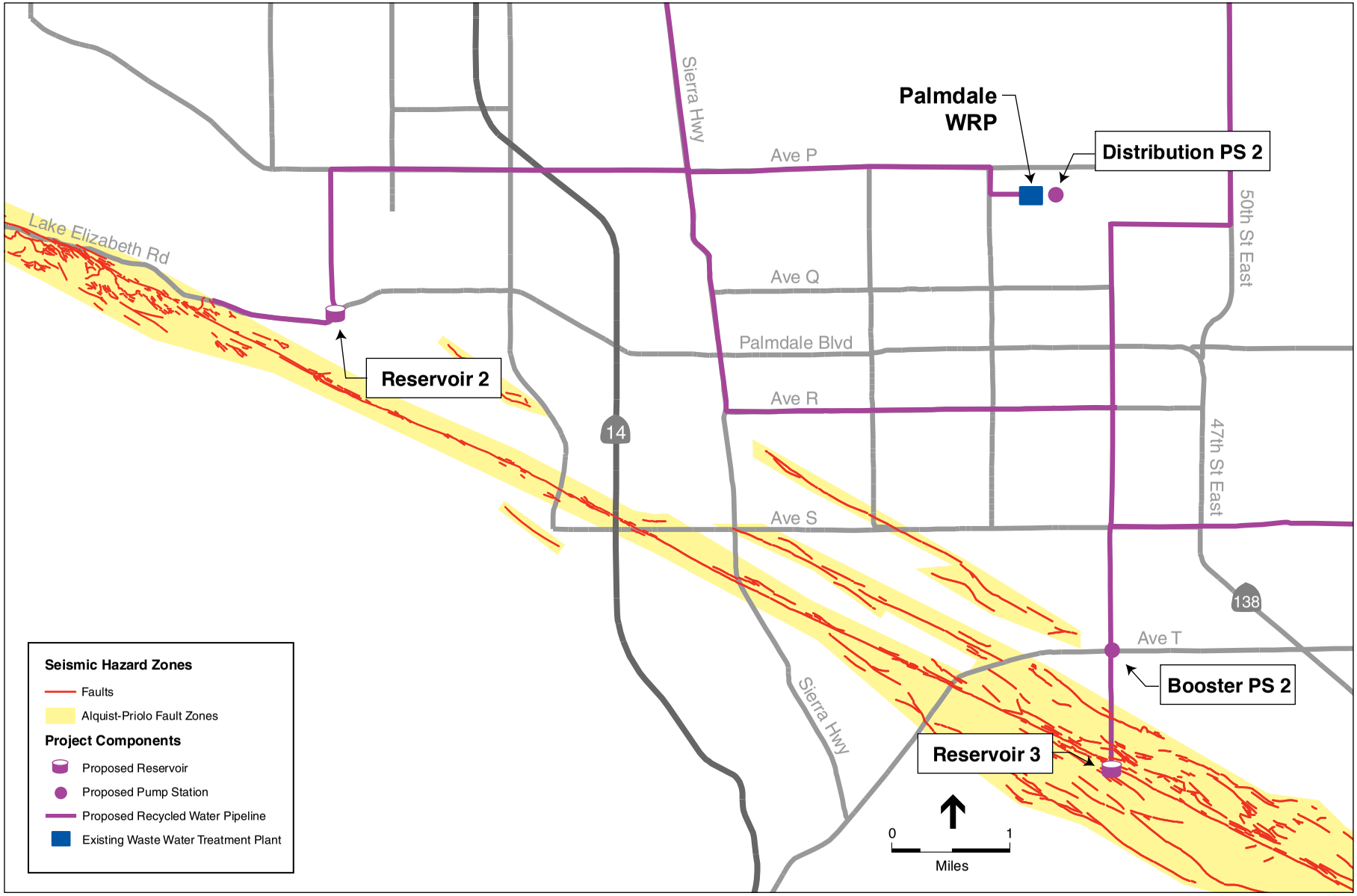
Seismic Hazards

Seismically-induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude, sense, and nature of fault rupture can vary for different faults or even along different segments of the same fault. Ground rupture is considered more likely along active faults. The California Geological Survey (CGS), formerly the California Division of Mines and Geology (CDMG), has identified active fault zones in California in compliance with the 1972 Alquist-Priolo Special Studies Zone Act. The purpose of this Act is to mitigate the hazard of surface faulting to structures for human occupancy (CGS, 2007a). The Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. Alquist-Priolo Earthquake Fault Zones are regulatory zones around active faults. Active faults are defined as having surface rupture in the last 11,000 years (CGS, 2007a).

A review of the Alquist-Priolo Earthquake Fault Maps for the Palmdale (CDMG, 1979a) and Ritter Ridge (CDMG, 1979b) Quadrangles indicates that the project intersects Alquist-Priolo Earthquake Fault Zones in two locations (**Figure 3.5-2**):

- The southernmost portion of the project along 40th Street East from East Avenue T6 to the southwest reservoir is within an Alquist-Priolo Earthquake Fault Zone associated with the San Andreas Fault.
- The westernmost portion of the project along Elizabeth Lake Road runs parallel to the same Zone and intersects the Zone at the project's western terminus.

[1] The AVGB is currently undergoing an adjudication process. As part of information being complied during the adjudication, the Basin may be divided into different subunits and potentially subbasins in the future.



SOURCE: California Geologic Survey, 2008.

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Figure 3.5-2

Alquist-Priolo Fault Zones

Ground Shaking

Areas most susceptible to intense ground shaking are those located closest to the earthquake-generating fault, and areas underlain by thick, loosely unconsolidated and saturated sediments. Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material.

While the earthquake magnitude is a measure of the energy released in an earthquake, intensity is a measure of the ground shaking effects at a particular location. Areas underlain by bedrock typically experience less severe ground shaking than those underlain by loose, unconsolidated materials. The Modified Mercalli Intensity (MMI) scale is commonly used to measure earthquake effects due to ground shaking. The MMI values range from I (earthquake not felt) to XII (damage nearly total), and intensities ranging from IV to X could cause moderate to significant structural damage. The unconsolidated nature of underlying soils in portions of the project area, although located relatively distant from faults, can intensify ground shaking. Peak ground acceleration at the site is anticipated to be approximately equivalent to MMI VIII (very strong) ground shaking. Ground shaking of this intensity would likely cause some degree of damage to project facilities; however, well-designed structures are not anticipated to experience serious damage or collapse.

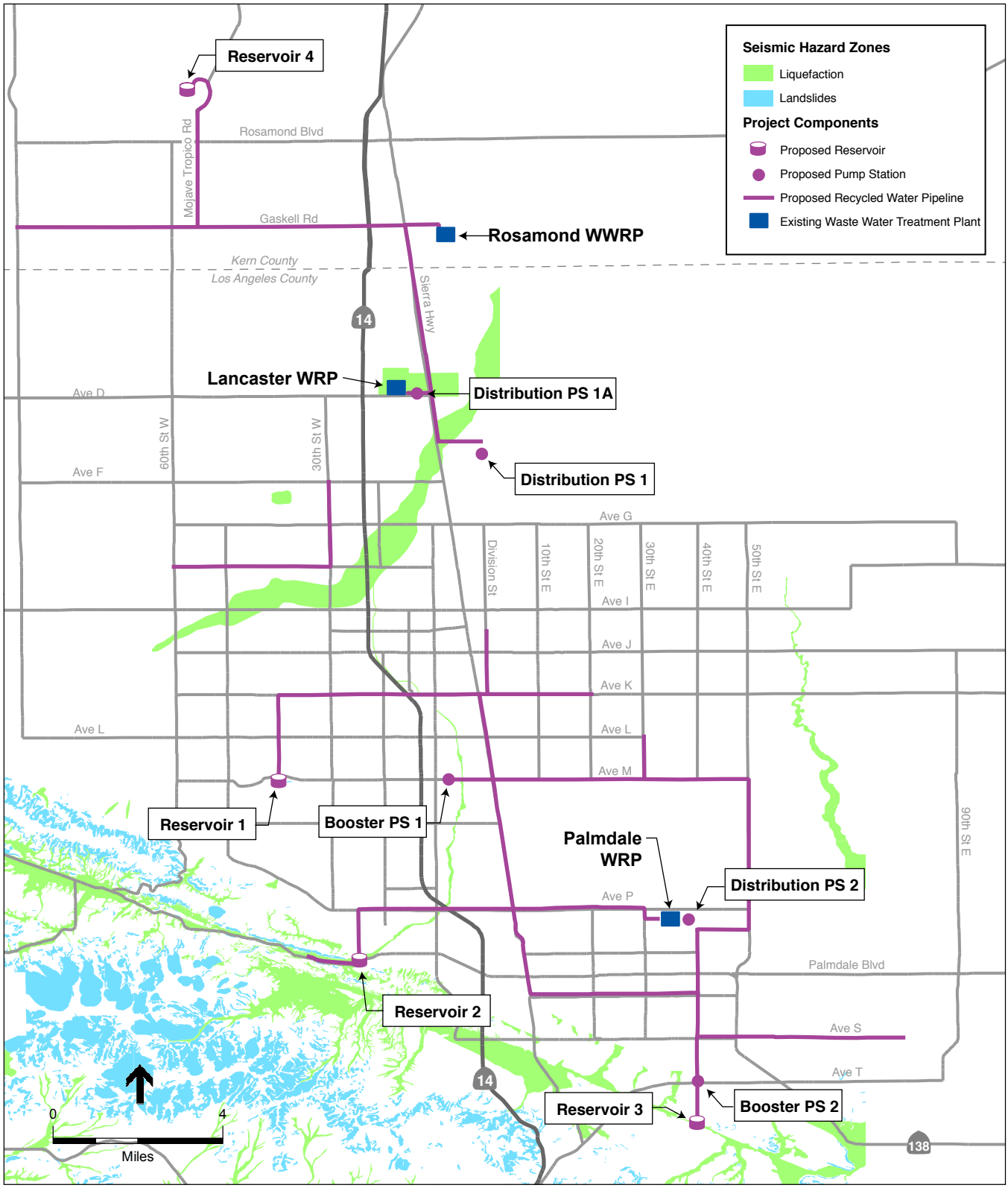
A review of the information provided by the CGS Probabilistic Seismic Hazards Mapping Program indicates that seismic hazards due to ground shaking at the project tend to increase from north to south with proximity to the San Andreas Fault. In the southernmost part of the project area, peak ground accelerations in unconsolidated alluvium can reach 0.738 g, with a 10 percent probability of being exceeded in 50 years (CGS, 2007b). In comparison, the northernmost part of the project area could experience peak ground accelerations that reach only 0.318 g, with the same probability of exceedance (CGS, 2007b).

Liquefaction

Liquefaction is a phenomenon whereby unconsolidated and/or near saturated soils lose cohesion and behave as a fluid as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking results in the temporary fluid-like behavior of the soil. Soil liquefaction causes ground failure that can damage roads, pipelines, buildings with shallow foundations, and levees. Liquefaction can occur in areas characterized by water-saturated, cohesionless, granular materials at depths less than 40 feet. Saturated unconsolidated alluvium with earthquake intensities greater than MMI VII may be susceptible to liquefaction. This would include areas with shallow perched groundwater.

A review of the CGS Seismic Hazard Zones Maps indicates that the project intersects zones of potential liquefaction in four locations (**Figure 3.5-3**):

- The portion of the project along Sierra Highway where it crosses the LWRP is within a liquefaction zone that encompasses the ponds of the LWRP (CGS, 2005).
- The portion of the project along Sierra Highway and Avenue E is within a liquefaction zone (CGS, 2005).



SOURCE: State of California Seismic Hazard Zones

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Figure 3.5-3
Seismic Hazards

- The southernmost portion of the project along 40th Street East at the intersection of Barrel Springs Road is within a narrow liquefaction zone. The zone extends approximately 100 feet north and 100 feet south of Barrel Springs Road (CGS, 2003a).
- The westernmost portion of the project along Elizabeth Lake Road is in a liquefaction zone. This zone is approximately 570 feet wide and is collinear with Elizabeth Lake Road (CGS, 2003b).

Landslide Hazards

A landslide is a mass of rock, soil, and debris displaced down-slope by sliding, flowing, or falling. The susceptibility of land (slope) failure is dependent on the slope and geology as well as the amount of rainfall, excavation, or seismic activities. Factors that decrease resistance to movement in a slope include pore water pressure, material changes, and structure. Removing the lower portion (the toe) of a slope decreases or eliminates the support that opposes lateral motion in a slope. Shaking during an earthquake may lead materials in a slope to lose cohesion and collapse.

A review of the CGS Seismic Hazard Zones Maps indicates that the project is not located in an area that is considered susceptible to an earthquake-induced landslide (Figure 3.5-3). The westernmost portion of the project along Elizabeth Lake Road is located downslope of three landslide zones. One zone trends parallel to and approximately 500 feet north of Elizabeth Lake Road (CGS, 2003b); the other two landslide zones are smaller and are located between 200 and 400 feet south of Elizabeth Lake Road (CGS, 2003b).

Non-Seismic Geologic Hazards

Soil Salinity

Salinization is the process by which water-soluble salts accumulate in the soil. Salinization is a resource concern because excess salts hinder plant growth by causing nutrient imbalances and limiting a plant's ability to extract water from the soil. Salinization may occur from mineral weathering, fertilizers, soil amendments, and irrigation waters that are high in dissolved salts. Soil salinity is typically estimated by measuring the electrical conductivity (EC), in units of milliohms per centimeter (mmhos/cm), of solution extracted from water-saturated soil. EC increases in a solution in direct proportion to the total concentration of dissolved salts.

Salts often accumulate in the soils of arid or semi-arid regions because there is not enough rainfall to dissolve them and leach them down past the root zone. Leaching can be inhibited in soils with a high clay content or high water table. In semiarid areas, salinization often occurs on the rims of depressions and edges of drainages, at the base of hillslopes, and in flat, low-lying areas surrounding sloughs or shallow bodies of water. These areas may receive additional water from below the surface. When the waters evaporate, the salts are left behind near or at the soil surface. Portions of the project area are prone to naturally occurring salinization. Any process that affects the soil-water balance may affect the movement and accumulation of salts in the soil, including climate, subsurface hydrogeology, irrigation practices, drainage, plant cover and rooting

characteristics, and farming practices. For salinization to occur, the following conditions need to occur together: the presence of soluble salts (sodium, calcium, magnesium, etc.), a high water table, a high rate of evaporation, and low annual rainfall.

Erosion

Erosion is the detachment and movement of soil materials through natural processes or human activities. The detachment of soil particles can be initiated through the suspension of material by wind or water. Silt-sized particles are the most easily removed particles, due to low particle mass and cohesiveness. Soils residing within the assessment area are susceptible to wind erosion, especially during the spring and fall months when wind speeds increase. Sporadic, torrential rains can cause major flash flood events that can create significant erosion in the Antelope Valley region, which includes portions of the Mojave Desert.

Expansive Soils

Expansive soils possess a shrink-swell characteristic that can result in structural damage over a long period of time. Expansive soils are largely comprised of silicate clays, which expand in volume when water is absorbed and shrink when dried. Soils east of Nebeker Ranch to Rosamond Dry Lake exhibit greater shrink-swell characteristics than those farther west and east.

Settlement

Settlement of loose, unconsolidated soils generally occurs slowly, but can cause significant structural damage such as cracked foundations or misaligned or cracked walls and windows.

Land Subsidence and Fissures

Land subsidence can occur as a result of groundwater extraction. Underlying soils can compact when water is removed. The extraction of mineral or oil resources can also result in subsidence. Substantial subsidence caused by groundwater extraction has taken place in Lancaster since the 1950s. Development in the area is largely dependent upon groundwater supplies. Between 1930 and 1992, more than six feet of subsidence is estimated to have occurred in the Lancaster area. However, subsidence rates have not occurred uniformly throughout the Antelope Valley and Lancaster area, but are dependent upon underlying materials, the rate of water-level decline, and well locations. Multiple fissures have formed within Lancaster and at EAFB as a result of the lowered water table. In addition to causing structural problems, fissures can create a vertical conduit for surface contaminants to migrate to underlying groundwater, potentially degrading groundwater quality.

5.2 Regulatory Framework

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 requires the State Geologist to delineate zones along active faults in California so that structural development can be regulated to reduce the risk to humans and structures associated with seismic activity. The act prohibits the construction of structures intended for human occupancy within these zones (occupancy rate of more than 2,000 person-hours per year), as well as requires local agencies to regulate certain developments. Figure 3.5-2 identifies the Alquist-Priolo Zones in the project area.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. Figure 3.5-3 identifies the seismic hazard zones in the project area.

California Building Code (CBC)

The CBC is another name for the body of regulations known as the California Code of Regulations, Title 24, Part 2. Title 24 is assigned to the California Building Standards Commission which, by law, is responsible for administering, adopting, approving, publishing, and implementing all building standards in the state of California. Under state law, all building standards must be centralized in Title 24 or they are not enforceable (Bolt, 1988). About one-third of the text within the California Building Code has been tailored for California earthquake conditions (Bolt, 1988).

Local

The Kern County General Plan contains a safety element which identifies geologic and seismic hazards within the county and provides policies and implementation measures to support the various goals.

The Rosamond Specific Plan contains a safety element which identifies seismic hazards and provides policies and implementation measures to support the various goals.

The County of Los Angeles General Plan, which is undergoing a comprehensive update of the 1980 countywide General Plan, contains a safety element, which identifies and assesses known

geologic hazards and seismic hazards. The section identifies goals, and outlines corresponding policies and management actions to support the various goals.

Individual General Plans for the cities of Lancaster and Palmdale contain a Public Health and Safety Section and a Safety Element, respectively, which address geologic and seismic hazards. These General Plans identify safety goals and outline corresponding policies, implementation measures, and programs to support the various goals.

3.5.3 Impacts and Mitigation Measures

Significance Criteria

Criteria used to determine the significance of impacts related to hazards and hazardous materials are based on Appendix G of the *CEQA Guidelines*. The project would result in a significant impact if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42);
  - Strong seismic ground shaking;
  - Seismic-related ground failure, including liquefaction; or
  - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of water.

Impacts Discussion

Impacts to geology and soils resulting from implementation of the proposed project at both the project level and program level are discussed below. The impacts are considered for all project components, including for short-term construction and long-term operational phases.

As described in the Initial Study, the project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, no impact would result and that significance criterion is not discussed further.

No short-term or long-term impacts to geology and soils due to the use of recycled water for M&I applications, agricultural irrigation, or power plant cooling water are anticipated. These end uses are not discussed further in this section. However, the use of recycled water for groundwater recharge could affect geology and soils. The potential impacts associated with this end use are discussed below at a program level of detail.

Project-Level Impacts

Recycled Water Pipelines

Impact 3.5-1. In the event of a major earthquake within the region, underground pipelines could be subject to seismic hazards including surface rupture, liquefaction, landslide, and ground shaking capable of causing localized collapse or damage of engineered fills, structural damage, or pipeline rupture. Less than Significant with Mitigation.

As shown in Figure 3.5-2, two areas of the project are located in Alquist-Priolo Earthquake Fault Zones:

- The southernmost portion of the project along 40th Street East from East Avenue T6 to the southwest reservoir is within an Alquist-Priolo Earthquake Fault Zone associated with the San Andreas Fault.
- The westernmost portion of the project along Elizabeth Lake Road runs parallel to the same Zone and intersects the Zone at the project's western terminus.

Seismic hazards due to ground shaking at the project area located along the pipeline alignment tend to increase from north to south with proximity to the San Andreas Fault. In the southernmost part of the project area, peak ground accelerations in unconsolidated alluvium can reach 0.738 g, with a 10 percent probability of being exceeded in 50 years.

The project is located in potential liquefaction zones in four places:

- The portion of the project along Sierra Highway where it crosses the LWRP is within a liquefaction zone that encompasses the ponds of the LWRP.
- The portion of the project along Sierra Highway and Avenue E is within a liquefaction zone.
- The southernmost portion of the project along 40th Street East at the intersection of Barrel Springs Road is within a narrow liquefaction zone. The zone extends approximately 100 feet north and 100 feet south of Barrel Springs Road.
- The westernmost portion of the project along Elizabeth Lake Road is in a liquefaction zone. This zone is approximately 570 feet wide and is collinear with Elizabeth Lake Road.

Construction occurring in these zones could potentially be subject to liquefaction, which could cause the recycled water pipelines to bend, crack, and/or rupture, which would be a significant impact.

The project is not located in an area that is considered susceptible to an earthquake-induced landslide. The westernmost portion of the project along Elizabeth Lake Road is located downslope of three landslide zones. One zone trends parallel to and approximately 500 feet north of Elizabeth Lake Road. The other two landslide zones are smaller; they are located between 200 and 400 feet south of Elizabeth Lake Road.

A segment of pipeline traverses an Alquist-Priolo Zone south of Palmdale along the San Andreas Fault Zone (Figure 3.3-2). Rupture along the Alquist-Priolo Zone would subject the proposed pipeline to ground motion, and under extreme conditions, could cause material failure or connection failure leading to rupture and release of the recycled water, which would be a significant impact. The pipeline would be designed to accommodate site-specific ground motions. Standard geotechnical and structural design criteria used to reduce excessive earthquake response and potential damage or collapse would minimize earthquake ground shaking impacts. For elements of the project within the Alquist-Priolo Zone, facility designs would be subject to Special Publication 117, "Guidelines for Evaluating and Mitigating Seismic Hazards in California." Conformance with this publication in addition to the CBC requirements would provide for protection from earthquake ground shaking impacts.

A geotechnical investigation would be conducted for pipeline segments within seismic hazard zones. Specific design recommendations would be identified in the geotechnical investigation report that would incorporate CBC requirements for construction in the region and may include such aspects as flexible pipe joints, shortened pipe lengths, automatic isolation valves, installation of the pipelines inside a protective casing, and shallow or above-ground installation of the pipelines. Because the project would be designed in accordance with the recommendations of a site-specific geotechnical investigation, in compliance with the CBC, the potential impact would be less than significant.

Mitigation Measures

> **Mitigation Measure 3.5-1:** Prior to the approval of construction plans for the project, a design-level geotechnical investigation, including collection of site specific subsurface data shall be completed by the implementing agency. The geotechnical evaluation shall identify density profiles, approximate maximum shallow groundwater levels, a characterization of the vertical and lateral extent of the saturated sand/silt layers that could undergo liquefaction during strong ground shaking, and development of site-specific design criteria to mitigate potential risks. Recommendations made as a result of these investigations to protect new structures from seismic hazards shall become part of the proposed project.

Significance after Mitigation: Less than significant.

Impact 3.5-2: Construction of the proposed recycled water pipelines could result in substantial soil erosion or loss of topsoil, which would result in a significant impact. Less than Significant with Mitigation.

Project construction would result in land disturbance greater than one acre. All soils removed or disturbed during excavation and grading during construction of the storage reservoirs and pump stations would be replaced prior to site restoration. The proposed pipelines would be installed under existing roadways and thus would not affect surface soils. The proposed project would not contribute to the loss of topsoil and the impact is considered less than significant. However, soils in the region are highly susceptible to water or wind erosion or both. Therefore, if any construction related grading activities are required for installation of the recycled water pipelines, short-term losses of topsoil and subsoil due to wind and water erosion could be substantial. Implementation of Mitigation Measure 3.5-2 would ensure water and wind erosion of soils would be minimized to less than significant levels.

Mitigation Measures

> **Mitigation Measure 3.5-2:** To control water and wind erosion during construction of the project, the implementing agencies, shall ensure that contractors implement Best Management Practices (BMPs) to control wind and water erosion during and shortly after construction of the project and permanent BMPs to control erosion and sedimentation once construction is complete. The BMPs could include, but would not be limited to, sediment barriers and traps, silt basins, and silt fences.

Significance after Mitigation: Less than significant.

Impact 3.5-3: The presence of yet undetermined local expansive soils in the project area could result in structural damage to the recycled water pipelines. Less than Significant with Mitigation.

None of the soils in the project area are classified as expansive according to Table 18-1B of the Uniform Building Code. However, if local areas with expansive soils were encountered, engineered project facilities would be designed according to the Uniform Building Code to prevent structural damage from soil expansion and contraction. Mitigation Measure 3.5-3 requires geologic investigations to be conducted for the specific locations for the proposed pipeline alignments prior to construction. The geologic investigation would include an assessment of the potential for site specific expansive soils. If expansive soils are found, recommendations made as part of the geological investigation would be followed. Implementation of Mitigation Measure 3.5-3 would reduce impacts to project facilities due to expansive soils to less than significant levels.

Mitigation Measures

> **Mitigation Measure 3.5-3:** The implementing agencies shall require the preparation of site specific geotechnical investigations along the proposed pipeline alignments. These investigations shall identify appropriate engineering considerations, as recommended by a

certified engineering geologist or registered geotechnical engineer for planned facilities, including engineering considerations to mitigate the effects of expansive soils. Recommendations made as a result of these investigations to protect new structures from expansive soils shall become part of the proposed project.

Significance after Mitigation: Less than significant.

Program-Level Impacts

Storage Reservoirs and Pump Stations

Impact 3.5-4: Construction of the proposed storage reservoirs and pump stations could result in substantial soil erosion or loss of topsoil, which would result in a significant impact. Less than Significant with Mitigation.

Excavation and grading during construction would re-contour the storage reservoir and pump station sites to create foundations. The surrounding areas affected by construction would be restored or landscaped following construction of the facilities. The proposed project would not contribute to the loss of topsoil and the impact is considered less than significant. However, soils in the region are highly susceptible to water or wind erosion or both. Therefore, for any construction related grading activities, short-term losses of topsoil and subsoil due to wind and water erosion could occur. Implementation of Mitigation Measure 3.5-2 would ensure water and wind erosion of soils would be minimized to less than significant levels.

Mitigation Measures

Implementation of Mitigation Measure 3.5-2.

Significance after Mitigation: Less than significant.

Impact 3.5-5: In the event of a major earthquake within the region, storage reservoirs and pump stations could be subject to seismic hazards including surface rupture, liquefaction, landslide, and ground shaking capable of causing localized collapse or damage of engineered fills or structural damage. Less than Significant with Mitigation.

The proposed storage reservoirs and pump stations could be impacted by surface rupture, ground shaking, expansive soils, liquefaction, and settlement. Storage Reservoir 3 and Pump Station 2 would be located within the San Andreas Alquist-Priolo Zone. Surface rupture and intense ground shaking in this area could significantly affect the proposed structures, resulting in damage to the facilities or structural failure. The project would be designed in accordance with the recommendations of a site-specific geotechnical investigation, in compliance with the CBC and Special Publication 117. With implementation of Mitigation Measures 3.5-1 through 3.5-3, impacts would be reduced to less-than-significant levels. Site-specific impact analysis would be required in subsequent project-level CEQA analysis for each pump station and storage reservoir.

Mitigation Measures

Implementation of Mitigation Measures 3.5-1 through 3.5-3.

Significance after Mitigation: Less than significant.

Recycled Water End Users

Impact 3.5-6: Ground shaking, expansive soils, liquefaction, settlement, erosion and corrosive soils could damage recycled water end uses including the power plant cooling water system and the groundwater recharge basins and appurtenant facilities. Less than Significant with Mitigation.

The power plant and the groundwater recharge basins and associated facilities required for a groundwater recharge project could be impacted by geologic hazards including seismic ground shaking, expansive soils, liquefaction, settlement, and corrosive soils. With implementation of Mitigation Measures 3.5-1 through 3.5-3, impacts would be less than significant. Site-specific impact analysis would be required in subsequent project-level CEQA analysis for the power plant cooling water system and the groundwater recharge facilities.

Mitigation Measures

Implementation of Mitigation Measure 3.5-1 through 3.5-3.

Significance after Mitigation: Less than significant.

3.6 Hazards and Hazardous Materials

This section assesses potential hazards and hazardous materials that may arise as a result of the proposed project. A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. Chemical and physical properties cause a substance to be considered hazardous, including the properties of toxicity, ignitability, corrosively and reactivity. These properties are defined in California Code of Regulations, Title 22, Sections 66261.20-66261.24. Common materials that are considered hazardous include fuels, motor oil, grease, various lubricants, solvents, soldering equipment and glues. A "hazardous waste" is any hazardous material that is discarded, abandoned, or recycled. The criteria that render a material hazardous also make a waste hazardous (California Health and Safety Code, Section 25117).

The potential hazards that could arise from the proposed project are discussed in this section, as well as a summary of a report prepared by Environmental Data Resources (EDR) that lists properties in the region with known historical or current hazardous materials storage or releases. The project area includes the proposed backbone alignment, proposed pump stations, and the proposed reservoirs. A 0.5-mile buffer surrounding these project elements is also included in the assessment.

3.6.1 Setting

Much of the project area is urbanized, used for agricultural purposes, or is undeveloped open space. Urban areas contain commercial and industrial facilities that produce and/or use a wide variety of hazardous materials, including fuels and solvents. Fuels, chemicals, and other hazardous materials and hazardous wastes are also transported via roadways in the project area. Agricultural areas store and use pesticides and fertilizers that may pose hazards or impact soil and groundwater quality.

The Palmdale Regional Airport lies within approximately 1.0 mile of East Avenue M and 50th Street East. General William J Fox Airport is approximately 1.5 miles north of West Avenue H. EAFB is greater than 15 miles to the north-east of the project site.

There are approximately 60 schools located within 1 mile of the proposed alignments (Rand McNally, 2007a, 2007b).

The County of Los Angeles Fire Department maps the Fire Hazard Severity Zones (FHSZ) within the cities of Lancaster and Palmdale; the California Department of Forestry and Fire Protection has mapped the FHSZs within Kern County. The FHSZ's are based on an evaluation of fuels, topography, dwelling density, weather, infrastructure, building materials, brush clearance, and fire history. According to these maps, the majority of the proposed "backbone" will be constructed in areas designated as having a "moderate fire hazard." The portion of the alignment on Avenue P east of Sierra Highway is in an area designated as having "other non-wildland"

FHSZ; and the portion of the alignment on 40th Street, which will also include the proposed Reservoir 3 and Booster Pump Station 2, lie in a "high fire hazard" FHSZ.

An EDR database report was prepared and reviewed to identify the hazardous materials/waste sites present in the project service area. The purpose of this inquiry was to identify portions of the project that may encounter contaminated soils during construction of the pipelines and other facilities. The EDR Report Executive Summary is included in **Appendix F**. Results from the EDR are discussed below.

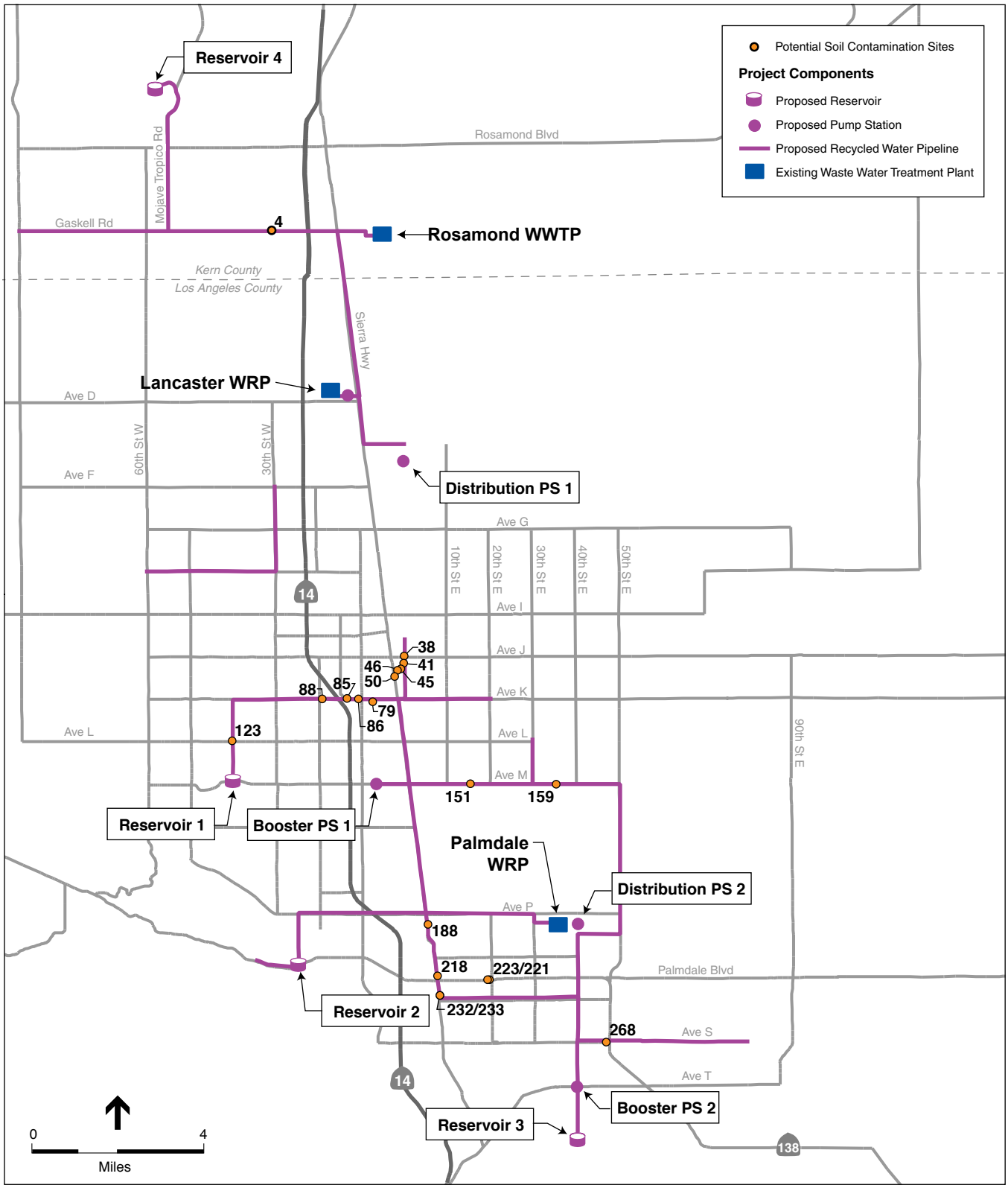
The review of the EDR database report focused on the databases that identified sites with documented soil contamination, specifically the following:

- Leaking Underground Storage Tank (LUST) databases: for potential sources of soil contamination by petroleum hydrocarbons and petroleum related volatile organic compounds (VOCs).
- Dry Cleaners database: for potential sources of soil contamination by chlorinated hydrocarbons such as tetrachloroethene (PCE) and trichloroethene (TCE).
- National Priorities List (NPL): for potential sources of soil contamination by a range of chemicals including petroleum constituents, VOCs, and metals.
- Spills, Leaks, Investigations, and Cleanup (SLIC) database: for potential sources of soil contamination by a range of chemicals including petroleum constituents, VOCs, and metals.
- Solid Waste Landfill (SWLF) and Toxic Pits databases: for potential sources of soil contamination associated with solid waste landfills, including petroleum constituents, VOCs, and metals.

The review of the EDR database report did not identify any sites on the NPL or SLIC database. Sites that were identified on the remaining databases were screened according to the case status, the details provided in the database listings, and proximity to the project sites. The review focused on sites within close proximity to the project alignments.

Figure 3.6-1 summarizes the findings of the EDR database report. For the purpose of this review, sites are considered relevant if they appear on the LUST database and the case remains open or undefined, if they appear on the Dry Cleaner database, or if they appear on the SWLF or Toxic Pits database.

The review of the database report indicates that a total of 21 sites qualify as potential sources of soil contamination for the project as indicated in **Table 3.6-1** below. Site names and addresses are listed as they appear in the database report:



SOURCE: EDR Database Report, 2008.

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Figure 3.6-1

Potential Soils Contamination

TABLE 3.6-1
POTENTIAL CONTAMINATION OF SOILS IN THE PROJECT AREA

Site or Site Cluster Number	Site Name	Site Address	Database
4	Pratt □ Whitney Building	1899 Stazol (Flight Line)	LUST
38	Southern California Gas Company	44416 Division Street	LUST
38	Mobil Mini Mart	101 East Avenue J	LUST
41	Elite Car Wash	44267 Division St. N	LUST
45	Jana Store Fixtures	123 Ave J-5 W	LUST
46	UNOCAL Bulk Plant □345	44141 Yucca Ave N	LUST
50	Caltrans Lancaster Maintenance	44023 Sierra Highway	SWLF
79	Donna Hamilton DBA Gadsden Cleaners	43535 Gadsden Ave Ste G	CLEANERS
85	GEMCO Store □521 Former	1333 Ave K W	LUST
86	Commerce Cleaners	1068 W Ave K	CLEANERS
88	K-20 Mini Mart	1850 W Avenue K	LUST
123	West Side Cleaners	4029 Avenue L	CLEANERS
151	Site 1 T1-5 Bldg 145	1502 Ave M E	LUST
159	Site 4 Northrop	3520 Ave M E	LUST
188	Massariai	39500 Sierra Hwy	LUST
218	Miracle Cleaners	38456 N Sierra Hwy	CLEANERS
221	Shell Service Station	1853 Palmdale Boulevard	LUST
223	Gateway Cleaners	1813-A Palmdale Blvd	CLEANERS
232	LADPW MD-5	381226 Sierra Hwy	LUST
233	LA CO Public Works Roads Dept.	38126 Sierra Highway	SWLF
268	Alfa Cleaners	4626 E Ave S Ste A	CLEANERS

3.6.2 Regulatory Framework

The following subsections present information on the applicable standards for the management of hazardous materials and nonhazardous and hazardous waste. Hazardous materials handling is subject to numerous laws and regulations at all levels of government. Federal and State laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and in the event that such materials are accidentally released into the environment, to prevent or to mitigate injury to human health or the environment.

As the project does not necessitate the storage of any hazardous materials, this assessment will focus on the use of hazardous materials such as oil, fuel, and solvents during the construction of the project, as well as the potential for hazardous waste removal of construction spoils.

Federal

Hazardous materials are governed under these three federal regulations: Occupational Safety and Health Administration (OSHA), Resource Conservation and Recovery Act, and the Toxic Substance Control Act.

OSHA

Worker safety is regulated through the federal OSHA as well as at the state level, through Cal OSHA. Federal OSHA, established in CFR Title 29, requires 40 hours of training for hazardous materials operators, plus eight hours of refresher training per year. The training includes personal safety, hazardous materials storage and handling procedures, and emergency response procedures.

Resource Conservation and Recovery Act

Under the federal Resource Conservation and Recovery Act (RCRA), individual states may implement their own hazardous waste programs in lieu of the RCRA as long as the state program is at least as stringent as federal RCRA requirements and is approved by the USEPA. The USEPA approved California's RCRA program, called the Hazardous Waste Control Law (HWCL), in 1992. Cal EPA and DTSC, a department within Cal EPA, regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. DTSC has primary hazardous materials regulatory responsibility, but can delegate enforcement responsibilities to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the HWCL.

Toxic Substance Control Act

The Toxic Substances Control Act (TSCA) of 1976 was enacted by Congress to give the USEPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. The USEPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. The USEPA can ban the manufacture and import of those chemicals that pose an unreasonable risk.

State

Hazardous materials are governed under these four California regulations: California OSHA, California Code of Regulations (CCR), the California Hazardous Materials Release Response Plans and Inventory Law, and the Unified Hazardous Materials Management Regulatory Program.

California OSHA

In California, the California Occupational Safety and Health Administration (Cal OSHA) regulates worker safety similarly to the federal OSHA. OSHA has developed worker safety regulations for the safe abatement of lead-based paint and primers (Lead in Construction Standard, Title 8 CCR 1532.1).

CCR

The California Code of Regulations (CCR), Title 22, Section 66261.20-24 contains technical descriptions of characteristics that would classify a soil as a hazardous waste. When excavated,

soils having concentrations of contaminants higher than certain acceptable levels must be handled and disposed as hazardous waste.

California Hazardous Materials Release Response Plans and Inventory Law

The California Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act) requires that businesses that store hazardous materials onsite prepare a business plan and submit it to local health and fire departments. The business plan must include:

- Details of the facility and business conducted at the site;
- An inventory of hazardous materials that are handled and stored onsite;
- An emergency response plan; and
- A safety and emergency response training program for new employees with an annual refresher course.

Unified Hazardous Materials Management Regulatory Program

In January 1996, Cal EPA adopted regulations, which implemented a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements: (1) hazardous waste generators and hazardous waste onsite treatment; (2) Underground Storage Tanks; (3) Aboveground Storage Tanks; (4) hazardous materials release response plans and inventories; (5) risk management and prevention programs; and (6) Unified Fire Code hazardous materials management plans and inventories. The plan is implemented at the local level and the agency responsible for implementation of the Unified Program is called the Certified Unified Program Agency (CUPA). In Los Angeles County, the Los Angeles County Fire Department is the designated CUPA. In Kern County, the Kern County Environmental Health Services Department is the designated CUPA.

Local

The Kern County General Plan contains pertinent policies and implementation measures regarding hazardous materials.

The County of Los Angeles General Plan, which is undergoing a comprehensive update of the 1980 countywide General Plan, and the individual General Plan for the cities of Lancaster and Palmdale contain pertinent goals, objectives, and policies regarding hazardous materials.

3.6.3 Impacts and Mitigation Measures

Significance Criteria

Criteria used to determine the significance of impacts related to hazards and hazardous materials are based on Appendix G of the *CEQA Guidelines*. The project would result in a significant impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

- Create 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.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be 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 it 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, would the project result in a safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Impacts Discussion

The greatest hazardous materials risk to human health and the environment, due to implementation of the project, are: (a) if contaminated groundwater was encountered during excavation activities from the backbone installation or if the excavation released contaminated soils into the groundwater; (b) if contaminated soils were to be encountered during excavation activities and (c) if uncontrolled releases of hazardous materials from the construction site were to be conveyed off-site potentially impacting other areas. The greatest potential to encounter contaminated soils is if hazardous materials (such as petroleum) were to migrate in the soil and/or groundwater away from a LUST or other damaged storage structure and then excavated during construction activities. Uncontrolled releases of hazardous materials from the construction site, if conveyed off-site, would also pose a threat to human health and the environment.

Recycled Water End Users

The recycled water could potentially be used for M&I applications, agricultural irrigation, groundwater recharge and power plant cooling water. No short-term or long-term, project-level impacts or program-level impacts to hazards and hazardous materials due to the use of recycled water by proposed end users are anticipated.

Project-Level Impacts

Recycled Water Pipeline

Impact 3.6-1: During construction of the proposed project, contaminated soils could be encountered during excavation activities, causing a risk of exposure to hazardous materials. Less than Significant with Mitigation.

A total of 21 sites were identified on the EDR database report that are within 0.25 mile of the project and represent potential sources of soil contamination that could be encountered during excavation (Table 3.6-1; Figure 3.6-1). Sites appearing on the LUST database with cases remaining open or undefined represent potential sources of petroleum hydrocarbons and VOCs. Sites appearing on the Cleaners database represent potential sources of chlorinated solvents including PCE and TCE. Sites appearing on the SWLF database represent potential sources of a variety of constituents including petroleum hydrocarbons, VOCs, chlorinated solvents, and metals.

Mitigation Measures

Mitigation Measure 3.6-1: In the event that evidence of potential soil contamination, including soil discoloration, noxious odors, debris, or buried storage containers are encountered during construction, the implementing agencies shall require the construction contractor(s) to have a contingency plan for sampling and analysis of potentially hazardous substances and coordination with the appropriate regulatory agencies, if necessary. The required handling, storage, and disposal methods shall depend on the types and concentrations of chemicals identified in the soil. Any site investigations or remedial actions shall comply with applicable laws.

Significance after Mitigation: Less than significant.

Impact 3.6-2: Accidental upset of hazardous materials used during project construction may increase the risk of exposure to the environment, workers, and the public. Less than Significant with Mitigation.

Construction of the recycled water backbone pipeline would require equipment that utilizes hazardous materials such as petroleum fuels and oil. During construction activities, such hazardous materials could accidentally be spilled or otherwise released into the environment exposing construction workers, the public and/or the environment to potentially hazardous conditions.

Operation of the project would not require routine transport, use, or disposal of hazardous materials or create a significant hazard due to accidental release of hazardous materials into the environment. The project does not include treatment facilities to transport and store recycled water.

Mitigation Measures

Mitigation Measure 3.6-2a: Construction contractor(s) shall be required to implement best management practices (BMPs) for handling hazardous materials during the project. The use of the construction BMPs shall minimize negative effects on groundwater and soils, and will include, without limitation, the following:

- Follow manufacturers' recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction.
- Avoid overtopping construction equipment fuel tanks.
- During routine maintenance of construction equipment, properly contain and remove grease and oils.
- Properly dispose of discarded containers of fuels and other chemicals.

Mitigation Measure 3.6-2b: The implementing agencies shall require the construction contractor(s) to implement safety measures in accordance with General Industry Safety Orders for Spill and Overflow Control (CCR Title 8, Sections 5163-5167) to protect the project area from contamination due to accidental release of hazardous materials. The safety measures shall include, but not be limited to, the following:

- Spills and overflows of hazardous materials shall be neutralized and disposed of promptly.
- Hazardous materials shall be stored in containers that are chemically inert to and appropriate for the type and quantity of the hazardous substance.
- Containers shall not be stored where they are exposed to heat sufficient enough to rupture the containers or cause leakage.
- Specific information shall be provided regarding safe procedures and other precautions before cleaning or subsequent use or disposal of hazardous materials containers.

Disposal of all hazardous materials shall be in compliance with applicable California hazardous waste disposal laws. The construction contractor shall contact the local fire agency and the County Department of Public Health, Environmental Health Division, for any site-specific requirements regarding hazardous materials or hazardous waste containment or handling.

Mitigation Measure 3.6-2c: In the event of an accidental release of hazardous materials during construction, containment and clean up shall occur in accordance with applicable regulatory requirements.

Mitigation Measure 3.6-2d: Oil and other solvents used during maintenance of construction equipment shall be recycled or disposed of in accordance with applicable regulatory requirements. All hazardous materials shall be transported, handled, and disposed of in accordance with applicable regulatory requirements.

Mitigation Measure 3.6-2e: The implementing agencies shall require the construction contractor(s) to prepare a Site Safety Plan in accordance with applicable regulatory requirements.

Mitigation Measure 3.6-2f: The implementing agencies shall require the construction contractor(s) to prepare and implement a Safety Program to ensure the health and safety of construction workers and the public during project construction. The Safety Program shall include an injury and illness prevention program, as site-specific safety plan, and

information on the appropriate personal protective equipment to be used during construction.

Significance after Mitigation: Less than significant.

Impact 3.6-3: The proposed project could result in a safety hazard for people residing or working in the project area in the vicinity of airports. Less than Significant with Mitigation.

Components of the proposed project are within two miles of airports, including the Palmdale Regional Airport and General William J. Fox Airport. The proposed project would not construct any wildlife hazard attractants that would jeopardize the safety of aircraft operations. However, construction of the proposed project along roadways near airport facilities could introduce safety hazards for both workers at the construction sites and at the airports. Coordination with airport agencies and staff would be required to ensure proper protections measures are integrated into a construction safety program and implemented by the construction contractor. Additional discussion regarding project compatibility with airport operations and pre-construction coordination with airport agencies, such as Los Angeles World Airports (LAWA), Caltrans, and the FAA, is presented in Chapter 3.8, Land Use and Agriculture.

Mitigation Measures

Mitigation Measure 3.6-3: The implementing agencies shall coordinate with appropriate airport agencies (such as LAWA, Caltrans, and FAA) and staff to ensure a safety program is developed and implemented during construction of the proposed project.

Significance after Mitigation: Less than significant.

Impact 3.6-4: The proposed project could interfere with emergency response and evacuation plans during project construction. Less than Significant with Mitigation.

Construction of the proposed project would require transportation of equipment and materials that could interfere with emergency response or evacuation plans. Roadways could be temporarily affected due to operation or storage of construction equipment and material deliveries, particularly during construction of the proposed pipeline. Project construction would not result in complete roadway closures but would result in lane closures, which would affect traffic flows. Implementation of a Traffic Control/Traffic Management Plan, as described in Mitigation Measure 3.11-1a would ensure there would be no interference with emergency response and evacuation plans. The Traffic Control/Traffic Management Plan would ensure that all roads remain passable to emergency service vehicles at all times. No further mitigation measures are required.

Mitigation Measures

Implementation of Mitigation Measure 3.11-1a.

Significance after Mitigation: Less than significant.

Impact 3.6-5: Construction activities in grassland areas would have the potential to expose people or equipment to risk of loss, injury, or death involving wildland fires. Less than Significant with Mitigation.

Portions of the recycled water backbone are located in areas characterized by residential communities, agricultural operations, open space, and vacant lands. These areas may be susceptible to wildland fires as construction of the proposed project requires equipment and activities that use petroleum fuels and oil and could result in accidental spills leading to fire-related hazards.

Mitigation Measures

Mitigation Measures 3.6-5a: The implementing agencies shall coordinate with local fire agencies to develop a fire safety plan, which describes various potential scenarios and action plans in the event of a fire.

Mitigation Measures 3.6-5b: During construction, all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the recycled water backbone, contractors shall require all vehicles and crews working at the project site to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.

Significance after Mitigation: Less than significant.

Program-Level Impacts

Storage Reservoirs Pump Stations

Impact 3.6-6: Accidental upset of hazardous materials used during construction of the storage reservoirs and pump stations may increase the risk of exposure to the environment, workers, and the public, resulting in a significant impact. Less than Significant with Mitigation.

Construction of the storage reservoirs and pump stations would require equipment that utilizes hazardous materials such as petroleum fuels and oil. During construction activities, such hazardous materials could accidentally be spilled or otherwise released into the environment

exposing construction workers, the public and/or the environment to potentially hazardous conditions. Implementation of Mitigation Measures 3.6-2a through 3.6-2f would reduce potential impacts to less than significant levels.

Mitigation Measures

Implementation of Mitigation Measures 3.6-2a through 3.6-2f.

Significance after Mitigation: Less than significant.

3.7 Hydrology and Water Quality

3.7.1 Setting

The Antelope Valley region is a closed topographic basin with no outlet to the ocean. All water that enters the region either infiltrates into the groundwater basin, evaporates, or flows toward the three dry lakes located on Edwards Air Force Base (EAFB); Rosamond Lake, Buckhorn Lake, and Rogers Lake. In general, groundwater flows northeasterly from the mountain ranges to the dry lakes. Due to the relatively impervious nature of the dry lake soil and high evaporation rates, water that collects on the dry lakes eventually evaporates rather than infiltrating into the groundwater (LACSD, 2005).

Surface Water

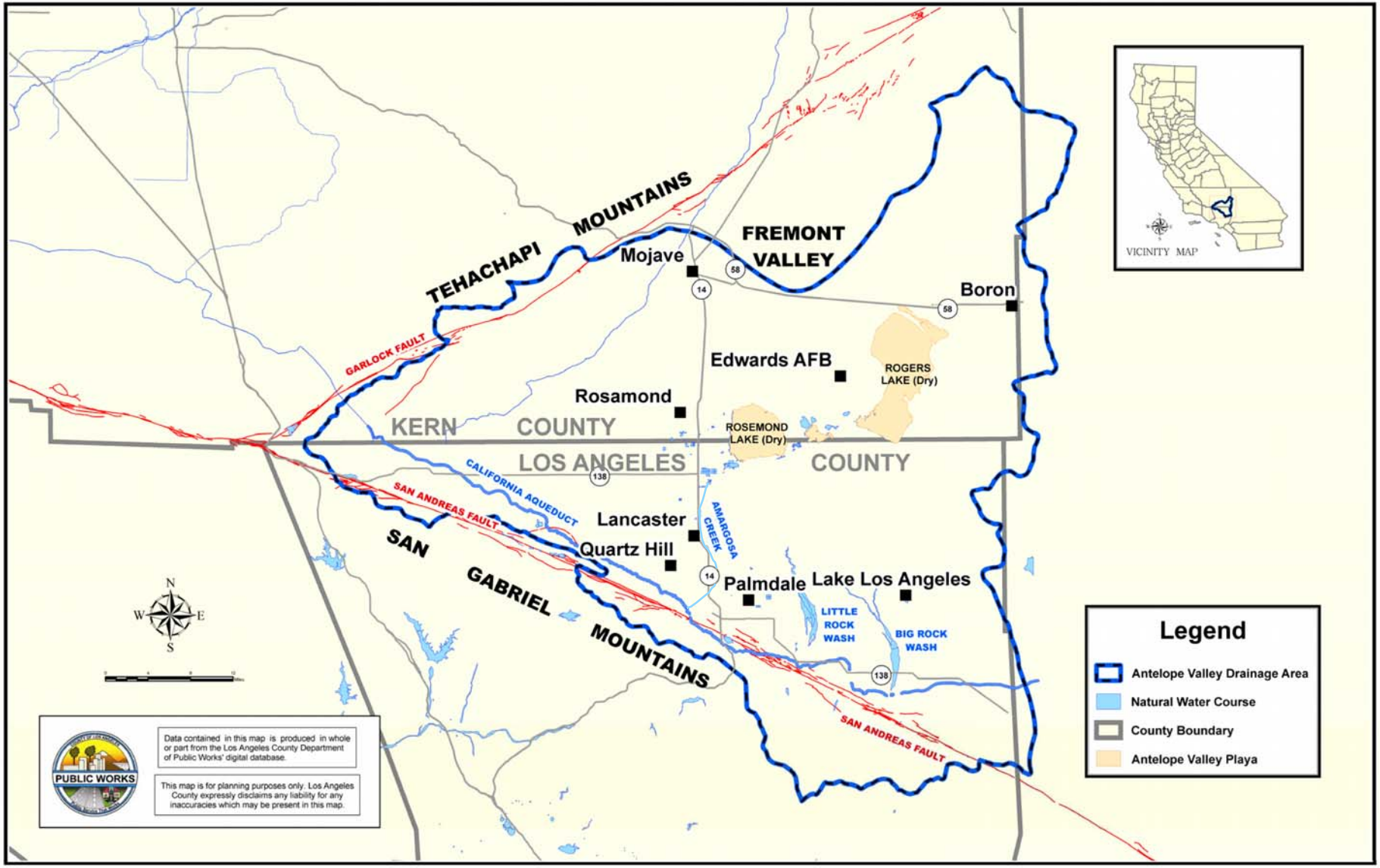
Surface water flows are carried by ephemeral streams. The most significant streams begin in the San Gabriel Mountains on the southwestern edge of the region and include, from east to west, Big Rock Creek, Little Rock Creek and Amargosa Creek, and Oak Creek from the Tehachapi Mountains. Amargosa Creek runs in a south/north direction between State Route 14 and Sierra Highway. **Figure 3.7-1** identifies significant surface water resources in the Antelope Valley.

Little Rock Reservoir

Little Rock Creek is the only developed surface water supply for the region. The Little Rock Reservoir, jointly owned by Palmdale Water District (PWD) and Littlerock Creek Irrigation District (LCID), collects runoff from the San Gabriel Mountains. The reservoir currently has a useable storage capacity of 3,500 af of water (PWD, 2001). Historically, water stored in the Little Rock Reservoir has been used directly for agricultural uses within LCID's service area and for municipal and industrial (M&I) uses within PWD's service area following treatment at PWD's water purification plant.

Dry Lakes and Percolation

Surface water from the surrounding hills and from the region floor flows primarily toward the three dry lakes on EAFB. Except during the largest rainfall events of a season, surface water flows toward the region from the surrounding mountains, quickly percolates into the stream bed, and recharges the groundwater basin. Surface water flows that reach the dry lakes are generally lost to evaporation. It appears that little percolation occurs in the region other than near the base of the surrounding mountains due to impermeable layers of clay overlying the groundwater basin. The United States Geological Survey (USGS) estimates that of the 1.5 million af of precipitation in the Antelope-Fremont Valley each year, approximately 76,000 af percolate to the groundwater reservoirs, while the remaining is lost to evaporation (USGS, 1987).



SOURCE: Los Angeles County Department of Public Works

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Figure 3.7-1

Antelope Valley Surface Waters

Groundwater

The Antelope Valley Groundwater Basin is comprised of two primary aquifers: (1) the upper (principal) aquifer, and (2) the lower (deep) aquifer. The principal aquifer is an unconfined aquifer that historically provided artesian flows due to perched water tables in some areas. These artesian conditions are currently absent due to extensive pumping of groundwater. Separated from the principal aquifer by clay layers, the deep aquifer is generally considered to be confined. In general, the principal aquifer is thickest in the southern portion of the region near the San Gabriel Mountains, while the deep aquifer is thickest in the vicinity of the dry lakes on EAFB. Figure 3.5-5 provides a schematic of the groundwater basin.

Groundwater has been, and continues to be, an important resource within the region. Prior to 1972, groundwater provided more than 90 percent of the total water supply; since 1972, it has provided between 50 and 90 percent (USGS, 2003). Groundwater pumping in the region peaked in the 1950s (USGS, 2000a), and it decreased in the 1960s and 1970s when agricultural pumping declined due to increased pumping costs from greater pumping lifts and higher electric power costs (USGS, 2000a). The rapid increase in urban growth in the 1980s resulted in an increase in the demand for M&I water and an increase in groundwater use. Projected urban growth and limits on the available local and imported water supply are likely to continue to increase the reliance on groundwater.

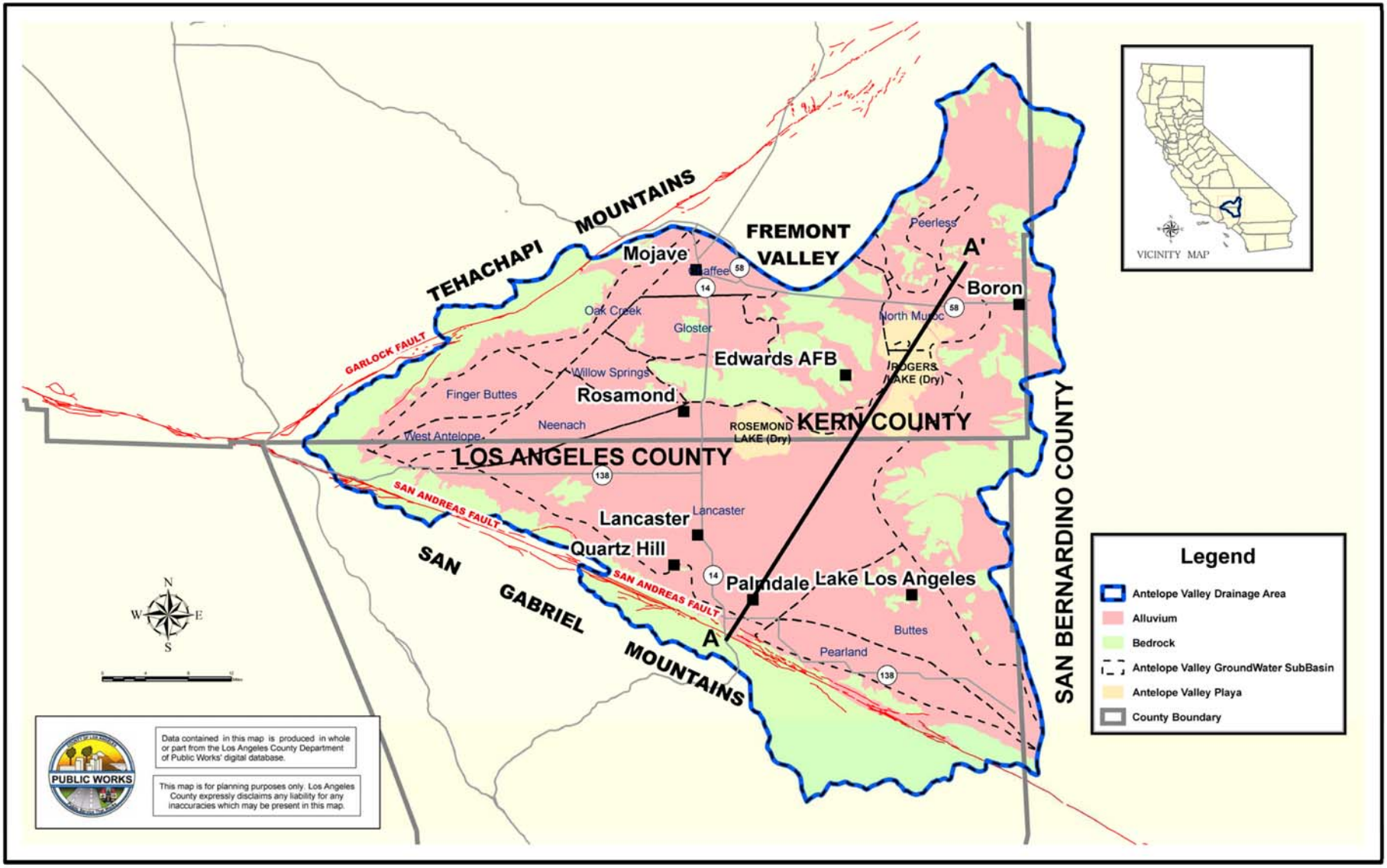
Groundwater Subunits

The complex Antelope Valley Groundwater Basin is divided by the USGS into twelve subunits.[1] Groundwater basins are generally divided based upon differential groundflow patterns, recharge characteristics, and geographic location, as well as controlling geologic structures. The Antelope Valley Groundwater Basin's subunits are: Finger Buttes, West Antelope, Neenach, Willow Springs, Gloster, Chaffee, Oak Creek, Pearland, Buttes, Lancaster, North Muroc, and Peerless. **Figure 3.7-2** shows the locations of these basins. According to the USGS, groundwater levels in these subunits have improved in some areas due to the import of State Water Project (SWP) water to the region, and declined in others due to increased groundwater pumping. Each subunit has varying characteristics, and the current conditions in each subunit are briefly summarized below (USGS, 1987).

Subunit Characteristics, listed generally from north to south and west to east (USGS, 1987):

> **Finger Buttes:** A large part of this subunit is in range and forest lands. Flow is generally from southwest to southeast. Depth to water varies, but is commonly more than 300 feet.
>
> **West Antelope:** Groundwater flows southeasterly to become outflow into the Neenach subunit. Depth to water ranges from 250 to 300 feet.

[1] The Antelope Valley Groundwater Basin is currently undergoing an adjudication process. As part of information being complied during the adjudication, the Basin may be divided into different subunits and potentially subbasins in the future.



SOURCE: Los Angeles County Department of Public Works

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Figure 3.7-2

Antelope Valley Groundwater Sub-Basins

Neenach: Groundwater flow is mainly eastward into the principal and deep aquifers of the Lancaster subunit. Depth to water ranges from 150 to 350 feet.

Willow Springs: Groundwater flows southeast and ultimately enters the Lancaster subunit. This subunit receives recharge for intermittent surface flows from the surrounding Tehachapi Mountain area. Depth to water ranges from 100 to 300 feet.

Gloster: Groundwater flows to the east and southeast as outflow to the Chaffee subunit. Depth to water levels for the southeast area of the subunit are 50 and 100 feet; other water level data is sparse.

Chaffee: Groundwater moves into this subunit from Cache Creek, adjacent alluvial fans to the west and, in lesser amounts, from the Gloster subunit. Water moves eastward in the western part of the subunit, and northward in the southern part, generally toward the City of Mojave. Water levels range from 50 to 300 feet.

Oak Creek: This unit is recharged by flows from the Tehachapi Mountains. Groundwater flows are generally to the southeast, with some southward flows toward the Koehn Lake area. Data for depth to water is not available.

Pearland: Substantial recharge to this subunit comes from Littlerock and Big Rock Creeks. Groundwater generally moves from southeast to northwest, with outflow to the Lancaster subunit. Water levels range from 100 to 250 feet.

Buttes: Groundwater generally moves from southeast to northwest, with outflow to the Lancaster subunit. Depth to water ranges from 50 to 250 feet.

Lancaster: This is the largest and most economically important subunit, in both size and water use. Due to the use of this subunit, depths to water levels vary widely, being generally greater in the south and west. Pumping depressions can be observed in various locations. There are two major aquifers in the subunit, the principal and deep aquifers, separated by clay layers. As noted above, groundwater moves into the subunit from the Neenach, West Antelope and Finger Buttes subunits. Groundwater also moves into the principal aquifer from the Buttes and Pearland subunits. The Lancaster subunit underlies Lancaster, Palmdale, Quartz Hill, Rosamond, Antelope Acres and other smaller communities.

North Muroc: This unit underlies part of the Rogers Lake and EAFB area. Groundwater moves north and west, then north again and possibly into the Peerless subunit. Data on depth to groundwater is not available.

Peerless: Little information is available on this subunit, which cannot be clearly delineated, but represents the eastern limit of highly developed water-bearing deposits. As of the date of the USGS report, water levels had declined by as much as 150 feet and flow was toward a pumping depression.

Groundwater Quality

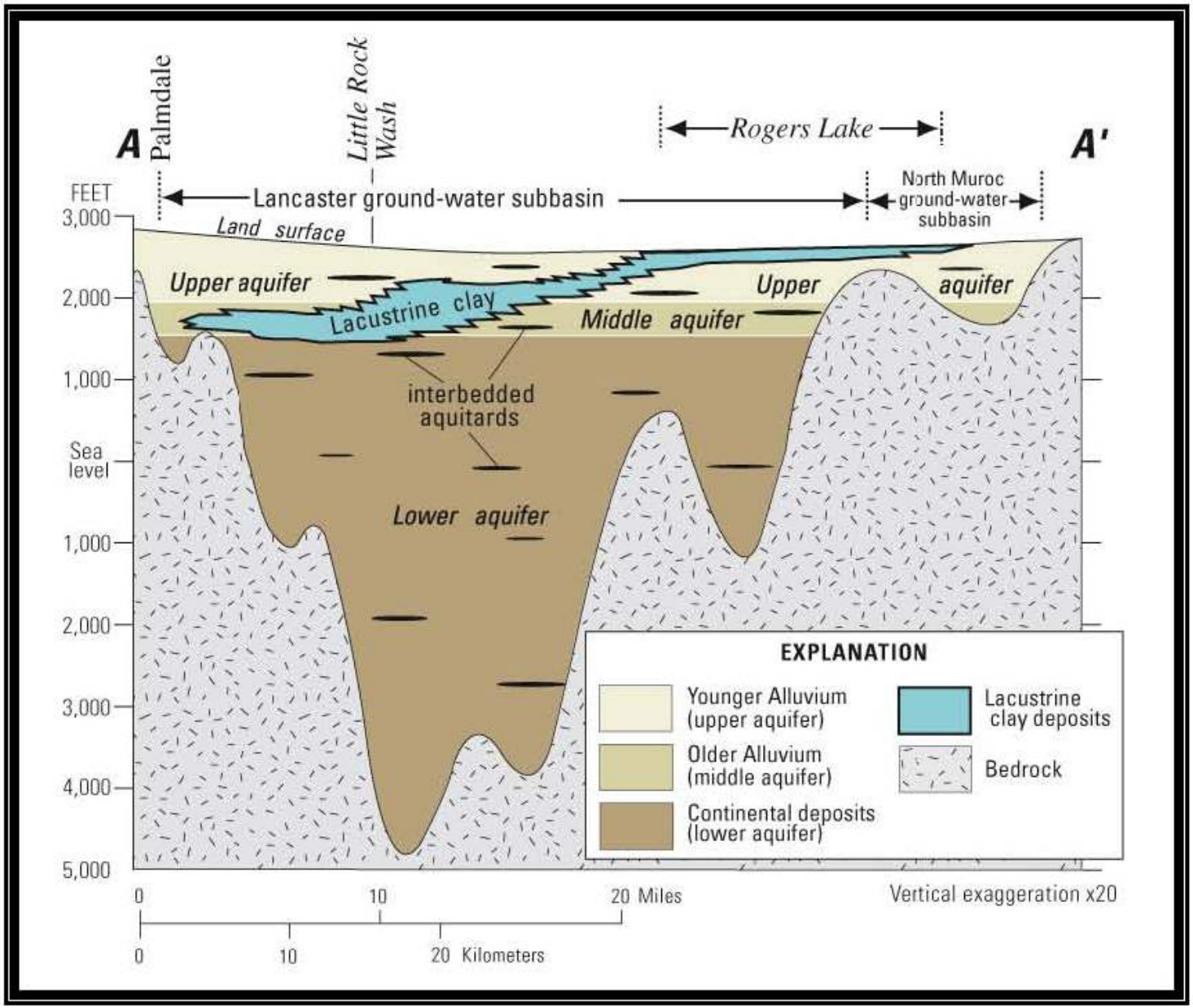
Groundwater quality is excellent within the principal aquifer but degrades toward the northern portion of the dry lake areas. Considered to be generally suitable for domestic, agricultural, and

industrial uses, the water in the principal aquifer has a total dissolved solids (TDS) concentration ranging from 200 to 1400 milligrams per liter (mg/L). The deeper aquifers typically have higher TDS levels. Hardness levels range from 50 to 200 mg/L, and high fluoride, boron, and nitrates are problematic in some areas of the basin. Arsenic is an emerging contaminant of concern in the region and has been observed in LACWWD40, PWD, and QHWD wells. Arsenic is a naturally occurring inorganic contaminant often found in groundwater and occasionally in surface water. Anthropogenic sources of arsenic include agricultural, industrial and mining activities. In California, there are 763 sources in 404 water systems in 45 counties that show arsenic levels greater than the new federal drinking water standard of 10 parts per billion (ppb). Arsenic can be toxic in high concentrations and is considered a chronic carcinogen when accounting for lifetime exposures. Research conducted by LACWWD40 and USGS has shown the problem to reside primarily in the deep aquifer, and it is not anticipated that the existing arsenic problem will lead to future loss of groundwater as a water supply resource for the region.

In addition to arsenic issues, there also have been concerns with nitrate levels above current maximum contaminant levels (MCL) of 10 ppm, and high TDS levels in portions of the basin. Groundwater monitoring data from the mid-to-late 1990s indicate nitrate (as N) concentrations periodically exceeding the primary MCL for drinking water of 10 mg/L in two areas in the southern portion of the groundwater basin: one is northeast of the PWRP and the other is near the community of Littlerock slightly east of the upper reach of Littlerock Creek (Geomatrix, 2007). It is estimated both nitrate plumes are similar in size, approximately five to six square miles. Agricultural fertilization practices, septic system disposal, and discharge of treated wastewater have likely contributed to the elevated levels. In the area near the PWRP, actions have already been implemented by LACSD to address the nitrate plume and to minimize any impact from treated wastewater, including treatment upgrades, a change in effluent management practices, the implementation of the proposed project, and performing groundwater remediation activities near the PWRP. In the Littlerock area, Littlerock Creek Irrigation District extracts the nitrate-laden groundwater and blends it with other water sources to meet drinking water quality standards (Geomatrix, 2007). The agricultural facilities that are considered to have contributed to the Littlerock nitrate plume are no longer active.

Groundwater Storage Capacity and Recharge

The total storage capacity of the Antelope Valley Groundwater Basin has been reported at 68 million acre-feet (MAF) (Planert and Williams (1995) as cited in DWR (2004)) to 70 MAF (DWR (1975) as cited in DWR (2004)). The groundwater basin is principally recharged by deep percolation of precipitation and runoff from the surrounding mountains and hills. Estimates of natural groundwater recharge rates range from about 31,200 to 80,400 afy based on a variety of approaches (USGS, 2003; USGS, 1993). Other sources of recharge to the basin include artificial recharge and return flows from agricultural irrigation and urban irrigation. Depending on the thickness and characteristics of the unsaturated zone of the aquifer, these sources may or may not contribute to recharge of the groundwater. Recharge is also affected by clay layers deposited in the hydraulically closed valley as ancient playas. **Figure 3.7-3** provides a schematic cross section of the Antelope Valley.



SOURCE: Kennedy/Jenks Consultants

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Figure 3.7-3
Soil Profile

As previously stated, precipitation in the region is generally less than 10 inches per year and evapotranspiration (ETo) rates (along with soil requirements) are high; therefore, recharge from direct infiltration of precipitation is considered negligible (Snyder, 1955; Durbin (1978) as cited in USGS (2003)). Estimates of the amount of recharge to the basin attributable to the types of recharge (other than mountain-front or precipitation infiltration) are not known.

The basin has historically shown large fluctuations in groundwater levels. Data from 1975 to 1998 show that groundwater level changes over this period ranged from an increase of 84 feet to a decrease of 66 feet (Carlson and Phillips (1998) as cited in DWR (2004)).

In general, data collected by the USGS (2003) indicate that groundwater levels appear to be falling in the southern and eastern areas and rising in the rural western and far northeastern areas of the region. This pattern of falling and rising groundwater levels correlates directly to changes in land use over the past 40 to 50 years. Falling groundwater levels are generally associated with areas that are developed, and rising groundwater levels are generally associated with areas that were historically farmed but have been largely fallowed during the last 40 years. However, recent increases in agricultural production, primarily carrots, in the northeastern and western portions of the region may have reduced rising groundwater trends in these areas (LACSD, 2005).

Groundwater Extraction

According to the USGS (2003), groundwater extractions have exceeded the estimated natural recharge of the basin since the 1920s. This overdraft has caused water levels to decline by more than 200 feet in some areas and by at least 100 feet in most of the region (USGS, 2003). Extractions in excess of the groundwater recharge can cause groundwater levels to drop and associated environmental damage (e.g., land subsidence).

Groundwater extractions are reported to have increased from about 29,000 af in 1919 to about 400,000 af in the 1950's, when groundwater use in the region was at its highest (USGS, 1995). Use of SWP water has since stabilized groundwater levels in some areas. In recent years, groundwater pumping has resulted in subsidence and earth fissures in the Lancaster and EAFB areas, which has permanently reduced storage by 50,000 af (DWR, 2004). Although an exact

groundwater budget for the basin is not available, data estimates pertaining to groundwater production are available from the early 1900's through 1995. The most recent estimates from the USGS contend that during the 1991 through 1995 period, groundwater pumpage averaged 81,700 afy (USGS, 2003).

In the Lancaster basin, the groundwater generally moves northeasterly from the San Gabriel and Sierra Pelona Mountains to Rosamond and Rogers dry lakes. Heavy pumping has caused large groundwater depressions that disrupt this movement (USGS, 2003).

Groundwater Adjudication

Although the groundwater basin is not currently adjudicated, an adjudication process has begun and is in the early stages of development. Although there are no existing restrictions on

groundwater pumping, pumping may be altered or reduced in the future as part of the adjudication process. The results of the adjudication will provide clarity for groundwater users regarding the management of groundwater resources.

Recycled Water

Currently, the only recycled water in the region that is treated to a tertiary level is a small percentage of the wastewater at the LWRP through the onsite Antelope Valley Tertiary Treatment Plant (AVTTP). This effluent is conveyed to Apollo Parks for use as a recreational impoundment. Approximately 1.0 mgd of tertiary treated recycled water is also produced at the LWRP by a Membrane Bioreactor (MBR). Following the implementation of planned upgrades, disinfected tertiary-treated recycled water will be available from the three treatment plants in the project area: LWRP, PWRP, and RWWTP. See Chapter 1, Introduction, for a description of these treatment facilities and the planned upgrades.

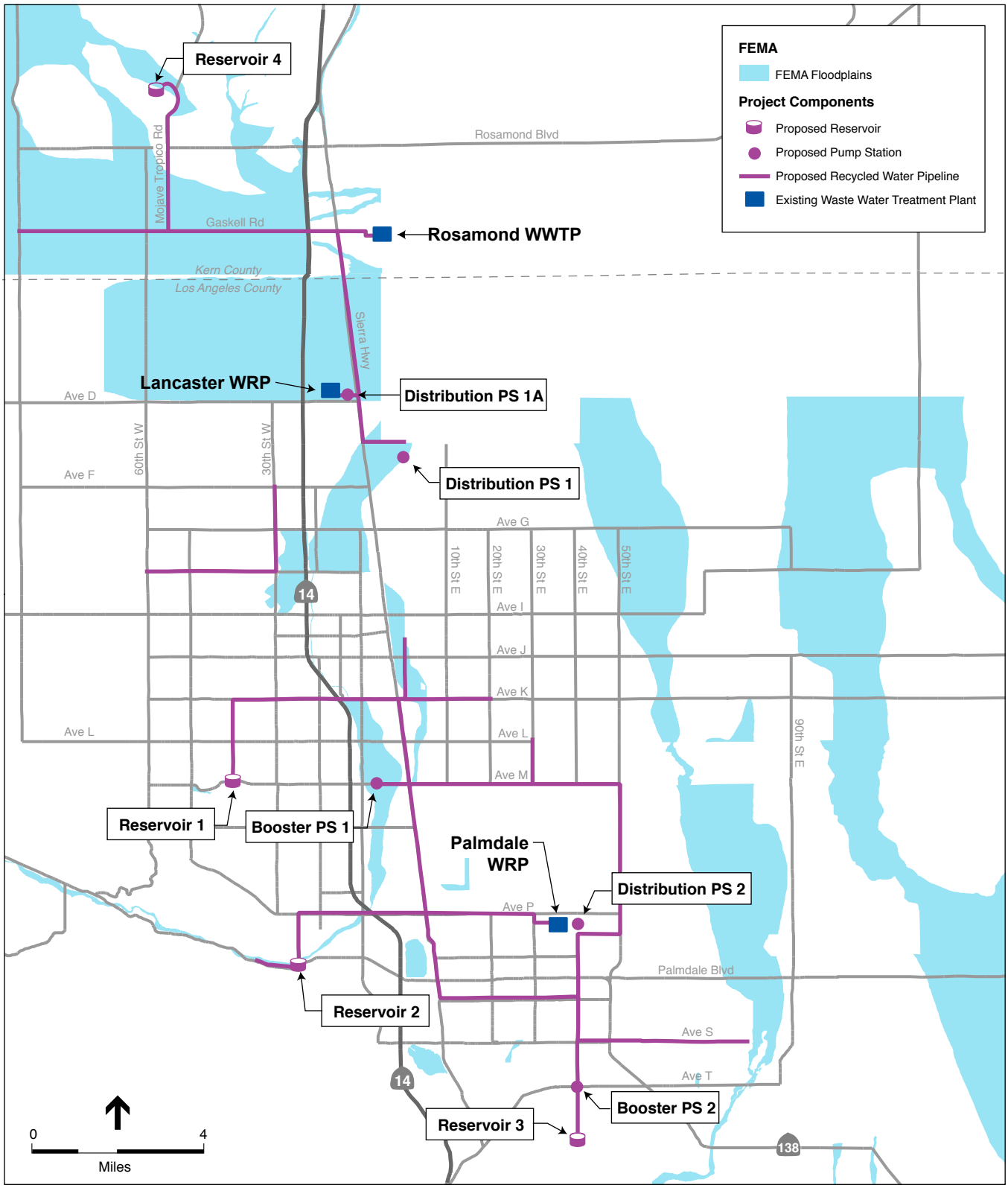
Flooding

Portions of the proposed project are located within the Federal Emergency Management Agency (FEMA) designated 100-year and 500-year flood areas. **Figure 3.7-4** depicts the location of the 100-year flood areas within the project area.

The Antelope Valley Groundwater Basin is a closed basin without a natural outlet for storm water runoff (LADPW, 1987). Numerous streams originating in the mountains surrounding the region carry highly erodible soils onto the region floor, forming large alluvial river washes. Streams then meander across the alluvial fans in ill-defined paths subject to change. Precipitation ranges on average less than 10 inches per year on the region floor, to more than 12 inches in the surrounding mountains (Rantz (1969) as cited in USGS (1995)). Portions of the region floor are subject to flooding due to uncontrolled runoff from these nearby foothills (City of Lancaster, 1997), and this situation is aggravated by lack of proper drainage facilities and defined flood channels in the region. Heavy discharge and flooding is also prevalent along Big Rock Creek, Little Rock Creek, Amargosa Creek, and Anaverde Creek. Heavy rainfall and summer thunderstorms increase the potential for flash floods.

Stormwater runoff that does not percolate into the ground eventually ponds and evaporates in the impermeable dry lake beds at EAFB near the Los Angeles/Kern County line (LADPW, 1987). This 60 square mile playa is generally dry but is likely to be flooded following prolonged precipitation. Fine sediments carried by the storm water inhibit percolation as does the impermeable nature of the playa soils (LADPW, 1987). Surface water can remain on the playa for up to five months, until the water evaporates (LADPW, 2006).

Examples of existing flood control facilities include the engineered channels and retention basins on Amargosa Creek. Storms of a 20-year frequency or greater can, however, overflow these facilities (LACSD, 2005). There is also a flood retention basin along Anaverde Creek; when this basin is overtopped flooding occurs in the vicinity of 20th Street East, 30th Street East, and Amargosa Creek.



SOURCE: California Environmental Resource Evaluation System (CERES)

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Figure 3.7-4
FEMA Flood Areas

Following severe flooding in the Antelope Valley region in 1980, 1983, and 1987, the LADPW prepared the *Antelope Valley Comprehensive Plan of Flood Control and Water Conservation* (LADPW, 1987). This plan proposed flood plain management in the hillside areas, structural improvements in the urbanizing areas, and non-structural management approaches in the rural areas. In the hillside areas the plan recommended restricting development to areas outside of entrenched watercourses. In the project area, much of which is flood-prone, the plan recommended improvements such as open channel conveyance facilities and storm drains through communities, as well as detention and retention basins located at the mouths of the large canyons (LADPW, 1987).

3.7.2 Regulatory Framework

Federal

Clean Water Act

The Federal Water Pollution Control Act (33 U.S.C. 1251 et. sec.) as amended by the Federal Water Pollution Control Act Amendments of 1972, also known as the Clean Water Act (CWA), states that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Amendments (1987) to the CWA added a section which established a framework for regulating M&I storm water discharges under the NPDES program. On November 16, 1990, the United States Environmental Protection Agency (USEPA) published final regulations, under the 1987 CWA Amendments, that establish application requirements for storm water permits. These regulations require that discharges of storm water from construction activity of five acres or more must be regulated as an industrial activity and covered by a NPDES permit.

The USEPA approved the SWRCB and the nine RWQCBs for enforcement of these storm water regulations. The Lahontan RWQCB is responsible for regulating water quality in the project area.

The U.S. Army Corp of Engineers (USACE) has determined that Amargosa Creek is not defined as a water of the United States because it flows to a closed internal dry lake basin (Rosamond Dry Lake), which is wholly within the State of California. For similar reasons, the Lahontan RWQCB has determined that other dry washes in the Antelope Valley (e.g., Big Rock Creek and Little Rock Creek) are not defined as waters of the United States (Lahontan RWQCB, 2004). Therefore, discharges resulting from the proposed project would not be subject to regulation under the NPDES program. However, the Lahontan RWQCB encourages implementation of best management practices (BMPs) similar to those required for NPDES storm water permits to protect the waters of the state (Lahontan RWQCB, 2004).

Safe Drinking Water Act

Federal requirements relevant to the use of recycled water for groundwater recharge are contained in the 1986 amendments to the Safe Drinking Water Act (SDWA) of 1974 (Public Law 93-523). The SDWA focuses on regulation of drinking water and control of public health risks by

establishing and enforcing MCLs for various compounds in drinking water. The 1986 amendments also established requirements for protection of groundwater supplies through wellhead protection programs and regulation of underground injection of wastes.

State

California Water Code

The Water Code contains requirements for the production, discharge, and use of recycled water. The Porter-Cologne Water Quality Control Act (Division 7 of the Water Code), which was promulgated in 1969, established the SWRCB as the state agency with the primary responsibility for the coordination and control of water quality, water pollution, and water rights (Division 7, Chapter 1).

Nine RWQCBs were established to represent the SWRCB regionally and carry out the enforcement of water quality and pollution control measures (Division 7, Chapter 4). In addition, each RWQCB was required to formulate and adopt water quality control plans and establish requirements for waste discharge to waters of the state. In 1972, Chapter 5.5 was added to Division 7 to provide the RWQCBs with the authority to carry out the provisions of the federal CWA. As identified previously, the Lahontan RWQCB has jurisdiction over the project area.

Division 7, Chapter 7, Water Reclamation, was included in the Porter-Cologne Water Quality Control Act in 1969. Subsequent amendments required the CDPH (formerly the California Department of Health Services) to establish water reclamation criteria, gave the RWQCB the responsibility of prescribing specific water reclamation requirements for water that is used or proposed to be used as recycled water, provided for the regulation of injection of waste into the ground, and required the use of recycled water, if available, rather than potable water for irrigation of greenbelt areas.

Assembly Bill 1481 (De La Torre, 2007) has established Water Code Section 13552.5, which requires, in part, the SWRCB to develop and adopt a statewide general permit for landscape irrigation uses of recycled water. The Water Code requires SWRCB to adopt the new permit by July 31, 2009. The intent of the new law is to develop uniform interpretations of state standards to ensure the safe, reliable use of recycled water for landscape irrigation that is also consistent with state and federal water quality laws and regulations (SWRCB, 2008c). The new general permit, which is currently under development, would expedite the processing of permit applications for landscape irrigation uses of recycled water.

Title 22 Engineering Report and Permit

In 1975, Title 22 of the CCR was prepared by CDPH in accordance with the requirements of Division 7, Chapter 7 of the Water Code. In 1978, Title 22 was revised to conform with the 1977 amendment to the federal CWA. The requirements of Title 22, as revised in 1978, 1990, and 2001, regulate production and use of recycled water in California.

Title 22 establishes the quality and/or treatment processes required for effluent to be used for a specific non-potable application. The following categories of recycled water are identified:

- Disinfected tertiary recycled water;
- Disinfected secondary-2.2 recycled water;
- Disinfected secondary-23 recycled water;
- Undisinfected secondary recycled water.

In addition to recycled water uses and treatment requirements, Title 22 addresses sampling and analysis requirements at the treatment plant, preparation of an engineering report prior to production or use of recycled water, general treatment design requirements, reliability requirements, and alternative methods of treatment.

A Title 22 Engineering Report would be prepared for the proposed project that incorporates and reflects information from the Master Reclamation Permit (see below). The Lahontan RWQCB would ultimately decide whether the proposed project is covered by the Master Reclamation Permit after reviewing the Title 22 Engineering Report and after CEQA review is complete. If the Lahontan RWQCB decides that the proposed project cannot be covered under the Master Reclamation Permit, a separate application for Water Reclamation Requirements (WRRs) and Waste Discharge Requirements (WDRs) would need to be submitted and a permit secured from the Lahontan RWQCB.

Recycled water produced at the RWWTP, LWRP, and PWRP will be of disinfected tertiary standards making it suitable for all end uses included in Title 22 (see Table 1-2), including M&I and agricultural applications. Disinfected tertiary recycled water is defined in Section 60301.230 of the Title 22, Division 4, Environmental Health, Chapter 3, Water Recycling Criteria as follows:

"The filtered wastewater has been disinfected by either:

- A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligrams-minutes per liter at all times with a modal contact times of at least 90 minutes, based on peak dry weather design flow; or
- A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration."

In addition, the median concentration of total coliform bacteria measured in the disinfected effluent can not exceed a Maximum Probable Number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed. Also, the number of total coliform bacteria can not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample may exceed a MPN of 240 total coliform bacteria per 100 milliliters.

Specific requirements outlined for groundwater recharge using recycled water include that the quality must be at a level that fully protects public health (judged on a individual case basis); CDPH will base its recommendations on treatment provided, effluent quality and quantity, spreading area operations, soil characteristics, hydrogeology, residence time, and distance to withdrawal; a public hearing must be held prior to CDPH's determination to discuss the public health aspects of the groundwater recharge project.

Several proposed amendments to Title 22 are being considered at this time but have not yet been approved. These amendments include: general requirements; control of pathogens; control of nitrogen compounds; control of regulated compounds and physical characteristics; diluent water requirements; recycled water contribution requirements; total organic carbon requirements; operation optimization; monitoring between the groundwater recharge project and down gradient drinking water supply wells; and annual and five-year reporting.

Title 22 Waterworks Standards

Minimum requirements for pipeline separation standards are included in CCR Title 22, Division 4, Chapter 16, California Waterworks Standards, Article 4, Materials and Installations of Water Mains and Appurtenances. In accordance with Section 64572, Water Main Separation, there shall be at least a 10 foot horizontal separation and one (1) foot vertical separation between all parallel potable water mains and non-potable water pipelines.

Title 17

CCR Title 17 focuses on the protection of drinking water supplies through control of cross-connections with potential contaminants, including non-potable water supplies such as recycled water. Title 17, Group 4, Article 2, Protection of Water System, Table 1, specifies the minimum backflow protection required on the potable water system for situations in which there is potential for contamination to the potable water supply.

Recycled water is addressed as follows:

- An air-gap separation is required on "Premises where the public water system is used to supplement the recycled water supply."
- A reduced pressure principle backflow prevention device is required on "Premises where recycled water is used … and there is no interconnection with the potable water system."
- A double-check valve assembly may be used for "residences using recycled water for landscape irrigation as part of an approved dual plumed use area established pursuant to Sections 60313 through 60316 unless the recycled water supplier obtains approval for the local public water supplier, or [CDPH] if the water supplier is also the supplier of the recycled water, to utilize an alternative backflow prevention plan that includes an annual inspection and annual shutdown test of the recycled water and potable water systems pursuant to subsection 60316(a)."

California Health and Safety Code

The California Health and Safety Code, Division 104, Part 12, Chapter 5, Article 2, Section 116815, requires all pipes carrying recycled water to be colored purple or wrapped in purple tape. This requirement stems from a concern in cross contamination and potential public health risks similar to those discussed for Title 17. It is also discussed in the California Health Laws Related to Recycled Water (the Purple Book).

California Health Laws Related to Recycled Water (Purple Book)

The Purple Book provides a single source of guidelines and requirements for recycled water usage in California. It is meant to be an aid to staff of the Drinking Water Program within the Department of Public Health's Division of Drinking Water and Environmental Management.

Emerging Contaminants

In addition to the existing water quality and treatment criteria contained in Title 22 regulations, other potential water supply contaminants have been the subject of recent discussions within the water supply industry. Most noteworthy are the unregulated substances of N-nitrosodimethylamine (NDMA), 1,4 Dioxane, and trace pharmaceuticals. Future regulations could govern treatment and reuse of wastewater with respect to these contaminants. WRRs for future groundwater recharge projects could include monitoring and mitigation for emerging contaminants.

N-nitrosodimethylamine (NDMA)

NDMA is a probable carcinogen and has been linked to various forms of liver cancer. It has a history of use as a research chemical, as well as an intermediate compound formed in the production or burning of liquid rocket fuel. Currently, the Department of Public Health has set a very low notification level of 0.01 micrograms per liter for NDMA. In addition to the low notification level, NDMA is also very difficult to measure in low concentrations. NDMA is also a disinfection by-product under certain conditions. To date, research on NDMA and its potential formation is ongoing. As a result, regulations on NDMA are currently in a state of flux and are subject to change as more information becomes available. UV light can be used to reduce NDMA.

1,4 Dioxane

1.4 Dioxane has attracted attention due to it being a known carcinogen and its use in personal care products such as shampoos. It is also a solvent stabilizer and has been found in groundwater remediation efforts involving trichloroethane, a cleaning solvent. 1,4 Dioxane may eventually be regulated out of consumer products. However, until such time, wastewater treatment processes, such as advanced oxidation system could be required.

Trace Pharmaceuticals

Trace pharmaceuticals have been identified in water supplies in Europe and the United States. Trace pharmaceuticals may be transported to water supplies through the wastewater discharge

systems resulting from discarded medicines and incompletely metabolized medicines passing as waste. Pharmaceuticals detected in various studies include hormone supplements, antibiotics, anti-depressants, various stimulants, painkillers, etc. Scientists are at odds over the potential health effects of such minute quantities in water supplies. Concerns have also been raised over the potential impact that trace pharmaceuticals could have in the aquatic environment. To date, there are no regulations governing trace pharmaceuticals. Additionally, little information exists on the removal efficiency of wastewater treatment processes. USGS is currently conducting a significant study effort on trace pharmaceuticals as part of its Toxic Substances Hydrology Program. Depending on the outcome of these and other scientific studies, future regulations could govern the treatment and reuse of wastewater as it relates to the removal of trace pharmaceuticals.

Local

RWQCB WDR/WRR and Master Reclamation Permit

Operation of the proposed project would be subject to conditions imposed by the Lahontan RWQCB pursuant to Water Recycling Requirements (WRRs) and Waste Discharge Requirements (WDRs). WRRs are usually issued to the recycled water producer to ensure that the recycled water has received effective treatment for disinfection and to the recycled water user to ensure that recycled water is being applied properly (SWRCB, 2008) WDRs are issued to the recycled water producer to protect the quality of receiving waters, usually the groundwater underlying the irrigation site (SWRCB, 2008a). In lieu of WRRs for recycled water users, the RWQCB can issue a Master Reclamation Permit to the recycled water producer. The permit includes WDRs and rules and regulations for recycled water users.

LACSD Nos. 14 and 20 are currently working towards approval of a Master Reclamation Permit from the Lahontan RWQCB for their proposed treatment process upgrades at LWRP and PWRP and for expansion in capacity at the LWRP (separate projects covered under their own EIRs). It is anticipated that LACSD's Master Reclamation Permit would cover the proposed project uses of recycled water described in this report. Otherwise, each recycled water retail agency (e.g., LACWWD40, PWD, RCSD, etc.) would be responsible for obtaining WRRs for the intended end uses in their service area. Either the WRRs or Master Reclamation Permit would include requirements for monitoring groundwater quality

RWQCB Storm Water Pollution Prevention Plan

Construction of the proposed project would not be required to comply with the State Water Resources Control Board (SWRCB) NPDES General Construction Permit (GCP). As described above, there are no waters of the U.S. in the project area that are subject to RWQCB storm water pollution prevention requirements. Therefore, LACWWD40 and the implementing agencies for the proposed project would not be required to submit a Notice of Intent to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the GCP. However, during construction of the proposed project, LACWWD40 and/or implementing agencies would be required to protect the water quality objectives and beneficial uses of local surface waters as provided in the RWQCB Basin Plan.

RWQCB Construction Dewatering WDR

Construction of the proposed project may require dewatering activities as a result of excavation or trenching is areas of shallow groundwater. Discharge of the removed water to surface waters requires WDRs from the Lahontan RWQCB since the water could potentially be contaminated with chemicals from the construction activities. Discharge from dewatering activities would be considered a limited-threat discharge if the groundwater does not contain significant quantities of pollutants that could adversely affect beneficial uses of surface waters as designated in the Basin Plan (see below). Limited-threat discharges would be covered under the Lahontan RWQCB General Permit for Limited Threat Discharges to Surface Waters (Board Order No. R6T-2003-0034). Since the project area would not affect waters of the US, the project would not be subject to the general construction dewatering NPDES permit. However, the RWQCB would require that Best Management Practices be implemented to comply with the WDRs.

Basin Plan

The proposed project is subject to the requirements of the Lahontan Region Water Quality Control Plan (Basin Plan) prepared by Lahontan RWQCB in 1995 (RWQCB, 1995). The Basin Plan contains the water quality standards and control measures for surface water and groundwater of the Lahontan region. Additionally, the Basin Plan designates beneficial uses, establishes water quality objectives, and waste discharge prohibitions. The Basin Plan also includes Nondegradation Objectives and any adopted Total Maximum Daily Loads (TMDLs) for the region. The Nondegradation Objective is in accordance with the SWRCB Resolution No 68-16 and the federal anti-degradation policy as required by the federal Clean Water Act (40 CFR 131.12). The Nondegradation Objectives of the Basin Plan apply to both surface water and groundwater. The Nondegradation Objectives require the maintenance of background water quality concentrations, which are concentrations of substances in natural waters unaffected by waste management practices or other sources of contamination. Some degradation may be allowed if it is determined to be in the best interest of the people of California and if the future beneficial uses of waters of the State would not be adversely affected. In addition, whenever existing water quality exceeds that needed to protect beneficial uses, the high quality shall be maintained unless it is determined that a change in water quality would not adversely affect beneficial uses and would maximize the benefit of the people of the State.

LACDPW Flood Control District Easement

Construction activities located within Flood Control District rights-of-way or crossing of a storm drain structure would require obtaining a Flood Permit from the LACDPW Flood Control District. The permit process would include submitting construction plans, hydraulic and hydrologic calculations, certificate of liability insurance, and associated fees.

Grading Permit

Construction in Los Angeles County is subject to Appendix J of the Los Angeles County Building Code (LACBC), which is based on the Uniform Building Code. The LACBC states that a grading permit is required for all construction activities involving 50 cubic yards or more of

excavation, more than two feet in depth, or cut slopes greater than five feet. Specific requirements for obtaining a grading permit are contained in the Los Angeles County Grading Guidelines.

3.7.3 Impacts and Mitigation Measures

Significance Criteria

Criteria used to determine the significance of impacts related to hydrology and water quality are based on Appendix G of the *CEQA Guidelines*. The proposed project would result in a significant impact to hydrology or water quality if it would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
- Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river in a manner that would result in substantial erosion or siltation;
- Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river substantially increasing the rate or amount of surface runoff in a manner that would result in flooding;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding;
- Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

A discussion of the impacts and mitigation measures for the proposed project are presented below.

Impacts Discussion

The project site is approximately 45 miles from the Pacific Ocean. Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury, or death due to seiches or tsunamis. Furthermore, the proposed project is located primarily in areas of flat topography except for possible low-lying hillside locations for proposed storage reservoirs. It is anticipated that the proposed project would not expose people or structures to a significant risk of loss, injury or death due to mudflows. Accordingly, no impact statement or mitigation measures are required for this significance criterion.

The proposed project would replace potable water with recycled water for certain end uses, thereby reducing demand for potable water. Therefore, the proposed project would have a

beneficial impact on groundwater supplies and aquifer volume. Accordingly, no impact statement or mitigation measures are required for this significance criterion. Furthermore, recharging the groundwater basin would result in a direct net increase in aquifer volume due to the proposed groundwater recharge end use.

The City of Palmdale has determined that it is feasible to use recycled water for cooling water at the planned PHPP (RMC, 2007). Power plants have a large demand for water that meets strict water quality requirements, and also require a known, backup supply in accordance with California Energy Commission requirements. Areas of concern regarding the use of recycled water include scaling, biofouling, and corrosion. Use of recycled water for the power plant cooling tower, a large high-quality water user, would have no adverse impacts on hydrology or water quality as the cooling system would be designed as a closed loop with no need for land application or off-site storage of resulting blowdown. Full discussion of potential impacts resulting from use of recycled water at the proposed PHPP will be provided in upcoming CEQA documentation prepared specifically for development of the PHPP. The potential impacts associated with other end uses for recycled water are discussed below.

Project-level Impacts

Recycled Water Pipelines

Impact 3.7-1: Operation of the proposed recycled water pipelines could result in cross contamination of potable water pipelines, which could result in reduced water quality and potential public health concerns. Less than Significant with Mitigation.

Currently all areas considered for irrigation with recycled water are being irrigated with, or have potable water pipes tied into their irrigation systems. To avoid cross-contamination of potable water with recycled water, backflow prevention devices will be required to be incorporated in accordance with the following mitigation measures. Additionally, the Health and Safety Code, Division 104. Environmental Health Services, Part 12. Drinking Water, Chapter 5. Water Equipment and Control, Article 2. Cross Connection Control by Water Users, Section 116815 states: “All pipes installed above or below ground, on or after June 1, 1993, that are designed to carry recycled water, shall be colored purple or distinctively wrapped with purple tape.”

In addition, minimum separation standards for potable and non-potable water pipelines are included in CCR Title 22, Division 4, Chapter 16, California Waterworks Standards, Article 4, Materials and Installations of Water Mains and Appurtenances. In accordance with Section 64572, Water Main Separation, all proposed recycled water pipelines would have at least a 10 foot horizontal separation and one (1) foot vertical separation from any parallel potable water mains.

Mitigation Measures

Mitigation Measure 3.7-1a: Applicable backflow prevention devices, as outlined in Title 17 and the Purple Book, shall be incorporated into pipeline design to avoid potential for cross contamination.

Mitigation Measure 3.7-1b: Applicable minimum pipeline separation standards for potable and non-potable water pipelines, as outlined in Title 22, shall be incorporated into pipeline design to avoid potential for cross contamination.

Mitigation Measure 3.7-1c: All recycled water pipelines shall be painted purple or marked distinctly with purple tape.

Mitigation Measure 3.7-1d: Los Angeles County Department of Public Health (DPH), Cross Connection Control Program for Los Angeles County and the Kern County Department of Public Health in Bakersfield for Kern County shall be advised of each new site where recycled water is to be used prior to placing the site into service.

Mitigation Measure 3.7-1e: All recycled water sites shall be inspected and tested for possible cross connections with the potable water system, in accordance with Sections 60314(3) and 60316(a), Title 22, California Code of Regulations.

Significance after Mitigation: Less than significant.

Impact 3.7-2: Construction of the proposed recycled water pipelines could result in increased soil erosion and transport of subsequent contaminants and sedimentation, with impacts to water quality. Additionally, accidental release of fuels and other hazardous materials during construction could degrade water quality. Less than Significant with Mitigation.

During construction of the proposed recycled water pipelines, excavated soils would have the potential to erode and be transported to down gradient areas, potentially resulting in water quality standard violations. Construction of pipelines would require excavation of trenches or temporary bore and receiving pits, and temporary stockpiling of soils. In the event of heavy rain, erosion of the stockpiles may occur resulting in scouring and sedimentation of local drainages. Additionally, the storm water passing through the construction sites has the potential to pick up any chemicals from the staging site itself (such as fuels or oil from construction equipment), which may pass into the local storm water collection system, impacting water quality. Although the project would not be subject to the General Construction Stormwater NPDES permit, Mitigation Measure 3.7-**2** below would require that LACWWD40 prepare BMPs to be implemented to ensure pipeline construction activities would not degrade surface or groundwater quality. Applicable BMPs are identified in the California Stormwater Quality Association's *California Storm Water Best Management Practices Handbook for Construction* (2003).

Erosion control is a necessary to prevent sediment transport to the storm drain system. Erosion control BMPs bind soil particles to protect the soil surface and may include, but would not be limited to scheduling or limiting activities to certain times of the year and preservation of existing vegetation and ground cover.

Sediment controls complement the erosion control measures to further reduce sediment transport to the storm drain system through physical interception or settlement of the sediment being

transported by storm water runoff. Typical BMPs include, but would not be limited to, installation of silt fence or fiber in areas subject to substantial erosion.

Tracking control is necessary to reduce sediment from being transported off the site from construction equipment itself, and onto private/public roads. BMPs for tracking control may include stabilizing entrances to the construction sites and adjacent roadways.

To prevent soil and dust from being transported off site by wind, additional erosion control measures include application of potable water to disturbed soil areas to control dust and maintain optimum moisture levels for compaction, and use of silt fences and plastic covers to prevent wind dispersal from soil stockpiles.

In addition to the storm water control measures mentioned above, non-storm water control measures further reduce potential impacts that include installing specific discharge controls during activities such as paving operations, and vehicle and equipment washing and fueling.

Hazardous materials associated with construction equipment, such as fuels, oils, antifreeze, coolants, and other substances could adversely affect water quality if inadvertently released to surface waters. The BMPs identified in Mitigation Measure 3.7-2 would reduce the release of hazardous materials into water courses through waste management and pollution control. Because implementation of BMPs would reduce the release of hazardous materials into water courses, the proposed project would not violate water quality standards for construction activities.

Inspection of the identified BMPs to be implemented as part of pipeline construction activities would be conducted prior to a forecasted storm event, after a rain event that causes runoff, and at 24-hour intervals for extended rain events for maintenance, inspection, and repair. A checklist for these inspections would be developed, and the inspection reports would be filed with the BMPs. Post-construction BMPs may include revegetation of disturbed areas back to pre-construction conditions.

The BMPs would also includes a sampling and analysis plan for sediment and non-visible pollutants in runoff leaving the construction site to ensure water quality compliance. The sampling and analysis plan will identify sample locations, sampling schedule, sample collection and handling, constituents for analysis, and method for analysis.

Mitigation Measures

Mitigation Measure 3.7-2: The implementing agencies shall develop and implement BMPs to minimize erosion and sedimentation. The implementing agencies shall include in contractor specifications that the contractor is responsible for developing and implementing the BMPs. The BMPs shall be maintained at the site for the entire duration of construction.

The objectives of the BMPs are to identify pollutant sources that may affect the quality of storm water discharge and to implement measures to reduce pollutants in storm water discharges. The BMPs for the proposed project shall include, but not be limited to, the implementation of the following elements:

- Identification of all pollutant sources, including sources of sediment that may affect the quality of storm water discharges associated with construction activity from the construction site;
- Identification of non-storm water discharges;
- Estimate of the construction area and impervious surface area;
- Preparation of a site map and maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs);
- Identification of all applicable erosion and sedimentation control measures, waste management practices, and spill prevention and control measures;
- Maintenance and training practices; and,
- A sampling and analysis strategy and sampling schedule for discharges from construction activities.

Significance after Mitigation: Less than significant.

Impact 3.7-3: Construction activities associated with the recycled water pipelines could result in the dewatering of shallow groundwater resources and contamination of surface water. Less than Significant with Mitigation.

Construction of the recycled water pipelines, including trenching, jack and bore tunneling and horizontal directional drilling techniques, could potentially meet shallow or perched groundwater. Groundwater levels and the depth of excavation vary throughout the proposed project area. If shallow groundwater is met, dewatering would be required. Dewatering operations would include pumping the groundwater and discharging to the local storm drain system. Discharge water could potentially degrade surface water quality with materials used during typical construction activities, such as silt, fuel, grease or other chemicals. This could be a potentially significant impact; however, impacts would be temporary. Implementation of Mitigation Measure 3.7-3 would reduce the impact of construction dewatering to surface water quality to less than significant levels.

Mitigation Measures

Mitigation Measure 3.7-3: The implementing agencies shall obtain and comply with the requirements of dewatering permits issued by the Lahontan RWQCB for dewatering activities. Provisions of the permit may include treatment of flows prior to discharge.

Significance after Mitigation: Less than significant.

Impact 3.7-4: Construction of the recycled water pipelines could temporarily alter drainage patterns at the construction sites, which could cause localized flooding. Less than Significant with Mitigation.

The proposed project is not expected to substantially alter existing drainage patterns within the project area following completion of construction activities. The proposed project would not alter the drainage pattern of any stream or river. Further, the recycled water pipelines would be installed within existing roadway rights-of-way, and after construction is concluded, roadways would be restored to existing conditions. However, Mitigation Measure 3.7-4 would ensure that no new permanent impervious surfaces are created that could alter drainage patterns and potentially result in localized flooding impacts.

Mitigation Measures

> **Mitigation Measure 3.7-4:** The implementing agencies shall include in contractor specifications that all disturbed areas are to be restored back to pre-construction conditions.

Significance after Mitigation: Less than significant.

Recycled Water End Users

Impact 3.7-5: Operation of the pipelines would result in the use of recycled water for municipal and industrial (M&I) applications, which could affect surface and groundwater quality. This could be a potential public health impact. Less than Significant with Mitigation.

Operation of the proposed project would be subject to conditions imposed by the Lahontan RWQCB pursuant to WRRs and WDRs. Recycled water use associated with the proposed project would comply with the CDPH recycled water regulations contained in Title 22 of the CCR. Recycled water provided by the LWRP and PWRP will be treated to disinfected tertiary levels. As such, the product recycled water may be used for all end use categories listed in Table 1-2 in accordance with Title 22 Water Recycling Criteria. These end use categories include, but are not limited to, the following M&I applications.: landscape irrigation of parks, schools, golf courses, sports complexes (e.g., Lancaster National Soccer Center), freeways, greenbelts, cemeteries, and landfills; landscape impoundments; fire suppression; city maintenance and street cleaning operations; culvert jetting; and construction applications, such as dust control.[2] The recycled water end users identified for the proposed project are included in the Title 22 regulations (Table 1-2). To be used as a source supply for these designations, the reclaimed effluent would at all times be adequately oxidized, clarified, filtered, and disinfected effluent.

However, there is the concern for water quality impacts at the recycled water end user sites. Of particular concern is the impact to surface water and groundwater quality that could result due to

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

the higher levels of TDS, nitrogen, and other nutrients in the recycled water relative to potable water. The over-application of recycled water would have the potential to affect surface water quality if this resulted in surface ponding or direct runoff to local creeks or other water bodies.

To address these water quality concerns SWRCB is currently developing a statewide general permit for landscape irrigation uses of recycled water, pursuant to AB 1481. In the interim, SWRCB has stated in its latest draft Recycled Water Policy statement that the discharge of salts and nutrients to groundwater can be reasonably controlled by applying water at agronomic rates for recycled water landscape irrigation projects (SWRCB, 2008b). Irrigation of landscapes at agronomic rates also reduces impacts to surface waters by reducing the potential for ponding or runoff of recycled water to occur. This nutrient management practice would be sufficient to protect beneficial uses and water quality as prescribed in applicable basin plans, water quality control plans, and water quality control policies.

SWRCB also has stated that it is “unreasonable to require groundwater monitoring for landscape irrigation projects using recycled water because these project generally pose a threat to water quality similar to landscape irrigation projects using surface water or groundwater, for which groundwater monitoring is not required” (SWRCB, 2008b).

SWRCB has acknowledged that use of recycled water for irrigation or other water supply augmentation can affect concentrations of salts and nutrients in groundwater basins, in excess of the water quality objectives established in Basin Plans. The regulation of recycled water itself is not adequate to address this issue; rather, SWRCB is drafting a policy that recommends Salt Management Plans (SMPs) for basins and watersheds to manage salts and nutrients from all water sources, including recycled water (SWRCB, 2008d). Currently, the draft policy suggests these SMPs would be basin-wide and would be funded pursuant to Water Code Sections 10750 *et seq*. The SMPs could require monitoring plans and a network of stations to monitor salt concentrations in groundwater for consistency with applicable water quality objectives. In addition, the SMPs could require implementation measures for sustainable management of salt and nutrient loading and an anti-degradation analysis demonstrating compliance with Resolution 68-16 for projects included in the plan. The SWRCB policy would not prevent stakeholders from developing a SMP that is more protective of water quality than the Basin Plan. This policy is still in draft format and may change in the future. Upon adoption of a Recycled Water Policy by SWRCB, the proposed project would be subject to all requirements of the policy, including salt management plans (Mitigation Measure 3.7-5b).

Recycled water contains nitrogen, phosphorus, and potassium. Nutrients in the recycled water applied to landscapes are taken up by vegetation, reducing the need for fertilizer applications. Reduction of fertilizer applications by proposed M&I end users would reduce total nutrient load applied to irrigation sites that potentially could end up in surface runoff or affect underlying groundwater.

Implementation of Mitigation Measure 3.7-5a would reduce potential impacts to surface water quality and groundwater quality to less than significant levels. Mitigation Measure 3.7-5a requires M&I end users to apply water and fertilizer to landscapes at agronomic rates, which is compatible

with good farming practices on land. The mechanism for implementing these practices is a Reclaimed Water User Agreement, which would be made between the implementing agency and recycled water end user.

Mitigation Measures

Mitigation Measure 3.7-5a: The implementing agencies shall require the development and implementation of Recycled Water User Agreements with each recycled water end user. The Agreements shall include provisions that prohibit over-application of recycled water and fertilizer, such as requiring irrigation at agronomic rates to reduce the potential for runoff and increased nutrients into the groundwater basin.

Mitigation Measure 3.7-5b: The implementing agencies, in consultation with the Lahontan RWQCB, shall develop and implement a salt management plan, if needed in the future, to reduce the potential for salt and nutrient loading and minimize impacts to water quality in the Antelope Valley groundwater basin.

Significance after Mitigation: Less than significant.

Impact 3.7-6: The use of recycled water for M&I applications could alter drainage patterns or increase local storm water runoff during storm events resulting in localized flooding. Less than Significant with Mitigation.

The use of recycled water by new M&I end users would result in increase runoff during storm events if irrigation activities are not adjusted to prevent saturation of soils onsite. The result would be localized flooding. Implementation of Mitigation Measure 3.7-6 would reduce the potential impact to a less than significant level.

Mitigation Measures

Mitigation Measure 3.7-6: The implementing agencies shall require recycled water end users to cease all irrigation activities during rain events, thereby minimizing off-site runoff.

Significance after Mitigation: Less than significant.

Program-level Impacts

Storage Reservoirs and Pump Stations

Impact 3.7-7: Construction of the proposed storage reservoirs and pump stations could result in increased soil erosion and transport of contaminants, with impacts to water quality. Additionally, release of fuels or other hazardous materials associated with construction activities could degrade water quality. Less than Significant with Mitigation.

Typical activities for reservoir construction would include mobilization of construction equipment, clearing and grubbing of the reservoir area, and construction of appurtenant structures and ancillary facilities such as spillway, inlet/outlet conduits, stormwater routing around the reservoir, access roads, and fencing. This would be followed by site clean up and demobilization.

Construction activities for development of the pump stations would not be expected to involve heavy construction activities, with each site to be graded and prepared to raise a building structure. Construction could involve grading, paving, installation of pumps, construction of pump housing and fencing, and connecting appurtenances in the building. These activities could cause dislodging of soil particles and potential sedimentation.

During construction of the storage reservoirs and pump stations, excavated soils would have the potential to erode and be transported to down gradient areas, potentially resulting in water quality standard violations. Construction of the reservoirs and pump stations would likely include light grading and temporary stockpiling of soils. In the event of heavy rain, erosion of the stockpiles may occur resulting in sedimentation and scouring of local drainages. Additionally, storm water would pick up hazardous materials from construction sites (such as fuels, solvents or oil from construction equipment), which may pass into the local storm water collection system, impacting water quality. LACWWD40 would prepare specific BMPs to be implemented at each of the reservoir and pump station sites to ensure construction activities do not degrade surface or groundwater quality, such as establishment of a sediment basin and erosion control perimeter around active construction and contractor layout areas, silt fencing, jute netting, straw waddles, or other appropriate measures to control sediment from leaving the construction area. Implementation of Mitigation Measure 3.7-2 would reduce impacts to water quality from construction of the reservoirs and pump stations to less than significant levels. No additional mitigation measures are warranted.

Mitigation Measures

Implementation of Mitigation Measure 3.7-2.

Significance after Mitigation: Less than significant.

Impact 3.7-8: Construction and operation of the proposed storage reservoirs and pump stations would increase the amount of impervious surfaces at each site, altering the drainage patterns at each site and resulting in increased local storm water runoff. This could cause localized flooding or contribute to a cumulative flooding impact. Less than Significant with Mitigation.

Construction of the proposed storage reservoirs and pump stations may require excavation and grading to provide a level surface to install the facilities. Excavated soils would likely be replaced on-site, and vegetation or permeable ground cover restored to pre-project conditions. The designs of the pump stations and storage reservoirs have not been determined but may include storm water drainage features to capture and infiltrate stormwater onsite or transport storm water offsite.

Although the exact facility sites are not known, estimated run-on and runoff calculations are summarized in **Table 3.7-1** to demonstrate the potential impacts to drainage patterns. The table demonstrates a low potential for substantial long-term drainage and localized flooding impacts at each reservoir and pump station site; however, implementation of Mitigation Measure 3.7-7 would ensure that adequate design features are incorporated to reduce and capture storm water runoff.

TABLE 3.7-1
SUMMARY OF RUN-ON AND RUN-OFF DISCHARGES FOR PROPOSED STORAGE RESERVOIRS AND PUMP STATIONS

		Existing Conditions		After Proposed Construction		
Facility	**Total Site Area[a]**	**Impervious Site Area**	**Runoff Coefficient[b]**	**Impervious Site Area**	**Runoff Coefficient[b]**	**Site Area Run-on Discharge[c]**
3.0 MG Storage Reservoir	2 acre	0 acres	0.1	0.38 acres	0.26	0.3 cfs
4.4 MG Storage Reservoir	2 acre	0 acres	0.1	0.56 acres	0.34	0.3 cfs
2.1 MG Storage Reservoir	2 acre	0 acres	0.1	0.27 acres	0.22	0.3 cfs
2.0 MG Storage Reservoir.	2 acre	0 acres	0.1	0.26 acres	0.21	0.3 cfs
Distribution Pump Station 1	2 acre	0 acres	0.1	0.06 acres	0.13	0.3 cfs
Distribution Pump Station 2	2 acre	0 acres	0.1	0.06 acres	0.13	0.3 cfs
Booster Pump Station 1	2 acre	0 acres	0.1	0.06 acres	0.13	0.3 cfs
Booster Pump Station 2	2 acre	0 acres	0.1	0.06 acres	0.13	0.3 cfs

a Assumed minimum 2 acre site required to develop storage reservoirs and pump stations; however, most parcels being considered are considerably larger.
b Assumes impervious site area runoff coefficient of 0.95 and pervious site area coefficient of 0.1. Runoff Coefficient □ [(Impervious site area □Impervious runoff coefficient) □ (Pervious Site area □pervious runoff coefficient)] □Total Site Area.
c Assumes a rainfall intensity of 0.2 inch□hr and a run on coefficient of 0.75. Site area run-on discharge □ run-on coefficient □rainfall intensity □drainage area (total site area).

Mitigation Measures

Mitigation Measure 3.7-7: The implementing agencies shall ensure adequately sized and located storm water capture facilities are incorporated into the final design for each storage reservoir and pump station facility.

Significance after Mitigation: Less than significant.

Impact 3.7-9: Placement of storage reservoirs and pump stations within a 100-year flood zone could expose people or property to risks related to flooding. Less than Significant with Mitigation.

The Flood Insurance Rate Maps (FIRMs) produced by the Federal Emergency Management Agency indicate areas prone to flood hazards due to major storm events, including 100-year and 500-year flood zones. According to the FIRMs, the proposed project could place storage reservoirs and pump stations within the 100-year flood zone and potentially portions of the 500-year flood zone (Los Angeles County, 2007). The FIRMs are included for reference in Appendix G.

Distribution Pump Station 2 is located at the PWRP, which is in a designated Flood Zone B. Zone B is a zone between 100-year and 500-year flood zone limits. However, with implementation of Mitigation Measure 3.7-8 and the fact that the pump station will be constructed on an already developed site, flood impacts are expected to be less than significant.

Distribution Pump Station 1, Distribution Pump Station 1A, Booster Pump Station 2, Reservoir 2 and Reservoir 4 are located in or near 100-year flood zone areas (Figure 3.7-4). The pump stations and storage reservoirs would be developed in accordance with the applicable municipal codes[3] regarding construction in flood zones. It is expected that LACWWD 40, or its partner agencies, would be required to obtain a development permit for the above-ground reservoirs prior to construction within any special flood hazard areas. With adherence to the permit requirements, the proposed facilities would not expose people or structures to the risk of loss due to flooding. In addition, implementation of Mitigation Measure 3.7-8 would reduce impacts to people and structures due to flooding to less than significant levels.

Mitigation Measures

> **Mitigation Measure 3.7-8:** The implementing agencies shall require flood diversion facilities to be incorporated into each storage reservoir and pump station site and facility design that would not increase flood risk in other areas.

Significance after Mitigation: Less than significant.

Recycled Water End Users

Impact 3.7-10: Use of recycled water for agricultural irrigation could potentially affect surface and groundwater quality. Less than Significant with Mitigation.

The proposed project provides the physical infrastructure required to convey disinfected tertiary-treated recycled water to agricultural end users. As described above for Impact 3.7-5, this level of

[3] Applicable Municipal Codes include the City of Lancaster's §15.52.010, the City of Palmdale's §110.1.1 and §110.1.2, the 2008 Los Angeles County Building Code (Title 216), and the Kern County Floodplain Management Building Code (Chapter 17.48).

treatment has been identified by CDPH (Title 22) for agricultural irrigation in order to protect public health and water quality.

However, if recycled water is over applied at agricultural reuse sites, then the recycled water could percolate through soil layers, reaching the underlying groundwater aquifer and affecting groundwater quality. Surface water quality also could be affected if over-application of recycled water resulted in surface ponding or direct runoff to local creeks or other water bodies. Localized and regional water quality impacts could result from the higher levels of TDS, nitrogen, and other nutrients in the recycled water applied at potential agricultural irrigation sites when switching from potable water to recycled water.

As described above for Impact 3.7-5, the nutrient content of recycled water exceeds that of potable water. Recycled water contains nitrogen, phosphorus, and potassium. Thus the use of recycled water will offset much of the fertilizer needs for the potential agricultural users. The application of recycled water and fertilizer at agronomic rates would reduce potential impacts to groundwater and surface water quality to less than significant levels. Implementation of Recycled Water User Agreements as required by Mitigation Measure 3.7-5a would ensure minimal impacts to water quality due to the use of recycled water at agricultural reuse sites. Implementation of Mitigation Measure 3.7-5b would ensure minimal impacts to water quality due to the use of recycled water for all end uses, once the SWRCB adopts its Recycled Water Policy requiring implementation of SMPs.

Mitigation Measures

Implementation of Mitigation Measure 3.7-5a and 3.7-5b.

Significance after Mitigation: Less than significant.

Impact 3.7-11: The use of recycled water for groundwater recharge could result in significant water quality impacts if the native groundwater is degraded below existing or acceptable conditions. Less than Significant with Mitigation.

General requirements for GRRPs using surface spreading are contained in the Water Recycling Criteria of Title 22. For GRRPs using surface spreading methods and natural percolation, the regulation states that the water shall “be at all times of a quality that fully protects public health” and further requires a public hearing to discuss the public health aspects of the project. Draft Title 22 regulations suggest that recycled water used for groundwater recharge via surface spreading must be of at least disinfected tertiary quality. The RWQCB would issue WRRs to the recycled water producers and end users that would allow the proposed recharge. CDPH would hold a public hearing and workshop to discuss the public health aspects and technologies available for safe conduct of a GRRP.

The use of recycled water for groundwater recharge may have significant impacts on groundwater quality without adequate mitigation. Although the recycled water will be subject to Title 22

requirements, the impacts to existing groundwater water quality in the underlying basin after recharge has not yet been determined; implementation of a pilot project that includes monitoring would be a necessary first step.

The City of Lancaster is planning to implement a pilot project to test the feasibility of a large-scale GRRP. The Groundwater Recharge Using Recycled Water (GRW-RW) Pilot Project will use a blend of recycled water, stormwater, and imported water. Recharge will occur at a proposed 100-acre stormwater retention basin located in the proximity of Avenue F and 60th Street West in Lancaster. The pilot project has been designed to recharge up to 2,500 acre-feet of water annually at a 4:1 blend ratio, including up to 500 acre-feet of recycled water. The balance will be a combination of imported water and stormwater captured on-site. The 4:1 blend ratio is a design parameter of the pilot set by the CDPH. Recharge water will be monitored to support regulatory compliance. The primary benefit of the Pilot Project will be to better evaluate the feasibility of the full-scale regional GWR-RW project as well as other GWR banking projects in the Antelope Valley by (1) providing a forum for regional collaboration and public involvement, (2) providing water quality and reliability data that will optimize the regional project(s) definition, (3) demonstrating attainment of regulatory requirements, while avoiding basin-wide issues such as salt and nitrogen management, and (4) tackling institutional barriers surrounding the regional projects by starting with a reduced number of participant agencies and at a reduced-level of financial risk. After the initial monitoring phase is complete, recharge water could be pumped to serve either non-potable uses or municipal and industrial users in the Lancaster area. The GRW-RW Pilot Project is considered a foundational project for development of recharge projects in the Antelope Valley. The experience to be gained from the GRW-RW Pilot Project, especially in relation to meeting regulatory requirements, institutional needs and objectives, and building public support for recharge projects of this type is expected to help clarify the steps needs to make any future regional GRRPs in the area successful. The environmental effects of the GRW-RW Pilot Project will be fully evaluated pursuant to CEQA with a separate, subsequent CEQA compliance document.

Mitigation measures to reduce impacts to water quality in the groundwater basin could feasibly include blending requirements or advanced treatment processes. Mitigation requirements would be project specific and additional environmental documentation would be required prior to implementation of a GRRP.

Blending Requirements

Mitigation measures may include a requirement to blend the recycled water with another source of water (such as stormwater or SWP water) to meet water quality requirements prior to recharge. The GWR-RW project described above includes a blend ratio of 4:1 (diluent water to recycled water) required by CDPH to meet water quality requirements. The GRRPs associated with the proposed project may utilize the same source water as the GWR-RW project; thus it is likely that a similar blend ratio would be required for any future GRRP in the region. Any future GRRP would comply with Title 22 blend ratio requirements and blend ratios identified in WRRs or Master Reclamation Permits.

Advanced Treatment

Mitigation measures may include the need for state of the art technology to produce recycled water to meet the highest achievable water quality standards (i.e., near-distilled quality). Orange County Water District is currently implementing a project that utilizes state of the art technology to recharge recycled water into the Orange County groundwater basin. Treatment processes after wastewater treatment include: microfiltration, reverse osmosis, ultraviolet light, and hydrogen peroxide treatment. Additionally, a Water Quality Risk Assessment was conducted for the project to confirm no significant adverse environmental impacts would occur.

Any potential groundwater recharge project using recycled water (GRRP) would be subject to strict regulatory reviews and additional, in-depth environmental assessment and documentation in accordance with CEQA prior to initiation of recharge activities. This PEIR generally describes the impacts associated with a GRRP and does not attempt to describe or evaluate any site-specific or known recharge areas. Accordingly, Mitigation Measures 3.7-9a, 3.7-9b and 3.7-9c identified below are the minimum requirements for future potential GRRPs in the project area.

Mitigation Measures

Mitigation Measure 3.7-9a: The implementing agencies shall operate recharge projects in compliance with CDPH Title 22 regulations as well as in coordination with the RWQCB. The recharge water shall be a blend of recycled water and diluent water at a ratio consistent with Title 22 regulations and CDPH criteria.

Mitigation Measure 3.7-9b: The implementing agencies shall develop and implement a monitoring program of the proposed recharge area in compliance with Title 22 regulations and CDPH criteria. As part of this program, some monitoring wells shall be placed between the proposed recharge area and down gradient drinking water supply wells.

Mitigation Measure 3.7-9c: The implementing agencies shall require recharged recycled water via surface spreading to remain in groundwater storage for the minimum time period stipulated by CDPH Title 22 Water Recycling Criteria prior to extraction.

Significance after Mitigation: Less than significant.

3.8 Land Use and Agriculture

This section addresses impacts to land use and agricultural resources associated with the construction and operation of the proposed project.

3.8.1 Setting

Regional Setting

The proposed project is located in multiple jurisdictions of the Antelope Valley, which include the City of Palmdale, the City of Lancaster, portions of unincorporated Los Angeles County, and portions of unincorporated Kern County (**Figure 3.8-1)**. Each jurisdiction has independent planning documents that guide the development of urban, agricultural and other land uses within their jurisdictional boundaries.

The Antelope Valley consists of approximately 2,400 square miles of elevated desert terrain in northern Los Angeles County, southern Kern County, and western San Bernardino County. The area is bordered on the southwest by the San Gabriel Mountains, on the northwest by the Tehachapi Mountains, and on the east by a series of hills and buttes that generally follow the San Bernardino county line.

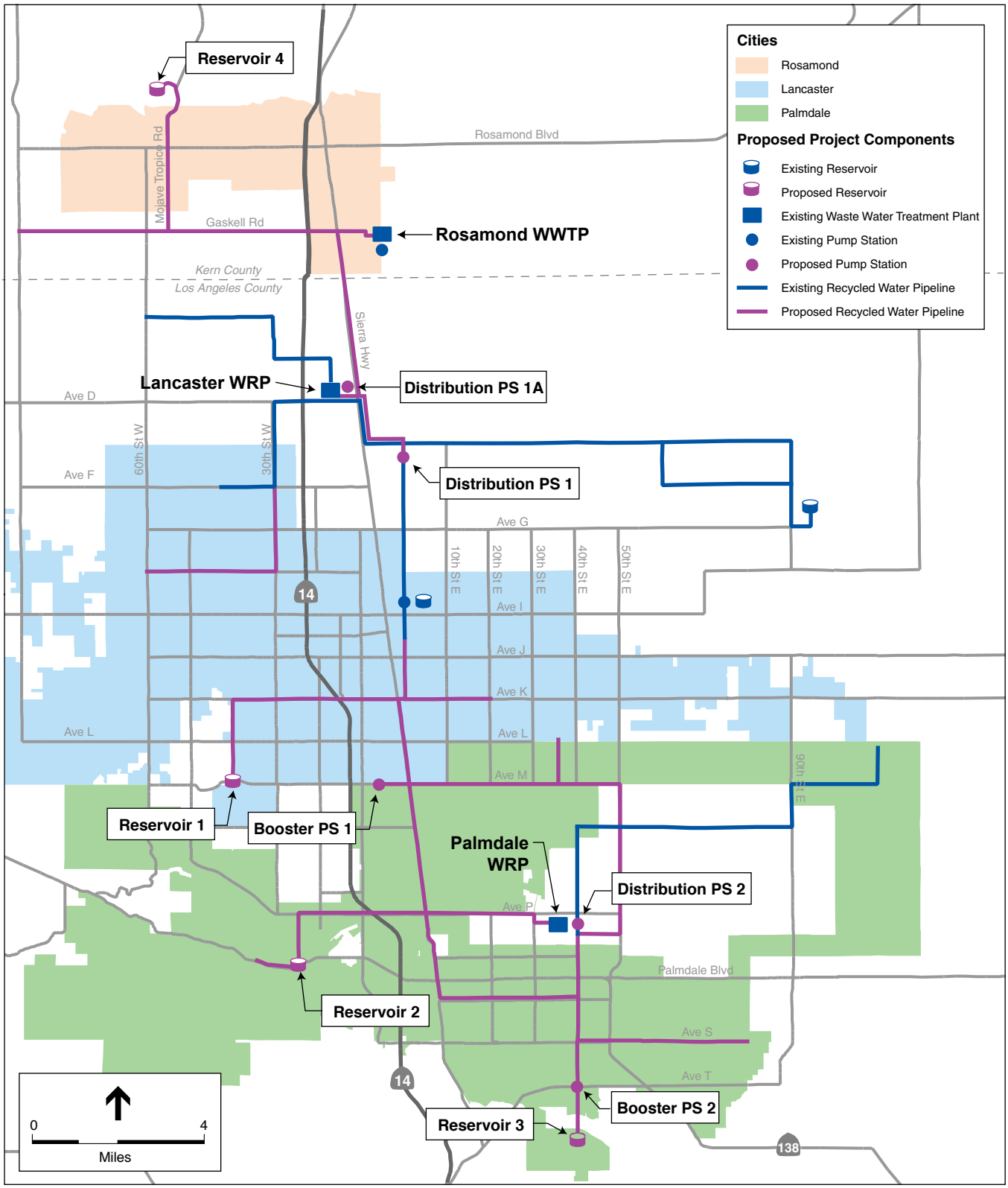
City of Lancaster

The City of Lancaster is located in the central portion of the Antelope Valley, approximately 70 miles north of downtown Los Angeles and 60 miles north of the San Fernando Valley. The developing community of Rosamond in Kern County is located several miles to the north, and the City of Palmdale is located immediately to the south. Lands to the east and west of the city are undeveloped and within unincorporated Los Angeles County. Lancaster began as an independent farming community located around the Southern Pacific Railroad. The economy transitioned from agriculture to aerospace in the 1950s, 1960s and 1970s.

City of Palmdale

The City of Palmdale is approximately 104 square miles with a sphere of influence of approximately 174 square miles (City of Palmdale, 1993). Palmdale is located approximately 60 freeway miles north of downtown Los Angeles. Palmdale is bordered by the City of Lancaster and the unincorporated community of Quartz Hill to the north; unincorporated communities of Lake Los Angeles and Littlerock to the east; the unincorporated community of Acton to the south; and the unincorporated community of Leona Valley to the west. Lake Palmdale is located in the center of the city between Highway 14 and the Sierra Highway.

The United States Air Force (USAF) owns Air Force Plant 42 in the City of Palmdale. Los Angeles World Airports (LAWA) and the USAF signed an agreement in 1989, allowing LAWA to lease the facility for commercial use. Plant 42 was renamed LA/Palmdale Regional Airport (PMD) by the Los Angeles Board of Airport Commissioners in 2006, and PMD reopened for commercial airline service on June 7, 2007.



SOURCE: Kennedy/Jenks Consultants; ESA

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Figure 3.8-1
Jurisdictional Boundaries

County of Los Angeles

Portions of the proposed project would occur within northern unincorporated Los Angeles County. The unincorporated areas of Los Angeles County within the Antelope Valley include unincorporated towns such as Quartz Hill in addition to rural living communities and undeveloped desert terrain.

County of Kern

Portions of the proposed project would occur within the unincorporated community of Rosamond. The Rosamond Specific Plan area is located about 75 miles southeast of Bakersfield and approximately 10 miles north of Lancaster just north of the Kern County border. The community of Rosamond is located in the Mojave Desert just west of Rosamond Dry Lake and has served as a gateway to Edwards Air Force Base.

Existing Land Use Designations

The majority of the proposed project would be located in the cities of Palmdale and Lancaster, with the exception of the northernmost and southernmost portions, which would be located within unincorporated county regions. The land use maps for the cities of Palmdale and Lancaster and the counties of Los Angeles and Kern are included in **Appendix H**. Land uses within Los Angeles County include the rural areas north and south of the City of Palmdale and the Palmdale Regional Airport. A small parcel of land located on Sierra Highway between Avenues P and Q is also designated as unincorporated Los Angeles County. Land uses within Kern County are designated as non-jurisdictional land by the County's General Plan.

Land uses within the City of Palmdale include open space, residential, commercial, airport, industrial, public, and other jurisdictional. Palmdale Regional Airport is located within the City of Palmdale on land leased by Los Angeles County (i.e., LAWA) from the USAF. Land uses within the City of Lancaster include residential, industrial, public, and commercial. The land uses associated with each component of the proposed project are described below and summarized in **Table 3.8-1**.

Components of the proposed project are located within two miles of public airports and within airport influence areas (AIA) designated by Airport Land Use Compatibility Plans (ALUCPs) (**Figure 3.8-2**). The Palmdale Regional Airport (PMD) is within 1.0 mile of East Avenue M and 50th Street East and adjacent to Sierra Highway. General William J. Fox Airfield Airport (Fox Airfield) is approximately 1.5 miles north of West Avenue H. Rosamond Skypark Airport is approximately 1.0 mile east of Mojave Tropico Road. Two private aviation facilities, Bohunk's Airpark and Little Butte's Antique Airfield, are also located within five miles of proposed project components. These private facilities are not regulated by ALUC policies and procedures.

Sensitive Receptors

Sensitive receptors within the project area include recreational areas, schools, medical centers, and residences. The locations of sensitive receptors adjacent to project components are shown in

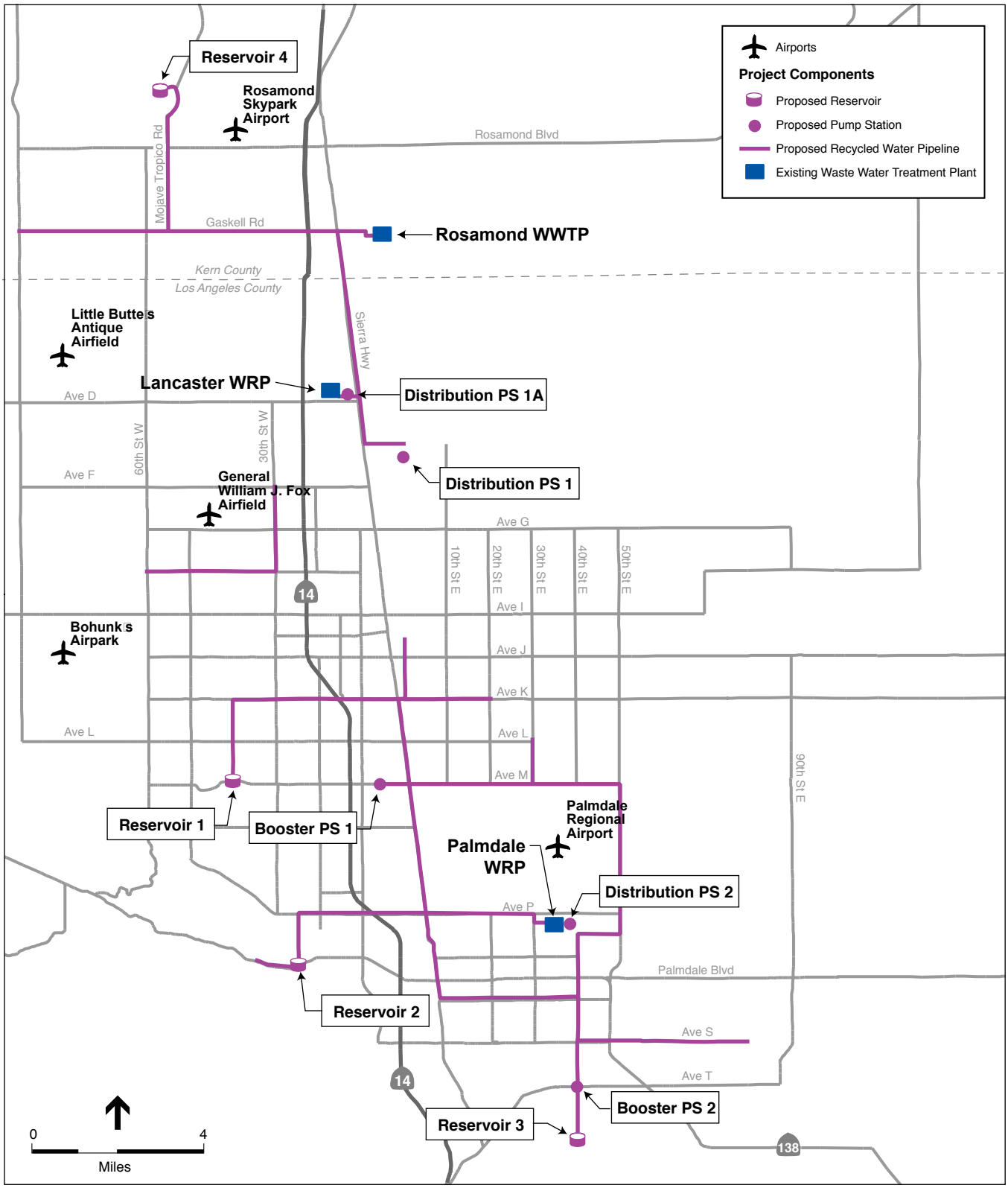
TABLE 3.8-1
CITY AND COUNTY LAND USE CATEGORIES BY PROJECT COMPONENT

Project Component	Pipeline Segment	City and County Land Use Categories
Pipeline Alignment - City of Palmdale	40th St E	LDR. SFR-3. OS. SP. PF. NC. CC.IND
	Ave S	NC, SFR-3, CC, PF, MR, SFR-2, SP
	50 St E	IND
	Ave M	AR, SP, PF, IND
	Sierra Highway	CM, SP, AR, BP, IND, PF, OC, DC
	Ave R	CM, SFR-3, PF, SFR-1
	Ave P	SFR-3, OS, SFR-1, RC, PF, CC, SP, CM,
	Elizabeth Lake Rd	SFR-1, LDR, SP
	Highland St	SFR-3
	30th St E	IND
Pipeline Alignment - City of Lancaster	Ave H	NU, LI, MR1, MR2, SP
	30th St W	LI, SP
	Division St	LI, C, UR, MR1
	Ave K	UR, S, C
	40th St W	PDW, UR, C, NU
	Sierra Highway	C, LI, SP
	Ave M	HI
Pipeline Alignment □ Kern County	Gaskell Rd	ACPA
	56th Ave	ACPA
	Mojave Tropico Rd	ACPA
	Sierra Highway	ACPA
Pipeline Alignment □ Los Angeles County	40th St E	RL, P
	Sierra Highway	RL, I, U, P
	Ave D	P
	Ave E	RL
	Ave P	P
	50th St E	P
	Ave P-8	P
Distribution Pump Station 1	Division St	NU
Distribution Pump Station 1A	Ave D	P
Distribution Pump Station 2	40th St E	P
Booster Pump Station 1	Ave M	LI
Booster Pump Station 2	Ave T	LDR, SFR-3
Reservoir 1	40th St W	NU
Reservoir 2	Elizabeth Lake Rd	SFR-3
Reservoir 3	Barrel Springs Rd	RL
Reservoir 4	Mojave Tropico Rd	ACPA

Abbreviations:

ACPA	Accepted county plan areas	LI	Light Industry	RC	Regional Commercial
AR	Airport and Related Uses	MR	Medium Residential	RL	Rural Land
BP	Business Park	MR1	Multi-Residential	SFR-1	Single Family Residential
C		MR2	Multi-Residential	SFR-2	Single Family Residential
CA	California Aqueduct	NC	Neighborhood Commercial	SFR-3	Single Family Residential
CC	Community Commercial	NU	Non-Urban Residential	SP	Specific Plan
CM		OS	Open Space	U	Urban
DC	Development Commercial	P	Public and Semi-Public	UR	Urban Residential
HI	Heavy Industry	PDW	Prime Desert Woodland		
I□IND	Industrial	PF	Public Facility		
LDR	Low Density Residential	S	Public School		

SOURCES: Los Angeles County, 2007; Kern County, 2007; City of Palmdale, 2007; City of Lancaster, 2007.



SOURCE: ESA, 2008.

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Figure 3.8-2
Airports in Project Vicinity

Figure 3.8-3. Educational centers in Palmdale include Quail Valley Elementary, Pete Knight High School, the Antelope Valley High School District Office, Youth Center, and Early Child Preschool, Palmdale High School, Pinecrest School, Cactus School, the Palmdale Youth Library, and Highland High School. Adjacent medical centers include the South Valley Medical Clinic and Kaiser Permanente Medical Care. Recreational areas include the DryTown Water Park and William J. McAdam Park. Residences are generally located in the southeastern and western portions of the city. Residential streets that would be affected by pipeline construction include 40th Street East, Elizabeth Lake Road, Avenue R, Avenue S, Gaskell Road and 25th Street West. Sensitive receptors in Lancaster include educational centers, residences, and the Lancaster National Soccer Center. Adjacent schools include Kindercare, Antelope Valley College, Bethel Christian School, and Antelope Valley High School. The majority of the residences are located in the eastern and western portions of the city, with a mix of residential and commercial areas in the city center. Residential streets that would be affected by pipeline construction include 40th Street West and West Avenue K.

Agriculture

As shown in **Figure 3.8-4**, there are numerous parcels of land designated by the California Department of Conservation as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance near the project area (California Department of Conservation, 2007). Some of the project components run parallel and adjacent to these agricultural lands. However, all proposed pipeline components would be located within public road rights-of-way and, therefore, would not be located on protected soil as the FMMP does not include designated roadways or their rights-of-way as viable farmland. There would be no impacts to any Prime or Unique Farmland, or Farmland of Statewide importance.

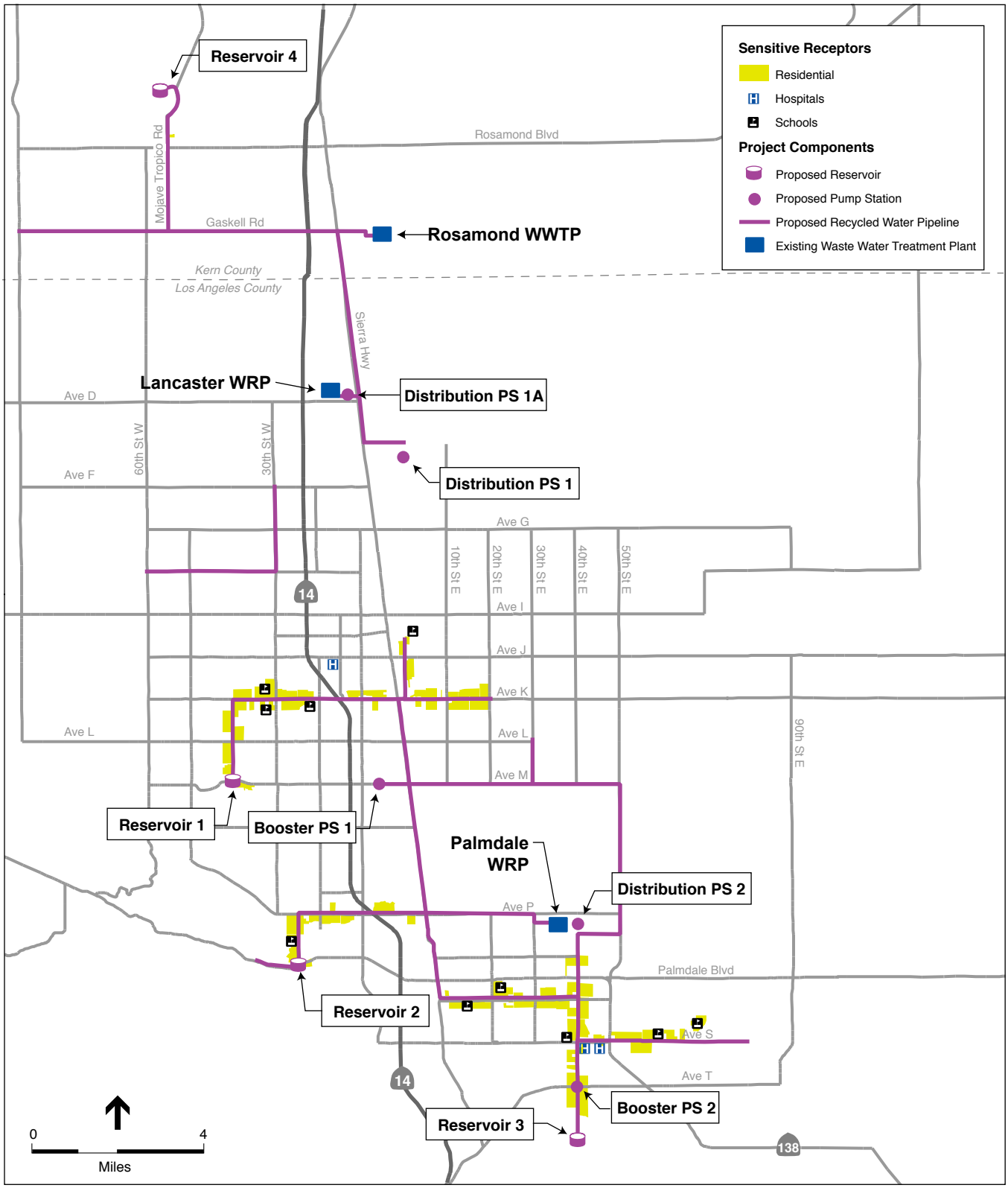
Within the project area there are two adjacent parcels of land that are under a Williamson Act contract and contain prime agricultural soils (California Department of Conservation, 2005). The parcels are located in Kern County, south of Rosamond Boulevard and east of 90th Street West. (Sec 20, T9N, R12W; Sec 29, T9N, R12W) (Figure 3.8-4). Neither of the identified Williamson Act parcels are on or adjacent to any project facilities nor would they be impacted by project implementation.

3.8.2 Regulatory Framework

Federal

Federal Aviation Administration

The Federal Aviation Administration (FAA) is the branch of the U.S. Department of Transportation with regulatory responsibility for civil aviation. The FAA is responsible for establishing policies and regulations to ensure the safety of the traveling public. The FAA oversees airports that are open to the public or airports that receive federal funding (Rodriguez, 2006). FAA Advisory Circular (AC) 150/5200-33B addresses hazardous wildlife attractants on or near airports (FAA, 2007). This Advisory Circular is intended to provide guidance on siting



SOURCE: ESA, 2008

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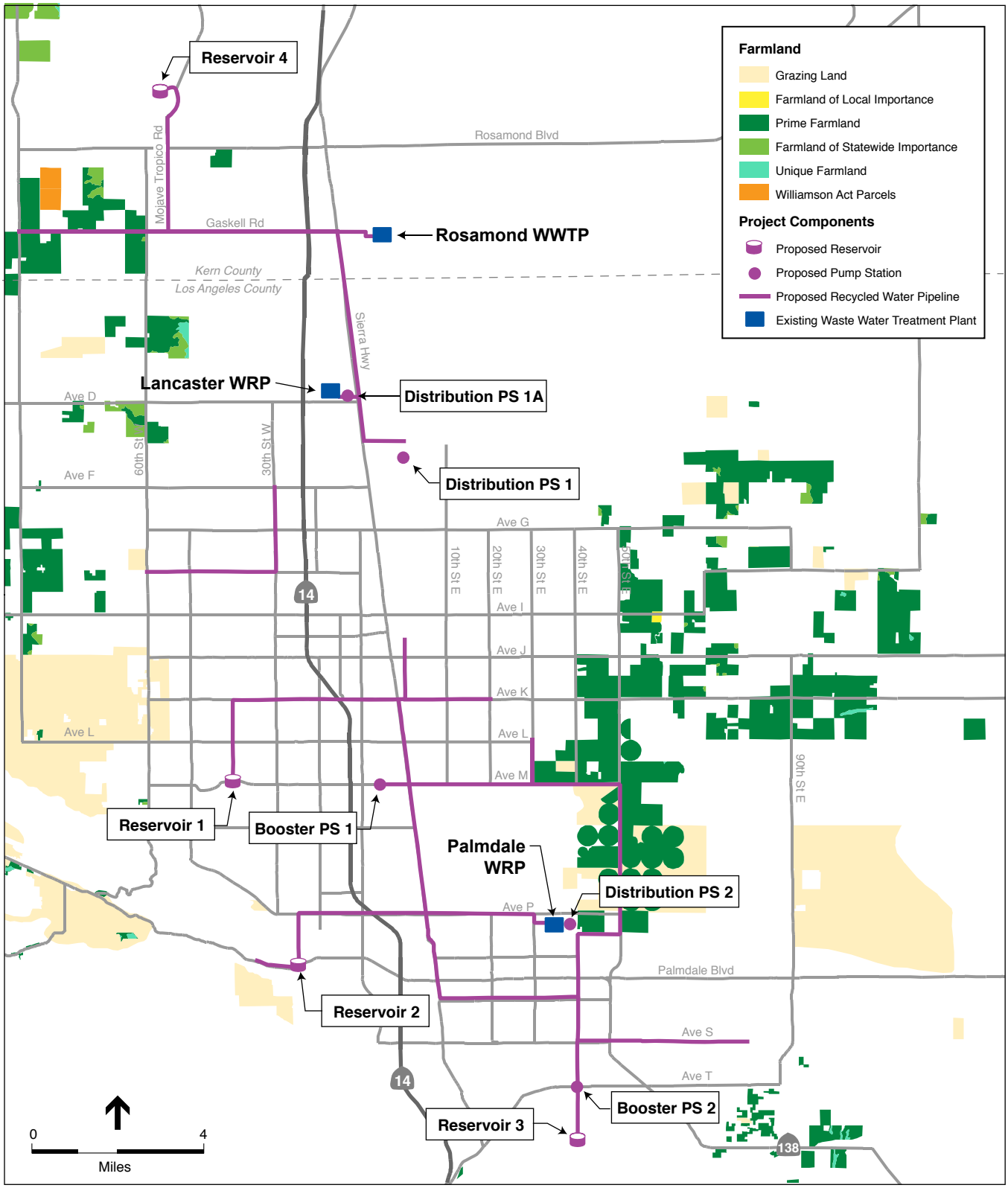
Figure 3.8-3
Sensitive Receptors



SOURCE: Department of Conservation, Farmland Mapping and Monitoring Program, 1984-2006.

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Figure 3.8-4

Agricultural Resources

certain land uses that have the potential to attract potentially hazardous wildlife to a public-use airport or its vicinity. The FAA Advisory Circular recommends against "land use practices that attract or sustain populations of hazardous wildlife within the vicinity of airports or cause movement of hazardous wildlife onto, into, or across the approach or departure airspace, aircraft movement area, loading ramps, or aircraft parking area of airports." The Advisory Circular recommends a separation distance of 5,000 feet between airports using piston-powered aircraft and any project or change in land use that could attract hazardous wildlife, such as open-air water storage facilities. For airports using turbine-powered aircraft, the FAA recommends a separation distance of 10,000 feet between an airport and a potential hazardous wildlife attractant. For projects that are located outside the 5,000/10,000-foot criteria but within five statute miles of the airport's air operations area[1], the FAA may review development plans, proposed land use changes, operational changes, or wetland mitigation plans to determine whether such changes in land use would create potential wildlife hazards to aircraft operations.

State

Caltrans Division of Aeronautics

The State Aeronautics Act, Public Utilities Code (PUC) section 21001 *et seq*., provides the foundation for the California Department of Transportation's (Caltrans) aviation policies. The Division of Aeronautics issues permits for and annually inspects public-use airports throughout the State, and provides grants and loans for safety, maintenance and capital improvement projects at airports (Caltrans, 2006b). To foster compatible land use around airports, the Division administers noise regulation and land use planning laws and encourages environmental mitigation measures to lessen noise, air pollution, and other impacts caused by aviation. The Division's System Planning group provides for the integration of aviation into transportation system planning on a regional, statewide, and national basis.

The State Aeronautics Act[2] requires local jurisdictions that operate public airports to establish Airport Land Use Commissions (ALUCs) or an equivalent designated body to protect the public health, safety, and welfare. The ALUC or equivalent is responsible for promoting the orderly expansion of airports and adoption of land use measures by local public agencies to minimize exposure to excessive noise and safety hazards near airports. Each ALUC or equivalent designated body is responsible for preparing and maintaining an Airport Land Use Compatibility Plan (ALUCP) that identifies compatible land uses near each public use airport within its jurisdiction. The ALUCP must provide policies for reviewing certain types of development that occur near airports. State law requires consistency between airport land use compatibility plans and any associated general plans. Caltrans is responsible for the review and approval of all ALUCPs within the State of California.

1 Any area of an airport used or intended to be used for landing, takeoff, or surface maneuvering of aircraft. An air operations area includes such paved areas or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiways, or apron.

2 The State ALUC law is contained in Public Utilities Code Article 3.5, State Aeronautics Act, Section 21661.5, Section 21670 *et seq*., and Government Code Section 65302.3 *et seq*.

California Farmland Mapping and Monitoring Program

The California Department of Conservation, under the Division of Land Resource Protection, has established the Farmland Mapping and Monitoring Program (FMMP). The FMMP monitors the conversion of the state's farmland to and from agricultural use. The map series identifies eight classifications and uses a minimum mapping unit size of 10 acres. The FMMP also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The FMMP maintains an inventory of state agricultural land and updates its "Important Farmland Series Maps" every two years (California Department of Conservation, 2007). Important farmlands are divided into the following five categories based on their suitability for agriculture.

- **Prime Farmland.** Prime Farmland is land with the best combination of physical and chemical characteristics able to sustain long-term production of agricultural crops. This land has produced irrigated crops at some time within the four years prior to the mapping date.
- **Farmland of Statewide Importance.** Farmland of Statewide Importance is land that meets the criteria for Prime Farmland but with minor shortcomings such as greater slopes or lesser soil moisture capacity.
- **Unique Farmland.** Unique Farmland has even lesser quality soils and produces the state's leading agricultural crops. This land is usually irrigated but also includes non-irrigated orchards and vineyards.
- **Farmland of Local Importance.** Farmland of Local Importance is land that is important to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land.** Grazing Land is land on which the existing vegetation is suited to the grazing of livestock.

Williamson Act

The California Land Conservation Act of 1965, also known as the Williamson Act, is designed to preserve agricultural and open space lands by discouraging their premature and unnecessary conversion to urban uses. Williamson Act contracts, also known as agricultural preserves, create an arrangement whereby private landowners contract with counties and cities to voluntarily restrict their land to agricultural and compatible open-space uses. The vehicle for these agreements is a rolling term 10-year contract.[3] In return, restricted parcels are assessed for tax purposes at a rate consistent with their actual use, rather then potential market value. At the end of the 10-year contract, either the local government, or landowner, can initiate the nonrenewal process. A "notice of nonrenewal" starts a 9-year nonrenewal period. During the nonrenewal process, the annual tax assessment gradually increases. At the end of the 9-year nonrenewal period, the contract is terminated. Contracts renew automatically every year unless the nonrenewal process is initiated. Williamson Act contracts can be divided into the following categories: Prime Agricultural Land, Non-Prime Agricultural Land, Open Space Easement, Built up Land, and Agricultural Land in Non-Renewal.

[3] Information about the basic provisions of Williamson Act contracts can be found on the California Department of Conservation, Division of Land Resource Protection web site: http://www.consrv.ca.gov/DLRP/lca/basic_contract_provisions/index.htm, accessed June 22, 2007.

The Williamson Act states that a board or council by resolution shall adopt rules governing the administration of agricultural preserves. The rules of each agricultural preserve specify the uses allowed. Generally, any commercial agricultural use will be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted with a use permit.

Local

The local land use regulations that apply to this proposed project include the following planning documents which govern land use in the area.

City of Lancaster General Plan

The following is a selected list of General Plan goals, objectives, and polices that are applicable to the proposed project.

Goal 1: To ensure that Lancaster manages its land use and development in such a manner as to place the highest value of people and their quality of life.

Objective 1.3: Ensure a well designed, visually pleasing built environment.

Goal 2: To facilitate the development of the City of Lancaster into a balanced and complete community encompassing a diverse mix of land use types and business opportunities which combine to provide a quality living and working environment.

Objective 2.4: Plan for population and economic growth while striving to maintain or improve environmental quality consistent with availability of natural and energy resources, and the ability of public agencies and quasi-public agencies to provide required services and facilities.

Objective 2.5: Promote a distribution of population consistent with resource availability, service system capacity, accessibility, and environmental limitations.

Goal 3: To identify the level of natural resources needed to support existing and future development within the City and its sphere of influence, and ensure that these resources are managed and protected.

Objective 3.1: Protect, maintain, and expand groundwater supplies to meet the present and future urban and rural needs.

Policy 3.1.1: Ensure that development does not adversely affect the groundwater basin.

Policy 3.1.2: Promote efforts to exert greater City control over the existing water supply and to explore potential new sources.

Policy 3.1.3: Encourage the use of reclaimed water and tertiary wastewater for irrigation and other non-contact uses.

City of Palmdale General Plan

The following is a selected list of General Plan goals, objectives, and polices that are applicable to the proposed project.

Goal L1: Create a vision for long-term growth and development in the City of Palmdale which provides for orderly, functional patterns of land uses within urban areas, a unified and coherent urban form, and a high quality of life for its residents.

Goal L2: Adopt land use and development policies which encourage growth and diversification of the City's economic base.

Goal ER4: Protect the quality and quantity of local water resources.

Objective ER4.1: Ensure that ground water supplies are recharged and remain free of contamination.

Objective ER4.2: Minimize the impacts of urban development on groundwater supplies.

Policy ER4.2.4: Coordinate with local water agencies to monitor ground water levels, State water allocations and development approvals, to assure that development does not outpace long-term water availability. In the event applicable water agencies notify the City that ground water levels and State water allocations are insufficient to serve existing development or projected development, the City will determine whether it is appropriate to reevaluate this General Plan and take other appropriate actions, as permitted by law.

Objective ER4.3: Maintain and further the City's commitment to long-term water management within the Antelope Valley by promoting and encouraging planning for the conservation and managed use of water resources, including groundwater, imported water, and reclaimed water.

Policy ER4.3.1: Assess the feasibility of utilizing reclaimed water for landscape irrigation on a city-wide basis. Factors to be considered include the potential quantities of reclaimed water as determined by the Sanitation Districts, and costs associated with developing infrastructure and delivery systems to facilitate utilization. Within those areas in which it is determined to be feasible to utilize reclaimed water, consider establishment of an ordinance requiring installation of secondary water delivery systems to service landscaped areas.

Policy ER4.3.3: Continue to seek out long-range water management techniques as new technology is developed; promote implementation of systems which are feasible and appropriate to the Planning Area.

Policy ER4.3.4: Encourage residents and businesses to recycle water where feasible, and where water recycling does not result in health and safety concerns, within their homes and/or businesses.

Policy ER4.3.5: Participate in regional efforts to retain imported water allocations and seek out other sources as they become available.

Los Angeles County General Plan

The County of Los Angeles has developed the Antelope Valley Areawide (AVA) General Plan, in conjunction with the other chapters and elements of the County of Los Angeles General Plan. The AVA General Plan is a coordinated statement of public policy by the County for use in making public decisions relating to the future of the Antelope Valley. The AVA General Plan is designed to provide decision makers with a policy framework to guide them in efforts to improve the quality of life in the valley. The following is a list of selected AVA General Plan polices that apply to the proposed project.

2. Closely monitor growth in the Antelope Valley to maintain a balance between development and the capacity of the environmental, economic, and man-made or social services.

5. Assign priority for future land use growth in the Antelope Valley considering for the following criteria:

a. Hazards or constraints of natural environmental systems on land use;

b. Sensitivities of natural environmental systems;

c. Constraints of man-made systems.

23. Protect underground water supplies by enforcing controls on sources of pollutants.

29. Encourage development of services to meet the needs of Antelope Valley residents including health, education, welfare, police and fire, governmental operations, recreation, cultural, and utility services. Such services should be expanded at a rate commensurate with population growth. Phasing of their implementation should be timed to prevent gaps in services as the area grows. Where feasible, service facilities will be established in central urban area with branches located in outlying communities. When the population base in a community is too small to support a facility, a common facility should be shared by a number of small communities and established at a central point.

39. Ensure conservation of natural resources through the establishment of public programs to encourage continued agricultural production and to control energy consumption, mineral extraction, groundwater recharge, construction, and other public and private activities which affect the future availability and quality of such resources.

101. Develop and use groundwater sources to their safe yield limits.

102. Use imported water, when available, to relieve overdrafted groundwater basins and maintain their safe yield for domestic uses outside of urban areas.

103. Encourage utilization of flood waters and reclaimed wastewater for groundwater recharge.

Los Angeles County Airport Land Use Plan

The State Aeronautics Act of the California Public Utilities Code establishes statewide requirements for airport land use compatibility planning and requires nearly every county to create an Airport Land Use Commission (ALUC) or alternative designated body to implement these requirements. Los Angeles County established a county-wide ALUC, which is charged with the responsibility of preparing and implementing an airport land use plan (ALUP).

An ALUP provides for the orderly growth of an airport and the area surrounding the airport, excluding existing land uses. Its primary function is to safeguard the general welfare of people

and property within the airport vicinity and the public in general. The *Los Angeles County Airport Land Use Plan* (ALUP) includes several components:

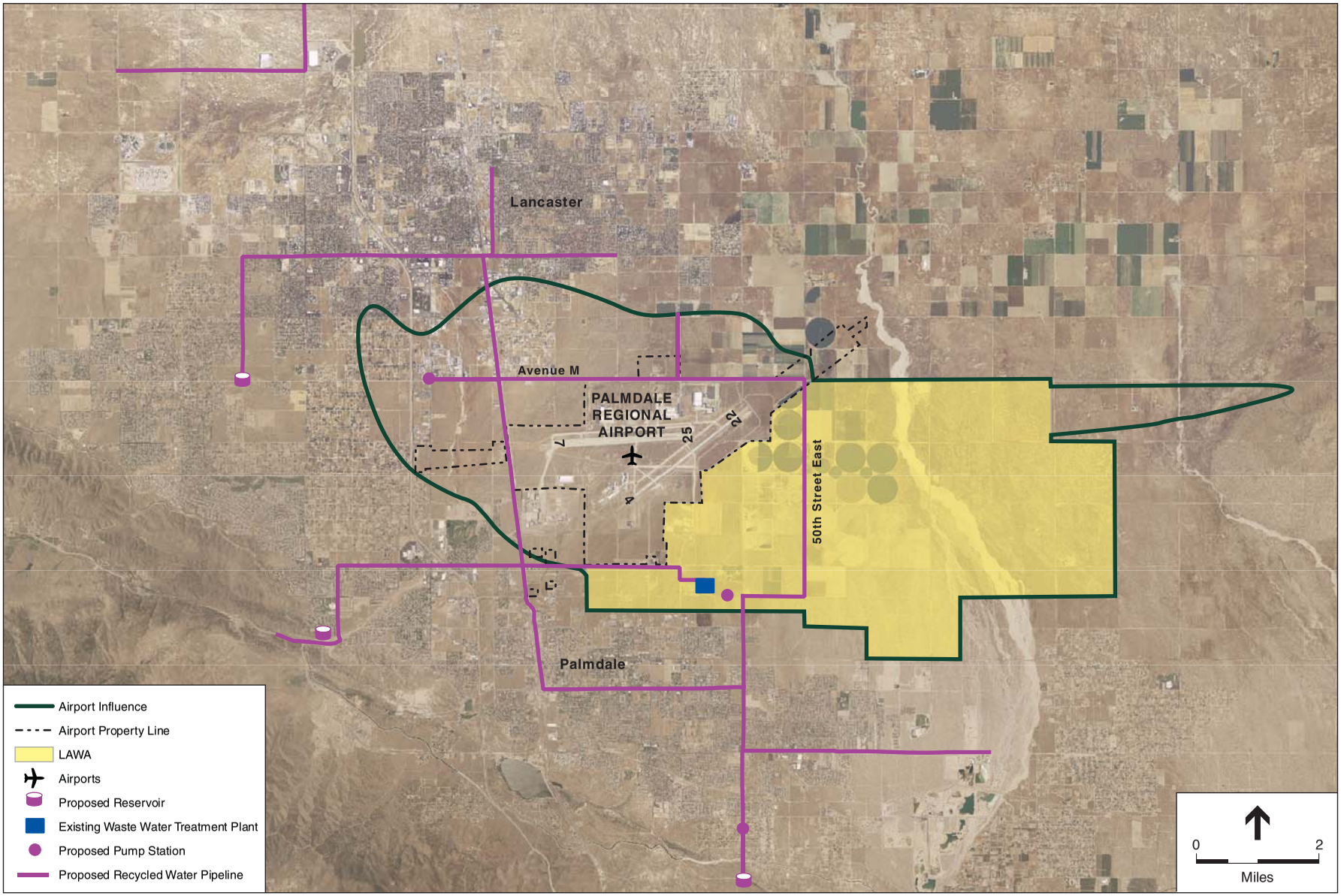
- *Airport Land Use Commission Review Procedures* (Review Procedures), adopted on December 1, 2004. The Review Procedures are County-wide procedures that apply to all 11 public-use airports in the County, including Palmdale Regional Airport.
- Airport Land Use Plan, adopted December 19, 1991. Although some of the county-wide policies addressed in this plan have been superseded by the 2004 Review Procedures, the 1991 plan includes background on compatibility issues and each airport for which the ALUC is responsible for policy development.
- Other airport-specific plans. The County is in the process of developing an individual Airport Land Use Compatibility Plan for each airport. The County has developed two airport-specific Land Use Compatibility Plans to-date, including the *General William J. Fox Airfield Land Use Compatibility Plan.*

Taken together, these document components define the procedures and criteria through which the County can address, evaluate, and review airport compatibility issues in the vicinity of any of its public use airports.

The goal of an airport land use compatibility plan is twofold: To protect the public from the adverse affects of aviation, and to protect air travelers from land uses that could present unsafe conditions. The ALUP provides specific policies and procedures for proposed changes in land use within the AIA to ensure compliance with four types of compatibility concerns:

- Exposure to aircraft noise;
- Land use safety with respect to both people and property on the ground and air travelers;
- Airspace protection; and
- General concerns related to aircraft overflights.

The ALUC has identified the Airport Influence Area (AIA) for each public use airport in Los Angeles County. The AIA is the geographic area that could be affected by present or forecasted aircraft operations and the area in which new land uses or changes in land uses could cause adverse effects to flight operations and safety. Proposals for development within an AIA, as defined by the adopted ALUP, are reviewed for their consistency with ALUP compatibility criteria. **Figures 3.8-5** and **3.8-6** identify the AIA associated with PMD and Fox Airfield. As shown in Figure 3.8-5, the AIA for PMD includes a large portion of the City of Palmdale, a portion of the City of Lancaster, and portions of unincorporated Los Angeles County. As shown on Figure 3.8-6, the AIA for Fox Airfield includes a portion of the City of Lancaster and unincorporated Los Angeles County.



SOURCE: Los Angeles County ALUC, 2003; GlobeXplorer, 2007; Kennedy/Jenks Consultants, 2008; and ESA, 2008

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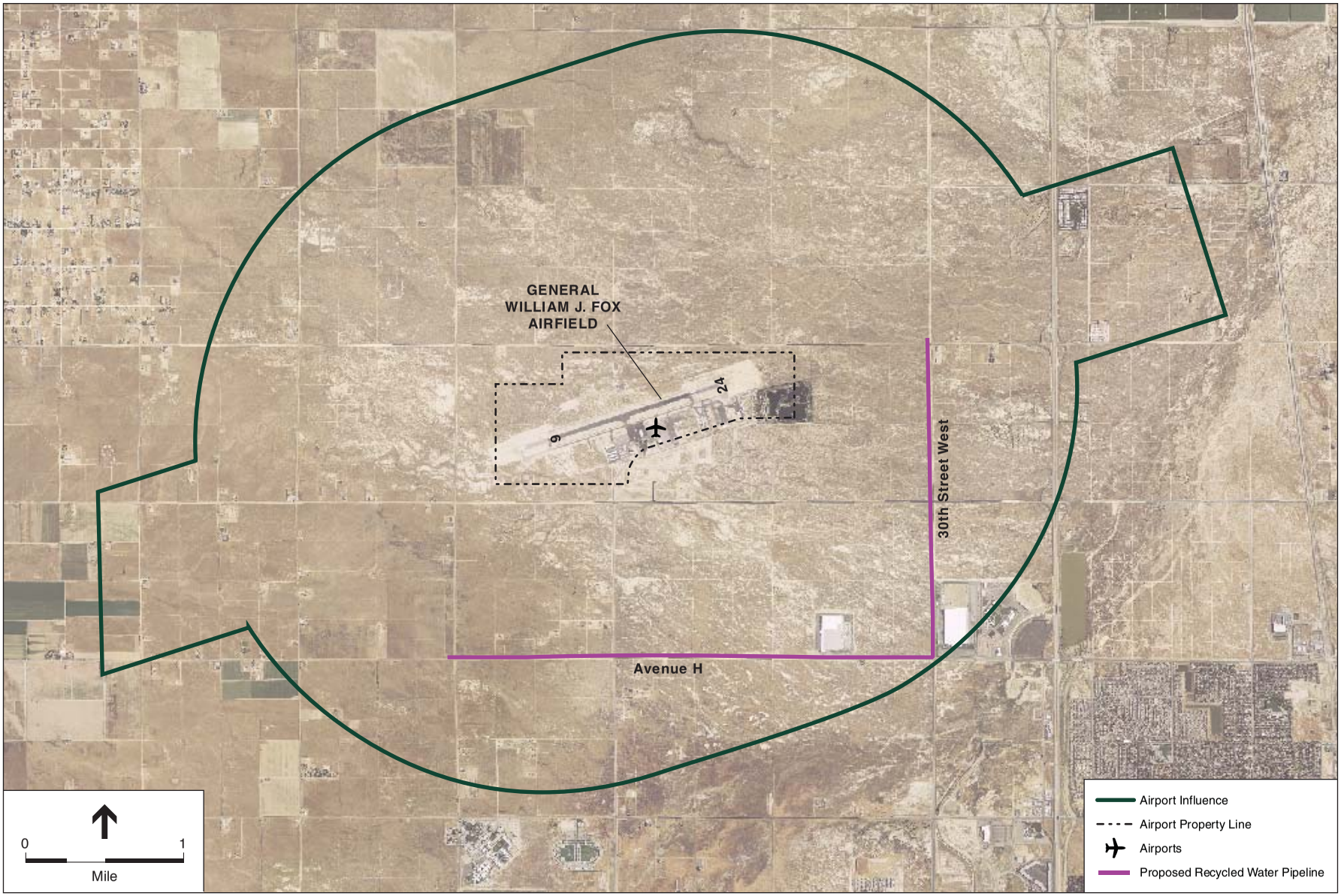
Figure 3.8-5

PMD Airport Influence Area



SOURCE: Los Angeles County ALUC, 2004; GlobeXplorer, 2007; and ESA, 2008

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Figure 3.8-6

General William J. Fox Airfield Airport Influence Area

Airport Land Use Commission Review Procedures (December 2004)

The Review Procedures provide the following county-wide policies and procedures that would be applied to any development near the County's public-use airports:

General Policies

G-1 Require new uses to adhere to the Land Use Compatibility Chart.

G-4 Prohibit any uses which will negatively affect safe air navigation.

Policies related to safety

S-1 Establish "runway protection zones" contiguous to the ends of each runway. These runway protection zones shall be identical to the FAA's runway protection zone (formerly known as "clear zones").

S-3 Prohibit, within a runway protection zone, any use which would direct a steady light or flashing light of red, white, green or amber colors associated with airport operations towards an aircraft engaged in an initial straight climb following take-off or toward an aircraft engaged in final approach toward landing at an airport.

S-4 Prohibit, within a designated runway protection zone, the erection or growth of objects which rise above the approach surface unless supported by evidence that it does not create a safety hazard and is approved by the FAA.

S-5 Prohibit uses which would attract large concentrations of birds, emit smoke, or which may otherwise affect safe air navigation.

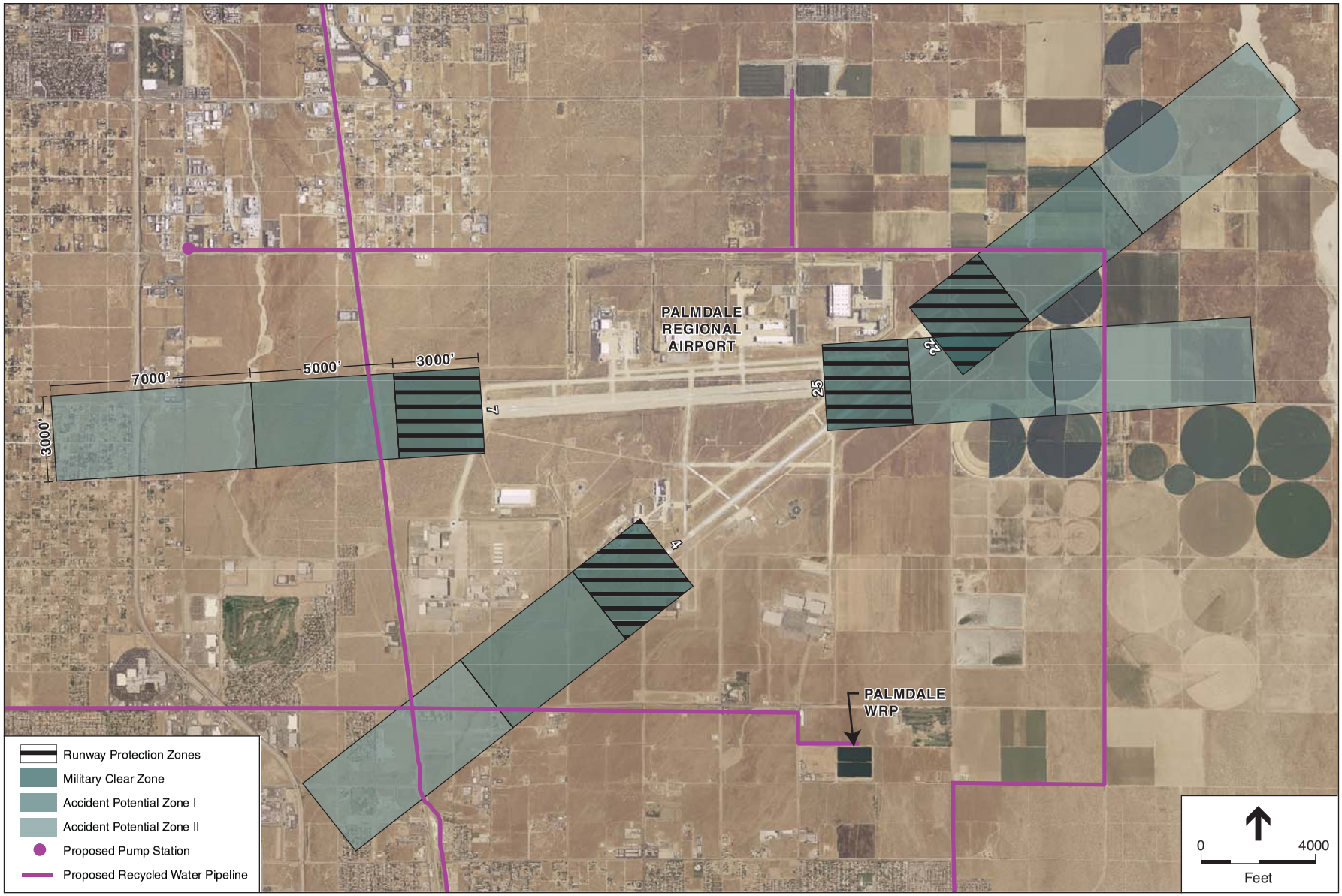
S-7 Comply with the height restriction standards and procedures set forth in FAR Part 77.

General William J. Fox Airfield Land Use Compatibility Plan

The policies set forth in the *General William J. Fox Airfield Land Use Compatibility Plan* establish the criteria applied by the County and affected local jurisdictions for evaluating the compatibility of proposed development in the airport vicinity. The plan is to be used in combination with the ALUC's county-wide Review Procedures. The airport-specific plan addresses issues associated with noise, safety, airspace protection, and overflight areas and the potential effects of proposed development on airport operations. As shown on Figure 3.8-6, portions of the Phase I pipeline components adjacent to 30th Street West and Avenue H occur within the AIA for Fox Airfield.

Palmdale Airport Land Use Compatibility Plan

At this time, the County has not prepared a specific Land Use Compatibility Plan for PMD, but an AIA has been established for PMD, and proposed development would be subject to the county-wide Review Procedures. As shown on **Figure 3.8-7**, proposed project components would be located outside of all four Runway Protection Zones associated with civilian aircraft operations. Many of the proposed project components will occur within the AIA for PMD, and the county-wide policies set forth in the Review Procedures will apply to all proposed facilities within the AIA. However, airport-specific policies have not been developed at this time.



SOURCE: USAF, 2002; and ESA, 2008

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Figure 3.8-7

PMD Clear Zones and Accident Potential Zones

Air Installation Compatible Use Zone Study

The *Air Installation Compatible Use Zone (AICUZ) Study* provides extensive analysis on the effects of aircraft noise, aircraft accident potential, and land use development upon present and future land uses in the vicinity of PMD. The AICUZ identifies military clear zones (CZs) and accident potential zones (APZs) for runways 7/25 and 4/22 (see Figure 3.8-7). The CZ, which is located at each runway end, represents the area at the highest risk of experiencing aircraft accidents. (The CZs presented in the AICUZ Study coincide with the RPZs identified by the ALUCP for PMD.) APZs I and II, which extend beyond the CZ, represent diminishing levels of risk for aircraft accidents, yet 60 percent of Air Force accidents occur within these three zones.

Table 3.8-2 depicts the recommended land uses for both the CZs and the APZs.

TABLE 3.8-2
RECOMMENDED LAND USE FOR CLEAR ZONES AND ACCIDENT POTENTIAL ZONES

Generalized Land Uses	Clear Zones	APZ I	APZ II
Residential	No	No	Yes[a]
Commercial	No	No[b]	Yes[b]
Industrial	No	Yes	Yes[b]
Public Quasi-Public	No	No	Yes[b]
Recreational	No	Yes[b]	Yes[b]
Open Agriculture Low Density	No	Yes[b]	Yes[b]

[a] Suggested maximum density 1 dwelling unit per acre.
[b] Only limited low-density, low-density uses recommended.

SOURCE: *Air Installation Compatible Use Zone Study*, 2002.

Kern County General Plan

The county has adopted a coordinated statement of public policy, in the form of a Specific Plan for the unincorporated area near Rosamond. The Rosamond Specific Plan has land use goals and policies that parallel the County General Plan. The following is a list of selected Rosamond Specific Plan goals that apply to the project:

- To ensure a safe, reliable supply of water for both new and existing residential development.
- To prevent, as far as is possible, any further drawdown of the water table within the plan area.

Kern County Airport Land Use Compatibility Plan

The purpose of the *Kern County Airport Land Use Compatibility Plan* (ALUCP) is to establish procedures and criteria by which the County of Kern and the affected incorporated cities can

address compatibility issues when making decisions regarding airports and the land uses around them.

The ALUC has identified the AIA for each of the sixteen airports located within Kern County, one of which, Rosamond Airport, is located in the project area (see **Figure 3.8-8**). The AIA for Rosamond Airport is located entirely within unincorporated portions of Kern County. As shown on Figure 3.8-8, portions of the Phase 5 pipeline occur within the AIA for Rosamond Airport.

Airport Land Use Commission Compatibility Criteria

The ALUCP's compatibility criteria include the following county-wide policies and procedures that would be applied to any development near the County's public-use airports:

Safety Policies

3.2.1 Objective: The intent of land use safety compatibility criteria is to minimize the risks associated with an off-airport aircraft accident or emergency landing.

a. Risks both to people and property in the vicinity of an airport and to people on board the aircraft shall be considered.

b. More stringent land use controls shall be applied to the areas with greater potential risk.

Airspace Protection Policies

3.3.1 Height Limits: The criteria for limiting the height of structures, trees, and other objects in the vicinity of an airport shall be set in accordance with Part 77, Subpart C, of the Federal Aviation Regulations and with the United States Standard for Terminal Instrument Procedures (TERPS).

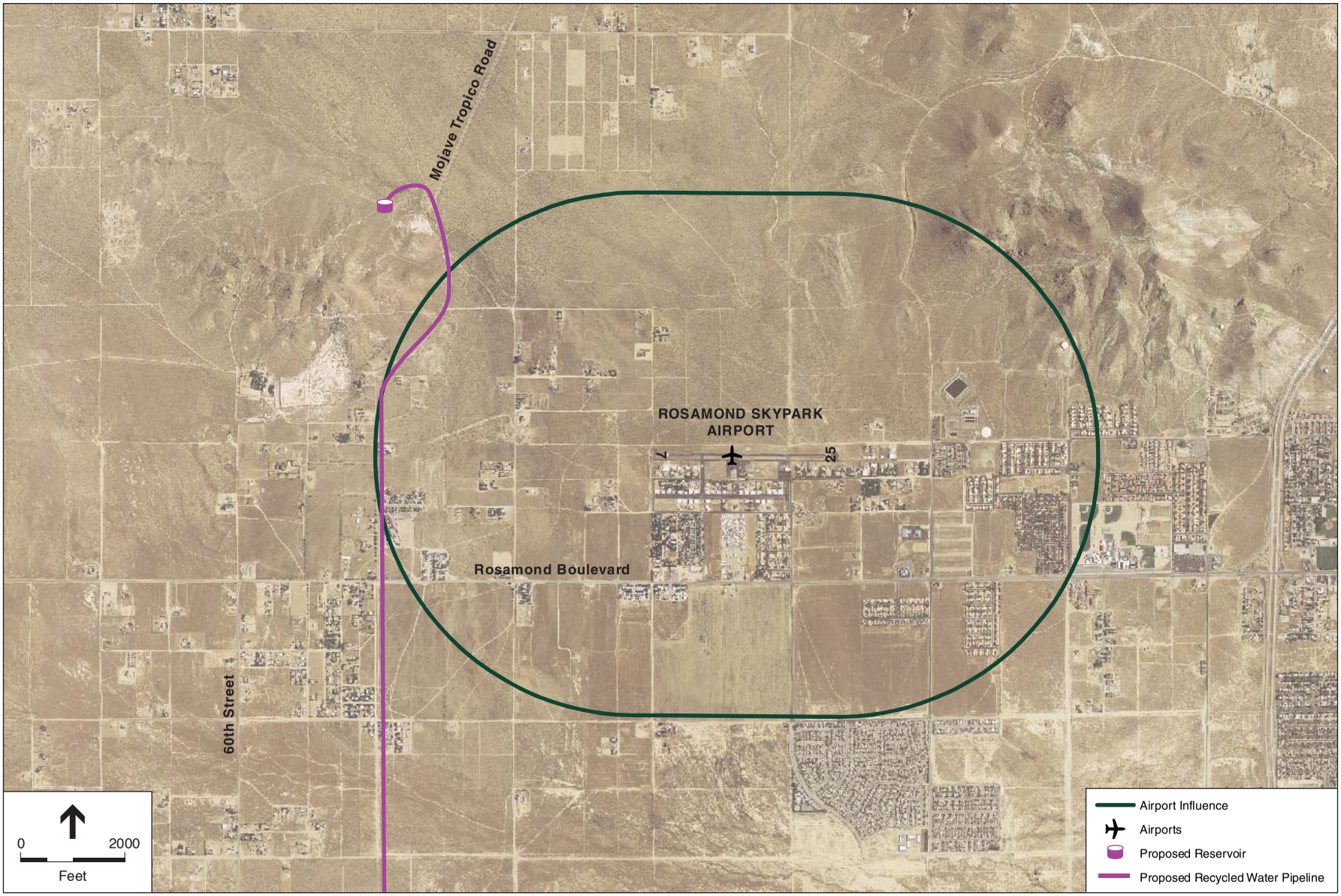
3.8.3 Impacts and Mitigation Measures

This section discusses the proposed projects' potential impacts to land use and agricultural resources. A project-level impact analysis has been prepared for the pipeline installation and operation, and for M&I end uses for recycled water. This section also includes a program-level impact analysis for installation and operation of the proposed pump stations and storage reservoirs and the following recycled water end uses: agricultural reuse, power plant cooling water, and groundwater recharge.

Significance Criteria

For the purposes of this PEIR and consistency with Appendix G of the *CEQA Guidelines*, applicable local plans, and agency and professional standards, the project would have a significant impact on agriculture and or land uses if it would:

- Convert 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 Resource Agency to non-agricultural uses.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.



SOURCE: Kern County, 2006; and ESA, 2008

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Figure 3.8-8

Rosamond Skypark Airport Airport Influence Area

- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural uses.
- Physically divide an established community.
- Conflict 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.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.
- Conflict with existing or future airport operations or conflict with an approved plan, such as an airport Master Plan, Airport Layout Plan, or ALUCP.

The significance determination for the above listed impact thresholds is based on both short-term and long-term impacts of project implementation.

Impacts Discussion

No part of the proposed project is located on land under a Williamson Act contract. Additionally, none of the project components would directly affect land that is zoned for agricultural uses by the Cities of Lancaster and Palmdale or the Counties of Los Angeles and Kern. Therefore, there would be no direct impact on agricultural land use designations. The proposed recycled water project may actually increase agricultural production in the area by providing recycled water suitable for agricultural uses.

The proposed pipeline installation and selected recycled water end uses would not conflict with any applicable land use plan goals, objectives, or policies. Implementation of the proposed project would be consistent with goals and polices of the general plans and land use plans described in Section 3.8.2, with regard to support for recycled water use, protection and enhancement of groundwater supplies, promotion of water conservation, maintenance of long-term water supplies, and protection of agricultural land uses. The fundamental goals and objectives of the proposed project are to implement water reuse and water conservation measures that directly support these goals and policies. There would be no policy conflicts.

Landscape irrigation would be made available to customers with a variety of land uses throughout the project area. The water would benefit golf courses, school yards, city properties, and other landscaped properties. This would be considered a beneficial outcome to cities and recreational land uses throughout the project area.

Project-level Impacts

Impact 3.8-1: The proposed pipeline could traverse through land controlled by other agencies. Less than Significant.

The proposed pipeline would traverse private property and property owned by other agencies including local cities, the County, and the Department of Water Resources. Segments of the pipeline would be constructed either by local jurisdictions or by a Joint Powers Authority if one is

established. Construction on private property or public land would require that the implementing agency obtain permanent utility easements. In addition, construction within city streets would require encroachment permits from the cities and the counties. With the acquisition of easements and encroachment permits, impacts to land uses would be less than significant.

Mitigation Measures

None required.

Impact 3.8-2: The proposed pipeline would be constructed within the AIA for Palmdale Regional Airport, General William J. Fox Airfield, and Rosamond Skypark Airport. Less than Significant with Mitigation.

As shown in Figures 3.8-5 through 3.8-8, several project components would be constructed within the AIA for these public use airports. As shown in Figure 3.8-7, several components are also located very near to Clear Zones associated with PMD. The potential short-term impacts associated with the construction of the proposed pipeline would be potentially significant due to their close proximity to these airports. The presence of construction equipment, particularly cranes and lights, could pose hazards to aircraft operations.

To prevent potential intrusions to navigable airspace, the implementing agency would notify the airport of proposed construction activities in advance and work with the airport to complete project review through the FAA's 7460 airspace review process, which would ensure that construction equipment, such as cranes and flashing lights, would not pose hazards to aviation. In addition to FAA airspace review, ongoing coordination with the airport would be required to ensure that proposed construction activities do not disrupt airport operations and to ensure that appropriate notice is provided to aviators using the airport. Portions of the Phase 2 and 3 pipeline construction would occur on federally obligated property associated with PMD and LAWA (see Figure 3.8-5). Although it is anticipated that construction will occur within the rights-of-way for jurisdictions owning the roads intersecting these properties, the implementing agencies must coordinate construction schedules with airport staff to minimize effects to airport operations.

Construction activities can pose threats to aviation through the inadvertent creation of habitat, open water, or food sources for potentially hazardous wildlife. For example, the use of temporary or permanent sediment traps, the use of soil-stabilization mixtures that include grains or other food sources, or the use of landscaping materials that provide opportunities for nesting or loafing can attract birds and other wildlife that pose hazards to aircraft.

Implementation of the following mitigation measures would minimize these potential effects associated with construction of the proposed pipeline.

Mitigation Measures

Mitigation Measure 3.8-1a: For project components occurring within an AIA, the implementing agencies shall submit their proposed project plans to the Los Angeles County ALUC for review and comment prior to final design.

Mitigation Measure 3.8-1b: Prior to conducting construction activities within an AIA, the implementing agencies shall prepare an airport construction safety plan that would identify best management practices. The plan would include, at a minimum, construction timeframes and hours, lighting and flagging requirements, air traffic control communication requirements, access and egress restrictions, equipment staging area requirements, and personal safety equipment requirements for construction workers, and appropriate notification to aviators. The plan would be reviewed and approved by airport staff and implemented by both the airport and project construction staff and FAA.

Mitigation Measure 3.8-1c: Prior to final design of project components within an AIA, the implementing agencies shall identify the ground elevation associated with each project component and submit their project plans to airport staff for review and comment. Working with airport staff, the implementing agencies shall submit their design plans for airspace analysis (FAA Part 7460 review) to determine whether any of the proposed project components or proposed construction equipment would protrude into protected airspace. If such objects are identified, the implementing agencies, airport staff, and FAA will identify appropriate steps to adjust project plans or include appropriate markings to identify hazards to aviators pursuant to FAA Part 7460.

Mitigation Measure 3.8-1d: To prevent the creation of wildlife attractants, the implementing agency should coordinate with construction contractors to ensure that neither project design nor construction plans create temporary or permanent sources of open water, inappropriate seed mixtures, or inappropriate landscaping designs. Notes should be incorporated on construction plans to warn against the creation of potential wildlife hazards.

Significance after Mitigation: Less than significant.

Impact 3.8-3: The proposed pipeline would be constructed in the vicinity of three public use airports and potentially affect navigable airspace as defined by FAR Part 77. Less than Significant with Mitigation.

Three public use airports are located within the vicinity of the proposed project and governed by ALUC policies and procedures (see Figure 3.8-2). The proposed project would occur within the Airport Operations Area of PMD, Fox Airfield, and Rosamond Skypark.

Construction equipment, such as cranes or lights, and the dust or smoke created by construction activities can interfere with aircraft operations. To prevent potential intrusions to navigable airspace within the project vicinity, the implementing agency would notify the airport of proposed construction activities in advance and participate in the FAA's 7460 process to ensure that the proposed construction equipment would not pose hazards to aviation. In addition to FAA airspace

review, ongoing coordination with the airport would be required to ensure that proposed construction activities do not disrupt airport operations and to ensure that appropriate notice is issued to aviators. The implementing agencies would coordinate construction schedules with airport staff to minimize effects to airport operations.

Implementation of Mitigation Measure 3.8-1c will reduce the potential hazards of construction activities within the navigable airspace of an airport to less than significant levels.

Mitigation Measure

Implementation of **Mitigation Measure 3.8-1c**.

Significance after Mitigation: Less than significant.

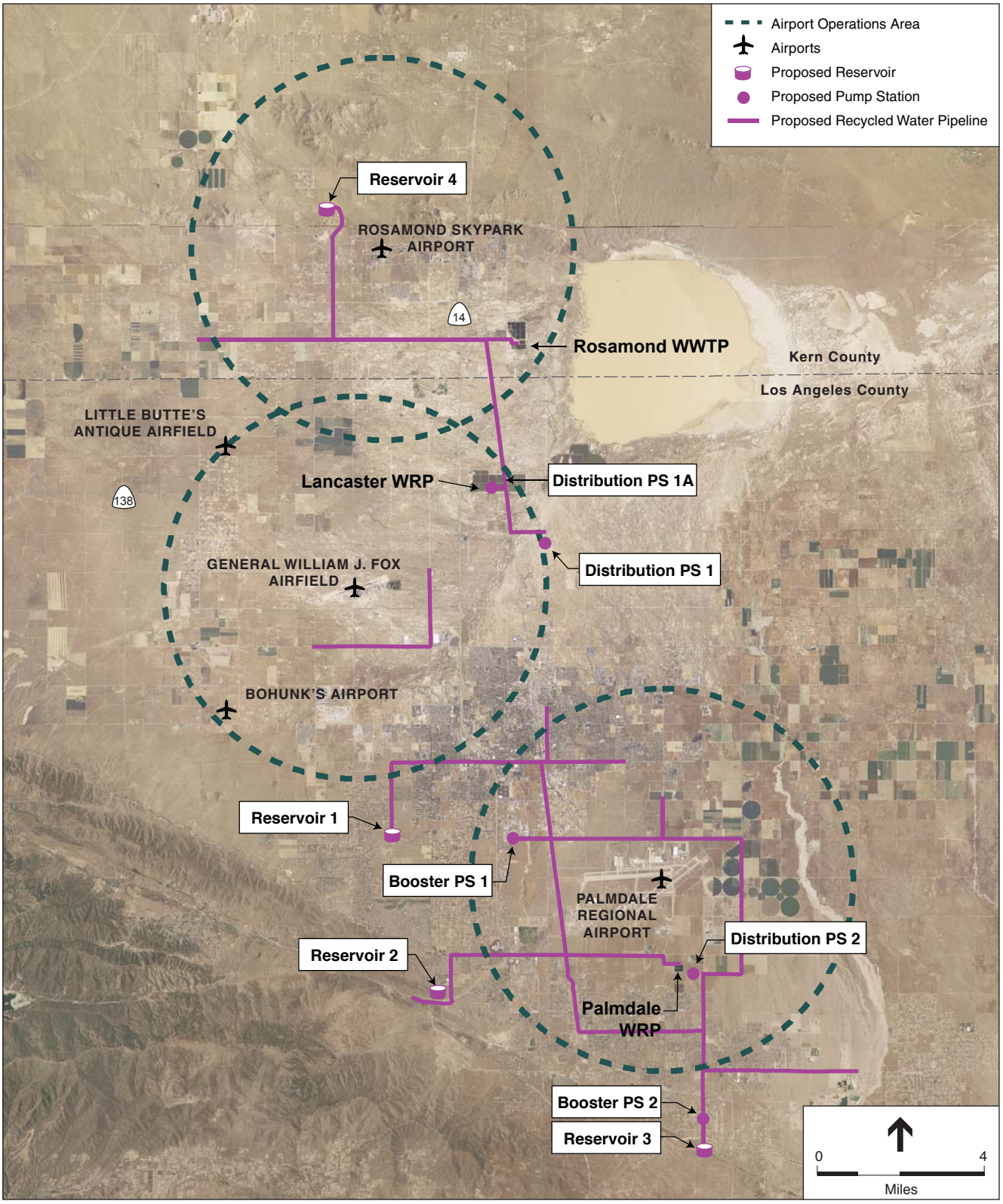
Program-level Impacts

Impact 3.8-4: Construction and operation of the proposed storage reservoirs and pump stations could result in short-term disturbance to some adjacent land uses or result in long-term effects to existing land uses. Less than Significant with Mitigation.

The exact locations of the proposed storage reservoirs and pump stations are unknown at this time. The short-term and long-term impact of the facilities would depend primarily on their location and the county or city land use designations at those locations. Construction of future facilities could result in short-term disturbance to adjacent land uses due to construction-related air emissions, access restrictions, and effects related to construction traffic and materials hauling. Due to the temporary nature of these impacts, however, they are anticipated to be less-than-significant with the implementation of Mitigation Measure 3.2-1a through 3.2-1f and Mitigation Measure 3.11-1a.

Long-term impacts due to operation of the proposed storage reservoirs and pump stations could occur if the facilities are located at sites that are designated as farmland, recreational land or open space, or other land use categories incompatible with public utility or water storage facilities, or within five miles of airport operations areas. The parcels considered for the proposed facilities are not designated as Prime Farmland, Unique Farmland, or Farmlands of Statewide Importance, or under a Williamson Act contract so there would be no impacts due to conversion of farmland to non-agricultural uses would not occur.

As currently shown, the proposed reservoirs are likely to be located within five miles of a public use airport (see **Figure 3.8-9**), namely PMD, Fox Airfield, and Rosamond Skypark. FAA warns against the creation of open water facilities, such as ponds or water treatment facilities, because such facilities can attract waterfowl and potentially hazardous wildlife (FAA AC 150/5200-33B). The proposed project would not introduce open water facilities into the Airport Operations Area of PMD, Fox Airfield or Rosamond Skypark as the proposed reservoirs would be enclosed tanks.



SOURCE: GlobeXplorer, 2008; and ESA, 2008

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Figure 3.8-9

Five Mile Radii – Public Use Airports

Nonetheless, coordination with FAA regarding facility location and design would be required during preliminary and detailed design efforts to prevent the introduction of potential wildlife hazards to aircraft.

Some facilities may be incompatible with General Plan land use designations and would require either a site plan review or a conditional use permit, as required by associated zoning ordinances. Distribution Pump Station 1 and Reservoir 1 would be constructed on parcels designated as Non-Urban Residential (NU) for which the zoning requires a conditional use permit from the City of Lancaster. Booster Pump Station 1 would be constructed on a parcel designated as Light

Industrial (LI) by the City of Lancaster. The zoning associated with this land use permits water pumping stations without site plan review. Booster Pump Station 2 and Reservoir 2 would be constructed on parcels designated as Low Density Residential (LDR) or Single Family Residential (SFR-3). The zoning associated with these land uses would require site plan review approval from the City of Palmdale. Reservoir 3 may require discretionary review by Los Angeles County to be compatible with the Rural Land (RL) designation. Reservoir 4 is located in an Accepted County Plan Area and is zoned as Unlimited Agriculture. Refer to Table 3.8-1 for city and county land use designations. Implementation of Mitigation Measure 3.8-2 would reduce impacts to a less than significant level.

Mitigation Measures

> **Mitigation Measure 3.8-2:** The implementing agencies shall obtain conditional use permits and complete site plan reviews from the appropriate jurisdiction, as necessary, prior to construction of project facilities. The implementing agencies shall also coordinate with FAA regarding the locations and design of proposed reservoirs and pump stations.
>
> Implementation of **Mitigation Measure 3.2-1a** through **3.2-1f** and **Mitigation Measure 3.11-1a**.

Significance after Mitigation: Less than significant.

Impact 3.8-5: Construction and operation of the proposed groundwater recharge basins could result in short-term disturbance to some adjacent land uses or result in long-term effects to existing land uses. Less than Significant with Mitigation.

The exact location of the proposed future groundwater recharge basins is unknown at this time. The short-term and long-term impact of the facilities would depend primarily on their location and the county or city land use designations at those locations. Construction of future facilities could result in short-term disturbance to adjacent land uses due to construction-related air emissions, access restrictions, and effects related to construction traffic and materials hauling. Due to the temporary nature of these impacts, however, they are anticipated to be less-than-significant with the implementation of Mitigation Measure 3.2-1a through 3.2-1f and Mitigation Measure 3.11-1a.

Long-term impacts due to operation of the proposed recharge basins could occur if the facilities are located at sites with designated land uses that are incompatible with public utility, water supply, or groundwater recharge facilities. Selection of future sites for recharge basins would likely take into consideration land use and zoning designations. As described above for the proposed storage reservoirs and pump stations, implementation of the proposed recharge facilities could require site plan review or a conditional use permit (CUP) from the governing jurisdiction. In addition, implementation of the proposed recharge basins could require a general plan amendment if the land use designation is not compatible with this type of facility.

Long-term impacts due to the operation of recharge basins could occur if these facilities are located within five miles of a public use airport (see Figure 3.8-9). Consultation with FAA during the site selection and design process for future recharge basins would be required to avoid the creation of potential wildlife strike hazards per FAA Advisory Circular 150/5200-33B.

Mitigation Measures

Mitigation Measure 3.8-3: The implementing agencies shall obtain a conditional use permit or a general plan amendment if necessary from the appropriate jurisdiction prior to construction of groundwater recharge facilities. The implementing agencies shall also coordinate with FAA regarding the locations and design of future recharge basins.

Implementation of Mitigation Measure 3.2-1a through 3.2-1f and Mitigation Measure 3.11-1a.

Significance after Mitigation: Less than significant.

3.9 Noise

3.9.1 Introduction

This section describes generally the existing noise environment in the project area, applicable noise regulations, and potential noise impacts from construction and operation of the project, the regulatory framework, an analysis of potential noise impacts that would result from implementation of the project, and mitigation measures where appropriate.

3.9.2 Environmental Setting

Noise Principles and Descriptors

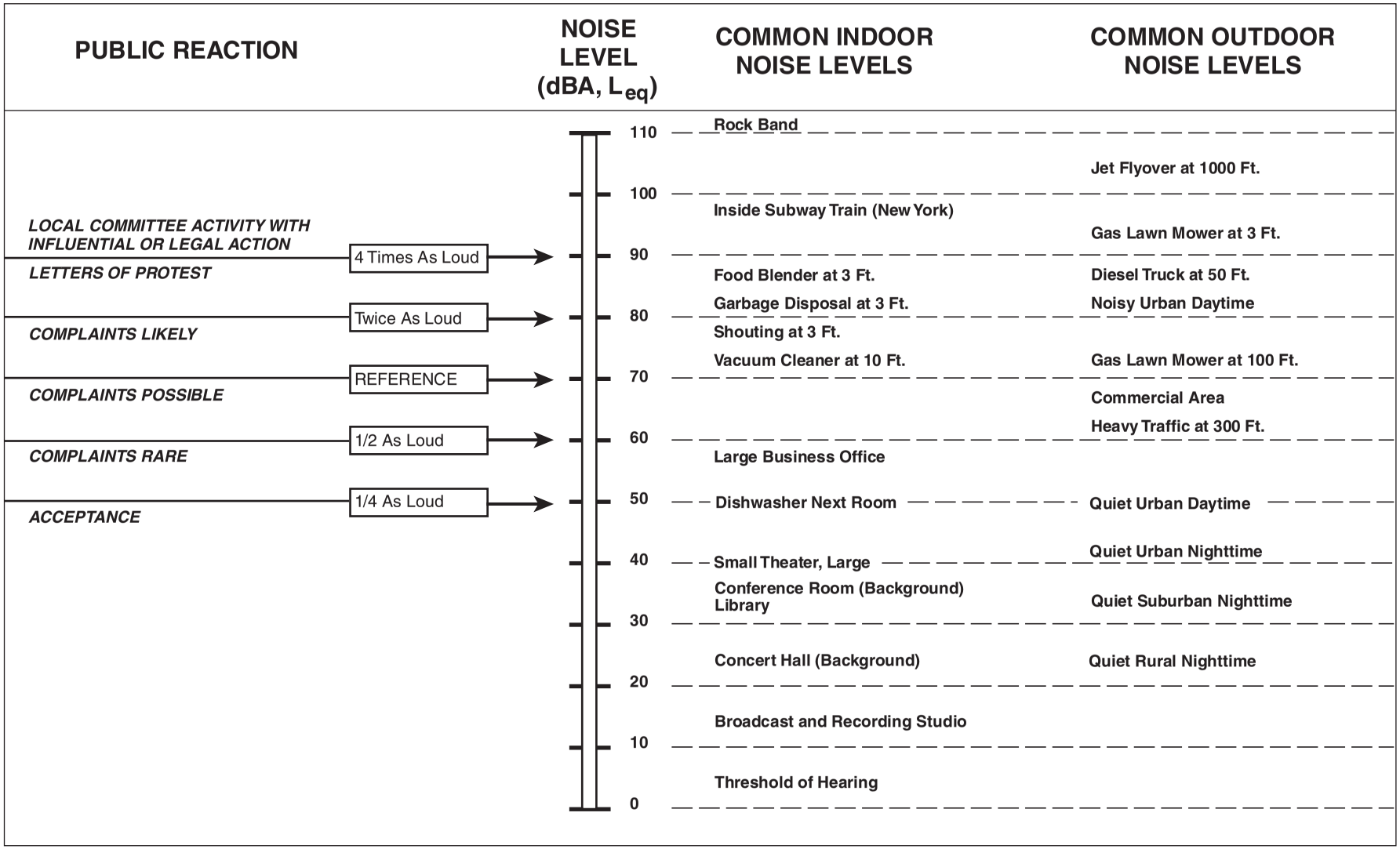
Noise is defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Figure 3.9-1**.

Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time. A noise level is a measure of noise at a given instant in time. The noise levels presented in Figure 3.9-1 are representative of measured noise at a given instant in time, however, they rarely persist consistently over a long period of time. Rather, community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise



SOURCE:ESA, 2008.

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Figure 3.9-1
Effects of Noise on People

level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment varies the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

L_{eq}: the equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level that would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{max}: the instantaneous maximum noise level for a specified period of time.

L50: the noise level that is equaled or exceeded 50 percent of the specified time period. The L50 represents the median sound level.

L90: the noise level that is equaled or exceeded 90 percent of the specified time period. The L90 is sometimes used to represent the background sound level.

DNL: 24-hour day and night A-weighted noise exposure level, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

CNEL: similar to the DNL the Community Noise Equivalent Level (CNEL) adds a 5-dBA "penalty" for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

As a general rule, in areas where the noise environment is dominated by traffic, the L_{eq} during the peak-hour is within approximately 2 dB of the DNL at that location (Caltrans, 1998).

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no complete satisfactory

way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur for a noise source:

- except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- a change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- a 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dBA for hard sites and 7.5 dBA for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites. Line sources (such at traffic noise from vehicles traveling along a roadway) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement (Caltrans, 1998).

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. As described in the Federal Transit Administration's *Transit Noise and Vibration Impact Assessment* (FTA, 2006), ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or

maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving and operating heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly and sick), and vibration sensitive equipment.

3.9.3 Regulatory Setting

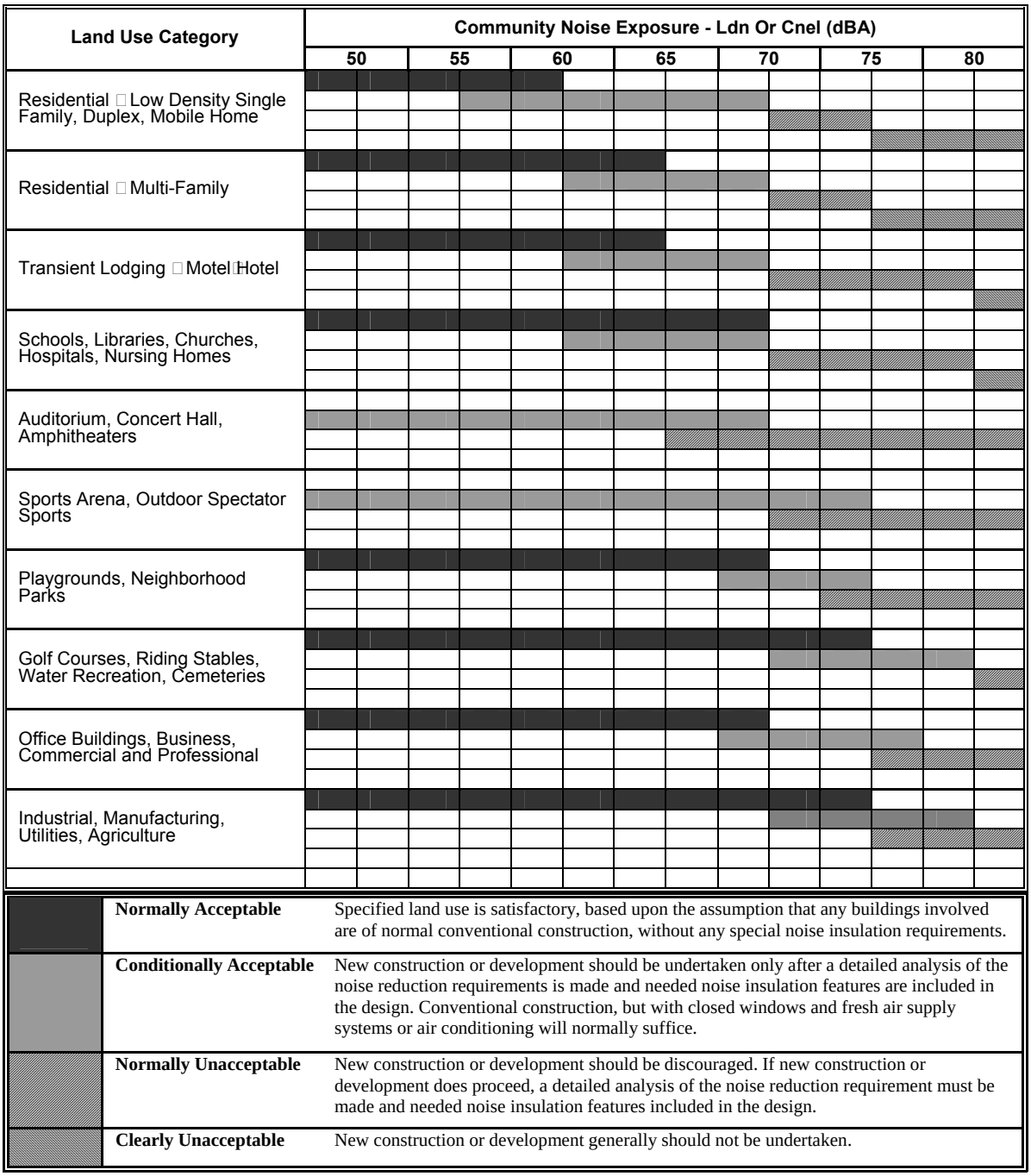
Federal

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

State

California Code of Regulations has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure, as shown in **Figure 3.9-2** below. The State of California also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dB. The State pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

The State has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of DNL 45 dBA in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than DNL 60 dBA. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.



North Los Angeles Kern County Recycled Water Project / 206359

SOURCE: State of California, Governor s Office of Planning and Research

Figure 3.9-2

Land Use Compatibility for Community Noise Environment

Local

Local noise issues are addressed through implementation of general plan policies, including noise and land use compatibility guidelines, and through enforcement of noise ordinance standards. Noise ordinances regulate such sources as mechanical equipment and amplified sounds as well as prescribe noise limits in residential and commercial zones. For this project, noise regulations and standards of the City of Palmdale, City of Lancaster, Kern County, and Los Angeles County were considered with respect to the proposed facilities and nearby sensitive receptors.

City of Palmdale Municipal Code

The following portions of the municipal code are relevant to the project:

> **9.18.010 Noise:** It shall be unlawful for any person to willfully make or continue, or cause or permit to be made or continued, any loud, unnecessary, or unusual noise which unreasonably disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area.
>
> **8.28 Building Construction Hours and Operation and Noise Control:** Restriction of hours of operation for construction equipment, power mowers, garbage collection, street sweeping, truck deliveries, leaf blowers, and other noise activities within the hours of 6:30 a.m. and 8:00 p.m., unless the work is made in response to an emergency or special purpose.

City of Palmdale General Plan Noise Element

The following portions of the General Plan are relevant to the project:

> **Policy N1.1.3:** When proposed stationary noise sources could exceed an exterior noise level of 65 dBA CNEL at present, or could impact future noise sensitive land uses, require preparation of an acoustical analysis and mitigation measures to reduce noise levels to no more than 65 dBA CNEL exterior and 45 dBA CNEL interior; if the noise level cannot be reduced to these thresholds through mitigation, the new noise source should not be permitted.
>
> **Policy N1.2.2:** Restrict construction hours during the evening, early morning ands Sundays.

City of Lancaster General Plan Noise Element

Relevant objectives and policies from the Noise Element are stated below;

Objective 4.3: Promote noise compatible land use relationships by implementing the noise standards identified in Table III-1 (as below in this report as **Table 3.9-1**) to be utilized for design purposes in new development, and establishing a program to attenuate existing noise problems.

> **Policy 4.3.1:** Ensure that noise-sensitive land uses and noise generators are located and designed in such a manner that City noise objectives will be achieved.

TABLE 3.9-1
NOISE COMPATIBLE LAND USE OBJECTIVES

Land Use	Maximum Exterior CNEL	Maximum Interior CNEL
Rural, Single Family, Multiple Family Residential	65 dBA	45 dBA
Schools		
Classrooms	65 dBA	45 dBA
Playgrounds	70 dBA	--
Libraries	--	50 dBA
Hospitals/Convalescent Facilities		
Living Areas	--	50 dBA
Sleeping Areas	--	40 dBA
Commercial and Industrial	70 dBA	--
Office Areas	--	50 dBA

SOURCE: City of Lancaster, 2001.

Policy 4.3.2: Wherever feasible, manage the generation of single event noise levels (SENL) from motor vehicles, trains, aircraft, commercial, industrial, construction, and other activities such that SENL levels are no greater than 15 dBA above the noise objectives included in the Plan for Public Health and Safety (Table 3.9-1 above).

Policy 4.3.3: Ensure that the provision of noise attenuation does not create significant negative visual impacts.

City of Lancaster Municipal Code

The following sections of the Lancaster Municipal Code are relevant to the proposed project:

8.24.030 Loud, unnecessary and unusual noises prohibited. Notwithstanding any other provision of this chapter, and in addition thereto, no person shall make, cause or suffer, or permit to be made upon any premises owned, occupied or controlled by him/her any unnecessary noises or sounds which are physically annoying to persons of ordinary sensitiveness which are so harsh or so prolonged or unnatural or unusual in their use, time, or place as to occasion physical discomfort to the inhabitants of any neighborhood. All animals shall be so maintained.
(Ord. 791 § 1, 2001: Ord. 693 § 1 (part), 1995: prior code § 4-1.3)

8.24.040 Loud, unnecessary and unusual noises prohibited. Construction and building. Except as otherwise provided in this chapter, a person at any time on Sunday or any day between the hours of eight p.m. and sunrise shall not perform any construction or repair work of any kind upon any building or structure or perform any earth excavating, filling or moving where any of the foregoing entails the use of any air compressor, jack hammer, power-driven drill, riveting machine, excavator, diesel-powered truck, tractor or other earth-moving equipment, hard hammers on steel or iron or any other machine tool, device or equipment which makes loud noises within five hundred (500) feet of an occupied

dwelling, apartment, hotel, mobile home or other place of residence.
(Ord. 693 § 1 (part), 1995: prior code § 4-1.4)

8.24.050 Exceptions.

A. The provisions of Section 8.24.040 do not apply to any person who performs the construction, repair, excavation or moving work pursuant to the express written permission of the city engineer to perform such work at times prohibited in Section 8.24.040. Upon receipt of an application stating the reasons for the request, the city engineer may grant such permission if he finds that:

- The work proposed to be done is effected with the public interest; or
- Hardship or injustice or unreasonable delay would result with the interruption thereof with the hours and days specified in Section 8.24.040; or
- The building or structure involved is devoted or intended to be devoted to a use immediately incident to public interest.

B. The provisions of Section 8.24.040 do not apply to the construction, repair or excavation during prohibited hours as may be necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from imminent exposure to danger or work by private or public utility companies when restoring utility service.
(Prior code § 4-1.5)

Kern County Code

The following portions of the County Code are relevant to the project:

8.36.020 Prohibited sounds. To create noise from construction, between the hours of nine (9:00) p.m. and six (6:00) a.m. on weekdays and nine (9:00) p.m. and eight (8:00) a.m. on weekends, which is audible to a person with average hearing faculties or capacity at a distance of one hundred fifty (150) feet from the construction site, if the construction site is within one thousand (1,000) feet of an occupied residential dwelling except as provided below:

- The resource management director or his designated representative may for good cause exempt some construction work for a limited time.

Los Angeles County Code

The portions of the Los Angeles County Code presented in **Table 3.9-2** are relevant to the project:

12.12.030 Construction noise prohibited when: Except as otherwise provided in this chapter, a person, on any Sunday, or at any other time between the hours of 8:00 p.m. and 6:30 a.m. the following day, shall not perform any construction or repair work of any kind upon any building or structure, or perform any earth excavating, filling or moving, where any of the foregoing entails the use of any air compressors; jackhammers; power-driven drill; riveting machine; excavator, diesel-powered truck, tractor or other earth moving equipment; hand hammers on steel or iron, or any other machine, tool, device or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in a dwelling, apartment, hotel, mobile home, or other place of residence. (Ord. 9818 § 1, 1969: Ord. 8594 § 6, 1964.)

TABLE 3.9-2
EXTERIOR NOISE STANDARDS

Affected Land Uses (Receiving Noise)	Daytime Leq (7 am- 10 pm)	Nighttime Leq (10 pm- 7 am)
Residential	50 dBA	45 dBA
Commercial Properties	60 dBA	55 dBA
Industrial Properties	70 dBA	70 dBA

Leq □ (Equivalent Energy Level). The sound level corresponding to a steady-state sound level containing the same total energy as a time varying signal over a given sample period, typically 1, 8 or 24 hours.

dB(A) □ (A-weighted Sound Pressure Level). The sound pressure level, in decibels, as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound, placing greater emphasis on those frequencies within the sensitivity range of the human ear.

Ldn □ (Day-Night Noise Level). The average equivalent A-weighted sound level during a 24-hour day obtained by adding 10 decibels to the hourly noise levels measured during the night (from 10 pm to 7 am). In this way Ldn takes into account the lower tolerance of people for noise during nighttime periods.

SOURCE: Los Angeles County Code (Ord. 11778 □2 (Art. 4 □403), 1978: Ord. 11773 □2 (Art. 4 □403), 1978.)

12.12.060 Exemptions--Work by public utilities—Conditions: The provisions of Section 12.12.030 do not apply to the construction, repair or excavation by a public utility which is subject to the jurisdiction of the Public Utilities Commission as may be necessary for the preservation of life or property, and where such necessity makes it necessary to construct, repair or excavate during the prohibited hours. (Ord. 8594 § 10, 1964.)

Los Angeles County General Plan Noise Element

The following portions of the General Plan are relevant to the project:

Goal N-1 An environment that is protected from unacceptable levels of noise.

Policy N 1.1: Employ effective noise abatement measures to achieve acceptable levels of noise as defined by the Los Angeles County Exterior Noise Standards.

Policy N 1.2: Ensure the compatibility of land uses throughout the County to minimize excessive noise levels.

Policy N 1.3: Ensure cumulative impacts related to noise do not exceed excessive levels by utilizing development monitoring techniques.

Sensitive Receptors

Some land uses are considered more sensitive to noise levels than others due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. For instance, residential areas, schools, and hospitals generally are more sensitive to noise than are commercial and industrial land uses. Many different types of land uses are located in the communities throughout the proposed project area, including noise-sensitive uses such as residences. The proposed pipeline runs near residences on 25th Street West,

Elizabeth Lake Road, 40th Street East, Avenue S, Avenue R, Gaskell Road and West Avenue K. Pump stations and reservoirs could be near sensitive receptors around Elizabeth Lake Road, 25th Street West, Avenue M, Charlone Dr, 40th Street East, Pearblossom hwy, and 42nd Street East.

3.9.4 Impacts and Mitigation Measures

Significance Criteria

According to Appendix G of the *CEQA Guidelines*, the proposed project would result in a significant noise impact if it would:

- Result 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;
- Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels;
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Result in 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 area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, expose people residing or working in the area to excessive noise levels; or
- For a project located in the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

While there are airports within the proposed project area and most likely within two miles of specific proposed projects, the proposed project itself does not include the development or introduction of noise sensitive land uses within the vicinity of an airport, and for this reason, would not expose persons to excessive aircraft or airport noise levels.

The proposed project would result in significant traffic noise impacts if it would increase noise levels in excess of the thresholds shown in **Table 3.9-3**.

TABLE 3.9-3
THRESHOLDS OF SIGNFICANCE FOR NOISE EXPOSURE

Ambient Noise Level Without Project (Ldn)	Significant Impact Assumed to Occur if the Project Increases Ambient Noise Levels By:
60 dB	5.0 dB or more
60-65 dB	3.0 dB or more
65 dB	1.5 dB or more

SOURCE: Federal Interagency Committee on Noise (FICON), 1992.

Methodology

Noise impacts are assessed based on a comparative analysis of the noise levels resulting from the project and the noise levels under existing conditions. Analysis of temporary construction noise effects is based on typical construction phases, published or previously measured decibel levels of construction equipment and attenuation of those noise levels due to distances, presence of any barriers between the construction activity and the sensitive receptors near the sources of construction noise, and time of day and expected duration of construction activity.

Impacts Discussion

Operation of the proposed project would result in the application of recycled water for various end uses, including municipal landscape irrigation, agricultural irrigation, cooling water for power plants, and groundwater recharge. The use of recycled water would have no impact on the ambient noise conditions in the project area and is not discussed further in the following impact analysis.

Project-level Impacts

Recycled Water Pipeline

Impact 3.9-1: Construction of the proposed recycled water pipeline would intermittently and temporarily generate noise levels above existing ambient levels in the vicinity of those project elements. Significant and Unavoidable.

The proposed project would result in temporary and intermittent noise increases due to construction of project components. Construction-related noise levels throughout the proposed project area would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment associated with individual project components. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. In addition, certain types of construction equipment generate percussive noises (such as pile driving), which can be particularly annoying. The effect of construction noise would depend upon how much noise would be generated by the equipment, the distance between construction activities and the nearest noise-sensitive uses, the existing noise levels at those uses, and the time of day in which construction activities would occur.

Table 3.9-4 shows typical noise levels during different construction stages for public works type projects. **Table 3.9-5** shows typical noise levels produced by various types of construction equipment.

Standard demolition activities, if required, employ equipment similar to that used for construction activities and would have similar, but likely shorter duration, noise impacts.

Construction of recycled water pipelines would be installed generally within the existing roadway right-of-way where feasible to minimize land acquisitions or easement requirements.

TABLE 3.9-4
TYPICAL CONSTRUCTION NOISE LEVELS

Construction Phase	Noise Level (dBA, Leq) [a]
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

NOTE: Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

SOURCE: U.S. Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, 1971. Except for blasting; rock blasting data provided by the National Park Service.

TABLE 3.9-5
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level (dBA, Leq at 50 feet)
Dump Truck	88
Portable Air Compressor	81
Concrete Mixer (Truck)	85
Scraper	88
Jack Hammer	88
Dozer	87
Paver	89
Generator	76
Backhoe	85
Rock Drill	98

SOURCE: Cunniff, Environmental Noise Pollution, 1977, and Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

Additionally, in order to avoid highly sensitive areas and potential road closures, tunneling, jack and bore, or other methods would be utilized to tunnel under the potentially affected area. These methods would require staging and receiving areas, located on either side of the sensitive feature.

The new pipeline segments would extend for 70 miles, and could affect noise levels at sensitive receptor locations along the pipeline alignments for the duration of pipeline installation. The anticipated rate of pipeline installation along segments where open trench construction methods are used would be about 50 to 100 feet per day, which is typical for this type of construction in public roadway rights-of-way. At any one location along the pipeline segments, the duration of noise impacts would be relatively brief, approximately three to five days, from the commencement of trenching to the completion of backfilling and paving, if necessary.

Table 3.9-5 shows typical noise levels generated by different types of construction equipment. The types of construction equipment that would be used for pipeline installation could generally include bulldozers, backhoes, forklifts, loaders, compactors, rollers, delivery trucks, scrapers,

pavers, excavators, trenchers, rock drills, and water trucks. As shown in Table 3.9-4 the noisiest non-percussive construction phase would generate approximately 89 dBA at 50 feet, assuming no noise mitigation features. For pipeline construction occurring within 50 feet of noise-sensitive land uses, the sensitive receptors would potentially be exposed to 102 dBA Leq during excavation. Construction-related noise could exceed the construction equipment noise standards and hourly limits in at least some of the jurisdictions where construction would occur. Daytime construction noise is exempt from maximum noise thresholds identified in local noise ordinances. Therefore, daytime construction noise from pipeline construction would not violate the noise ordinance. Implementation of Mitigation Measures 3.9-1a and 3.9-1b would ensure construction activities are restricted to daytime hours and would minimize the effects of noise due to construction of the proposed project. Nonetheless, even with implementation of mitigation measures, construction noise greater than 100 dBA during the day within 50 feet of residences would be considered a significant impact of the project.

Mitigation Measures

Mitigation Measure 3.9-1a: The implementing agencies shall implement procedures to reduce noise generation from project construction activities. Typical noise control procedures include the following:

- Require construction contractors to comply with the construction hours and days limitations established in local noise ordinances. Night-time construction would require approval from local jurisdictions.
- Require all construction contractors to locate fixed construction equipment (e.g., compressors and generators) as far as possible from noise-sensitive receptors.
- Equipment used in the construction of individual project components shall be muffled and maintained in good operating condition. Internal combustion engine-driven equipment shall be fitted with intake and exhaust mufflers that are in good condition.
- If pile driving is required for facility construction, the contract specifications for those projects shall incorporate the following requirements:
  - Wherever possible, sonic or vibratory pile drivers will be used lieu of impact pile drivers.
  - Wherever feasible, pile holes will be pre-drilled to reduce potential noise and vibration impacts.
- Additional noise attenuating measures include changing the location of stationary construction equipment and/or staging areas; notifying adjacent residences and nearby sensitive receptors in advance of construction work; shutting off idling equipment; rescheduling construction activities; requiring on-going construction noise monitoring to assure adherence to City/County construction equipment standards; and/or installing temporary barriers around stationary construction noise sources.

Mitigation Measure 3.9-1b: To further address the nuisance impact of project construction, construction contractors shall implement the following:

- Signs will be posted at the construction site that include permitted construction days and hours, a day and evening contact number for the job site, and a contact number for the applicable jurisdiction agency in the event of problems.
- An onsite complaint and enforcement manager shall track and respond to noise complaints.

Significance after Mitigation: Significant and unavoidable.

Impact 3.9-2: Construction of the proposed recycled water pipeline would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels. Significant and Unavoidable.

As shown in **Table 3.9-6** below, use of heavy equipment during construction generates vibration levels of up to 0.089 PPV or 87 RMS (caisson drilling) at a distance of 25 feet. Construction of the proposed project would require horizontal drilling, and jack and bore drilling depending on the local geology and locations. The proposed pipeline could get as close as 15 feet from sensitive receptors and if drilling is needed at those areas, sensitive receptors would potentially be exposed to 0.19 PPV and 94 RMS. Vibration levels at these receptors would essentially be at the potential building damage threshold of 0.2 PPV and would exceed the annoyance threshold of 80 RMS. For such high vibration construction activities, Caltrans advisory documents recommend extreme care within 25 feet of any building and within 50-100 feet of a historical building or building in poor condition. Based on this information, boring or drilling within 15 feet of residences would be a potentially significant impact. Implementation of Mitigation Measure 3.9-2 would minimize construction vibration impacts by compensating for the cost of any damage that occurs to any buildings within 25 feet, and any historical buildings within 50-100 feet, of the construction site. Nonetheless, even with implementation of this mitigation measure, construction vibration levels could exceed the annoyance threshold at sensitive receptors along the pipeline route. This impact would be considered a significant impact of the project.

Mitigation Measures

> **Mitigation Measure 3.9-2:** When drilling or boring within 25 feet of any building or 50-100 feet of a historical building, a “crack survey” shall be undertaken. The crack survey must be taken before the start of construction with photo, video, or visual inventory of all existing cracks inside and outside buildings with sufficient detail for comparison after construction to determine whether actual vibration damage occurred. The implementing agencies shall be responsible for the costs of any damage caused by construction vibration.

Significance after Mitigation: Significant and unavoidable.

TABLE 3.9-6
VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT

Equipment Activity	PPV at 25 Feet (inches/second)[a]	RMS at 25 Feet (VDB)[b]
Large Bulldozer	0.089	87
Loaded Trucks	0.076	86
Caisson Drilling	0.089	87
Jackhammer	0.035	79

a. Buildings can be exposed to ground-borne vibration levels of 0.2 PPV without experiencing structural damage.
b. The human annoyance response level is 80 RMS.

SOURCE: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

Program-level Impacts

Storage Reservoirs and Pump Stations

Impact 3.9-3: Construction of the proposed storage reservoirs and pump stations would intermittently and temporarily generate noise levels above existing ambient levels in the vicinity of those project elements. Significant and Unavoidable.

Construction of new above ground storage tanks would include site preparation and clearing, excavation, grading and reservoir construction. Typical equipment includes bulldozers, excavators, scrapers, cranes, rollers, dump trucks, concrete trucks, pre-stressing equipment and construction delivery tractor-trailers. Construction would take approximately nine months. As shown in Table 3.9-4 the noisiest non-percussive construction phase would generate approximately 89 dBA at 50 feet, assuming no noise mitigation features. The exact location of the proposed storage tanks on the identified parcels has not been determined. Therefore, the potential minimum and maximum distances from each reservoir site to neighboring sensitive receptors has been calculated, and their corresponding construction noise exposure on sensitive receptors are shown in **Table 3.9-7**.

TABLE 3.9-7
STORAGE RESERVOIR CONSTRUCTION NOISE

Location	Minimum Distance/Noise Exposure	Maximum Distance/Noise Exposure
Reservoir 1	30 ft □ 95 dBA	850 ft □ 64 dBA
Reservoir 2	30 ft □ 95 dBA	1,400 ft □ 60 dBA
Reservoir 3	100 ft □ 83 dBA	1,200 ft □ 61 dBA

NOTE: Reservoir 4 has no noise-sensitive land uses in the immediate vicinity.

Construction of single story pump stations would involve excavation and structural foundation installation, pump house construction, pump installation, and final site restoration. Construction is estimated to take approximately eight months. As shown in Table 3.9-4 the noisiest non-percussive construction phase would generate approximately 89 dBA at 50 feet, assuming no noise mitigation features. The exact location of the proposed pump stations on the identified parcels has not been determined. Therefore, the potential minimum and maximum distances from each reservoir site to neighboring sensitive receptors has been calculated, and their corresponding construction noise exposure on sensitive receptors are shown in **Table 3.9-8**.

TABLE 3.9-8
PUMP STATION CONSTRUCTION NOISE

LOCATION	MINIMUM DISTANCE TO NEAREST SENSITIVE RECEPTOR	MAXIMUM DISTANCE TO NEAREST SENSITIVE RECEPTOR
Distribution Pump Station 1	850 ft □64 dBA	3,200 ft □53 dBA
Booster Pump Station 2	15 ft □102 dBA	300 ft □73 dBA

NOTE: Distribution Pump Stations 1A and 2, and Booster Pump Station 1 have no noise-sensitive land uses in the immediate vicinity.

Daytime construction noise is exempt from maximum noise thresholds identified in local noise ordinances. Therefore, daytime construction noise from pump station construction would not violate noise ordinances. Implementation of Mitigation Measures 3.9-1a and 3.9-1b would ensure construction activities are restricted to daytime hours and would further minimize the effects of noise due to construction of the proposed project. Even with implementation of mitigation measures, construction noise greater than 100 dBA during the day within 50 feet of residences would be considered a significant impact of the project. Construction of Booster Pump Station 2 could generate construction noise of 102 dBA at sensitive receptors within 15 feet of the project site. Construction of Booster Pump Station 2 would result in significant and unavoidable noise impacts.

Mitigation Measures

Implementation of Mitigation Measures 3.9-1a and 3.9-1b.

Significance after Mitigation: Significant and unavoidable.

Impact 3.9-4: Operation of the proposed storage reservoirs and pump stations could result in substantial noise increases in the vicinity of project facilities. Less than Significant with Mitigation.

Operation of the proposed projects would result in long-term noise increases, as implementation of the project would result in the addition of mechanical and electrical equipment at some of the project facilities. The degree of impact would vary with each project component, and would depend on the number, size, and type of equipment, proximity to sensitive receptors, topography and intervening structures, and extent in which noise attenuating features are incorporated into the

project design. Potential operational-related noise impacts associated with the proposed storage reservoirs and pump stations are discussed below. All pipelines would be located below grade and would not generate significant noise.

Storage Reservoirs

Reservoir operations, which are limited to water storage, would not be anticipated to generate substantial noise. Routine inspections would also not generate appreciable noise on-site or at off-site sensitive receptor locations. The reservoir could require periodic maintenance operations that would involve heavy equipment, during these periods noise would be generated at the site, but would be temporary and occur infrequently.

Pump Stations

Potential operational noise impacts associated with pump stations would primarily be from the operation of fixed stationary equipment. The impacts associated with the operation of these facilities are discussed at a program level here, since the specific location, equipment, processes and overall characteristics of these facilities are unknown.

The level of noise generated by pumps and other stationary equipment depends on four major variables:

- Characteristics of the noise source (e.g., the technology type, rated horsepower, revolutions per minute (rpm), presence or absence of pure tones, directional characteristics of the noise source, presence or absence of pure tones, directional characteristics of the noise source, presence or absence of acoustical design features);
- Number of noise sources clustered together;
- Type and effectiveness of building enclosure; and
- Operational characteristics (e.g., continuous 24-hour operation, intermittent operation, variable settings at different times).

Noise associated with pump operation could result in a potentially significant operational noise impact. For example, as a general category, pumps are rated at a noise level of 76 dBA at a distance of 50 feet without controls or enclosures [1]. Simultaneous operation of multiple pumps would incrementally and logarithmically add to this noise level. A doubling of pumps would increase the noise level by 3 dBA. For example, the operation of two pumps operating at 76 dBA would generate a composite noise level of 79 dBA. The type of building enclosures and noise attenuation effectiveness of the enclosure are unknown. Any pumps that would be located below grade would be relatively easy to shield and should not affect nearby sensitive receptors.

Since back-up generators would operate infrequently for routine testing and maintenance or during an actual interruption in power from the utility grid, they would not contribute substantially to the overall average noise exposure outside the project property boundary. Depending on the location of these facilities, pump station operation could cause noise levels at

[1] U.S. Environmental Protection Agency (EPA), Noise from Construction Equipment and Building Operations, Building Equipment, and Home Appliances, December 1971.

sensitive receptor locations to increase by 3 dBA CNEL or more in areas where noise levels already exceed the normally acceptable range, 5 dBA CNEL where the noise level from project operations would exceed the normally acceptable range for a given land use, or 10 dBA CNEL where the project would be within the normally acceptable range. Therefore, potential noise impacts from pump station related noise increases could be mitigated through provision of adequate building setbacks, effective building enclosures, and consideration of the appropriate vent locations.

Mitigation Measures

Mitigation Measure 3.9-4: The implementing agencies shall comply with local noise ordinances. In areas where pump and/or stationary equipment operation would cause noise levels to exceed the normally acceptable range for a given land use, the operation of such equipment shall not cause noise levels to increase by 5 dBA CNEL or more. In areas where noise levels already exceed the normally acceptable range for a given land use, the operation of such equipment shall not cause noise levels to increase by 3 dBA CNEL or more. To accomplish these performance standards, the implementing agency shall consider the following:

- Maximize the buffer area or setback distance between pump facilities and noise-sensitive land uses;
- Design stationary equipment and pump enclosures such that building exhaust fans and louvers are oriented away from noise-sensitive uses. To the extent feasible, configure the facility layout such that noise-generating equipment is setback from noise-sensitive land uses;
- Incorporate equipment enclosures, fan silencers, mufflers, acoustical treatments at vent openings, acoustical panels, etc.
- Construct a perimeter wall at the site such that the line of site between the building openings (exhaust fans and louvers) at the pump facilities and nearby sensitive receptors is effectively blocked. Effective shielding can significantly reduce noise.

Significance after Mitigation: Less than significant.

3.10 Environmental Justice

This section discusses environmental justice issues pertaining to the proposed project. This section evaluates the potential for the proposed project to disproportionately affect minority and low-income populations. The analysis presented below focuses on the aboveground components of the proposed project, primarily the pump stations and storage reservoirs. The proposed pipeline would run underground throughout various communities in the Antelope Valley and would not have long-term effects on any one community. Data presented in this section were obtained from the U.S. Census Bureau, 2000 census files and 2006 American Community Survey.

3.10.1 Setting

Population

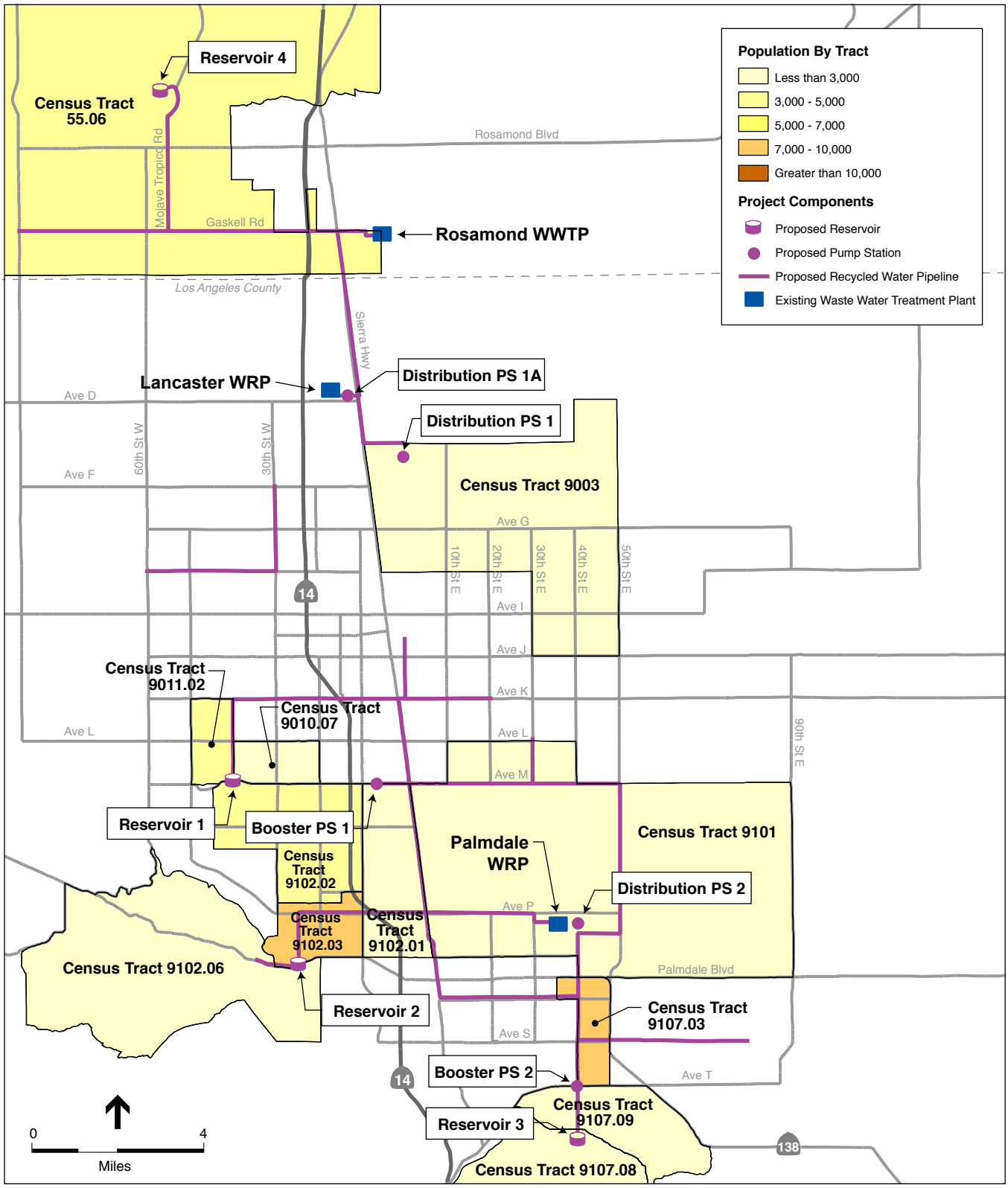
Los Angeles County has a population of 9,519,338 and Kern County has a population of 661,645. The proposed project is located in the Antelope Valley, which includes portions of northern Los Angeles County and southern Kern County and the cities of Lancaster and Palmdale. Like much of northern Los Angeles County, the communities in the Antelope Valley have experienced rapid growth over the last several years.

The locations for the proposed pump stations and storage reservoirs are part of twelve different census tracts within Lancaster and Palmdale in Los Angeles County and the Town of Rosamond in Kern County. **Figure 3.10-1** shows all census tracts correlated with these proposed aboveground facilities.

Demographic

Rosamond and Lancaster are characterized by similar trends in the distribution of people among categories of race/ethnicity. In both communities, the largest category of race/ethnicity is White, followed by Hispanic and then Black/African American (**Table 3.10-1**). There is only one census tract in each of these cities affected by the proposed aboveground project components, as identified in Table 3-10.1. Census tract number 55.06 in Rosamond is almost identical in its distribution of race/ethnicity as the town itself. Census tract number 9003 in Lancaster, however, has an even greater percentage of people categorized as White (84%) relative to the city overall (46%).

In Palmdale, the most abundant race/ethnicity is Hispanic (47%), followed by White (30%) and then Black/African American (16%) (Table 3.10-1). There are ten census tracts in Palmdale affected by the proposed aboveground project components. In eight of the ten census tracts, the majority of the population is characterized as White, followed by Hispanic, which is a different trend relative to the city overall (Table 3-10.1). Of the remaining two census tracts, one (number 9101) is dominated by Hispanics (77%) and the other (number 9107.03) is characterized in equal percentages by Hispanics and Whites (39%), followed by Blacks/African Americans (15%).



SOURCE: Census Bureau, 2000.

North LA/Kern County Regional Recycled Water Project . 206359

Figure 3.10-1
Census Tracts

TABLE 3.10-1
RACE/ETHNICITY BY CENSUS TRACT (percent of total population)

Census Tract	White (Not Hispanic)	Hispanic	Black or African American	Other
Rosamond CDP[b]	60	26	8	6
55.06	66	24	4	6
City of Lancaster	46	32	16	6
9003	84	10	4	2
City of Palmdale	30	47	16	7
9010.07	76	15	6	3
9011.02	74	17	4	5
9101	20	77	0[a]	3
9102.01	53	35	5	7
9102.02	75	12	1	12
9102.03	51	29	11	9
9102.06	71	0	0	29
9107.03	39	39	15	7
9107.08	95	2	0	3
9107.09	65	33	1	1

[a] Fraction of a percent, all other zeros denote none present.
[b] Census Designated Place (CDP).

SOURCE: City data obtained from 2006 American Community Survey, CDP and Census Tract data obtained from 2000 Census Files

Income

In the City of Palmdale, the median household income is $57,861 (**Table 3.10-2**). There is a wide range in the distribution of median household income among the census tracts affect by the proposed aboveground project components. The minimum median household income is $26,905 in census tract number 9101, and the maximum median household income is $77,160 in census tract number 9102.02.

In the City of Lancaster, the median household income is $42,252; census tract number 9003 within the city has a median household income of $30,603 (Table 3.10-2). In the Town of Rosamond, the median household income is $42,307; the median household income for census tract number 55.06 is $46,321, which is greater than the town overall (Table 3.10-2).

3.10.2 Regulatory Framework

Federal

CEQA-Plus procedures outlined in the State Revolving Fund (SRF) financing guidelines include compliance with Executive Order 12898, which outlines federal actions to address environmental justice in minority populations and low-income populations.

TABLE 3.10-2
HOUSEHOLD INCOME AND POVERTY STATUS BY CENSUS TRACT

Census Tract	Population	Median Household Income	Percent Below Poverty Level (individuals)
Rosamond CDP	14,349	42,307	14.1
55.06	4,878	46,321	15.8
City of Lancaster	139,079	42,252	24.9
9003	1,737	30,603	19.0
City of Palmdale	143,439	57,861	17.2
9010.07	1,781	62,135	6.6
9011.02	4,559	51,786	14.6
9101	1,450	26,905	21.1
9102.01	2,825	51,583	19.2
9102.02	3,211	77,160	3.4
9102.03	9,060	60,055	7.5
9102.06	171	75,503	0.0
9107.03	8,430	49,317	6.7
9107.08	505	48,846	19.2
9107.09	1,479	63,264	6.8

SOURCE: U.S. Census Bureau, City data obtained from 2006 American Community Survey, CDP and Census Tract data obtained from 2000 Census Files

Executive Order 12898 states that agencies shall identify and address disproportionately high and adverse human health or environmental effects on minority and low income populations. A newly created working group was created to develop strategies for programs and policies, regarding minority and low-income populations, to promote enforcement of all health and environmental statutes, improve research and data collection in relation to health and environment, identify different patterns of consumption of natural resources, and ensure greater public participation.

3.10.3 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this PEIR and consistency with CEQA-Plus guidelines, applicable local plans, and agency and professional standards, the proposed project would be considered to have a significant effect on environmental justice if it would:

- Affect the health or environment of minority or low income populations disproportionately.

Impacts Discussion

M&I Uses

Recycled water use would comply with the California Department of Public Health recycled water regulations contained in Title 22 of the CCR (see Chapter 1, Introduction for additional information). Based on its compliance with state public health standards, human health would not be impacted as a result of implementation of the proposed project. The use of recycled water would not affect minority or low income communities disproportionately.

Recycled Water Pipelines

The proposed route for the recycled water pipeline would travel entirely through city streets and would be constructed underground. There would be no long-term, permanent effects associated with operation of the proposed pipeline. Any effects associated with construction of the proposed recycled water pipeline would be short-term and temporary. The proposed pipeline would travel through a large portion of the Antelope Valley and is not localized within any one neighborhood or community. The project proposes to construct the pipelines in phases, with actual construction activities affecting specific areas for only a week or two as pipeline installation proceeds at a rate of 50 to 100 feet per day. Based on its underground design feature, large geographic area, and the temporary nature of the construction-related impact, the proposed pipelines would not affect minority or low income populations disproportionately.

Program-Level Analysis

Storage Reservoirs Pump Stations

Impact 3.10-1: The proposed storage reservoirs and pump stations could cause disproportionate impacts to minority or low income populations. Less than Significant.

The proposed locations of all pump stations and storage reservoirs are based on proximity and connectivity to the proposed pipeline and elevation. The proposed pipeline route has been determined based on specific screening criteria, including minimizing the distance between the water reclamation plants and minimizing the distance between the pipeline and the end users. The locations of project facilities were not based on socio-economic characteristic of communities, such as income level or race/ethnicity.

The proposed locations for storage reservoirs and pump stations are characterized by vacant land and would not require relocation of residences. Local residents would benefit directly from the proposed project. Figure 2-2 shows the location of existing and future M&I end users that would benefit from application of the recycled water once all proposed facilities are completed.

Table 3.10-1 shows the racial and ethnic composition of the census tracts affected by the proposed aboveground project components, relative to the city in which they are located. The City of Palmdale overall has a higher percentage of Hispanics than nine of the ten census tracts within the city that are affected by the proposed storage reservoirs and pump stations. These nine census tracts have a higher percentage of Whites than the city as a whole. Similarly, in the City of

Lancaster, the one census tract affected by the proposed aboveground project facilities is predominantly White. In Rosamond, the affected census tract is almost identical in its racial and ethnic composition as the town as a whole. Therefore, the ethnographic data demonstrate that minority neighborhoods would not be disproportionately affected by the proposed aboveground project facilities.

Median household income data for the census tracts affected by the proposed aboveground project facilities (Table 3.10-2) demonstrate a lack of correlation between the proposed pump station and reservoir locations and low income areas. Annual household income varies from $26,905 to $77,160 among all census tracts, fluctuating both above and below the median household income levels for the cities and town as a whole. The percentage of individuals below the poverty level varies from 0 to 21.1 percent among all census tracts, again fluctuating both above and below the poverty levels for the cities and town as a whole. Therefore, the income and poverty data demonstrate that low-income neighborhoods would not be disproportionately affected by the proposed aboveground project facilities.

Based on all census data presented herein, the proposed project would not have a disproportionate affect on minority or low income populations.

Mitigation Measures

None required.

3.11 Transportation and Traffic

This section discusses the setting, regulatory framework and impacts and mitigation measures regarding traffic and transportation along the proposed project area. Temporary impacts related to project construction have been identified and analyzed throughout the section.

3.11.1 Setting

The proposed project is located in the Antelope Valley, including the cities of Lancaster and Palmdale, the Town of Rosamond, and unincorporated communities in Los Angeles and Kern Counties. The transportation system in the Antelope Valley is composed of an interconnected network of roadways, local transit systems, pedestrian and bicycle facilities, and railroads. State Route 14 transects the Antelope Valley from north to south, connecting all cities and communities within the project area. Several regional and major arterial boulevards, as well as an expressway traverse the Antelope Valley. The Antelope Valley Metrolink also runs through the Antelope Valley in a north/south direction.

Roadway Network

Regional access to the project area is provided by State Route (SR) 14, which connects the Antelope Valley to other regions of southern California via Interstate 5 and SR 395. Traffic volumes for SR 14 are highest around the southern portion of the project area between the Avenue S and Avenue L interchange and are lowest at the northernmost portion at Rosamond Boulevard (Caltrans, 2006). SR 14 and Sierra Highway would be used to transport construction materials, equipment, and workers to and throughout the project area. The roadway network in the project area is illustrated in Figure 2-1.

The proposed pipeline alignment runs along the following roadways:

Sierra Highway is a two-lane highway that runs parallel to SR 14 through the Antelope Valley. The Antelope Valley Metrolink Line runs directly parallel to Sierra Highway along its eastern side. Sierra Highway is considered a regional arterial between Avenue M and Avenue P and a major arterial south of Avenue P. Proposed pipeline construction would occur along Sierra Highway between Avenue R and Avenue M, and between Avenue D and Gaskell Road. An existing Palmdale class I bikeway, an adopted Palmdale Master Plan bikeway, and an existing Lancaster class I bikeway route combined run the length of the proposed pipeline.

Division Street is a two-lane north-south roadway. The proposed pipeline would run from Avenue K and connect to an existing pipeline. A new distribution pump station would also be constructed along Division Street at a point further north along the existing pipeline and Avenue E-8. An existing Lancaster class II bikeway route runs the length of the proposed pipeline.

Gaskell Road is an east-west roadway. The proposed pipeline would run from 140th Street West to the existing RWWTP.

Avenue H is a two-lane east-west roadway. The proposed pipeline would run between 60th Street West and 30th Street West.

Avenue K is a three-lane east-west roadway. The proposed pipeline would be constructed between 40th Street West and 20th Street East.

Columbia Way/Avenue M is a considered a regional arterial and is a two-lane east-west roadway. The proposed pipeline would run along Avenue M, between Sierra Highway and 50th Street East. An adopted Palmdale Master Plan bikeway route runs the length of the proposed pipeline.

Rancho Vista Boulevard/Avenue P is a two-lane highway and is considered a major arterial**.** The proposed pipeline would be constructed from 25th Street West along Avenue P and terminating at the existing PWRP. A Los Angeles County bikeway and an adopted Palmdale Master Plan bikeway route combined run the length of the proposed pipeline.

Avenue P-8 is considered a major arterial and runs east-west.

Avenue R is a two-lane east-west roadway. The proposed pipeline would be constructed between Sierra Highway and 40th Street East. An adopted Palmdale Master Plan bikeway route runs the length of the proposed pipeline.

Avenue S is an east-west roadway. The proposed pipeline would be constructed along Avenue S, east of 40th Street East. Either a Los Angeles County bikeway or an adopted Palmdale Master Plan bikeway route runs the length of the proposed pipeline.

25th Street West/Highland Avenue is a two-lane north-south roadway. Between Avenue P and Summerwind Drive, this street is considered a Secondary arterial and a major arterial south of that until Elizabeth Lake Road. The proposed pipeline would be constructed between Avenue P and terminate at proposed Reservoir 2 along Elizabeth Lake Road. An adopted Palmdale Master Plan bikeway route runs through the southern half of the proposed pipeline.

Elizabeth Lake Road is a two-lane east-west roadway and is considered a major arterial. The proposed pipeline would be constructed along Elizabeth Lake Road, west of proposed Reservoir 2. An adopted Palmdale Master Plan bikeway route runs the length of the proposed pipeline.

30th Street West is a two-lane north-south roadway. The proposed pipeline would run from Avenue H and connect to an existing pipeline at Avenue F.

40th Street West is a north-south roadway and is considered a major arterial. The proposed pipeline would run west from Avenue K and end at proposed Reservoir 1 located at Avenue M.

Mojave Tropico Road is a north-south roadway. The proposed pipeline would run from proposed Reservoir 4 east to Mojave Tropico Road and south along Mojave Tropico Road to West Rosamond Boulevard. South of West Rosamond Boulevard, Mojave Tropico Road becomes 55th Street West. The proposed pipeline continues south along 55th Street West until Gaskell Road.

30th Street East is a north-south roadway. The proposed pipeline would run between Avenue L and Columbia Way/Avenue M.

40th Street East is a north-south roadway and is considered a major arterial. The proposed pipeline would connect with an existing pipeline at Avenue P-8 and terminate at proposed Reservoir 3. Proposed booster pump stations would be constructed on 40th Street East at the intersection of Avenue T and along the existing pipeline past Avenue P-8. An adopted Palmdale Master Plan bikeway route runs the length of the proposed pipeline.

50th Street East is considered an expressway and runs in a north-south direction. The proposed pipeline would be constructed along 50th Street East between Avenue P-8 and Columbia Way/ Avenue M. An adopted Palmdale Master Plan bikeway route runs the length of the proposed pipeline.

State Route 14 is a north-south state highway that passes through Palmdale and Lancaster and runs concurrently with State Route 138 from their junction in Palmdale to north of Lancaster. The pipeline would cross under State Route 14 at Gaskell Road, Avenue K, and Avenue P.

Public Transportation

According to the Antelope Valley Transit Authority (AVTA) several public transportation routes follow the proposed pipeline construction areas. Routes 1, 2, 3, 4, 7, 9, 12, and the Lake L.A. Express would be temporarily affected by construction of the proposed pipeline.

Bicycle and Pedestrian Transportation

Existing bikeways and newly-adopted Palmdale Master Plan bikeway routes are located throughout the Antelope Valley and along much of the proposed pipeline route, as described above.

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. The project area currently contains pedestrian facilities along most roadways within the Antelope Valley. In addition, the proposed project alignment would be constructed in roadways adjacent to schools within the Antelope Valley Union High School District, including Pete Knight High School near Avenue S, Palmdale High School near Avenue R, Highland High School near 25th Street West, and Antelope Valley High School near Division Street.

3.11.2 Regulatory Framework

State

California Department of Transportation (Caltrans)

Caltrans manages interregional transportation, including management and construction of the California highway system. In addition, Caltrans is responsible for permitting and regulation of the use of state roadways. The project area includes two roadways that fall under Caltrans' jurisdiction.

Caltrans' construction practices require temporary traffic control planning "during any time the normal function of a roadway is suspended" (FHWA, 2003). In addition, Caltrans requires that permits be obtained for transportation of oversized loads and transportation of certain materials, and for construction-related traffic disturbance. Caltrans regulations would apply to construction of the pipeline within and immediately adjacent to roadways, as well as the transportation of construction crews and construction equipment throughout the project area (Caltrans, 2004).

3.11.3 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this EIR and consistent with Appendix G of the *CEQA Guidelines*, the proposed project would have a significant impact on transportation and traffic if it would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system;
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads and highways;
- Result 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 increase hazards due to a design feature or incompatible uses;
- Result in inadequate emergency access;
- Result in inadequate parking capacity; or
- Conflict with adopted policies, plans, or programs supporting alternative transportation.

Impacts Discussion

Impacts to transportation and traffic resulting from construction and operation of the proposed project are discussed below. There would be no impacts to transportation or traffic due to the use of recycled water for any of the proposed end uses. Therefore, the discussion of impacts presented below focuses on construction and operation of physical project facilities and does not include recycled water end uses.

The construction and operation of the proposed project would not affect air traffic patterns, levels, or locations. For additional discussion of project impacts associated with airport land use compatibility plans, please refer to **Chapter 3.8, Land Use and Agriculture**. Construction and operation of the proposed project also would not alter current roadway designs. Therefore, no impact would result and these effects are not discussed further.

Project-level Impacts

Recycled Water Pipelines

Impact 3.11-1: Construction of the proposed pipelines could adversely affect traffic and transportation conditions in the project area. Less than Significant with Mitigation.

The proposed project would not introduce any new facilities to the project area that would generate long-term changes in traffic. Thus potential traffic and transportation effects would be confined to construction of the proposed facilities. Construction-generated traffic would be temporary and therefore would not result in any long-term degradation in operating conditions or level of service on any project roadways. The primary impacts from the movement of construction trucks would include short-term and intermittent lessening of roadway capacities due to slower movements and larger turning radii of the trucks compared to passenger vehicles.

Traffic-generating construction activities related to the construction of the pipelines would consist of the daily arrival and departure of constructions workers, trucks hauling equipment and materials to the construction site, the hauling of excavated soils, and importing of new fill. Construction equipment used for the proposed project would include concrete trucks, back-hoes, paving equipment, and periodic delivery of pipes. Construction would include the transportation of oversize loads, such as trucks carrying pipes.

The proposed alignment would follow within and/or across several roadway rights-of-way. The placement of the pipeline in the roadways would temporarily disrupt existing transportation and circulation patterns. Impacts would include direct disruption of traffic flows and street operations. Construction in the paved right-of-way would result in a reduction in travel lanes. Construction work within and/or across high traffic volume regional arterials would affect traffic flow and operations at these locations.

Prior to pipeline construction, staging areas would be prepared for materials delivery, storage, and preparation prior to construction. Staging areas would be established in areas near construction zones that are easily accessible, and would likely be located every five miles along the pipeline corridor. The construction of the staging area would increase construction worker and truck trips along regional and local roads near the staging areas.

Mitigation Measures

Mitigation Measure 3.11-1a: The implementing agency's construction contractor shall prepare and implement a Traffic Control/Traffic Management Plan subject to approval by the appropriate local jurisdiction prior to construction. The plan shall:

- Identify hours of construction and hours for deliveries;
- Include a discussion of haul routes, limits on the length of open trench, work area delineation, traffic control and flagging;
- Identify all access and parking restrictions, pavement markings and signage requirements (e.g., speed limit, temporary loading zones);
- Maintain access to residence and business driveways at all times to the extent feasible; Minimize access disruptions to businesses and residences;
- Layout a plan for notifications and a process for communication with affected residents and businesses prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access

point/driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints;

- Include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times;
- Include a plan to coordinate all construction activities with the Antelope Valley Union High School District and Southern Kern Unified School District at least two months in advance. The Antelope Valley Union High School District and Southern Kern Unified School District shall be notified of the timing, location, and duration of construction activities. The implementing agencies shall require its contractor to maintain vehicle, pedestrian, and school bus service during construction through inclusion of such provisions in the construction contract. The assignment of temporary crossing guards at designated intersections may be needed to enhance pedestrian safety during project construction. Also the following provisions shall be met:
  - Pipeline construction near schools shall occur when school is not in session (i.e., summer or holiday breaks). If this is not feasible, a minimum of two months prior to project construction, the implementing agencies shall coordinate with the Antelope Valley Union High School District and Southern Kern Unified School District to identify peak circulation periods at schools along the alignment(s) (i.e., the arrival and departure of students), and require their contractor to avoid construction and lane closures during those periods;
  - A minimum of two months prior to project construction, the implementing agencies shall coordinate with the Antelope Valley Union High School District and Southern Kern Unified School District to identify alternatives to their Safe Routes to School program, alternatives for the school busing routes and stop locations, and other circulation provisions, as part of the Traffic Control/Traffic Management Plan;
- Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access; and
- Specify the street restoration requirements pursuant to agreements with the local jurisdictions.

Mitigation Measure 3.11-1b: The implementing agencies shall identify all roadway locations where special construction techniques (e.g., horizontal boring, directional drilling or night construction) will be used to minimize impacts to traffic flow.

Mitigation Measure 3.11-1c: The implementing agencies shall develop circulation and detour plans to minimize impact to local street circulation, including bikeways. This may include the use of signing and flagging to guide vehicles and cyclists through and/or around the construction zone.

Mitigation Measure 3.11-1d: The implementing agencies shall encourage construction crews to park at staging areas to limit lane closures in the public right-of-way.

Mitigation Measure 3.11-1e: Peak travel periods shall be avoided when considering partial road closures.

Mitigation Measure 3.11-1f: The implementing agencies shall consult with the Antelope Valley Transit Authority and the East Kern Regional Transit Express that connects to Lancaster at least one month prior to construction to coordinate bus stop relocations (if necessary) and to reduce potential interruption of transit service.

Significance after Mitigation: Less than Significant.

Impact 3.11-2: Construction of the proposed pipeline would have temporary effects on alternative transportation or alternative transportation facilities. Less than Significant with Mitigation.

The proposed project would have no long-term impact on demand for alternative transportation or on alternative transportation facilities (i.e., for transit and bicyclists). However, pipeline construction could slightly disrupt these alternate forms of transportation due to the proposed pipeline construction and partial lane closures.

Implementation of Mitigation Measures 3.11-1c and 3.11-1f would require the construction contractor to establish methods for minimizing construction effects on transit service. Specific requirements that may be included in the traffic control/traffic management plan are identified under Mitigation Measures 3.11-1c and 3.11-1f. Implementation of Mitigation Measure 3.11-1c would ensure potential impacts association with temporary disruptions to bikeways would be mitigated to a less than significant level. Implementation of Mitigation Measure 3.11-1f would ensure potential impacts associated with temporary disruptions to transit service would be mitigated to a less than significant level.

Mitigation Measures

Implementation of Mitigation Measures 3.11-1c and 3.11-1f.

Significance after Mitigation: Less than significant.

Impact 3.11-3: Parking demand would temporarily increase during construction of the proposed pipeline. Less than significant.

Construction of the proposed pipeline would create a temporary demand for parking for construction workers and construction vehicles. Temporary parking locations would be planned in advance and would be located at designated staging areas along the pipeline alignment. Impacts would be considered less than significant.

Mitigation Measures

None required.

Program-Level Impacts

Pump Stations, Storage Reservoirs and Recycled Water End Use

Impact 3.11-4: Construction and operation of the proposed pump stations, storage reservoirs, and groundwater recharge basins could adversely affect traffic and transportation conditions in the project area. Less than Significant with Mitigation.

The construction of the proposed storage reservoirs, pump stations, and groundwater recharge basins would not generate long-term changes in traffic. Thus potential traffic and transportation effects would be confined to construction of the proposed facilities. Construction-generated traffic would be temporary and therefore would not result in any long-term degradation in operating conditions or level of service on any project roadways. The primary impacts from the movement of construction trucks would include short-term and intermittent lessening of roadway capacities due to slower movements and larger turning radii of the trucks compared to passenger vehicles.

Maintenance of the storage reservoirs, pump stations, and groundwater recharge basins would require routine maintenance trips and inspections. Maintenance activities would not increase substantially and therefore would not affect traffic in the project area.

Mitigation Measures

Implementation of Mitigation Measures 3.11-1a through 3.11-1f.

Significance after Mitigation: Less than significant.

3.12 Utilities and Service Systems

This section discusses existing utilities and service systems in the vicinity of the proposed project, presents the associated regulatory framework, and provides an analysis of potential impacts to utilities and service systems that would result from the proposed project. Public utilities in the project area include: water, wastewater, storm water, solid waste, electrical, telecommunications, and natural gas conveyance facilities.

3.12.1 Setting

The following discussion describes existing utilities and service systems in the project area.

Water Agencies

The following water districts supply water to the project area: LACWWD40, PWD, QHWD, RCSD, and AVEK. Each agency is described below.

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 LA, 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.

PWD is both a water wholesaler and retailer serving the eastern portion of the City of Palmdale. PWD provides their customers with a combination of groundwater and surface water. Groundwater comes from PWD's operation of groundwater wells and surface water is supplied from the California Aqueduct and Littlerock Reservoir. Both sources of surface water are transferred to Palmdale Lake for local storage. Approximately 60 percent of PWD's water is provided by surface water, while approximately 40 percent comes from groundwater wells.

QHWD 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.

RCSD 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. After 2009, RCSD is planning to eliminate imports of treated water from AVEK and instead import and recharge untreated SWP water to augment groundwater supplies

As a water wholesaler, AVEK is a SWP contractor who obtains all its water from the California Aqueduct to supply the Antelope Valley with potable water and untreated agricultural water. The raw water imported from the SWP is treated 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 supplies treated water to LACWWD40, RCSD, and QHWD.

Wastewater

County Sanitation Districts Nos. 14 and 20 of Los Angeles County provide wastewater management services for the Antelope Valley. LACSD No. 14 includes portions of the cities of Lancaster and Palmdale and adjacent unincorporated Los Angeles County areas. LACSD No. 14 owns and operates the LWRP and the adjoining network of trunk sewers. LACSD No. 20 serves an area that includes the majority of the City of Palmdale and portions of unincorporated County areas. LACSD No. 20 owns and operates the PWRP and a network of approximately 40 miles of trunk sewers. RCSD owns and operates the RWWTP, which currently provides secondary treatment to all incoming wastewater effluent.

Storm Water

The City of Lancaster and the City of Palmdale maintain storm water drainage infrastructure in their respective city limits. The Los Angeles County Flood Control District manages the storm drain system in the unincorporated areas of the Antelope Valley. The Kern County Engineering and Survey Services Department manages storm drain systems in Kern County. The Kern County Planning Department in conjunction with RCSD is in the process of developing and implementing an area storm control plan for the Rosamond area. The final storm control plan will be included in the revised Rosamond Specific Plan.

Solid Waste Management

Waste Management of Antelope Valley is the local division of Waste Management, Inc. that provides collection, disposal, recycling, and environmental services to the Antelope Valley. It operates two landfills, the Antelope Valley Recycling and Disposal Facility in Palmdale and the Lancaster Recycling and Disposal Facility in Lancaster. The Lancaster Recycling and Disposal Facility receives up to 1,700 tons of refuse per day. As a solid waste facility, the Antelope Valley Recycling and Disposal Facility can receive up to 1,800 tons of refuse per day.

The County of Kern Waste Management Department owns and operates the Mojave-Rosamond Sanitary Landfill. This facility receives up to 42 tons of refuse per day and has an estimated closure date of December 31, 2014.

The City of Palmdale's Public Works Division also manages the city's solid waste and recycling services. The City of Lancaster's Public Works Division manages the city's recycling programs, and Waste Management Inc. is the City's franchise residential solid waste hauler.

Other Utilities

Electricity is provided to the Antelope Valley by Southern California Edison (SCE) and natural gas services are provided by the Southern California Gas Company (SCGC). Cable service to the City of Palmdale is provided by Time Warner Cable and telephone services are provided by Verizon Communications and AT&T.

3.12.2 Regulatory Framework

State

Protection of Underground Infrastructure

The California Government Code Section 4216-4216.9 "Protection of Underground Infrastructure" requires an excavator to contact a regional notification center (e.g., Underground Services Alert or Dig Alert) at least two days prior to excavation of any subsurface installations. Any utility provider seeking to begin a project that could damage underground infrastructure can call Underground Service Alert, the regional notification center for southern California. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area.

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 (Public Resources Code [PRC] Division 30) enacted through AB 939 emphasized conservation of natural resources through reduction, recycling, and reuse of solid waste. AB 939 requires that all cities and counties divert 25 percent of solid waste streams from landfills by 1995 and 50 percent by 2000. In accordance with AB 939, each local agency must submit an annual report to the California Integrated Waste Management Board (CIWMB) summarizing its progress in diverting solid waste disposal.

2005 California Energy Action Plan II

The California Energy Action Plan II is the state's principal energy planning and policy document (California Energy Commission, 2005). The plan identifies state-wide energy goals, describes a coordinated implementation plan for state energy policies, and identifies specific action areas to ensure that California's energy is adequate, affordable, technologically advanced, and environmentally sound. In accordance with this plan, the first priority actions to address California's increasing energy demands are energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods in order to address system reliability and support the best use of energy infrastructure). Additional priorities include the use of renewable sources of power and distributed generation (i.e., the use of relatively small power plants near or at centers of high demand). To the extent that these actions are unable to satisfy the increasing energy and capacity needs, clean and efficient fossil-fired generation is supported.

The Energy Action Plan II includes the following energy efficiency action specific to water supply systems:

- Identify opportunities and support programs to reduce electricity demand related to the water supply system during peak hours and opportunities to reduce the energy needed to operate water conveyance and treatment systems.

3.12.3 Impacts and Mitigation Measures

Significance Criteria

For the purposes of this EIR and consistency with Appendix G of the *CEQA Guidelines*, applicable local plans, and agency and professional standards, the proposed project would have a significant effect on utilities and service systems if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require new or expanded water supply resources or entitlements;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the projects projected demand in addition to the provider's existing commitments;
- Be served by a landfill with insufficient permitted capacity to accommodate the project solid waste disposal needs;
- Not comply with federal, state, and local statutes and regulations related to solid waste; or
- Effect local and regional energy supplies such that additional electrical capacity is required.

Impacts Discussion

The proposed project would convey and store recycled water produced at existing water treatment plants. It does not require the construction of new treatment facilities. Effluent conveyed in the system would comply with WRRs issued by the RWQCB for the designated end uses.

The proposed project would convey and store disinfected tertiary-treated recycled water produced at the LWRP, PWRP and RWWTP. No new water resources or entitlements are required by the proposed project.

The proposed project would benefit LACSD Nos. 14 and 20 and RCSD by providing beneficial uses for the effluent produced at their treatment plants. The proposed project is being designed with adequate capacity to handle the volume of effluent to be produced at the LWRP, PWRP, and RWTTP after the planned upgrades are completed.

Project-level Impacts

Impact 3.12-1: Construction of the proposed pipeline could result in temporarily, planned or accidental disruption to utility services. Less than Significant with Mitigation.

Numerous utility lines (electricity, gas, telephone, and sewer) of varying sizes are located within the project area. Utility disruption could potentially occur at areas where project components crossed under or over, or be situated adjacent to these utilities.

Utility lines and cables that would be disrupted during construction would be identified during preliminary design. As a condition of approval for either a utility excavation permit or an encroachment permit, a detailed engineering and construction plan, which thoroughly describes construction techniques and protective measures for minimizing impacts to utilities, would be prepared. This plan would be reviewed by utility service providers in the project area.

Underground Services Alert, the regional notification center for southern California, will be contacted at least two days prior to excavation of any subsurface installation per the California Government Code Section 4216-4216.9. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area.

Due to potential conflicts with utility lines, the proposed project may require that existing utilities be permanently relocated. Thus, the proposed project could result in the temporary disruption of electricity, gas, telephone, and sewer services. In most cases, service disruptions would be temporary and would not exceed one day. With implementation of the mitigation measures, impacts would be considered less than significant.

Mitigation Measures

Mitigation Measure 3.12-1a: The locations of overhead and underground utility lines, such as natural gas, electricity, sewage, storm drains, telephone, fuel, and water lines, shall be verified by contractors through field surveys and other methods prior to construction. In areas where unanticipated underground utilities are found, plans to minimize service impacts shall be developed and worked out with the affected utilities.

Mitigation Measure 3.12-1b: As necessary, detailed specifications shall be prepared as part of the design and engineering plans to include procedures for the excavation, support, and fill of areas around utility cables and pipes. Affected utility services shall be notified of construction plans and schedule. Arrangements shall be made with these entities regarding protection, relocation, or temporary disconnection of services.

Mitigation Measure 3.12-1c: Residents and businesses in the project area shall be notified of any planned utility service disruption, in conformance with county and state standards.

Significance after Mitigation: Less than Significant.

Impact 3.12-2: Construction activities associated with the proposed pipeline would generate solid waste that would increase the demand for landfill capacity. Less than Significant with Mitigation.

Construction of the project's proposed pipelines would generate solid waste, including excavated soil. Soils removed during construction of the pipelines would be stockpiled and reused onsite to minimize the need for disposal. The project would be subject to the County of Los Angeles' Construction and Demolition Debris Recycling and Reuse Ordinance requiring 50 percent diversion on all construction projects. Non-recyclable construction waste for the project would be exported by a private contractor who would haul the waste to a local landfill for disposal. Mitigation measures are proposed to reduce the amount of solid waste expected to be generated. With implementation of the mitigation measures, the project construction waste generation would be considered less than significant.

Mitigation Measures

Mitigation Measure 3.12-2a: Project facility design and construction methods that produce less waste, or that produce waste that could more readily be recycled or reused shall be encouraged.

Mitigation Measure 3.12-2b: A requirement for the contractor to describe plans for recovering, reusing, and recycling wastes produced through construction, demolition, and excavation activities shall be included in construction specifications.

Significance after Mitigation: Less than significant.

Program-level Impacts

Impact 3.12-3: Implementation of the storage reservoirs and pump stations could result in the need for new storm water drainage facilities or expansion of existing facilities. Less than Significant.

The new pump station and storage reservoir facilities would require on-site drainage features or on-site retention facilities to collect, control and direct storm water runoff to existing local drainages. The construction of these facilities would result in an increase in impervious surface area in the project vicinity, but not sufficiently enough to require new storm water drainage facilities or the expansion of existing ones. (See Chapter 3.7, Hydrology and Water Quality for calculations of estimated runoff from proposed facilities.) The proposed project's impact to storm water drainage facilities is considered less than significant.

Mitigation Measures

None required**.**

Impact 3.12-4: Operation of the storage reservoirs and pump stations could result in effects to local and regional energy supplies. Less than Significant with Mitigation.

Operation of the proposed pump station facilities would require new connections to the local electrical transmission system. Plans for the pump station facilities have not been finalized, and thus the energy requirements for operation of the proposed pump stations have not been determined. Operation of the pump stations would be intermittent in response to the demands of end users. The pumps would serve to maintain pressure in the recycled water system and to maintain water storage levels in the system reservoirs.

Energy for the pump stations would be provided by SCE. Electricity is generated and made available to southern California from generating facilities and transmission lines located throughout the western United States. SCE would be responsible for delivering the energy needed for the proposed project. SCE owns and operates transmission lines that are constructed based on anticipated demands within regions. It is expected that operation of the proposed project would decrease electricity demand in the region related to the provision of water supply.

The proposed end uses for the recycled water would otherwise be met with imported potable water if the proposed project were not implemented. The imported water would be delivered through the SWP, which consumes a substantial amount of energy to convey water to southern California from the Sacramento-San Joaquin River Delta in northern California. The SWP is the largest single user of electrical power in the state. The electricity required to distribute local recycled water would be substantially less than the electricity required to import the equivalent amount of potable water. Therefore, the proposed project would reduce the overall energy demand associated with water deliveries in the Antelope Valley. This directly supports the goals of the Energy Action Plan II to reduce the energy needed to operate water conveyance systems.

In further response to the Energy Action Plan II, implementation of energy efficient equipment, such as pumps and lighting, would also minimize the energy requirements of the proposed pump stations. Scheduling pumps to operate as much as possible during off-peak energy demand periods would also be consistent with state policies for maximizing off-peak power usage for utilities. Mitigation Measure 3.12-3 would require both energy efficient equipment and off-peak operation of the system. Given the overall reduction in electricity demand resulting from the proposed project, the impact to energy use would be less than significant.

Mitigation Measures

> **Mitigation Measure 3.12-3:** During project design, LACWWD40 and the implementing agencies shall require the use of energy efficient equipment, including pumps and lighting. Project facility design and construction methods that produce less waste, or that produce waste that could more readily be recycled or reused shall be encouraged.

Significance after Mitigation: Less than significant.

CHAPTER 4
Cumulative Impacts

4.1 Introduction

CEQA Analysis Requirements

CEQA requires that an EIR assess the cumulative impacts of a project with respect to past, current, and probable future projects within the region. *CEQA Guidelines* (Section 15355) define cumulative effects as "two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects result from the incremental impacts of the proposed project when added to other closely related, and reasonably foreseeable, future projects." Pertinent guidance for cumulative impact analysis is given in Section 15130 of the *CEQA Guidelines*:

- An EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable", (i.e., the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects, (including those outside the control of the lead agency, if necessary).
- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- A project's contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The discussion of impact severity and likelihood of occurrence need not be as detailed as for effects attributable to the project alone.

The analysis of cumulative effects in this PEIR focuses on the effects of concurrent construction and operation of the proposed project with other spatially and temporally proximate projects as described below. As such, this cumulative analysis relies on a list of related projects that have the potential to contribute to cumulative impacts in the project area.

4.2 Related Projects

Geographic Scope

Cumulative impacts are assessed for related projects within a similar geographic area. This geographic area may vary, depending upon the issue area discussed and the geographic extent of

the potential impact. For example the geographic area associated with construction noise impacts is limited to areas directly adjacent to construction sites, whereas the geographic area that is affected by construction-related air emissions may include the larger air basin. Construction impacts associated with increased noise, dust, erosion, and access limitations tend to be localized but could be exacerbated if other development or improvement projects are occurring within the same or adjacent locations as the proposed project.

Geographically, the proposed project is located in the Antelope Valley in northern Los Angeles County and southeastern Kern County. For the purposes of this analysis, we considered projects within the service area of LACWWD40 and all partner agencies when evaluating potential cumulative impacts due to construction and operation of the proposed project. These projects are listed in **Table 4-1**.

Project Timing

In addition to the geographic scope, cumulative impacts also take into consideration the timing of related projects relative to the proposed project. The implementation schedule is particularly important for construction-related impacts; for a group of projects to generate cumulative construction impacts, they must be temporally as well as spatially proximate. The related projects described below may or may not occur simultaneously with the proposed project. However, this analysis assumes these projects would be implemented concurrently with construction of the Regional Recycled Water Project, between 2009 and 2015.

Type of Projects Considered

As described in **Chapter 3** of this EIR, the impacts associated with implementation of the proposed project include both short-term, temporary construction-related impacts and long-term impacts related to project operation.

Cumulative Construction Impacts

Cumulative effects could result when considering the effects of the proposed project in combination with the effects of other construction projects in the area. For this analysis, other past, present, and reasonably-foreseeable future construction projects in the area have been identified. Table 4-1 lists the major capital improvement projects and water resources management projects (including recycled water projects) in the project vicinity that is included in the analysis of cumulative construction-related impacts. In addition, the analysis of cumulative construction impacts assumes that throughout the Antelope Valley, planned future development projects will be on-going simultaneously with the proposed project, including major residential construction, small-scale construction project, and project that have not yet been identified.

TABLE 4-1
ANTELOPE VALLEY RELATED PROJECTS

Project Name	Project Type	Project Sponsor	Project Implementation
Water Supply Projects			
Littlerock Dam Sediment Removal Project	Reservoir expansion, flood control	Palmdale Water District	2008-2011
Upper Amargosa Creek Recharge, Flood Control Habitat Restoration	Groundwater recharge	City of Palmdale	2008-2011
Recycled Water Projects			
LWRP 2020 Facilities Plan	Recycled water application	LACSD No. 14	In progress
PWRP 2025 Facilities Plan	Recycled water application	LACSD No. 20	In progress
City of Lancaster Division Street Recycled Water Project	Recycled water application	City of Lancaster	In progress
City of Lancaster Groundwater Recharge Project	Groundwater recharge	City of Lancaster	2009-2011
Rosamond Recycled Water Project	Recycled water pipeline, Recycled water application	RCSD	2009-2011
PWD Groundwater Recharge Reuse Projects	Groundwater recharge	Palmdale Water District	2010-2015
Wastewater Projects			
LWRP 2020 Facilities Plan	Treatment plant expansion	LACSD No. 14	In progress
PWRP 2025 Facilities Plan	Treatment plant expansion	LACSD No. 20	In progress
RWWTP Expansion	Treatment plant expansion	RCSD	In progress
Roadway Projects			
SR 138 Corridor Improvement Projects	Roadway widening	Caltrans District 7	Present-2010
Division St (Avenues G H)	Roadway reconstruction	LA County DPW	2008-2009
Avenue E (25th St W Sierra Hwy)	Roadway resurfacing	LA County DPW	2008-2009
Avenue P (30th St E to 50th St E)	Roadway resurfacing	LA County DPW	2010-2015
Avenue P (240th St E)	Roadway resurfacing widening	LA County DPW	2010-2015
40th St West	Roadway widening	LA County DPW	2010-2015
Avenue B (90th St W to 30th St W)	Roadway paving	LA County DPW	2010-2015
10 Year Capital Improvement Program	Roadway widening and improvements	City of Lancaster	2008-2015
10 Year Capital Improvement Program	Roadway widening and improvements	City of Palmdale	2008-2015
Flood Control/Drainage Projects			
Quartz Hill Storm Drain	Flood control, storm water	LA County DPW	2008
Sierra Highway Drainage Improvements	Storm water	City of Lancaster	2014-2015
Division Street Storm Drain (Avenue J to Avenue K)	Storm water	City of Lancaster	2013-2015
Avenue K Storm Drain (Division St to 5th St E)	Storm water	City of Lancaster	2014-2015
Energy Projects			
Palmdale Hybrid Power Plant	New power plant	City of Palmdale	2009-2011
Tehachapi Renewable Transmission Project	New transmission line	CPUC and US Forest Service	2009-2013

SOURCES:
Caltrans, District 7 Projects, http: www.dot.ca.gov dist07 travel projects , accessed January 29, 2008.
Caltrans, District 6 Project Factsheets, http: www.dot.ca.gov dist6 factsheets index.htm, accessed January 29, 2008.
LACSD District No. 14, LWRP 2020 Facilities Plan, Final EIR, May 2004.
County of Los Angeles, Department of Public Works, Watershed Management Division, Engineer s Report, Quartz Hill Storm Drain, August 2005.
City of Lancaster, Capital Improvement Program FY2007 08 and Projected FY 2008 09 through 2016 17.
City of Palmdale, Department of Public Works, Program Management Division, 2007 Ten-Year Capital Improvement Plan, approved June 10, 2007.
County of Los Angeles, Department of Public Works, Programs Development Division, Engineer s Report, Road Programs, February 2008.

Cumulative Operational Impacts

Cumulative effects could result when considering the effects of the proposed project in combination with the effects of operating other recycled water projects and groundwater recharge projects in the Antelope Valley. These projects are listed in Table 4-1 and are summarized below.

4.3 Description of Select Related Projects

LWRP 2020 Facilities Plan

As described in Chapter 1, LACSD No. 14 plans to expand the LWRP to increase total treatment capacity and to provide disinfected tertiary-treated recycled water. The capacity of the LWRP will be increased to 18 mgd by 2010, providing tertiary treatment for all incoming wastewater (LACSD, 2004). To manage the increased effluent production, LACSD No. 14 will acquire 750 acres of land for additional storage reservoirs and 4,650 acres of land for agricultural reuse, whereby recycled water produced at the LWRP is used for agricultural irrigation.

PWRP 2025 Facilities Plan

As described in Chapter 1, LACSD No. 20 plans to expand the PWRP to increase total treatment capacity and to increase the production of tertiary-treated recycled water. The PWRP will be upgraded to 12 mgd of disinfected tertiary treatment by 2011 (LACSD, 2005). Currently, LACSD No. 20 uses recycled water for agricultural reuse, irrigating crops at a 2,680-acre effluent management site located on property leased from LAWA. Recycled water is applied at agronomic rates in order to protect groundwater. To manage the increased effluent production as a result of the PWRP expansion, LACSD No. 20 would acquire an additional 5,140 acres of land for storage reservoirs and for implementing agricultural reuse. This land is located to the north and east of the current effluent management site, bounded approximately by Avenue L, Avenue M, 60th Street East, and 150th Street East. LACSD No. 20 has committed to diverting recycled water from its agricultural operations to serve emerging municipal, industrial and groundwater charge end uses in the region as they become operational.

City of Lancaster Groundwater Recharge Project

The City of Lancaster has completed a Groundwater Recharge Feasibility Study (2007) for its Groundwater Recharge (GWR) Project. The GWR Project would be implemented in two phases. The first phase is a small-scale Pilot Project that would test the feasibility of a large-scale project.

The location for Groundwater Recharge Using Recycled Water (GRW-RW) Pilot Project is a 5-acre stormwater basin located within an existing 100-acre parcel of storm water basins owned by the City of Lancaster near 60th Street West and Avenue F (RMC, 2007). The GRW-RW Pilot Project would recharge up to 2,500 acre-feet annually, for two to five years. The recharge water would include up to 500 afy of recycled water from the LWRP and up to 2,000 afy of storm water blended with treated imported water. The GRW-RW Pilot Project includes monitoring of

groundwater down gradient of the recharge basin and monitoring of soils beneath the recharge site to comply with CDPH Draft Groundwater Regulations (Title 22). No extraction is planned.

The second phase of the GWR Project is a large-scale project that would recharge approximately 50,000 afy, of which 10,000 afy would be recycled water (RMC, 2007). The actual blend ratio would be determined based on DPH Title 22 requirements. The GWR Project would include extraction facilities, to extract up to 48,000 afy of recharged water from a new well field. Potential locations for project facilities, including recharge basins and extraction wells, have been identified in western Lancaster but are still subject to change.

Rosamond Recycled Water Project

RCSD is planning to expand its existing recycled water system to bring recycled water to various end users for landscape irrigation, groundwater recharge, power plant cooling water, and agricultural reuse. The expansion will occur in three phases during 2009 and 2010.

RCSD is currently constructing a 0.5 million gallons per day tertiary treatment plant adjacent to its existing evaporation ponds. Phase 1 will expand the existing Patterson Road/Gaskell Road recycled water pipeline west to 60th Street West along Gaskell Road. The pipeline will provide recycled water north on 40th Street West to Rosamond Community Park, the new Tropico Regional Park, and Tropico Hill.

Phase 2 will expand the Phase 1 recycled water pipeline further west along Gaskell Road to 140th Street West to water banking spreading fields. The same pipeline will extend north past Rosamond Boulevard to a new solar powered 850 MW power plant where the recycled water will be used as a coolant. It will also provide water for agricultural reuse.

Phase 3 will expand the existing recycled water pipeline that currently terminates on the west side of the SR-14, about 1.5 miles north of Rosamond Boulevard and will convey recycled water north to the existing tank site on Dawn Road, about one mile west of SR-14. End users will be street medians and RCSD park areas.

City of Palmdale Amargosa Project

The City of Palmdale is planning the Upper Amargosa Creek Recharge, Flood Control and Habitat Restoration Project (Amargosa Project) to enhance the region's long-term water supply reliability (RWMG, 2007). The Amargosa Project is a groundwater recharge project that would recharge imported raw water (i.e. SWP water) and local surface water runoff (i.e. storm water runoff) through a system of eight recharge basin along Amargosa Creek. The Amargosa Project does not include recycled water. The proposed location for the Amargosa Project is along and north of Elizabeth Lake Road, the Amargosa Creek crossing of the California Aqueduct, and 20th Street West in Palmdale. The Amargosa Project is expected to function as a groundwater banking project, recharging water primarily in wet years.

PWD Groundwater Recharge Reuse Projects

Palmdale Water District is planning to implement GRRPs in its service area, as described in the *Recycled Water Groundwater Recharge Feasibility Study* (Wildermuth, 2007). PWD has identified three locations that are suitable for groundwater recharge using recycled water: Upper Littlerock Creek, Lower Littlerock Creek, and Lower Amargosa Creek. In the near term, PWD plans to recharge between 10,000 and 15,000 afy at each site. The *Feasibility Study* assumes that the recharge water would be a 4:1 blend of diluent water to recycled water, resulting in a recycled water demand ranging between 2,000 and 3,000 afy at each site.

4.4 Impacts and Mitigation Measures

Project Construction

Construction of the proposed project is expected to occur in phases between 2009 and 2015. The construction schedule for the proposed facilities would depend on funding and emerging demand by end users. For the purposes of this analysis, the related projects identified in Table 4-1 are all presumed to be implemented concurrently within the 2009 to 2015 timeframe. These related projects, which include capital improvement and development projects in the Antelope Valley, may contribute to certain types of cumulative construction impacts to air quality, biological resources, noise, water quality and traffic, as described below. There would be no cumulative impacts to aesthetics; cultural resources; geology and soils; hazards and hazardous materials; land use and agriculture; or utilities and service systems. Due to the nature of these resources as geographically confined and/or distinct, any impacts to these resources can be mitigated for individual projects and collectively do not compound to create cumulatively considerable impacts.

Impact 4-1: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to air quality and water quality. Less than Significant with Mitigation.

Air Quality

Construction of the proposed project together with the identified cumulative projects located in the Antelope Valley would contribute additional emissions to existing conditions in the Antelope Valley air basin. The Antelope Valley is located primarily in Los Angeles County, which is in non-attainment for ozone, PM_{10} and $PM_{2.5}$ (see Chapter 3.2, Air Quality). The contribution of additional pollutants to an already impaired air basin could be considered a significant impact. Construction of the proposed project would result in emissions that exceed the significance thresholds established by the Antelope Valley Air Quality Management District (AVAQMD) and the Kern County Air Pollution Control District (KCAPCD) (see Chapter 3.2, Air Quality). As described in Chapter 3.2, Air Quality, LACWWD40 in coordination with its partner agencies would be required to implement Mitigation Measures 3.2-1a through 3.2-1f, in accordance with the AVAQMD Air Quality Management Plan (AQMP) and Air Quality Attainment Plan

(AQAP), to reduce emissions related to construction of pipelines, storage reservoirs, and pump stations to less than significant levels. These mitigation measures include control measures, such as a fugitive dust program, established by the AVAQMD and KCAPCD for reduction of emissions related to construction activities. The AQMP identifies construction activities as factors contributing to overall emissions sources; however, the AQMP does not conclude that individual construction projects would delay the attainment of air quality standards for the basin. Therefore, the proposed project would not have a cumulatively considerable impact on air quality.

Hydrology and Water Quality

Concurrent construction of the proposed project with the identified cumulative projects located in the Antelope Valley and Antelope Valley watershed (Table 4-1) could result in temporary impacts to hydrology and water quality in the project area. Concurrent construction activities could result in increased erosion and subsequent sedimentation, with impacts to local drainages and/or storm drain capacity. Additionally, surface water quality could be affected by construction activities that result in the release of fuels or other hazardous materials to stream channels or storm drains, or discharge from excavation dewatering activities. Other projects in the watershed that could impact hydrology and water quality during construction activities include the recycled water projects, wastewater treatment plant expansion projects, proposed groundwater recharge projects (construction of recharge basins and appurtenant structures), and other proposed developments in the region, including roadway widenings.

As described in Chapter 3.7, Hydrology and Water Quality, the LACWWD40 in coordination with its partner agencies would develop and implement BMPs to minimize erosion and sedimentation and obtain a construction dewatering permit from the Lahontan RWQCB (see Mitigation Measure 3.7-3). The BMPs would reduce the impact of construction of the proposed project to surface water and groundwater quality to less than significant levels. As such, the contribution of the proposed project to short-term hydrology and water quality impacts is not cumulatively considerable.

Mitigation Measures

Implementation of Mitigation Measures 3.2-1a through 3.2-1f, 3.7-2, and 3.7-3.

Significance after Mitigation: Less than significant.

Impact 4-2: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to noise. Significant and Unavoidable.

Construction of the proposed project, together with the identified related projects in the Antelope Valley (Table 4-1), could generate noise and vibration that would affect existing ambient noise conditions in the region. Construction noise and vibration would be localized, affecting areas in

the immediate vicinity of the construction sites. Some of the identified related projects could be constructed simultaneously in areas proximate to, or overlapping geographically with, the proposed project. In particular, construction of some capital improvement projects, such as roadway projects or flood control (storm drain) projects, could occur simultaneously and within the same streets as the proposed recycled water pipeline installation. This could result in a cumulative impact to local ambient noise conditions.

As described in Chapter 3.9, Noise, daytime construction noise is exempt from maximum noise thresholds identified in local noise ordinances. Therefore, noise associated with daytime construction activities would not violate noise ordinances. For the proposed project, implementation of Mitigation Measures 3.9-1a, 3.9-1b and 3.9-2 would ensure construction activities are restricted to daytime hours and would require other measures to reduce the effects of construction noise and vibration on sensitive receptors. Nonetheless, noise associated with construction of the proposed pipelines and pump stations could exceed 100 dBA during the day within 50 feet of residences and is considered a significant and unavoidable impact of the project. Notably, any project that would individually have a significant noise impact could also have a significant cumulative noise impact when considered together with other related projects in the immediate vicinity. Therefore, simultaneous construction of the proposed project and other proximate capital improvement projects would result in significant cumulative noise impacts.

Mitigation Measures

Implementation of Mitigation Measures 3.9-1a, 3.9-1b, and 3.9-2.

Significance after Mitigation: Significant and Unavoidable.

Impact 4-3: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to traffic. Less than Significant with Mitigation.

Construction of the proposed project, together with the identified related projects in the Antelope Valley (Table 4-1), could affect traffic and circulation in the region. The effects of construction activities on traffic are due to an increase in the number of vehicles on local roadways (due to delivery of materials and worker commutes) and physical constraints on roadways if lane or street closures are required. Some of the identified related projects could be constructed simultaneously in areas proximate to, or overlapping geographically with, the proposed project. As with noise impacts, construction of some capital improvement projects, such as roadway projects or flood control (storm drain projects), could occur simultaneously and within the same streets as the proposed recycled water pipeline installation. This could result in a cumulative impact to traffic, particularly since these projects would involve construction activities within roadways and rights-of-way.

As described in Chapter 3.11, Transportation and Traffic, LACWWD40 in coordination with its partner agencies would be required to implement a Traffic Control/Traffic Management Plan

(Mitigation Measure 3.11-1a) to reduce construction-related effects of the proposed project to less than significant levels. The Traffic Control/Traffic Management Plan should also take into consideration the effects other construction activities occurring simultaneously in the same geographic area. Mitigation Measure 4-3 requires LACWWD40 to coordinate construction of the proposed project with other agencies in the Antelope Valley to ensure cumulative impacts to traffic and circulation are reduced to less than significant levels.

Mitigation Measures

Mitigation Measure 4-3: The implementing agencies, shall communicate and coordinate project construction activities with other municipalities (e.g., Palmdale, Lancaster, and Rosamond CSD) and agencies (e.g., Caltrans, LA County DPW) in the Antelope Valley. Phasing of project construction shall be coordinated to minimize cumulative impacts to traffic and circulation.

Significance after Mitigation: Less than significant.

Impact 4-4: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to biological resources. Less than Significant.

Construction of the proposed project, together with the identified related projects in the Antelope Valley (Table 4-1), would reduce the amount of existing open space and vacant land that may contain valuable habitat. The Los Angeles County General Plan identifies Significant Ecological Areas (SEAs) to protect habitat values and prevent the cumulative reduction of habitat in the region. Although the proposed pipelines would terminate near SEAs in two locations (see Figure 3.3-2) they would be located within roadways and would not affect open space in these areas. The proposed project would have no impact on open space habitat.

Construction of the proposed reservoirs and pump stations would convert vacant land to public facilities. The effected undeveloped parcels primarily are located near the urban centers of the valley and are not located within a County-designated SEA. This conversion of vacant land to public facilities is not considered to be a significant direct impact with implementation of mitigation measures identified in Chapter 3.3 Biological Resources. Although the project would contribute to a reduction in undeveloped, vacant land, the acreage would not be considerable, and the land use conversion would be consistent with regional plans. Therefore the proposed project would not result in a cumulatively significant impact to biological resources.

Mitigation Measures

Implementation of Mitigation Measures 3.3-1a-f, 3.3-2a-g, 3.3-3a-e, 3.3-4a-c and 3.3-6.

Significance after Mitigation: Less than Significant.

Project Operation

Operation of the proposed project involves the beneficial use of disinfected tertiary-treated effluent for a variety of end uses. When considered together with other recycled water projects listed in Table 4-1, operation of the proposed project would not result in cumulatively considerable impacts to the resources evaluated in Chapter 3 of this PEIR.

Impact 4-5: The proposed project and related projects could result in cumulative long-term impacts to groundwater resources. Less than Significant with Mitigation.

The proposed project would result in an increase in the volume of recycled water used for landscape and agricultural irrigation throughout the Antelope Valley. The City of Lancaster and the Town of Rosamond each are implementing recycled water use projects in the region. The recycled water pipeline component of the proposed project would be designed to deliver approximately 17,491 afy of recycled water (at buildout) to M&I users in Los Angeles County and 1,119 afy of recycled water to M&I users in Kern County. In addition, 2,600 afy of recycled water would be used as cooling water at the planned Palmdale Hybrid Power Plant as described in Chapter 2. Additional demand for recycled water is anticipated for agricultural applications and groundwater recharge projects. If recycled water is over-applied by landscape and agricultural irrigation end users, recycled water could percolate into the underlying Antelope Valley Groundwater Basin (see Chapter 3.7, Hydrology and Water Quality). Over-application resulting in excessive percolation could increase levels of TDS, nitrogen, and other nutrients in the groundwater.

Nutrients in the recycled water applied to landscapes are taken up by vegetation, reducing the need for fertilizer applications. The proposed project thus would allow for reduced fertilizer use among M&I and agricultural end users. Implementation of Mitigation Measure 3.7-5 would reduce potential impacts to groundwater quality to less than significant levels by requiring M&I and agricultural end users to apply water and fertilizer to landscapes at agronomic rates, which is compatible with good farming practices on land. The mechanism for implementing these practices is a Reclaimed Water User Agreement, which would be made between the implementing agency and each recycled water end user.

The use of recycled water for groundwater recharge by the proposed project and concurrent groundwater recharge projects may cumulatively affect groundwater quality in the Antelope Valley Groundwater Basin. Although the recycled water will be subject to Title 22 requirements, the existing groundwater quality in the underlying basin after recharge could be affected. Implementation of a pilot project, such as the City of Lancaster's GRW-RW Pilot Project, that includes monitoring would be a necessary first step to ensure that the project would not result in significant direct water quality impacts. Mitigation measures to reduce impacts to water quality in the groundwater basin could feasibly include blending requirements or advanced treatment processes. Mitigation requirements would be project specific and additional environmental documentation would be required prior to implementation of a GRRP. The implementation of proposed Mitigation Measures 3.7-9a through 3.7-9c are the minimum requirements for future potential GRRPs in the project area, including those proposed by the cities of Lancaster and

Palmdale and PWD (as identified in Table 4-1). The recycled water would be required to meet the level of treatment determined by CDPH to sufficiently protect public health. Therefore, the long-term cumulative impact of the proposed project on groundwater resources would not be considerable.

Mitigation Measures

Implementation of Mitigation Measures 3.7-5a, 3.7-5b, and 3.7-9a through 3.7-9c.

Significance after Mitigation: Less than significant.

Air Quality

As already described in Chapter 3.2, operation of the proposed project would not have a cumulatively-considerable, incremental effect on greenhouse gas emissions. (See Impact 3.2-5 on page 3.2-17 in Chapter 3.2, Air Quality). The proposed project would provide the primary backbone system for distribution of recycled water to local users in the Antelope Valley that otherwise would use potable water if the proposed project is not implemented. The use of recycled water instead of potable water would use less energy in the long term, relative to alternative water sources such as imported water. The imported water would be delivered through the SWP, which consumes a substantial amount of energy to convey water to southern California from the Sacramento-San Joaquin River Delta in northern California. A recent study by West Basin Municipal Water District has shown that the energy required to import SWP water is over six times the energy requirement for Title 22 recycled water when considering kilowatt-hours per acre-foot (West Basin, 2007). In addition, the same study indicates that Title 22 recycled water produces 338 tons of CO_2 for every 1,000 af of water produced, while the SWP produces 2,250 tons of CO_2 for every 1,000 af of water imported (West Basin, 2007; USEPA, 1995).[1] Based on this analysis, the proposed project would reduce the relative amount of GHG emissions produced for every acre-foot of water provided by the proposed project and would be considered to be inherently energy efficient. Therefore, the proposed project would result in a cumulative net reduction of future GHG emissions relative to future GHG emissions without the project. The effects of the proposed project to greenhouse gas emissions would not be cumulatively considerable.

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[1] Conversion factor: kWh/1333.333 = tons CO_2. (USEPA, 1995)

CHAPTER 5
Growth Inducement

5.1 Introduction

The *California Environmental Quality Act (CEQA) Guidelines* (§15126.2(d)) require that an Environmental Impact Report (EIR) evaluate the growth inducing impacts of a proposed action. Section 15126.2(d) calls for the EIR to:

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

A project can have direct and/or indirect growth inducement potential. Direct growth would result if a project involved construction of new housing. A project can have indirect growth inducement if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. A project would also have an indirect growth inducement effect if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service.

Based on the CEQA definition above, assessing the growth-inducement potential of the North Los Angeles/Kern County Recycled Water Project (proposed project) involves answering the question: “Will implementation of the proposed project directly or indirectly support economic expansion, population growth, or residential construction?” Water supply is one of the chief, though not the only, public services needed to support urban development. A water service capacity deficiency could constrain future development, particularly if coupled with strong community policy. Adequate water supply, treatment, and conveyance would play a role in supporting additional growth in the Antelope Valley, but it would not be the single impetus to such growth. Factors such as the General Plans and policies of the cities and counties and/or the availability of wastewater disposal capacity, public schools, and transportation services also

influence business and residential or population growth in the planning area. Economic factors, in particular, greatly affect development rates and locations.

5.2 Methodology

Growth inducement may result in adverse impacts if the growth is not consistent with the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service and solid waste service. This development may have environmental impacts, as identified in CEQA documents prepared for adoption of local land use plans. A project that would induce “disorderly” growth that is in conflict with local land use plans could indirectly cause additional adverse environmental impacts and impacts to other public services. Thus, it is important to assess the degree to which the growth accommodated by a project would or would not be consistent with applicable land use plans.

To determine direct growth inducement potential, the proposed project was evaluated to verify whether an increase in population or employment, or the construction of new housing would occur as a direct result of the project. If either of these scenarios occurred, the proposed project could result in direct growth-inducement within the Antelope Valley.

To determine indirect growth inducement potential, the proposed project was reviewed to ascertain whether it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. In order to assess this, the proposed project was reviewed in relation to population projections developed by the Southern California Association of Governments (SCAG, 2004) and buildout under the approved General Plans. While growth may be consistent with local planning policies, it may still promote secondary effects to the local environment. Secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, degradation of air and water quality, degradation or loss of plant and animal habitats, and conversion of agricultural and open space land to developed uses. To determine the secondary effects of growth, the city and county General Plan EIRs were reviewed to determine if any secondary effects of planned growth were identified and if any secondary effects were considered significant and unavoidable impacts.

5.3 Population Projections

5.3.1 SCAG Projections

The Southern California Association of Governments (SCAG) analyzes demographic data and makes population projections as part of the published *City Projections 2004* (SCAG, 2004). The SCAG projections assume that growth potential is not constrained by a lack of public services. As such, the population estimates are not target levels, but rather reasonably foreseeable levels, based on the current trends.

SCAG has projected population and the number of households within the City of Lancaster and the City of Palmdale. **Table 5-1** shows the projected population and number of households for each of these regions from the census year 2005 to the year 2030.

TABLE 5-1
SCAG PROJECTIONS 2004

Location	2005	2010	2015	2020	2025	2030	Change 2005–2030
City of Lancaster							
Population	142,043	168,032	191,912	215,468	238,048	259,696	117,653
Households	42,673	51,418	58,980	66,591	74,058	81,403	38,730
City of Palmdale							
Population	145,995	176,506	218,387	259,712	299,324	337,314	191,319
Households	39,553	48,628	58,702	68,847	78,812	88,623	49,070

SOURCE: SCAG, 2004.

5.3.2 Antelope Valley IRWMP Projections

The *Antelope Valley Integrated Regional Water Management Plan* (IRWMP) provides population projections for the Antelope Valley region as shown in **Table 5-2**. (RWMG, 2007) Projections for the Town of Rosamond are based on the upcoming Rosamond Specific Plan that is currently being developed by Kern County Planning Department. The Rosamond Specific Plan will replace and combine the former Rosamond and Willow Springs Specific Plans.[1] Projections for the unincorporated areas are estimated based on the assumption that the Antelope Valley region has similar annual growth rates as the City of Lancaster. As in Table 5-1, projections for the cities of Lancaster and Palmdale are based on SCAG *City Projections 2004*.

5.4 Water Demand Projections

5.4.1 Antelope Valley UWMP Projections

The Antelope Valley Urban Water Management Plan is an integrated plan that includes the Los Angeles County Waterworks District No. 40, Antelope Valley, Rosamond Community Services District, Quartz Hill Water District, and the Los Angeles County Sanitation Districts (Kennedy/Jenks, 2005). Water demand projections for the study area are provided in **Table 5-3**. The projections are based on each water purveyor's average water use per person and SCAG's 2004 *City Projections*. Total combined water demand in the area through 2030 is estimated at 169,030 afy. Water sources in the service area include local groundwater, imported water from

[1] Personal communication, Claud Seal, RCSD, June 9, 2008.

TABLE 5-2
POPULATION PROJECTIONS

Location	1990[4]	2000	2005	2015	2035
City of Lancaster[1]	98,000	113,000	142,000	192,000	283,000
City of Palmdale[1]	67,000	96,000	146,000	218,000	380,000
Town of Rosamond[2]	9,898	14,350	16,710	18,166	23,164
Unincorporated Los Angeles County[3]	69,000	88,000	100,000	129,000	215,000
Unincorporated Kern County[3]	8,000	12,000	16,000	29,000	103,000
Total	**251,000**	**324,000**	**425,000**	**607,000**	**1,118,000**

SOURCES: Antelope Valley 2007 Integrated Regional Water Management Plan.
1: 2004 City Projections
2: Projections from draft Rosamond Specific Plan currently in progress. Personal communication, Claud Seal, RCSD, June 9, 2008.
3: Projections assume the Antelope Valley region would have a similar annual growth as the City of Lancaster, estimated as approximately 2.6 percent from SCAG projections.
4: Based on Geolytics Normalization of Past U.S. Census Tract Data to 2000 Census Tract Boundaries.

TABLE 5-3
WATER DEMAND PROJECTIONS (AF)

	2005	2010	2015	2020	2025	2030
District No. 40	58,525	74,884	90,735	106,299	120,762	134,565
Quartz Hill	5,469	6,345	7,360	8,537	9,903	11,488
Rosamond	2,954	4,742	7,036	10,438	15,487	22,977
Subtotal	**66,948**	**85,971**	**105,130**	**125,274**	**146,152**	**169,030**

SOURCE: Table 4-5 in 2005 Integrated Urban Water Management Plan for the Antelope Valley, Kennedy Jenks, 2005.

the State Water Project, surface water from Littlerock Creek, and recycled water. The proposed project would support the use of recycled water for various end uses, reducing regional demand on imported and local potable water supplies.

5.4.2 Palmdale Water District 2005 UWMP

Palmdale Water District's 2005 Urban Water Management Plan provides demand projections for its service area. Projections were derived based on calibration between future trends in population and proposed land use development. **Table 5-4** presents the demand projections in gallons per day (gpd) and a calculated conversion to afy.

TABLE 5-4
PALMDALE WATER DISTRICT DEMAND PROJECTIONS (GPD AND AF)

	2005	2010	2015	2020	2025	2030
Gallons Per Day (gpd)	23,012,320	27,708,657	35,323,111	43,368,976	48,304,729	53,425,941
Acre Feet Per Year (afy)	25,776	31,035	39,566	48,577	54,107	59,841

5.5 Growth Inducement Potential

The proposed project would expand the recycled water system in the Antelope Valley to meet current and future recycled water demands. Recycled water uses include, but are not limited to, landscape irrigation of parks, recreation areas, greenbelts, schoolyards, and highway medians, as well as agricultural irrigation, industrial uses, and groundwater recharge. Because the proposed project is limited to the provision of water supply infrastructure, as opposed to housing and commercial development that would directly affect the number of residents or employees within the area, the proposed project would not directly contribute to the creation of additional housing or jobs within the Antelope Valley and thus would not result in direct growth inducement.

To determine indirect growth inducement potential, the proposed project was reviewed to ascertain whether it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. The proposed project would reduce the area's existing and future demand for imported water through recycling. The imported water conserved through implementation of the proposed project would be available to serve potable water demands of planned growth. The Antelope Valley IRWMP expects population to increase by 245 percent of year 2000 levels by the year 2030. The Antelope Valley Regional Urban Water Management Plan (RUWMP) acknowledges the region's growth predictions and accounts for the water demand in its regional future demand projections. The Antelope Valley RUWMP projects that eight percent of the water demand in 2030 would be met with recycled water, although substantially more would be available as additional end use demand develops. The proposed project would not directly or indirectly induce growth or remove an obstacle to growth, since the increased population would occur in any case based on the cities' and counties' approved build-out and growth control policies. The recycled water that would be made available as a result of the proposed project would be used to meet a small percentage of projected demand in 2030 that would otherwise be met with imported water.

5.6 Secondary Effects of Growth

Implementation of the proposed project would not result in a direct or indirect increase in population or employment. The proposed project therefore is not growth inducing and would not induce secondary effects of growth. Some potentially adverse secondary effects would result from development of planned land uses in the project area from implementation of the City of Palmdale General Plan and the City of Lancaster General Plan. Effects which have been identified as significant and unavoidable are impacts to water consumption, surface water and groundwater levels and flow, water quality, biological resources, population growth, housing, and traffic and circulation. The proposed project would not cause additional secondary effects beyond those identified in the general plan EIRs, which have been adopted and approved with the local lead agency adopting a statement of overriding consideration for these significant unavoidable effects.

CHAPTER 6
Alternatives Analysis

6.1 Introduction

6.1.1 CEQA Requirements for Alternatives Analysis

The *CEQA Guidelines* require EIRs to describe and evaluate a reasonable range of alternatives to a project, or to the location of a project, that would feasibly attain most of the basic project objectives and avoid or substantially lessen significant project impacts. The *CEQA Guidelines* set forth the following criteria for alternatives (§15126.6):

- **Identifying Alternatives.** The range of alternatives is limited to those that would avoid or substantially lessen any of the significant effects of the project, are feasible, and would attain most of the basic objectives of the project. Factors that may be considered when addressing the feasibility of an alternative include site suitability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, economic viability, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site. An EIR need not consider an alternative whose impact cannot be reasonably ascertained and whose implementation is remote and speculative. The specific alternative of 'no project' shall also be evaluated along with its impact.

- **Range of Alternatives.** An EIR need not consider every conceivable alternative, but must consider a reasonable range of alternatives that will foster informed decision-making and public participation. The "rule of reason" governs the selection and consideration of EIR alternatives, requiring that an EIR set forth only those alternatives necessary to permit a reasoned choice. The lead agency, LACWWD40, is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives.

- **Evaluation of Alternatives.** EIRs are required to include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the project. Matrices may be used to display the major characteristics of each alternative and significant environmental effects of each alternative to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative must be discussed but in less detail than the significant effects of the project.

In general, there are two types of alternatives that may be reviewed in an EIR: (1) alternatives *to* the project that are other projects entirely, or other approaches to achieving the project objectives rather than the project or modified project; and (2) alternatives *of* the project that include modified project components, such as alternative project sites or processes and/or modified facilities, layout, size, and scale. This alternatives analysis discusses both types of alternatives.

In accordance with the *CEQA Guidelines*, the alternatives considered in this EIR include those that 1) could accomplish most of the basic objectives of the project, and 2) could avoid or substantially lessen one or more of the significant effects of the project. To provide the appropriate context for this alternatives analysis, the project objectives and key significant effects are summarized below.

6.1.2 Project Objectives

The proposed project would implement a regional recycled water backbone system of pipelines, pump stations, and storage reservoirs to convey recycled water to various end users in the Antelope Valley. The objectives of the proposed project are as follows:

- Provide recycled water conveyance backbone infrastructure sufficient to accommodate planned regional recycled water demands;
- Integrate regional recycled water production, distribution, and re-use capabilities in the Antelope Valley;
- Provide conveyance, storage, and pumping capacity sufficient to accommodate peak future demands;
- Reduce the region's demands for imported water;
- Augment local water supplies;
- Promote the State's policies for beneficial reuse of recycled water to replace potable water where possible.

6.1.3 Key Impacts of the Proposed Project

Chapter 3 of this EIR identifies potential impacts associated with the proposed project for each environmental issue area including long-term and short-term impacts. Mitigation measures are identified to render impacts less than significant, where possible. Implementation of the proposed project would result in significant and unavoidable impacts to noise during project construction.

6.2 Project Alternatives

This section presents the No-Project Alternative and other feasible alternatives to the proposed project that were considered by LACWWD40. The alternatives presented below include alternatives *to* the proposed project and alternatives *of* the proposed project.

6.2.1 Alternatives Rejected from Further Consideration

One potential alternative *of* the proposed project would include alternate pipeline routes and alternate locations for pump stations and/or storage reservoirs. Such modifications to the project components already have been considered as part of the preliminary design phase, which is described in the Facilities Planning Report (Kennedy/Jenks, 2006). The proposed pipeline alignment reflects the following screening criteria considered during preliminary design: (1) minimize the distance between the water reclamation plants; (2) minimize the distance between the recycled water pipeline and the identified end users; (3) optimize existing utility easement corridors; and (4) optimize the use of existing recycled water pipes and routes. The locations of the storage reservoirs are based on the pipeline alignment and elevations. Based on the analyses provided in this PEIR, there are no long-term significant unavoidable impacts associated with operation of the project components that would be avoided if such facilities were located elsewhere. Only temporary, construction-related, significant noise and vibration impacts might be avoided if alternative facility locations were considered. During the final design phase of the proposed project, some refinements to the project components may be necessary, but for the purposes of this PEIR, alternative locations for project components have been eliminated from further consideration.

6.2.2 No-Project Alternative

According to Section §15126.6(e) of the *CEQA Guidelines*, discussion of the No-Project Alternative must include a description of existing conditions and reasonably-foreseeable future conditions that would exist if the project were not approved. Under the No-Project Alternative, LACWWD40 and the partner agencies would not implement the Regional Recycled Water Project. The LWRP, PWRP, and RWWTP would be upgraded as planned to produce tertiary-treated effluent; however, there would be no integrated system to distribute this recycled water to end users in the Antelope Valley. LACSD Nos. 14 and 20 would manage recycled water with agricultural reuse only. RCSD would need to develop alternative measures for discharge or distribution of the recycled water produced at the RWWTP. Under the No-Project Alternative, future water demand in the Antelope Valley would continue to grow and would be met with increased quantities of groundwater, surface water, and imported water, and/or increased conservation measures.

Ability to Meet Project Objectives

Implementation of the No-Project Alternative would result in no regional backbone system to connect the three producers of recycled water in the Antelope Valley and would hinder regional plans, such as the *Antelope Valley Integrated Regional Water Management Plan* (IRWMP), to use recycled water to meet water demands in the region. In the absence of the proposed project, there would no distribution system to convey recycled water to locations where it can be beneficially used. There would be no system to integrate recycled water production, distribution, and use in the Antelope Valley. The demand for imported water and local water (i.e. groundwater and surface water) would increase as population in the region grows and recycled water is not

available to replace uses of potable water as appropriate. Therefore, implementation of the No-Project Alternative would not meet any of the stated project objectives.

Impact Analysis

Under the No-Project Alternative, the impacts identified in Chapter 3 that are associated with construction and operation of the proposed project would be avoided. Short-term construction impacts to aesthetics; air quality; agricultural resources; geology, soils and seismicity; hazardous materials; hydrology and water quality; noise; traffic; and utilities and service systems would be avoided. Potentially-significant long-term project impacts to aesthetics; geology, soils, and seismicity; hydrology and water quality; land use; and noise also would be avoided.

Under the No-Project Alternative, water demand in the Antelope Valley would continue to be met with water imported from the San Joaquin-Sacramento Delta (Delta) through the SWP and with local groundwater and surface water. The reliability of delivery of imported water from the Delta varies each year depending on annual precipitation and is subject to additional supply reductions from environmental constraints within the Delta (DWR, 2008). Although AVEK and PWD have Table A entitlements that exceed actual annual water deliveries, these water wholesalers may experience restrictions on imported water in the future. The groundwater aquifer that underlies the project region is currently experiencing overdraft conditions and associated groundwater quality issues (RWMG, 2007). In addition, the Antelope Valley groundwater basin is not an adjudicated basin, although the adjudication process is in progress (RWMG, 2007). An increased dependence on local groundwater resources could further exacerbate existing overdraft conditions and further degrade groundwater quality. Surface water flows from Littlerock Creek, which are captured and stored in Littlerock Reservoir, currently are being utilized to their full potential. PWD is in the planning and design stage for a sediment removal project in Littlerock Reservoir to recover lost yield from the Reservoir.

6.2.3 Alternative 1: Non-Integrated System

Under Alternative 1, instead of implementing the proposed project, LACWWD40, PWD, QHWD, and RCSD would design, construct, and operate their own recycled water systems. Alternative 1 would result in four separate recycled water systems in the Antelope Valley instead of one integrated regional system. LACWWD40 would construct recycled water pipelines, pump stations, and storage reservoirs within its service area. LACWWD40 would contract independently with LACSD No. 14, LACSD No. 20, and RCSD to purchase recycled water for the end users in its service area.

Ability to Meet Project Objectives

Implementation of Alternative 1 would result in no regional backbone system to connect the three producers of recycled water in the Antelope Valley and would hinder regional plans, such as the *Antelope Valley Integrated Regional Water Management Plan* (IRWMP), to use recycled water to meet water demands in the region. Instead, under Alternative 1 each water district in the Antelope Valley would act independently to implement its own recycled water project in order to meet

future demands for recycled water in its service area. Alternative 1 would augment local water supplies by using recycled water instead of potable water where appropriate and thus would reduce demand for imported water in the Antelope Valley. Therefore, implementation of Alternative 1 would meet some of the stated project objectives.

Impact Analysis

Under Alternative 1, the impacts identified in Chapter 3 that are associated with construction and operation of the proposed project at least would be similar and could even be worsened. Short-term construction impacts to aesthetics; air quality; agricultural resources; geology, soils and seismicity; hazardous materials; hydrology and water quality; noise; traffic; and utilities and service systems likely would be similar for each district's project. Potentially-significant long-term project impacts to aesthetics; geology, soils, and seismicity; hydrology and water quality; land use; and noise also would be similar for each district's project. However, cumulative impacts to air quality, noise, traffic, and water quality could be greater if all four recycled water projects are constructed simultaneously (as opposed to the phased approach for the proposed project) and if the four individual projects together affect a greater footprint than the proposed project.

6.3 Summary of Alternatives Analysis

A summary of the alternatives analysis is provided in **Table 6-1**, which provides a comparison of the proposed project to each alternative with respect to project objectives and project impacts. The alternatives evaluated in this PEIR present tradeoffs between achieving project objectives and impacting the environment. The No-Project Alternative would avoid all the environmental impacts of the proposed project but would not meet any of the project objectives. Alternative 1 would have similar environmental impacts relative to the proposed project (with the exception of increasing cumulative impacts) but would meet only some of the project objectives.

6.4 Environmentally Superior Alternative

CEQA requires that an EIR identify the environmentally-superior alternative of a project other than the No-Project Alternative (*CEQA Guidelines* Section 15126.6 (e)(2)). The proposed project is considered the environmentally-superior alternative because it meets all the project objectives and does not result in any significant, unavoidable impacts that would otherwise be avoided by implementing one of the project alternatives. As stated at the beginning of this chapter, the purpose of this alternatives analysis is to consider a reasonable range of alternatives that could feasibly attain most of the basic project objectives and avoid or substantially lessen significant project impacts. Implementation of the No-Project Alternative or Alternative 1 would not avoid any significant, unavoidable impacts, and none of these alternatives meet all the project objectives. Therefore, the proposed project is environmentally superior to these alternatives and is the preferred alternative.

TABLE 6-1
SUMMARY OF ALTERNATIVES ANALYSIS

Issue Area	Proposed Project	No-Project Alternative	Alternative 1
Meets Project Objectives?	Yes	No	Partial
Environmental Impacts			
Aesthetics	LSM	None	Same
Air Quality	LSM	None	Same
Biological Resources	LSM	None	Same
Cultural Resources	LSM	None	Same
Geology, Soils and Seismicity	LSM	None	Same
Hazards and Hazardous Materials	LSM	None	Same
Hydrology and Water Quality	LSM	None	Same
Land Use and Agriculture	LSM	None	Same
Noise	SU	None	Same
Environmental Justice	NI	None	Same
Transportation and Traffic	LSM	None	Same
Utilities and Service Systems	LSM	None	Same
Cumulative	LSM	None	Increased

SOURCE: ESA, 2008.

NI no impact
LTS less than significant
LSM less than significant with mitigation
SU Significant and Unavoidable

CHAPTER 7
References

American Ornithologists' Union (AOU), *Check-list of North American Birds* (7th ed., as revised through 48th Supplement), Washington, D.C.: AOU, 2007. Available online at http://www.aou.org/checklist/index.php3.

Antelope Valley Air Quality Management District (AVAQMD), *California Environmental Quality Act (CEQA) and Federal Conformity Guidelines*, May 2005.

Antelope Valley Air Quality Management District (AVAQMD), Rule 403 Fugitive Dust, February 1997.

Antelope Valley Transit Authority, Route Map. 2006. Available online at http://www.avta.com/transit/Fixed%20Route_web.pdf, accessed February 25, 2008.

Association of Environmental Professionals (AEP), *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents*, 2007

Axelrod, Daniel A., *Contributions to Paleontology IV: The Anaverde Flora of Southern California*. Reprinted from Carnegie Institution of Washington Publication 590, pages 119 – 158. December 27, 1950.

Baker, R.J., L.C. Bradley, R.D. Bradley, J.W. Dragoo, M.D. Engstrom, R.S. Hoffmann, C.A. Jones, F. Reid, D.W. Rice, and C. Jones. Revised Checklist of North American Mammals North of Mexico, *Occasional Papers (No. 229).* Waco, TX: Museum of Texas Tech University, December, 2003.

Blackburn, Thomas C. and Lowell J. Bean, Kitanemuk. In: *Handbook of North American Indians*, Vol. 8, California. William C. Sturtevant, general editor, Robert F. Heizer volume editor. Washington D.C.: Smithsonian Institution, 1978.

Bennett, A.F. Habitat Corridors and the Conservation of Small Mammals in the Fragmented Forest Environment. *Landscape Ecology* 4(2–3):109–122. New York, NY: International Association for Landscape Ecology, 1990.

Bolt, B. A., *Earthquakes*, W. H. Freeman and Company, New York, 1988.

California Air Pollution Control Officers Association (CAPCOA), *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.

California Air Resources Board (CARB), *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, 2000.

California Air Resources Board (CARB), ARB Fact Sheet: Air Pollution Sources, Effects and Control, 2001. Available online at http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm. Updated December 2005.

California Air Resources Board (CARB), *Air Quality and Land Use Handbook: A Community Health Perspective*, 2005.

California Air Resources Board (CARB), Summaries of Air Quality Data, 2004, 2005, 2006; 2007a. Available online at http://www.arb.ca.gov/adam/cgi-bin/db2www/polltrendsb.d2w/start.

California Air Resources Board (CARB), *Ambient Air Quality Standards*, 2007b. Available online at http://www.arb.ca.gov/aqs/aaqs2.pdf, updated February 22, 2007.

California Air Resources Board (CARB), *Area Designation Maps*, 2007c. Available online at http://www.arb.ca.gov/desig/adm/adm.htm, updated February 2006.

California Air Resources Board (CARB), September 2007d. *Draft List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration*, September 2007d.

California Air Resources Board (CARB), Mandatory Reporting of California Greenhouse Gas Emissions, August 29, 2007e. Presentation at Cal/EPA Headquarters.

California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, 2007. Available online at http://www.consrv.ca.gov. Accessed January 29, 2008.

California Department of Conservation, 2005. Division of Land Resource Protection, Williamson Act Program, Kern County Williamson Act Lands 2005. Available online at http://www.consrv.ca.gov. Accessed January 29, 2008.

California Department of Fish and Game (CDFG 2008), California Natural Diversity Database. Records of Occurrence for Soledad Mountain, Bissell, Rosamond, Rosamond Lake, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale USGS quadrangle maps. Sacramento, CA: CDFG, Natural Heritage Division, 2008.

California Department of Forestry and Fire Protection. Draft Fire Hazard Severity Zones in LRA, Kern County, 2007. Available online at http://www.fire.ca.gov/fire_protection/fhsz_maps/fhsz_maps_kern.php. Accessed on: February 12, 2008.

California Department of Fish and Game (CDFG 2008b), Special Animals List–Threatened and Endangered Mammals. Natural Heritage Division. Sacramento, California, February, 2008.

California Department of Fish and Game (CDFG). List of California Terrestrial Natural Communities Recognized by the Natural Diversity Data Base. Sacramento, CA: Natural Heritage Division, 2003.

California Department of Fish and Game, (CDFG), California Wildlife Habitat Relationships Database System. Natural Heritage Division. Sacramento, California, 2002.

Caltrans, *Technical Noise Supplement*, October 1998.

California Department of Transportation (Caltrans), Scenic Highway Program, available online at http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm, accessed December 26, 2007.

California Department of Water Resources. California's Groundwater Bulletin 118, South Lahontan Hydrologic Region, Antelope Valley Groundwater Basin, February 2004.

California Department of Water Resources (DWR), *The State Water Project Delivery Reliability Report 2007*, August 2008.

California Division of Mines and Geology (CDMG). Alquist-Priolo Special Studies Zone Map, Palmdale, California, Quadrangle, Scale 1:24,000, 1979a.

California Division of Mines and Geology (CDMG). Alquist-Priolo Special Studies Zone Map, Ritter Ridge, California, Quadrangle, Scale 1:24,000, 1979b.

California Energy Commission, California Energy Action Plan II, 2005.

California Geological Survey (CGS). Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication 117, March 1997.

California Geological Survey (CGS). Seismic Hazards Zones Map. Palmdale, California, Quadrangle, Scale 1:24,000, 2003a.

California Geological Survey (CGS). Seismic Hazards Zones Map. Ritter Ridge, California, Quadrangle, Scale 1:24,000, 2003b.

California Geological Survey (CGS). Seismic Hazards Zones Map. Rosamond, California, Quadrangle, Scale 1:24,000, 2005.

California Geological Survey (CGS). Alquist-Priolo Earthquake Fault Zones, 2007a. Available online at www.conservation.ca.gov/cgs/rghm/ap/Pages/Index.aspx.

California Geological Survey (CGS). Probabilistic Seismic Hazards Mapping Page, 2007b. Available online at www.conservation.ca.gov/cgs/rghm/pshzmap.

California Stormwater Quality Association. *California Stormwater Best Management Practices Handbook for Construction*, January 2003.

Caltrans, District 7 Projects. Available online at http://www.dot.ca.gov/dist07/travel/projects/. Accessed January 29, 2008.

Caltrans, District 6 Project Factsheets. Available online at http://www.dot.ca.gov/dist6/factsheets/index.htm. Accessed January 29, 2008.

California Department of Transportation (Caltrans). *Traffic and Vehicle Data Systems Unit, Traffic Operations Division, 2006 Traffic Volumes*. Accessed February 21, 2008.

California Department of Transportation (Caltrans), *Construction Manual*, last revised December 2004.

California Native Plant Society (CNPS). 2008. Electronic Inventory of Rare and Endangered Vascular Plants of California. Records of Occurrence for Soledad Mountain, Bissell, Rosamond, Rosamond Lake, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale USGS quadrangle maps. Sacramento, CA: CNPS. http://www.cnps.org/inventory.

Carollo Engineers, *Palmdale Water District 2005 Urban Water Management Plan*, December 2005.

Castillo, Edward D., Short Overview of California Indian History. From http://www.nahc.ca.gov/default.html The Californian Native American Heritage Commission webpage, 1998.

City of Lancaster Recreational Amenities Map, 2005. Available online at http://www.scag.ca.gov/downloads/subregionprojects/Lancaster_RecAmen_NLACO_11x17.pdf. Accessed February 25, 2006.

City of Lancaster. http://www.cityoflancasterca.org. Accessed February 26, 2008.

City of Lancaster, Capital Improvement Program FY2007/08 and Projected FY 2008/09 through 2016/17, 2007.

City of Lancaster, *City of Lancaster General Plan Update Environmental Impact Report*, 1993.

City of Lancaster, *City of Lancaster 2020 General Plan*, October 1997.

City of Lancaster, *City of Lancaster Municipal Code*, July 24, 2007. Available online at http://www.cityoflancasterca.org/Index.aspx?page=38. Accessed on February 27, 2008.

City of Palmdale, City Map Library. Available online at http://www.cityofpalmdale.org/departments/traffic/maps/maps.asp. Accessed February 13, 2008.

City of Palmdale. http://www.cityofpalmdale.org. Accessed February 12, 2008.

City of Palmdale, *City of Palmdale General Plan*, January 25, 1993.

City of Palmdale, *City of Palmdale Zoning Ordinance*, December 14, 1994. Available online at http://www.cityofpalmdale.org/departments/planning/zoning/. Accessed February 25, 2008.

City of Palmdale, Department of Public Works, Program Management Division, *2007 Ten-Year Capital Improvement Plan*, approved June 10, 2007.

City of Palmdale, *Palmdale Native Desert Vegetation Ordinance* (No. 952, Section 2), 1992. Available online at http://www.cityofpalmdale.org/city_hall/codes/Nativeplantordinance%20repaired.pdf.

County of Kern, Engineering and Survey Services Department. http://www.co.kern.ca.us/ess. Accessed February 26, 2008.

County of Kern, 1996. *Airport Land Use Compatibility Plan*. Amended June 2006.

County of Los Angeles, Department of Public Works. http://ladpw.org. Accessed February 13, 2008.

County of Los Angeles, Department of Public Works (LACDPW), Watershed Management Division, Engineer's Report, Quartz Hill Storm Drain, August 2005.

County of Los Angeles Fire Department, Incorporated Fire Hazard Severity Zone, City of Lancaster, 2007. Available online at http://www.fire.ca.gov/fire_protection/fhsz_maps/fhsz_maps_losangeles.php. Accessed on: February 12, 2008.

County Sanitation Districts of Los Angeles County (LACSD), *Lancaster Water Reclamation Plant 2020 Facilities Plan Final Environmental Impact Report*, prepared by ESA, Los Angeles, CA, May 2004.

County Sanitation District of Los Angeles County (LACSD), Memorandum to Stephen R. Maguin, Chief Engineer and General Manager from Earle Harling, Recycling Coordinator, regarding Comparative Energy Requirements for Local Water Supplies, March 5, 2008.

County Sanitation Districts of Los Angeles County, *Palmdale Water Reclamation Plant 2025 Facilities Plan and Final Environmental Impact Report*, prepared by ESA, Los Angeles, CA, September 2005.

Cunkelman, S., *Survey and Evaluation Report for Proposed Acton Phase I Land Exchange Near Tropico Mine*. On file Southern San Joaquin Valley Information Center, California State University – Bakersfield, 2001.

Cunkelman, S., Archaeological Site Records: CA-KER-6005H, -6006H, -6007H, -6008H, -6009H, -6010H, -6011H, -6012H, -6013H, 15-100524, 15-100525. On file Southern San Joaquin Valley Information Center, California State University – Bakersfield, 2001.

Cunniff, *Environmental Noise Pollution*, 1977.

Darling, C., *Kern County Place Names*. Kern County Historical Society: Rosamond, California, 2003.

EARTHTECH, Archaeological Site Records: CA-LAn-2711H; -2715H; -2716H; -2719H, -2720H, In: *Cultural Resources Investigation for Air Force Plant #42*. On file South Central Coastal Information Center, California State University – Fullerton, 1996.

England and Nelson, *Los Angeles County Significant Ecological Area Study*. (Prepared for the Los Angeles County Department of Regional Planning and Environmental Systems Research Institute). Riverside, California: England and Nelson Environmental Consultants, 1976.

Environmental Data Resources, Inc., EDR Data Map Environmental Atlas, LA/Kern County Recycled Water Facility, January 10, 2008.

Environmental Science Associates (ESA), *Analysis of Developing and Implementing a Groundwater Recharge Reuse Project in the Antelope Valley*. Prepared for the Los Angeles County Sanitation District No. 20, April 2005.

Executive Order 12898 of February 11, 1994. *Federal Register* Vol. 59, No. 32, February 11, 1994.

Farhig, L., and G. Merriam, *Habitat patch connectivity and population survival.* Ecology 66:1,792-1,768, 1985.

Federal Aviation Administration (FAA), Advisory Circular 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports*, August 28, 2007.

Federal Highway Administration (FHWA), *Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways*, U.S. Department of Transportation, Office of Highway Safety, November 2003.

Federal Interagency Committee On Noise (FICON), *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992.

Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment, May 2006.

Geomatrix, Memorandum from Duane Paul to Ray Tremblay at LACSD regarding: Nitrate in Groundwater near Littlerock, California, July 31, 2007.

Harris, L.D., and P.B. Gallagher, *New Initiatives for Wildlife Conservation; The Need for Movement Corridors.* Pages 11-34 in G. Mackintosh, ed. *Preserving Communities and Corridors*. Defenders of Wildlife., Washington, D.C. 96pp, 1989.

Hickman, J.C. Editor, *The Jepson Manual Higher Plants of California*. University of California Press, Berkeley, CA, 1993.

Integrated Waste Management Board, Solid Waste Facility Listing. Available online at http://www.ciwmb.ca.gov/SWIS. Accessed February 13, 2008.

Kennedy/Jenks Consultants (KJ), *Draft for Public Review 2005 Integrated Regional Urban Water Management Plan for the Antelope Valley*, October, 2005.

Kennedy/Jenks Consultants (KJ), *Final Facilities Planning Report*, Antelope Valley Recycled Water Project, prepared for Los Angeles County Department of Public Works Waterworks District No. 40, August 8, 2006.

Kennedy/Jenks Consultants (KJ). *Antelope Valley Integrated Regional Water Management Plan* (IRWMP), prepared for the Regional Water Management Group of the Antelope Valley IRWMP, December 2007.

Kern County Air Pollution Control District (KCAPCD), New Source Review, 2004. Available online at www.Kernair.org.

Kern County Department of Planning and Development Services, *Kern County General Plan*, March 13, 2007. Available online at http://www.co.kern.ca.us/planning/pdfs/kcgp/KCGP.pdf. Accessed February 25, 2008.

Kern County Department of Planning and Development Services, Rosamond Specific Plan 1996 Text Revisions, 1996.

King, Chester and Thomas C. Blackburn, Tataviam. In: *Handbook of North American Indians*, Vol. 8, California. William C. Sturtevant, general editor, Robert F. Heizer volume editor. Washington D.C.: Smithsonian Institution ,1978.

Kroeber, Alfred L., *Handbook of the Indians of California*. Bureau of American Ethnology, Bulletin 78. Washington D.C.: Smithsonian Institution, 1925.

Laylander, Don, *Early Ethnography of the Californias: 1533-1825*. Coyote Press Archives of California Prehistory, no. 47, 2000.

Leadebrand, Russ, "Let's Explore a Byway: Through the Rosamond Mining District." *Westways*, February, 1965. Rosamond Library-Wanda Kirk Branch, Kern County; Vertical file, 1965.

Loftus, Shannon L. and Robin D. Turner, *Cultural Resource and Paleontological Assessment, North Los Angeles/Kern County Regional Recycled Water Master Plan. Los Angeles/East Kern Counties, California*, 2008.

Los Angeles County, *Los Angeles County Draft General Plan*, June 28, 2007. Available online at http://planning.co.la.ca.us/spGPMain.htm. Accessed February 26, 2008.

Los Angeles County Department of Regional Planning, *Los Angeles County Airport Land Use Plan*. 2004. Revised December 1, 2004.

Los Angeles County. *Los Angeles County Airport Land Use Commission Comprehensive Land Use Plan*. December 19, 1991.

Los Angeles Department of Public Works (LADPW). *Antelope Valley Comprehensive Plan of Flood Control and Water Conservation*, 1987.

Los Angeles Department of Public Works (LADPW), *Los Angeles County Hydrology Manual*, 2006.

Los Angeles County Department of Public Works Waterworks District No. 40 (LACWWD40), *Final Facilities Planning Report*, Antelope Valley Recycled Water Project, prepared by Kennedy/Jenks Consultants, August 8, 2006.

MacArthur, R.H. and E.O. Wilson, *The Theory of Island Biogeography*. Princeton University Press. Princeton, NJ, 1967.

Metrolink Map, 2007. Available online at http://www.metrolinktrains.com/documents/Stations/MetrolinkMap.pdf. Accessed February 25, 2008.

Michael Brandman Associates, *Program Environmental Impact Report for the City of Palmdale Draft General Plan*, August 1992.

Moratto, Michael, *California Archaeology*. Academic Press, Inc.: Orlando, 1984.

Munz, P.A., *A Flora of Southern California*. University of California Press, Berkeley, CA, 1974.

Neitzel, Ken. Personal communication, Facility Manager (USAF), discussion with Philip Wade, ESA. June 10, 2008.

Norwood, Richard, *Phase I Cultural Resource Investigation for Cedar Street Parking Lot, Lancaster, Los Angeles County, California*. On file, South Central Coastal Information Center, California State University – Fullerton, 1995.

Noss, R.F., *A Regional Landscape Approach to Maintain Diversity.* BioScience 33:700-706, 1983.

Palmdale Water District (PWD) *Water System Master Plan*, 2001.

Palmdale Water District (PWD). http://www.palmdalewater.org. Accessed February 13, 2008.

Parker, M.P., et al., *Data Recovery, Testing and Monitoring Report and Recommendations for Phase 1 of the Anaverde Project ,City of Palmdale, Los Angeles County, CA*. On file, South Central Coastal Information Center, California State University – Fullerton, 2003.

PCR, PCR Project Team, Los Angeles County Significant Ecological Area Update Study, November 2000.

Rand McNally, The Thomas Guide, *Los Angeles County Street Guide*, 2007a.

Rand McNally, The Thomas Guide, *Kern County Street Guide*, 2007b.

Regional Water Quality Control Board, Lahontan Region (RWQCB), *Water Quality Control Plan for the Lahontan Region, North and South Basins*, March 31, 1995.

Regional Water Quality Control Board, Lahontan Region (RWQCB), National Pollutant Discharge Elimination System Stormwater Regulation Non-applicability to the Los Angeles County Sanitation Districts Lancaster and Palmdale Water Reclamation Plants, Los Angeles County, Letter to James F. Stahl, General Manager, LACSD, August 6, 2004.

RMC Water And Environment (RMC), *Groundwater Recharge Feasibility Study*, prepared for the City of Lancaster, May 2007.

RMC Water and Environment (RMC), *Palmdale Recycled Water Facilities Planning Study*, Final Technical Memorandum, prepared for Leon Swain & Gordon Phair, City of Palmdale, November 9, 2007.

Robinson, Roger W., *Phase II Testing of Cultural Resources Associated with Archaeological Site 90-1 (Temporary Designation) located in Section 27, T 8N, R 12W, Los Angeles County, California*. On file, South Central Coastal Information Center, California State University – Fullerton, 1993.

Rodriguez, Joe, Personal communication with Joe Rodriguez, Federal Aviation Administration, August 7, 2006.

Rosamond Library-Wanda Kirk Branch, Kern County, n.d., *Rosamond – A Quick History* (rosamondca.us/); vertical file.

Seal, Claud, Personnel communication with Claud Seal, Rosamond Community Services District, 2007.

Settle, G., "Rosamond and Its Mining History". In: *Along the Rails from Lancaster to Mojave*. Kern-Antelope Historical Society: Rosamond, California, 1965.

Simberloff, D., and J. Cox., Consequences and Costs of Conservation Corridors. Conser. Biol. 1:63-71, 1987.

Snyder, J.H., "Groundwater in California – The experience of Antelope Valley," published by, University of California, Berkeley, Division of Agriculture Science, Giannini Foundation, Ground-Water Studies No. 2, 1955.

Soule, M.E., Viable Populations for Conservation. Cambridge University Press, New York, NY, 1987.

Southern California Association of Governments, *City Projections*, 2004.

State of California, Governor's Office of Planning and Research, *General Plan Guidelines*, 1998

State Water Resources Control Board (SWRCB), Division of Financial Assistance, *Environmental Review for Process Guidelines for State Revolving Fund Loan Applicants*, September 2004.

State Water Resources Control Board (SWRCB), Draft Staff Report and Certified Regulatory Program Environmental Analysis, Recycled Water Policy, 2008a. Available online at http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/. Accessed May 7, 2008.

State Water Resources Control Board (SWRCB), Draft SWRCB Recycled Water Policy, 2008b. Available online at: http://www.waterboards.ca.gov/water_issues/programs/ water_recycling_policy/. Accessed May 7, 2008.

State Water Resources Control Board (SWRCB), Statewide General Permit for Landscape Irrigation Uses of Recycled Water, 2008c. Available online at: http://www.waterboards.ca.gov/water_issues/programs/ water_recycling_policy/. Accessed May 7, 2008.

State Water Resources Control Board (SWRCB), Draft SWRCB Recycled Water Policy, 2008d. August 5, 2008.

Stebbins, R.C., *A Field Guide to Western Reptiles and Amphibians.* 3rd ed. Houghton Mifflin Company. Boston, MA, 2003.

Sutton, Mark Q., *An Introduction to the Archaeology of the Western Mojave Desert, California*. Coyote Press: Salinas, California, 1988.

Sutton, Mark Q., The Current Status of Archaeological Research in the Mojave Desert. *Journal of California and Great Basin Anthropology* 18(2): 221-257, 1996.

Tang, B. and M. Hogan, *Historic Resources Survey Report: North Downtown Neighborhood Vision Plan, City of Lancaster, Los Angeles County, California*. On file, South Central Coastal Information Center, California State University – Fullerton, 2001.

Trnka, J. and L. Lambros, *Historic Building Inventory and Evaluation: Air Force Plant 42, Palmdale, California*. On file, South Central Coastal Information Center, California State University – Fullerton, 1997.

U.S. Army Corps of Engineers (USACE), Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station, Environmental Laboratory, 1987.

U.S. Census Bureau, American Fact Finder. Available online at http://factfinder.census.gov. Accessed February 27, 2008.

U.S. Department of the Interior, National Park Service, *National Register Bulletin: How to Apply the National Register Criteria for Evaluation. Washington D.C.*: National Park Service, 1995.

U.S. Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, 1971.

U.S. Environmental Protection Agency (USEPA), *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Source*, January 1995.

United States Geological Survey (USGS), Geohydrology of the Antelope Valley Area California and Design for Groundwater-Quality Monitoring Network, 1987.

United States Geological Survey, Hydrogeology and Land Subsidence, Edwards Airforce Base, Antelope Valley, California, January 1989- December 1991, Water-Resources Investigation Report 93-4114, 1993.

United States Geological Survey (USGS), Land Use and Water Use in the Antelope Valley, California, Water-Resources Investigations Report 94-4208, 1995.

United States Geological Survey (USGS), Antelope Valley Ground-Water Study, 2000a. Available at online at http://ca.water.usgs.gov/projects00/ca532.html.

United States Geological Survey (USGS), Simulation of Ground-water Flow and Land Subsidence, Antelope Valley Ground-Water Basin, California, 2003.

Waste Management of Antelope Valley. http://www.wm.com/templates/fac4164. Accessed February 13, 2008.

Water Reuse Association, Recycled Water Uses Allowed in California. Available online at http://www.watereuse.org/ca/usestable.html. Accessed January 3, 2008.

West Basin Municipal Water District. Analysis of the Energy Intensity of Water Supplies for West Basin Municipal Water District. Prepared by Robert C. Wilkinson, Phd. March 2007.

Wildermuth Environmental Inc. (Wildermuth), *Recycled Water Groundwater Recharge Feasibility Study*, prepared for Palmdale Water District, July 2007.

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CHAPTER 9
Acronyms

AB 32	California Global Warming Solutions Act of 2006
af	Acre-feet
afy	Acre-feet per year
AIA	Airport Influence Area
ALUC	Airport Land Use Commission
ALUP	Airport Land Use Plan
amsl	Above Mean Sea Level
APN	Assessors Parcel Number
ASR	Aquifer Storage and Recovery
AQAP	Air Quality Attainment Plan
AQMP	Air Quality Management Plan
AV	Antelope Valley
AVA	Antelope Valley Areawide
AVAQMD	Antelope Valley Air Quality Management District
AVGB	Antelope Valley Groundwater Basin
AVEK	Antelope Valley-East Kern Water Agency
AVTA	Antelope Valley Transit Authority
AVTTP	Antelope Valley Tertiary Treatment Plant
Bgs	Below Ground Surface
BMPs	Best Management Practices
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAS	Conventional activated sludge
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDMG	California Division of Mines and Geology

CEQA	California Environmental Quality Act
Cfs	Cubic Feet Per Second
CGS	California Geological Survey
CIP	Capital Improvement Program
CIWMB	California Integrated Waste Management Board
CDFG	California Department of Fish and Game
CDHS	California Department of Health Services
CDPH	California Department of Public Health
CFR	Code of Federal Regulations
CH_4	Methane
CNEL	Community Noise Equivalent Level
CO_2	Carbon Dioxide
CO_2E	Carbon Dioxide Equivalents
CO_2/yr	Carbon Dioxide per Year
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	Decibels
DPM	Diesel Particulate Matter
DWR	California Department of Water Resources
EAFB	Edwards Air Force Base
EC	Electrical Conductivity
EAFB	Edwards Air Force Base
EIR	Environmental Impact Report
EDR	Environmental Data Resources
EPA	Environmental Protection Agency
ETo	Evapotranspiration
FAA	Federal Aviation Administration
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zones
FIP	Federal Implementation Plan
FIRM	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program

GCP	General Construction Permit
GHG	Greenhouse Gases
GIS	Geographic Information System
gpd	Gallons per day
gpm	Gallons per Minute
GRRP	Groundwater Recharge Reuse Project
GWP	Global Warming Potential
GWR	Groundwater Recharge
HFCs	Hydrofluorocarbons
H_2O	Water Vapor
HWCL	Hazardous Waste Control Law
Hz	Hertz
IRWMP	Integrated Regional Water Management Plan
IS	Initial Study
JPA	Joint Powers Authority
LACBC	Los Angeles County Building Code
LACSD	County Sanitation Districts of Los Angeles County
LACWWD40	Los Angeles County Waterworks District No. 40, Antelope Valley
LAWA	Los Angeles World Airports
LCFS	Low Carbon Fuel Standard
LCID	Littlerock Creek Irrigation District
LUST	Leaking Underground Storage Tanks
LWRP	Lancaster Water Reclamation Plant
M&I	Municipal and industrial
maf	Million acre-feet
MCL	Maximum Contaminant Levels
MEI	Maximum Exposed Individual
MBR	Membrane Bioreactor
mg/l	Milligrams per Liter
mgd	Million Gallons per Day
mmhos/cm	Millimhos per Centimeter
MMI	Modified Mercalli Intensity
MMRP	Mitigation Monitoring and Reporting Plan
$MMTCO_2E$	Million Metric Tons of CO_2E

MPN	Most Probable Number
NAAQS	National Ambient Air Quality Standards
NDMA	Nitrosodimethylamine
NPDES	National Pollutant Discharge Elimination System
NOI	Notice of Intent
NOP	Notice of Preparation
NOT	Notice of Termination
NO_x	Nitrogen Oxides
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
O_3	Ozone
OSHA	Occupational Safety and Health Administration
PAH	Polycyclic Aromatic Hydrocarbons
PCE	Tetrachloroethene
PEIR	Program Environmental Impact Report
PFCs	Perfluorocarbons
PHPP	Palmdale Hybrid Power Plant
PM2.5	Particulate matter less than 2.5 microns
PM10	Particulate matter less than 10 microns
PMD	Palmdale Regional Airport
PPV	Peak particle Velocity
PWD	Palmdale Water District
PWRP	Palmdale Water Reclamation Plant
Ppb	Parts per billion
Ppm	Parts per million
QHWD	Quartz Hill Water District
RCRA	Resource Conservation and Recovery Act
RCSD	Rosamond Community Service District
RMS	Root Mean Square
ROG	Reactive Organic Gases
rpm	Revolutions per minute
RPZ	Runway protection zone
RWC	Recycled Water Contribution
RWMG	Regional Water Management Group

RWQCB	Regional Water Quality Control Board
RWWTP	Rosamond Wastewater Treatment Plant
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SCGC	Southern California Gas Company
SDWA	Safe Drinking Water Act
SENL	Single Event Noise Levels
SF6	Sulfur Hexafluoride
SIP	State Implementation Plan
SLIC	Spills, Leaks, Investigations, and Cleanup
SR	State Route
SRF	State Revolving Fund
SWLF	Solid Waste Landfill
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic air contaminants
TCE	Trichloroethene
TDS	Total Dissolved Solids
TSCA	Toxic Substances Control Act
TSS	Total Suspended Solids
USBR	U.S. Bureau of Reclamation
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VOCs	Volatile Organic Compounds
WDR	Waste Discharge Requirements
WRP	Water Reclamation Plant
WRRs	Wastewater Recycling Requirements
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

CHAPTER 10
Comment Letters

This Chapter 10 and the following chapters (Chapters 10, 11, and 12) have been added to the Program Environmental Impact Report (PEIR) (State Clearinghouse No. 2007101125) and together with the revised Draft PEIR constitute the Final PEIR prepared by LACWWD40 in consultation with the Responsible Agencies for the North Los Angeles/Kern County Regional Recycled Water Project (proposed project).

This chapter contains the comment letters received during the public review period for the Draft PEIR. The letters have been bracketed and numbered and are presented in the order listed in Table 10-1. The responses to comments are provided in Chapter 11 and are numbered to correspond to the comment numbers that appear in the margins of the comment letters.

TABLE 10-1
PERSONS, ORGANIZATIONS, AND PUBLIC AGENCIES COMMENTING IN WRITING

No.	Name	Affiliation	Date
1	Victor Globa	Federal Aviation Administration	August 13, 2008
2	Michelle L. Jones	State Water Resources Control Board	August 27, 2008
3	David M. Samson	Department of Water Resources	October 3, 2008
4	Edmund J. Pert	California Department of Fish and Game	October 10, 2008
5	Alan J. De Salvio	Mojave Desert AQMD	August 15, 2008
6	Curt Shifrer	Regional Water Quality Control Board	October 3, 2008
7	Elmer Alvarez	Caltrans District 7	September 11, 2008
8	Gayle J. Rosander	Caltrans District 9	August 20, 2008
9	David McDonald	LA County Regional Planning, Airport Land Use Commission	August 21, 2008
10	Brian Dietrick	L.A. County Sanitation District	September 22, 2008
11	Thomas J. LeBrun	L.A. County Sanitation District	October 2, 2008
12	Claud Seal	Rosamond Community Services District	October 3, 2008
13	Larry Tyler	Leona Valley Town Council	October 3, 2008
14	Vickie Nelson	Antelope Acres Town Council	October 6, 2008
15	Pat Moriarty	Antelope Valley resident	October 2, 2008
16	Dean Webb	Lancaster resident	September 24, 2008
17	James Gilley	The Gilley Group LLC	September 15, 2008
18	James R. Williams	City of Lancaster	October 7, 2008

WW/08

Comment Letter FAA

U.S Department
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August 13, 2008

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**North Los Angeles County / Kern County Regional Recycled Water Project
Notice of Availability Draft Environmental Impact Report (EIR)**

Dear Mr. King:

I am in receipt of your North Los Angeles County/North Los Angeles County/Kern County Regional Recycled Water Project Notice of Availability Draft Environmental Impact Report (EIR) for the proposed construction of a regional recycled distribution system that includes pipelines, storage reservoirs, and pump stations. The project appears to be located in the vicinity of a number of airports.

It is necessary under Part 77 of the Federal Aviation Regulations to notify the Federal Aviation Administration (FAA) of any proposal which would exceed certain elevations with respect to the ground and neighboring airports.

CFR Title 14 Part 77.13 states that any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA:

- any construction or alteration exceeding 200 ft above ground level

any construction or alteration:

- within 20,000 ft of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 ft

- within 10,000 ft of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 ft

- within 5,000 ft of a public use heliport which exceeds a 25:1 surface

- any highway, railroad or other traverse way whose prescribed adjusted height would exceed that above noted standards when requested by the FAA

1

- any construction or alteration located on a public use airport or heliport regardless of height or location.

To fulfill this requirement, it is necessary to complete and return a copy of the Form 7460-1, Notice of Proposed Construction or Alteration. This form is found on the web at: http://forms.faa.gov/forms/faa7460-1.pdf. Once completed please forward the 7460-1, and any related plans for obstruction evaluation to:

Federal Aviation Administration
Southwest Regional Office
Air Traffic Airspace Branch, ASW-520
2601 Meacham Blvd.
Fort Worth, TX 76137-4298

Or coordinate with FAA's Western-Pacific Region System Obstruction Specialist Karen McDonald to address any potential air space obstruction issues. Ms. McDonald may be contacted at 310-725-6557 or karen.mcdonald@faa.gov. 1

In the event that that you consider including a reservoir in your project, please review FAA Advisory Circular 150/5200-33, Hazardous Wildlife Attractants on or Near Airports. This advisory circular provides guidance on locating certain land uses having the potential to attract hazardous wildlife to or in the vicinity of public use airports. 2

If you have any questions regarding this matter, please feel free to give me a call at (310) 725-3637.

Sincerely,

Victor Globa
Environmental Protection Specialist

State Water Resources Control Board

Division of Financial Assistance
1001 I Street • Sacramento, California 95814 • (916) 341-5700 FAX (916) 341-5707
Mailing Address: P.O. Box 944212 • Sacramento, California • 94244-2120
Internet Address: http://www.waterboards.ca.gov

Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

WW 540

AUG 27 2008

Mr. Jonathan King
Los Angeles County Waterworks District No.40
900 South Fremont Avenue
Los Angeles CA, 91803

Dear Mr. King:

DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR) FOR LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40 (DISTRICT); NORTH LOS ANGELES/KERN COUNTY REGIONAL RECYCLED WATER PROJECT (PROJECT); LOS ANGELES AND KERN COUNTIES; STATE CLEARINGHOUSE (SCH NO. 2007101125).

We understand that the District may be pursuing Clean Water State Revolving Fund (CWSRF) financing for this Project. As a funding agency and a State agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information for the environmental document prepared for the Project.

When specific projects for funding have been determined from the PEIR, please provide us with the following documents applicable to the individual projects: (1) The Draft and Final project-specific EIR, (2) the resolution certifying the EIR and making CEQA findings, including a Statement of Overriding Considerations for identified significant and unavoidable environmental impacts, if applicable, (3) all comments received during the review period and your responses to those comments, (4) the adopted Mitigation Monitoring Plan, and (5) the Notice of Determination filed with the Governor's Office of Planning and Research applicable to each specific project. In addition, we would appreciate notices of any hearings or meetings held regarding environmental review of any projects to be funded by the State Water Board.

The CWSRF Program is partially funded by the U.S. Environmental Protection Agency and requires additional "CEQA-Plus" environmental documentation and review. The State Water Board is required to consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by federal agencies or their representatives will need to be resolved prior to State Water Board approval of a CWSRF funding commitment for the proposed Project. 1

It is important to note that prior to a CWSRF funding commitment, projects are subject to provisions of the Federal Endangered Species Act and must obtain Section 7 clearance from the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS) for any potential effects to special status species. Please be advised that the State Water Board will consult with USFWS and/or NMFS regarding all federal special status species the Project has the potential to impact if the Project is to be funded under the SRF Program. The District will need to identify whether the Project will involve any direct effects from construction activities or indirect effects, such as growth inducement, that may affect federally listed threatened, endangered, or candidate species that are known, or have a potential to occur on-site, in the surrounding areas, or in the service area. Identify applicable conservation measures to reduce such effects.

AUG 27 2008

In addition, CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act. Please contact the State Water Board's Cultural Resources Officer, Ms. Cookie Hirn, at (916) 341-5690 to find out more about the requirements and to initiate the Section 106 process pursuant to CWSRF financing. Note that the District will need to identify the Area of Potential Effects (including construction and staging areas and the depth of any excavation).

Other federal requirements pertinent to the Project under the CWSRF Program include the following:

I. Compliance with the federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.

II. Compliance with the Coastal Zone Management Act: Identify whether the Project is within a coastal zone and the status of any coordination with the California Coastal Commission. 1

III. Compliance with the Flood Plain Management Act: Identify whether the Project is within the 100-year flood zone and whether new structures created would impede flood flows. Include a flood map.

IV. Compliance with the Migratory Bird Treaty Act: List any birds that are protected under this Act that may be impacted by the Project and identify conservation measures to minimize such impacts.

V. Compliance with the Wild and Scenic Rivers Act: Identify whether or not any Wild and Scenic Rivers would be potentially impacted by the Project and include conservation measures to minimize such impacts.

Following are my specific comments on the PEIR:

1. Mitigation Measure 3.1-1 on page 3.1-6 states "Following construction activities, the implementing agency shall restore disturbed areas by reestablishing preexisting conditions including topography, repairing roadways, replanting trees, and/or reseeding with a native seed mix typical of the immediate surrounding area." Please include measures, if any which monitor the replanted areas, ensuring the plants establish. 2

2. Mitigation Measure 3.6-2b on page 3.6-9 states, "The implementing agencies shall require the construction contractor(s) to follow the provisions of California Code of Regulations Title 8, Section 5163 through 5167 for General Industry Safety Orders to protect the project area from being contaminated by accidental release." Compliance with the law, statutes, and regulations is not mitigation. Mitigation should include specific, feasible actions that will improve adverse environmental conditions, be measurable to allow monitoring, and must be enforceable. 3

AUG 27 2008

Thank you once again for the opportunity to review the District's environmental document. If you have any questions or concerns, please feel free to contact Parker Thaler at (916) 341-7388 or by email at PThaler@waterboards.ca.gov or Michelle L. Jones at (916) 341-6983.

Sincerely,

Michelle L. Jones
Environmental Scientist

cc: State Clearinghouse
(Re: SCH# 2007101125)
P. O. Box 3044
Sacramento, CA 95812-3044

STATE OF CALIFORNIA -- THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, *Governor*

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

2008 OCT 14 PM 3:37

OCT 07 2008

Los Angeles County Waterworks District No. 40
Attn: Jonathan King
900 South Fremont Avenue
Alhambra, California 91803

Draft Environmental Impact Report for the Proposed North Los Angeles/Kern County Regional Recycled Water Project, City of Palmdale, Southern Field Division, SCH2007101125

Dear Mr. Jonathan King:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Report for the Proposed North Los Angeles/Kern County Regional Recycled Water Project. The notice describes the proposal by Los Angeles County Waterworks District No. 40, in conjunction with various local agencies, to construct a conveyance system for distribution of recycled water for use in the Antelope Valley in northern Los Angeles County, southern Kern County and western San Bernardino County. The proposed project would be located with the City of Palmdale, the City of Lancaster, the Town of Rosamond and various unincorporated communities.

The distribution schematic provided in the document indicates two lateral pipelines that appear to cross the California Aqueduct (Aqueduct), part of the Department of Water Resources' (DWR) State Water Project (SWP). The pipeline segments at issue are: 1) the proposed pipeline crossing the Aqueduct at 40th Street East (SWP Milepost 351.22); and 2) the proposed pipeline crossing the Aqueduct at Elizabeth Lake Road (SWP Milepost 342.2), both within the City of Palmdale. 1

Any construction or work within SWP right of way will require an Encroachment Permit from DWR. There are restrictions regarding diversion of hazardous material, including non-potable water, over the open California Aqueduct. Information regarding forms and guidelines for submitting an application for an Encroachment Permit can be found at DWR web address:

http://wwwdoe.water.ca.gov/Services/Real_Estate/Encroach_Rel/index.cfm

Please provide DWR with a copy of any subsequent environmental documentation when it becomes available for public review. Any future correspondence relating to the above-mentioned concerns of DWR should be sent to: 2

Department of Water Resources
Division of Operations and Maintenance
Attn: State Water Project Encroachment Section
1416 Ninth Street, Room 641-1
Sacramento, California 95814

If you have any questions, please contact Scott Williams at (916) 653-5746.

Sincerely,

David M. Samson

David M. Samson, Chief
State Water Project Operations Support Office
Division of Operations and Maintenance

State of California - The Resources Agency ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF FISH AND GAME

http://www.dfg.ca.gov
South Coast Region
4949 Viewridge Avenue
San Diego, CA 92123
(858) 467-4201

October 10, 2008

Mr. Jonathan King
Los Angeles County Department of Public Works
Waterworks District No.40
900 South Fremont Avenue
Alhambra, CA 91803

Subject: Draft Program Environmental Impact Report for North Los Angeles/Kern County Regional Recycled Water Project SCH # 2007101125, Los Angeles and Kern County

Dear Mr. King:

The Department of Fish and Game (Department) has reviewed the draft program Environmental Impact Report (DPEIR) for the North Los Angeles/Kern County Regional Recycled Water Project (Project). The Project consists of the construction of a regional water distribution system that would provide recycled water to end users in the Antelope Valley including southern Kern County and Los Angeles County. Construction activities would include installation of new pipelines, pump stations, and storage reservoirs and would require open trenching in city streets, jack- and- bore or minor micro-tunneling under key intersections and creeks, and demolition and grading at the reservoir sites.

Several partner agencies within the Antelope Valley including Cities and municipalities will undertake various construction portions of the project. These construction phases may be subject to further CEQA review on a project level.

We prepared the following statements and comments pursuant to our authority as Trustee Agency with jurisdiction over natural resources affected by the project under the California Environmental Quality Act (CEQA Section 15386) and Responsible Agency (Section 15381) over those aspects of the proposed project that come under the purview of the California Endangered Species Act (Fish and Game Code Section 2050 et seq) and Fish and Game Code Section 1600 et seq. regarding impacts to streams and lakes.

Impacts to Biological Resources

1. Program/Project Level CEQA Review - Chapter 1, Page 1-6, Section 1.4.3, Draft PEIR, Program and Project Analysis States "It is the intention of this PEIR to provide project-level assessment 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: Construction and operation of proposed recycled water pipelines". 1

Chapter 3.3, Biological Resources, Page 3.3-16, Impact 3.3-3 states: "Construction of the pipeline could have a substantial effect on special-status plant species and habitat types." Impact 3.3-3 further states "The precise location of vegetation types within construction zones

has not been delineated and the precise location of project impacts has not been determined." Proposed mitigation includes avoidance and replanting of sensitive species.

a. The Department recommends that construction of the pipeline be subject to further project level CEQA review as special status botanical and wildlife species may become apparent based on specific focused surveys conducted at the specific trenching sites once these areas are fully identified. 1

2. Impacts to Mojave Desert Tortoise – The Project site is located within the range of Mojave Desert tortoise (tortoise), a State and Federal endangered species.

a. The PEIR does not discuss habitat suitability for tortoise. The Department recommends US Fish and Wildlife Service (USFWS) protocol surveys be conducted to determine presence or absence of tortoise within appropriate habitat. Adverse impacts to Desert tortoise will require further consultation with the Department and USFWS under the state and federal Endangered Species Act. Restrictive fencing for desert tortoise should be erected as tortoise may wander into areas where they may be harmed by project construction and ongoing operation. 2

b. Raven predation is a serious threat to tortoise survival. Artificial perches, food sources, water sources and ground disturbances attract ravens to work areas and subsidize raven populations. Efforts should be employed to discourage attracting ravens to the project sites. The Department can provide specific measures that will assist in deterring ravens from the project sites during construction and ongoing operations. 3

3. Impacts to Mohave Ground Squirrel - Mitigation measure 3.3-1 explain that the implementing agencies will either assume presence for mohave ground squirrel (MGS) or perform trapping to determine presence or absence. If MGS is found or assumed to be present an incidental take permit shall be obtained. 4

a. The Department concurs that an Incidental take permit will be required for detected or assumed presence of MGS. The Department recommends that the trapping methods follow the Department's trapping protocol which can be provided by the Department upon request.

4. Impacts to Loggerhead Shrike - The proposed project site may provide nesting habitat for the loggerhead shrike, a California species of special concern. Adverse impacts to occupied shrike nesting habitat were not discussed in the DPEIR and would meet the significance criteria under Section 1530 of the CEQA Guidelines. Focused nesting surveys should be performed for shrike within appropriate habitat. Confirmed nesting habitat should be avoided. If avoidance is not feasible, replacement habitat should be acquired and protected in perpetuity. 5

5. Impacts to Burrowing Owl - The Department recommends conducting burrowing owl presence or absence surveys in accordance with the Department's *1995 Staff Report on Burrowing Owl Mitigation* and the Burrowing Owl Consortium's *1992 Burrowing Owl Protocol and Mitigation Guidelines* (guidelines) including the passive relocation guidelines. The survey methods described in the DPEIR may miss wintering burrowing owls which may be killed in their burrows during grading and trenching operations if done in the winter. The guidelines specify that if a Phase II survey results in the discovery of burrowing owl, sign, or potential burrow sites for burrowing owl, a Phase III survey must be performed during the breeding season to determine use of the site by burrowing owl and total number of owls on the site. Phase III breeding season surveys should consist of four site visits to be conducted on four separate days and should be performed between April 15 and July 15 to maximize detection. The 30 day preconstruction survey recommendations as described in the guidelines should also be 6

followed. The preconstruction surveys should include four site visits to be conducted on four separate days to maximize detection. The above referenced survey, avoidance and mitigation guidelines can be provided by the Department upon request. 6

6. Impacts to Native Bird Species - The DPEIR recommends mitigation measures 3.3-2a through 2.3-2f which discusses survey and avoidance measures.

a. The Department generally concurs with the DPEIR stated project avoidance measures for native bird species and further recommends the project implement the Department's native bird avoidance measures:

b. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA).

c. Proposed project activities (including disturbances to native and non-native vegetation, structures and substrates) should take place outside of the breeding bird season which generally runs from March 1- August 31 (as early as February 1 for raptors) to avoid take (including disturbances which would cause abandonment of active nests containing eggs and/or young). Take means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill (Fish and Game Code Section 86).

d. If avoidance of the breeding bird season is not feasible, the Department recommends that beginning thirty days prior to the disturbance of suitable nesting habitat the project proponent should arrange for weekly bird surveys to detect protected native birds occurring in the habitat that is to be removed and any other such habitat within 300 feet of the construction work area (within 500 feet for raptors) as access to adjacent areas allows. The surveys should be conducted by a qualified biologist with experience in conducting breeding bird surveys. The surveys should continue on a weekly basis with the last survey being conducted no more than three days prior to the initiation of clearance/construction work. If a protected native bird is found, the project proponent should delay all clearance/construction disturbance activities within 300 feet of suitable nesting habitat (within 500 feet for suitable raptor nesting habitat) until August 31. Alternatively, the qualified biologist could continue the surveys in order to locate any nests. If an active nest is located, clearing and construction within 300 feet of the nest (within 500 feet for raptor nests) or as determined by a qualified biological monitor, must be postponed until the nest is vacated and juveniles have fledged and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest should be established in the field with flagging and stakes or construction fencing marking the protected area 300 feet (or 500 feet) from the nest. Construction personnel should be instructed on the sensitivity of the area. The project proponent should record the results of the recommended protective measures described above to document compliance with applicable State and Federal laws pertaining to the protection of native birds. 7

e. Availability of suitable nesting trees and other nesting habitat may be limited and/or spotty in the Antelope Valley. In addition to bird surveys during the breeding season, surveys for nests should be conducted in suitable habitat at all times of the year. If a nest is identified for a species known to have high site fidelity such as but not limited to Swainson's hawk, and there will be direct take of the nest, the Department should be contacted and mitigation measures agreed upon before any action is taken. If disturbance occurs outside of the breeding season and there is not direct take of the nest site no further action is required.

7. Special Status Plant Species – The PDEIR recommends performing focused spring botanical surveys as project phases come on line. Mitigation for impacts to special status botanical species includes avoidance and restoration of disturbed areas.

a. The Department concurs that special status botanical species should be avoided and that focused botanical surveys should be conducted prior to ground disturbance activities. When performing botanical surveys, the entire site should be walked, and every species noted. Many sensitive species, including Parry's spineflower and Alkali mariposa lily, are very small (1 inch to 6 inches) and will be missed if a transect methodology is employed. Please ensure all biological consultants follow the DFG protocol (attached) when assessing the site for botanical resources. The Department does not consider biological assessments over one year old and botanical assessment over two years old as valid for the purposes of impact analysis and for the development of avoidance and mitigation measures under CEQA. The surveys must also be conducted during the appropriate flowering time for each species, therefore, the Department recommends early coordination to ensure adequate time is allotted in the spring prior to any ground disturbance to fulfill the survey requirements and avoid costly project delays. 8

b. The Department does not support the transplantation of special status plant species because of the experimental nature of this type of mitigation measure which has a high probability to fail. If special status plant species cannot be avoided, the Department recommends acquisition of habitat of equal of superior value at a ratio of at least 2:1, where the special status plant is known to occur, and protection in perpetuity under a conservation easement held by a local land conservancy with an endowment for management in perpetuity.

8. Joshua Tree Woodland and Other Native Vegetation Impacts – The DPEIR explains that project phases will attempt to avoid Joshua trees and native vegetation or attempt to perform construction within areas of low density of Joshua trees and native vegetation. Mitigation for loss of native vegetation will be implemented under the City of Palmdale's Native Desert Vegetation Ordinance.

a. The Department considers Joshua tree woodlands as a threatened vegetative community. The loss of Joshua tree woodland as the result of the proposed project should be recognized by the lead agency as a local/regional significant impact under CEQA unless mitigated below a significant level.

Native vegetation preservation plans written under the City of Palmdale's Native Desert Vegetation Protection Ordinance (Ordinance) do little to avoid and/or mitigate for the continual cumulative loss of Joshua tree woodland or other native desert plant communities and have not been scientifically evaluated to justify continual reliance as a mitigation measure. Saving two trees per acre on site and/or digging up Joshua trees and transplanting into isolated and urbanized landscaping areas as often endorsed as a mitigation measure under the Ordinance, should not be considered appropriate mitigation for loss of Joshua tree woodland vegetative communities as these methods are experimental and there are no assurances of their success. 9

Joshua tree woodland and any other special status vegetative community on the project site should be avoided and preserved in perpetuity from further development. If avoidance is not feasible, off site habitat of equal or superior quality should be acquired at a no less than a 2:1 mitigation ratio within remaining habitat in the Antelope Valley to avoid local extirpation. The 2:1 ratio is justified as it takes into

account the spatial, temporal, and biological impacts of destroying habitat in one location and preserving it in another, off-site location. Acquired habitat should be adjacent to similar large tracts of existing habitat which have been identified by resource agencies as having a high priority for acquisition for conservation. All mitigation lands preserved on-site or acquired off-site should be deeded to a local land conservancy and protected in perpetuity under a conservation easement to prohibit incompatible uses on the site. Additionally, an endowment with sufficient funds to manage this land in perpetuity should be required and the amount of the endowment clearly documented in a Property Analysis Record type assessment. 9

9. Riparian Resources - The project may result in impacts to Department Jurisdictional drainages from trenching, grading and other project disturbances.

a. The Department requires a Streambed Alteration Agreement (SAA), pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant prior to any direct or indirect impact to a lake or stream bed, bank or channel or associated riparian resources. The Department requires consultation for activities which may result in incidental take of state listed species under the California Endangered Species Act. The Department's issuance of a SAA or ITP is considered a project that is subject to CEQA. To facilitate our issuance of the SAA or ITP, the Department as a responsible agency under CEQA may consider the local jurisdiction's (lead agency) document for the project. To minimize additional requirements by the Department under CEQA the document should fully identify the potential impacts to the lake, stream or riparian resources and any listed species and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the SAA. Early consultation is recommended, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources. 10

The Department recommends that the CEQA document address the Department's concerns for the benefit of wildlife and maintaining natural vegetative communities and watersheds.

Thank you for this opportunity to provide comment. Please contact Mr. Scott Harris, Environmental Scientist, at (626) 797-3170 if you should have any questions and for further coordination on the proposed project.

Sincerely,

Theresa A. Stewart
for Edmund J. Pert
Regional Manager
South Coast Region

cc: Ms. Helen Birss, Los Alamitos
Ms. Terri Dickerson, Laguna Niguel
Ms. Kelly Schmoker, Glendora
Ms. Jamie Jackson, Altadena
Mr. Scott Harris, Pasadena
HabCon-Chron, Department of Fish and Game
State Clearinghouse, Sacramento

SPH:sph
Spharris: LA/Kern County Regional Recycled Water Project/*DPEIR 2008*

Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities

State of California
THE RESOURCES AGENCY
Department of Fish and Game
December 9, 1983
Revised May 8, 2000

The following recommendations are intended to help those who prepare and review environmental documents determine **when** a botanical survey is needed, **who** should be considered qualified to conduct such surveys, **how** field surveys should be conducted, and **what** information should be contained in the survey report. The Department may recommend that lead agencies not accept the results of surveys that are not conducted according to these guidelines.

1. Botanical surveys are conducted in order to determine the environmental effects of proposed projects on all rare, threatened, and endangered plants and plant communities. Rare, threatened, and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

A species, subspecies, or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is "threatened" when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens.

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. The most current version of the California Natural Diversity Database's List of California Terrestrial Natural Communities may be used as a guide to the names and status of communities.

2. It is appropriate to conduct a botanical field survey to determine if, or to the extent that, rare, threatened, or endangered plants will be affected by a proposed project when:

a. Natural vegetation occurs on the site, it is unknown if rare, threatened, or endangered plants or habitats occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
b. Rare plants have historically been identified on the project site, but adequate information for impact assessment is lacking.

3. Botanical consultants should possess the following qualifications:

a. Experience conducting floristic field surveys;
b. Knowledge of plant taxonomy and plant community ecology;
c. Familiarity with the plants of the area, including rare, threatened, and endangered species;
d. Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
e. Experience with analyzing impacts of development on native plant species and communities.

4. Field surveys should be conducted in a manner that will locate any rare, threatened, or endangered species that may be present. Specifically, rare, threatened, or endangered plant surveys should be:

a. Conducted in the field at the proper time of year when rare, threatened, or endangered species are both evident and identifiable. Usually, this is when the plants are flowering.

When rare, threatened, or endangered plants are known to occur in the type(s) of habitat present in the project

area, nearby accessible occurrences of the plants (reference sites) should be observed to determine that the species are identifiable at the time of the survey.

b. Floristic in nature. A floristic survey requires that every plant observed be identified to the extent necessary to determine its rarity and listing status. In addition, a sufficient number of visits spaced throughout the growing season are necessary to accurately determine what plants exist on the site. In order to properly characterize the site and document the completeness of the survey, a complete list of plants observed on the site should be included in every botanical survey report.

c. Conducted in a manner that is consistent with conservation ethics. Collections (voucher specimens) of rare, threatened, or endangered species, or suspected rare, threatened, or endangered species should be made only when such actions would not jeopardize the continued existence of the population and in accordance with applicable state and federal permit requirements. A collecting permit from the Habitat Conservation Planning Branch of DFG is required for collection of state-listed plant species. Voucher specimens should be deposited at recognized public herbaria for future reference. Photography should be used to document plant identification and habitat whenever possible, but especially when the population cannot withstand collection of voucher specimens.

d. Conducted using systematic field techniques in all habitats of the site to ensure a thorough coverage of potential impact areas.

e. Well documented. When a rare, threatened, or endangered plant (or rare plant community) is located, a California Native Species (or Community) Field Survey Form or equivalent written form, accompanied by a copy of the appropriate portion of a 7.5 minute topographic map with the occurrence mapped, should be completed and submitted to the Natural Diversity Database. Locations may be best documented using global positioning systems (GPS) and presented in map and digital forms as these tools become more accessible.

5. Reports of botanical field surveys should be included in or with environmental assessments, negative declarations and mitigated negative declarations, Timber Harvesting Plans (THPs), EIR's, and EIS's, and should contain the following information:

a. Project description, including a detailed map of the project location and study area.
b. A written description of biological setting referencing the community nomenclature used and a vegetation map.
c. Detailed description of survey methodology.
d. Dates of field surveys and total person-hours spent on field surveys.
e. Results of field survey including detailed maps and specific location data for each plant population found. Investigators are encouraged to provide GPS data and maps documenting population boundaries.
f. An assessment of potential impacts. This should include a map showing the distribution of plants in relation to proposed activities.
g. Discussion of the significance of rare, threatened, or endangered plant populations in the project area considering nearby populations and total species distribution.
h. Recommended measures to avoid impacts.
i. A list of all plants observed on the project area. Plants should be identified to the taxonomic level necessary to determine whether or not they are rare, threatened or endangered.
j. Description of reference site(s) visited and phenological development of rare, threatened, or endangered plant(s).
k. Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms.
l. Name of field investigator(s).
m. References cited, persons contacted, herbaria visited, and the location of voucher specimens.

Comment Letter MDAQMD

Mojave Desert Air Quality Management District
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • fax 760.245.2699
Visit our web site: http://www.mdaqmd.ca.gov
Eldon Heaston, Executive Director

August 15, 2008

Los Angeles County Waterworks District No. 40
Attn: Jonathon King
900 South Fremont Avenue
Alhambra, CA 91803

Project Title: North LA/Kern County Regional Recycled Water Project

Dear Mr. King:

The Antelope Valley Air Quality Management District (AVAQMD) has reviewed the Draft Environmental Impact Report for the North LA/Kern County Regional Recycled Water Project. The project proposes to provide the primary backbone systems for distribution of recycled water to end users in the Antelope Valley. The project involves the construction of a regional recycled water distribution system that includes conveyance pipelines, storage reservoirs, and pump stations. The project would be located in the City of Palmdale, the City of Lancaster, the Town of Rosamond, and unincorporated communities within Los Angeles and Kern Counties.

Table 3.2-3 Designation/Classification for Ambient Air Quality Standards for the AVAQMD portion of Los Angeles County should be updated as follows: 1

Eight-hour Ozone (Federal) – Non-attainment; classified Severe-17
PM10 (Federal) – Unclassified
PM2.5 – Unclassified/attainment

AVAQMD Designations and Classifications are available at
http://www.avaqmd.ca.gov/RulesPlans/documents/avCEQA-Guide.pdf

The District has reviewed the environmental documentation for the project and concurs that the Applicant-Proposed Mitigation Measures for Air Quality represent feasible mitigation. 2

Thank you for the opportunity to review this planning document. If you have any questions regarding this letter, please contact me at (760) 245-1661, extension 6726, or Tracy Walters at extension 6122.

Sincerely,

Alan J. De Salvio
Supervising Air Quality Engineer

TW/AJD Recycled Water Project

California Regional Water Quality Control Board
Lahontan Region

Linda S. Adams
Secretary for Environmental Protection

Victorville Office
14440 Civic Drive, Suite 200, Victorville, California 92392
(760) 241-6583 • Fax (760) 241-7308
http://www.waterboards.ca.gov/lahontan

Arnold Schwarzenegger
Governor

WW 45

October 3, 2008

Jonathan King
Los Angeles County Waterworks District No. 40
900 South Fremont Avenue
Alhambra, CA 91803

DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT FOR THE NORTH LOS ANGELES/KERN COUNTY REGIONAL RECYCLED WATER PROJECT, LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40, CALIFORNIA ENVIRONMENTAL QUALITY ACT, STATE CLEARINGHOUSE NO. 2007101125, LOS ANGELES COUNTY

We have completed our review of the above-referenced Draft Program Environmental Impact Report (PEIR) dated August 5, 2008. Comments are due October 3, 2008.

Project Description

The proposed project will provide the primary backbone pipeline system (backbone system) for distribution of disinfected tertiary recycled water (recycled water) to users in the Antelope Valley. It will include approximately 70 miles of pipeline for conveying recycled water, four aboveground steel storage reservoirs, two distribution pump stations, and two booster pump stations. The project will be constructed in phases, subject to funding and the identification of recycled water users. Each component will be constructed by Los Angeles County Waterworks District 40 (lead agency) or one of the following responsible agencies: City of Lancaster, City of Palmdale, Rosamond Community Services District (CSD), County Sanitation Districts No. 14 and 20 of Los Angeles County (Districts 14 and 20), Palmdale Water District, Antelope Valley-East Kern Water Agency, and Quartz Hill Water District. The responsible agencies are proposed/potential users of disinfected tertiary recycled water conveyed by the backbone system. Rosamond CSD, Districts 14 and District 20 are also existing (or planned producers) of recycled water that will be used as a source of supply for the backbone system. They either own existing treatment plants and/or are currently constructing new treatment plants for producing recycled water to supply the backbone system.

The Draft PEIR includes Project-Level Analysis for certain project components and Program-Level Analysis for other components (See Table 1, below). The lead agency and responsible agencies would use the Project-Level Analysis contained within the PEIR to support the acquisition of required permits from the Lahontan Water Board for construction and operation of the backbone system, and use of recycled water for municipal and industrial applications. All project components that are evaluated at the program level (Table 1, Column 2) will require additional environmental analysis and documentation prior to acquisition of required permits from the Water Board. The system capacity will be

designed to meet the estimated recycled-water demand for existing and future users (identified to-date), which is 20,091 acre-feet/year.

Table 1
Draft PEIR CEQA Coverage by Project Component

Project-Level Analysis	Program-Level Analysis
• Construction/Operation of Recycled Water Pipeline	• Use: Agricultural Irrigation
• Use: Municipal and Industrial Applications	• Use: Groundwater Recharge
	• Use: Power Plant Cooling Water
	• Construction/Operation of Pump Stations
	• Construction/Operation of Steel Storage Reservoirs

Water Board Comments

Water Board staff has the following comments.

1. Salt Management Plan

The Draft PEIR concludes that recycled-water use for landscape and agricultural irrigation will have a less than significant effect on water quality with implementation of nitrogen management as a mitigation measure. Nitrogen management, while necessary, does not address the need to also manage other constituents such as minerals (salts). Landscape and agricultural irrigation can cause increases in mineral (salt) concentrations in groundwater resulting in substantial degradation and/or violation of water quality objectives. When recycled water, surface water, or groundwater is applied for irrigation, the salts in the water are concentrated in the percolate that flows from the surface of the irrigated site to groundwater because much of the water applied evapotranspires, thereby leaving most of the salt in the soil, where it eventually leaches to groundwater in the percolate. This effect has caused or threatened to cause violations of groundwater quality objectives for salts in areas that are or were irrigated. 1

Salt discharges generated by either the Proposed Project or a combination of the Proposed Project and other projects/activities in Antelope Valley (cumulative effects) could cause a significant effect on water quality.

Action Needed: The PEIR should include a mitigation measure indicating there will be development and implementation of salt management plans (if needed in the future) to prevent a significant effect on water quality.

2. Recycled Water Uses

The PEIR should indicate all intended recycled water uses that will occur under the proposed project. The following sentence in the *Introduction and Project Background (Chapter 1)* of the Draft PEIR suggests that the intended recycled water uses may consist of all Title 22 approved uses.

> "The recycled water will be used ... for landscape irrigation, agricultural irrigation, groundwater recharge and other Title 22 approved uses."

The *Project Description (Chapter 2)* and *Executive Summary* of the Draft PEIR describe some proposed uses, but do not indicate whether District 40 is proposing all "Title 22 approved uses."

If surface impoundments containing recycled water are part of the proposed project, they should be addressed in the Draft PEIR. Examples of such impoundments includes: a) storage reservoirs with earthen-containment components, and b) Non-Restricted Recreational Impoundments or Restricted Recreational Impoundments (Landscape Impoundments) as defined in Title 22 of the California Code of Regulations. Seepage of recycled water from impoundments can cause degradation of underlying groundwater. If such impoundments are part of the proposed project, the Draft PEIR should evaluate the effects of impoundment seepage on water quality and describe measures that will be implemented to mitigate any adverse effects on water quality. 2

Action Needed: If District 40 intends that all "Title 22 approved uses" be included as part of the proposed project, District 40 should state this under the Project Description (Chapter 2) and include appropriate evaluation for all uses. Please provide a list of all intended uses and how the PEIR addresses each use. If surface impoundments containing recycled water are part of the proposed project, they should be addressed in the Draft PEIR as described above.

3. Quality of Water

District 40 should describe the waters (in addition to recycled water) being proposed as a source of supply for the backbone recycled water system. For example, there are plans to supply both recycled water and groundwater to an existing portion of the backbone system constructed by the City of Lancaster as part of the City's Division Street Recycled Water Project located in Lancaster. The source of the groundwater is an existing water supply well No. 4-15, which is owned by District 40. Groundwater as a source of supply for the backbone system is not mentioned in the Draft PEIR project description. In addition, the Draft PEIR does not provide information on the quality of water that will be supplied by the system and the quality of groundwater underlying the project area. 3

Board staff has concerns about water quality affects associated with delivery of low quality groundwater to reuse sites where underlying groundwater is of higher quality. As mentioned above, the Division Street project includes delivery of groundwater to

users. The source is groundwater underlying the Division Street project area, which includes groundwater of low quality. The low quality groundwater may be acceptable for landscape irrigation but not for potable use.

Action needed: Describe the waters being proposed as a source of supply for the backbone system. Provide information on the quality of water that will be supplied by the system and the quality of groundwater underlying the project area. Describe mitigation measures to prevent adverse affects to water quality affects associated with conveyance of low quality groundwater by the backbone system. 3

4. Groundwater Recharge

The following measures proposed in the Draft PEIR for mitigating water-quality effects associated with using recycled water to recharge groundwater are not adequate:

Mitigation Measures

#3.7-9a: "The implementing agencies shall operate recharge projects in compliance with CDPH Title 22 regulations as well as in coordination with the RWQCB. The recharge water shall be a blend of recycled water and diluent water at a ratio consistent with Title 22 regulations and CDPH criteria."

#3.7-9b: "The implementing agencies shall develop and implement a monitoring program of the proposed recharge area in compliance with Title 22 regulations and CDPH criteria. As part of this program, some monitoring wells shall be placed between the proposed recharge area and down gradient drinking water supply wells."

#3.7-9c: "The implementing agencies shall require recharged recycled water via surface spreading to remain in groundwater storage for the minimum time period stipulated by CDPH Title 22 Water Recycling Criteria prior to extraction."

District 40 concludes in the Draft PEIR that recycled-water use for groundwater recharge with implementation of the above mitigation measures will have a less than significant effect on water quality. The above mitigation measures do not adequately support this conclusion. The measures refers to compliance with agency regulations/permits in general as a means of mitigating adverse affects rather than describing all actions (in detail) that will be implemented to mitigate significant adverse effects to water quality.

Action Needed: Describe specific project components or other actions (in detail) that will be incorporated into project design or otherwise to mitigate significant adverse effects to water quality. Include detailed supporting information to justify any conclusion that the proposed project will have a less than significant effect on water quality. 4

5. Editorial Change

District 40 states under Cumulative Impact 4-4 (Page 4-10) that "The proposed project and related projects could result in cumulative long-term impacts to groundwater resources." The *Executive Summary* of the Draft PEIR (Page ES-28) describes a completely different unrelated impact for Cumulative Impact 4-4. Page ES-28 of the *Executive Summary* appears to be incorrect. 5

Action Needed: Please make appropriate corrections to eliminate the above discrepancy.

6. Application

The appropriate agency will need to file an application with the Lahontan Water Board for the proposed project. The application must include a degradation analysis describing the amount of any degradation anticipated in waters of the State as a result of the proposal. The analysis will need to evaluate alternatives to reduce or eliminate the degradation. Please review the permitting information accessible on the Water Board's homepage (http://www.waterboards.ca.gov/lahontan/). Before any discharge of waste/recycled water, the agency will need to obtain a permit adopted by the Lahontan Water Board and other agency approvals as necessary. 6

7. Stormwater Pollution Prevention Plan

Before implementation of the project, the appropriate agency should prepare a Stormwater Pollution Prevention Plan. The Plan should also identify any stream crossings. The agency may be required to obtain a stormwater construction or stream crossing permit. 7

If you have any questions, please call me at (760) 241-7305 or Cindi Mitton at (760) 241-7413.

Sincerely,

Curt Shifrer

Curt Shifrer
Water Resources Control Engineer

cc: State Clearinghouse
Steve Williams, City Manager, City of Palmdale
Peter D. Zorba, City of Lancaster
Stefan Cajina, State Department of Public Health
Stephen R. Maguin, County Sanitation Districts of Los Angeles County

CS\rc\v2 2008 PEIR_ltrLWWD40

TATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, REGIONAL PLANNING
IGR/CEQA BRANCH
100 MAIN STREET, MS # 16
LOS ANGELES, CA 90012-3606
PHONE: (213) 897-6696
FAX: (213) 897-1337

Flex your power!
Be energy efficient!

IGR/CEQA No. 080814AL, DEIR
North Los Angeles/Kern County Regional Recycled Water Project
Vic. LA-14 / LA-38
SCH # 2007101125

September 11, 2008

Mr. Jonathan King
Los Angeles County Waterworks District No. 40
Jonathan King
900 South Fremont Ave.
Alhambra, CA 91803

Dear Mr. King:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project is to construct a regional recycled water distribution system that would include conveyance pipeline, storage reservoirs, and pump stations.

We would like to remind you that any work to be performed within the State Right-of-way will need an Encroachment Permit from the California Department of Transportation. 1

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that projects need to be designed to discharge clean run-off water. 2

Any transportation of heavy construction equipment and/or materials which requires the use of oversized-transport vehicles on State highways will require a Caltrans transportation permit. We recommend that large size truck trips be limited to off-peak commute periods. In addition, a truck/traffic construction management plan is needed for this project. Thank you for the opportunity to have reviewed this project. 3

If you have any questions, please feel free to contact me at (213) 897-6696 or Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 080814AL.

Sincerely,

ELMER ALVAREZ
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
District 9
500 South Main Street
Bishop, CA 93514
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Flex your power!
Be energy efficient!

2008 AUG 25 PM 1:14
900 S. FREMONT AVE.

August 20, 2008

Jonathan King
Los Angeles County Waterworks District 40
900 South Fremont Avenue
Alhambra, California 91803

File: 09-KER
DEIR
SCH #: 2007101125

Dear Mr. King:

North Los Angeles/Kern County Regional Water Project
Draft Environmental Impact Report (DEIR)

The California Department of Transportation (Caltrans) District 9 appreciates the opportunity to comment on the Regional Water Project. We have the following comments:

- According to Figures ES-1 and 2-1, there are three locations proposed where recycled water pipelines would cross State Route 14 (SR-14): 1

  Gaskell Road - District 9
  Avenue K - District 7
  Avenue P - District 7

  Bore and jack is the approved method for crossing under the highway with the bore pits outside of State right-of-way. For work at the Gaskell location (SR-14 postmile 1.0) an encroachment permit will be required from the District 9 office. Please contact Stephen Winzenread at (760) 872-0674 or email: stephen.winzenread@dot.ca.gov.

- For completeness, The Roadway Network section (page 3.11-1) should include a description of SR-14 and the proposed pipeline crossings. 2

We value a cooperative working relationship with the joint agencies regarding transportation impacts of this project. If you have any questions, I may be contacted at (760) 872-0785.

Sincerely,

Gayle J. Rosander

GAYLE J. ROSANDER
IGR/CEQA Coordinator

c: State Clearinghouse
Elmer Alvarez, Caltrans D-7
Steve Wisniewski, Caltrans D-9

County of Los Angeles

Regional Planning Commission
Airport Land Use Commission

Commissioners
Wayne Rew, *Chair*
Pat Modugno, *Vice Chair*
Esther L. Valadez
Leslie G. Bellamy
Harold V. Helsley

August 21, 2008

Mr. Jonathan King
Los Angeles County Waterworks District No. 40
900 South Fremont Avenue

Alhambra, CA 91803

SUBJECT: Comments on the Draft Environmental Impact Report (DEIR) for the Northern Los Angeles/Kern County Regional Recycled Water Project

Dear Mr. King,

Thank you for submitting the Draft Environmental Impact Report for the Northern Los Angeles/Kern County Regional Recycled Water Project and the opportunity for staff to provide comments on the proposed project. Since the project does not involve any changes in land uses, it does not fall under the purview of the Airport Land Use Commission. All of the safety issues mentioned in the document are properly addressed by the airport operators and the Federal Aviation Administration (FAA). 1

If you have any further questions, please contact me at (213) 974-4881.

Thank you.

Sincerely,

David McDonald
Senior Regional Planning Assistant

Bruce W. McClendon, FAICP
Director of Planning
Dept. of Regional Planning

Rosie O. Ruiz
Secretary to the Commission

320 West Temple Street, Los Angeles, California 90012 Telephone (213) 974-6409 or TDD (213) 617-2292

From: Dietrick, Brian [mailto:BDietrick@lacsd.org]
Sent: Monday, September 22, 2008 1:26 PM
To: King, Jonathan
Cc: Rydman, David; LeBrun, Tom; Tremblay, Ray
Subject: Minor Comments - North LA/Kern County Reg. Recycled Water PEIR

North Los Angeles/Kern County Regional Recycled Water Project - Draft Program Environmental Impact Report

Minor Comments from LACSD (suggested additions shown in bold and underlined; deletions shown with strikethrough):

1-12: second paragraph, "… the LWRP and the adjoining **approximately 64-mile** network of trunk sewers." 1

1-12: fifth paragraph, "… case RCSD would **attempt to** acquire an additional …" 2

1-12: last paragraph, "… permitted capacity of **18** ~~16~~ mgd, of which …" 3

1-13: first paragraph, " … Apollo Lakes Regional County Park **and to agricultural irrigation at LACSD-owned facilities**." 4

1-13: first paragraph, "… ~~minimum of 200~~ **Piute Ponds at its current area of 400** ~~wetted~~ acres ~~of habitat suitable for recreational duck hunting at Piute Ponds~~." 5

1-13: end of first paragraph, ADD: "**Tertiary treated effluent is also being temporarily produced by a 1.0-mgd Membrane Bioreactor located at the LWRP**." 6

1-13: second paragraph, "… LACSD No. 14 **has purchased** ~~will purchase~~ land for additional …" 7

1-13: second paragraph, after last sentence ADD, "**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**." 8

1-13: third paragraph, "… the PWRP is ~~either land applied (for percolation into the ground) or~~ used to irrigate trees and fodder crops on land …" 9

1-13: fourth paragraph, "… plans to ~~increase~~ **upgrade** the ~~capacity of the~~ PWRP to 12 mgd **of disinfected tertiary treatment** by 2011~~, providing disinfected tertiary treatment for all incoming wastewater~~." 10

1-13: fourth paragraph, "… LACSD No. 20 **has acquired** ~~will acquire~~ land for storage …" 11

1-15: Suggestion: last paragraph, The latest available draft regulations are now the Draft Recycled Water Policy published by the Department of Water Resources (DWR) in August 2008. 12

3.7-15: last paragraph, "UV light can be used to **reduce** ~~eliminate~~ NDMA ~~from recycled water~~." 13

3.7-17: Suggestion: first paragraph, It may not be correct to say that there are no waters of the U.S. in the project area. Both Lake Palmdale and the California Aqueduct are waters of the U.S. There are no waters of the U.S. in the project area that are subject to RWQCB storm water pollution prevention requirements. 14

3.7-20: Suggestion: Mitigation Measure 3.7-1d - Los Angeles County Department of Public Health (LACDPH) will also have to review plans and inspect pipe installations prior to backfill to insure no cross connections. Waterworks is advised to confirm language with LACDPH. 15

3.7-24: first paragraph, "…oxidized, ~~**coagulated**~~, clarified …" 16

3.7-24: ADD paragraph after fourth paragraph. The Districts recommend discussing salinity management plans to control salts in the basin. The Districts recommend using the August 6, 2008, Draft of the Recycled Water Policy to draft this language, particularly lines 168, 204, 205, 230, 262, 265, 267, and 384-389. 17

3.7-29: second paragraph, " … local creeks or other **water_bodies** …" 18

3.7-30: Suggestion: first paragraph, The figures for the GWR pilot project have been changed. The pilot project now includes 125 AFY recycled water, 125 AFY storm water, and 375 AFY AVEK water. Check with Lancaster for further details. 19

4-3: Suggestion: Table 4-1, both the LWRP 2020 Facilities Plan and the PWRP 2025 Facilities Plan projects are "In Progress" in terms of construction. The Districts recommend making this revision under both the "Recycled Water Projects" and "Wastewater Projects" headings. 20

4-4: fourth paragraph, "The ~~**capacity of the**~~ PWRP will be ~~**increased**~~ **upgraded** to 12 mgd **of disinfected tertiary treatment** by 2011~~**, providing tertiary treatment for all incoming wastewater**~~." 21

4-4: Suggestion: last paragraph, The figures for the GWR pilot project have been changed. The pilot project now includes 125 AFY recycled water, 125 AFY storm water, and 375 AFY AVEK water. Check with Lancaster for further details. 22

4-10: Suggestion: second paragraph, Please clarify the build-out design capacity of 17,491 AFY for the project. The 2006 Facilities Plan indicates a total *potential* demand of 17,491 AFY, but only identifies 13,331 AFY of demand within reasonable proximity to the proposed recycled water pipeline alignments. On the other hand, this estimate of 13,331 AFY does not appear to include recycled water demand from end users in the Rosamond Community Services District that were added to the scope of this project at a later time. 23

4-10: Suggestion: ADD paragraph after fourth paragraph. Need to discuss salinity management plans to control salts in the basin. The Districts recommend using the August 6, 2008, Draft of the Recycled Water Policy to draft this language, particularly lines 168, 204, 205, 230, 262, 265, 267, and 384-389. 24

5-3: Suggestion: The water demand figures in Table 5-3 appear to be less than overall demand in the *2007 Antelope Valley Integrated Regional Water Management Plan*. 25

Major comments to be submitted in writing. Thank you for the opportunity to review and comment on this document.
Brian Dietrick

County Sanitation Districts of Los Angeles County
1955 Workman Mill Road
Whittier, CA 90601
(562) 699-7411 X2703

WW
45L

WATER RECLAMATION
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www.lacsd.org

STEPHEN R. MAGUIN
Chief Engineer and General Manager

October 2, 2008

Los Angeles County Waterworks District No. 40
Attn: Jonathan King
900 South Fremont Avenue
Alhambra, California 91803

Dear Mr. King:

Comments on the Draft Program Environmental Impact Report
for the North Los Angeles/Kern County Regional Recycled Water Project

The County Sanitation Districts of Los Angeles County (Districts) have prepared this letter in response to the August 2008, *Draft Program Environmental Impact Report for the North Los Angeles/Kern County Regional Recycled Water Project* (Draft PEIR) that was circulated for review. Comments on the Draft PEIR are provided as follows:

1. The Districts support the proposed project that would construct a regional system to provide a reliable, high quality source of recycled water to the Antelope Valley. 1
2. The Districts recommend that the "Distribution PS 1A" alternative be selected as the final location for the distribution pump station; "Distribution PS1" is not an acceptable alternative. 2
3. The Districts recommend that the labels used for pipeline construction phasing be linked to the labels for construction phasing used in the 2006 *Final Facilities Planning Report, Antelope Valley Recycled Water Project.* 3
4. On page 2-21 in the first paragraph, the "Operation and Maintenance Details" discuss the responsible agencies that will enter into a JPA to oversee funding, construction, and operation of the project. The Districts do not intend to be a member of the JPA and would provide recycled water under contract to the entity that operates the proposed distribution system. 4
5. Waterworks should continue to work closely with the Districts during design of the recycled water pump stations and storage facilities to match the diurnal and seasonal irrigation needs with operation of the water reclamation plants. 5

Thank you for the opportunity to participate in the planning process for this project. If you have any questions or require additional information, please contact Mr. Brian Dietrick at (562) 908-4288, extension 2703.

Very truly yours,

Stephen R. Maguin

Thomas J. LeBrun
Department Head
Facilities Planning Department

TJL:BD:ld

cc: Tom Barnes, ESA Consultants

Rosamond Community Services District

Memo

To: Jonathan King Jonathan King
LA County Waterworks District No. 40

From: Claud Seal, RCSD District Engineer

CC: Jack Stewart, RCSD General Manager

Date: 10/14/2008

Re: North Los Angeles/Kern County Regional Recycled Water Project; RCSD Comments

---

The following items in the proposed report have potential impact on RCSD and need to be revised.

Page 2-7, Table 2-2, Reservoir 4, Location – change "Near 60th Street…." To North of 60th Street…. 1

Page 3.2-12, Policy ER 5.3.3 and 5.4.2: Add "And in Kern County, shall comply with the Kern County Air Pollution Control District." 2

Page 3.5-3, Geological Subunits: In the paragraph body, most folks in the AV refer to these as "sub basins." It would be more clear to local readers to change at least one of the "sub units" to "sub basins." 3

Page 3.7-3, Groundwater Subunits: Same comment as above 3.5-3. 4

Page 3.7-13, paragraph 7, starting with "Recycled water produced….," add RCSD to LWRP and PWRP. (That's why we are involved in the first place.) 5

Page 3.7-20, Mitigation Measure 3.7-1d, after "LA County Department of Public Health (DPH)" add if in Los Angeles County, or the "Kern County Department of Public Health if in Kern County," 6

Page 4-2, paragraph 2, second line change "southwestern Kern County" to "southeastern Kern County." Third line add, "within the service AREAS of LACWWD40, RCSD WWTP, and all….." 7

Page 4-5, **Rosamond Recycled Water Project,** add to Phase 1 narration, RCSD is currently constructing a 0.5 million gallons per day tertiary treatment plant adjacent to its existing evaporation ponds. The District is planning to expand……." 8

Executive Summary, page ES-3, third paragraph, fourth line, 2,600 afy should be changed to 6,600 afy. Add to the last sentence, "Hybrid Power Plant, **and 4,000 afy for cooling water at 3 planned solar collector power plants in the Rosamond area**." 9

Executive Summary, page ES-11, paragraph 3.3-4b, 5th line, add after Vegetation Ordinance, "and in Kern County, the Kern County Habitat Conservation Plan." 10

In the same paragraph, line 11, after ”protected vegetation,” add “(for Los Angeles County), and in Kern County contact Kern County Environmental Health Services.” 11

In the last line, after Palmdale, add “or Kern County Environmental Health Services in Kern County.”

Executive Summary, page ES-13, continuation of paragraph 3.4-1, after “Old Palmdale and Old Lancaster,” add “Old Rosamond and Tropico Mine area.” 12

Executive Summary, page ES-14, continuation of paragraph 3.4-4e, after “Old Palmdale and Old Lancaster,” add “Old Rosamond and Tropico Mine area.” 13

Executive Summary, page ES-16, paragraph 3.5-2, line 5, add to sentence,” …Construction Permit, **except as exempted by the U. S. Army Corps of Engineers**.” 14

Executive Summary, page ES-17, paragraph 3.6-2a, line 4, add to sentence,” …during the project, **except as exempted by the U. S. Army Corps of Engineers**.” 15

Executive Summary, page ES-19, paragraph 3.7-1d, line 3, add to sentence,” …for Los Angeles County entities. In Kern County, contact the Kern County Department of Public Health in Bakersfield.” 16

Executive Summary, page ES-19, paragraph 3.7-2, line 2, add to sentence,” …during the project, **except as exempted by the U. S. Army Corps of Engineers**.” 17

Executive Summary, page ES-21, paragraph 3.8-2, line 4, add to Title sentence,” …and Rosamond Sky Park, in Rosamond.” Paragraph 3.8-1b, next to the last line, after staff, add “and FAA.” 18

Executive Summary, page ES-25, continuation of paragraph 3.11-1a, paragraph 4, line 5, after Antelope Valley Union High School District, add “and the Southern Kern Unified School District.” 19

Executive Summary, page ES-25, continuation of paragraph 3.11-1a, paragraph 5, line 3 after Antelope Valley Union High School District, add “and the Southern Kern Unified School District.”

Executive Summary, page ES-26, paragraph 3.11-1f, paragraph 4, line 2, after Antelope Valley Transit Authority, add “and the East Kern Regional Transit Express that connects to Lancaster.” 20

Executive Summary, page ES-27, paragraph 3.12-3, line 1, after LACWWD40, add “RCSD, Kern County,” and the …. 21

Executive Summary, page ES-27, paragraph 4-3, line 3, after Lancaster, add, “and Rosamond CSD)” 22

Leona Valley Town Council

P.O. Box 795 • Leona Valley • California 93551

October 3, 2008

Los Angeles County Waterworks District No. 40
Attn: Jonathan King
900 South Fremont Ave.
Alhambra, CA. 91803
FAX: 626/300-3385

Reference: North LA/Kern County Regional Recycled Water Project DEIR

Gentlemen,

Please accept our written response to the Draft Environmental Impact Report (DEIR) submitted to the public on August 5, 2008. Also, please be aware that we were not notified of the project until shortly before the September 18, 2008 Public Hearing, and thus our response is merely to cover obvious concerns and is not intended to include all challenges that may arise following the issuance of the completed Environmental Impact Report. Please add me to your service list so we are fully apprised of further communications and submissions.

We, as a body, understand and agree that our future water supply is in jeopardy, and that recycled water must be utilized as part of the solution. We agree that a backbone distribution system such as the one planned is critical to the eventual utilization of recycled water from the three recycling plants. In general, we are supportive of the project, but we have some concerns as follows:

First, we are generally concerned about prescription medications that are currently flushed into our wastewater systems and may thus be present in recycled water. Those include antibiotics, contraceptive medications, steroids, pain relief medications, and other medications that may, or may not, be able to be removed. If they are not fully removed, what affect will they have on the population over time as the concentrations increase? We understand that groundwater recharge will have a higher level of scrutiny than the "construction" phases of the project, and will comply with both the California Department of Public Health regulations and the Regional Water Quality Control Board. We ask that your EIR address this issue in its final form, in addition to mitigation measures 3.79a, b and c. 1

A second concern is contamination of the groundwater in the Leona Valley. Could recharged water migrate upstream and contaminate our water supply? Impacts 3.7-10 and 11 state that as a concern. Mitigation measures 3.7-5 and 3.79a, b and c do not adequately address this possibility. 2

We are also concerned that you are placing Reservoir #2 very near the San Andreas Fault. We believe the tank is to be placed on the hilltop west of 25thStreet west and north of Elizabeth Lake Road. In the event of an earthquake a rupture of that tank could lead to the release of several thousands of gallons of treated, but not potable, water into the Amargosa Creek, and the Upper Amargosa Project planned by the City of Palmdale. In addition, such a rupture would cause extensive soil erosion from the steep slopes to the south of the tank. Mitigation measures 3.1-1 through 3.5-3 do not address long term results of earthquakes, and that should be a part of the DEIR. 3

We thank you for the opportunity to give input into the process. If you have any questions feel free to email me at tccprez@roadrunner.com.

Sincerely,

Larry Tyler, Leona Valley Town Council
Chairman, Water Committee

Antelope Acres Town Council
49618 90th St. W., Lancaster, CA 93536
Phone: (661) 942-2198

North Los Angeles/Kern County
Regional Recycled Water Project
Draft Program EIR

To Whom It May Concern:

If AVEK puts chloramines into the water will these chemicals stay in the recycled water?

If so how are the affects on short term and long term on the following areas:

- Agricultural
- Water banking
- Wildlife
- Domestic animals
- Road asphalt from street sweeping
- Commercial plants (i.e. industry)

1

Please send a copy the EIR to the above mailing address in care of Vickie Nelson.

Thank you,

Vickie Nelson

Vickie Nelson

cc: AV Press, Alisha Sunchuck 949-3593
To: Jonathan King Fax 626-300-3385
From: Pat Moriarty 661-724-1945
Re: Recycled H_2O Proposal
Date: Sept. 26, 2008

Please DO NOT recycle our H_2O...
I already suffer from chemical sensitivity and to every new batch of chlorine that's injected into my water system in for you to consider introducing recycled H_2O that includes hazards from other chemicals as well as all the pharmaceutical drugs (which the Associated Press just reported in urine samples all over our country) is ludicrous and possibly criminal... Thanks for your attention
Pat

P.S. This includes chloramine treatment

1

Sept. 24, 2008

TO: Los Angeles County Waterworks District 40
Attention: Jonathan King.

SUBJECT: Use of Recycled Water in the Antelope Valley (AV).

FROM: Dean Webb, Lancaster, CA.

Mr. King, I am in support of the use of recycled water in the AV as discussed at the meeting held at Lancaster City Hall on Sept 18. In seeing the projected expanding growth of the population, I am a little concerned about the future of Piute Ponds. The ponds are located mostly in Kern County (on Edwards Air Force Base (EAFB)) but receive most of their water from the partially treated water from Lancaster and Palmdale. Some recharge comes from the now infrequent flooding from Amagosa and Little Rock Creeks. 1

I would like the EIR to study and develop a plan to maintain the ponds in the current or improved conditions. Over the years Piute Ponds has become a regular birding stop for many groups of Audubon and other environmental organizations. The local schools have started developing tours for the children in the schools. EAFB personal also has been connected with environmental studies at Piute Ponds. It is important to keep these ponds as a bird migratory stop over as well as serving education and environmental needs.

Sincerely,

Dean Webb

Dean Webb,
1000 E. Caperton,
Lancaster, CA., 93535-3335

Tel# (661) 948-4123
Email < ldwebbo@aol.com >

Table 3-4
Current and Projected Biosolids Production at Lancaster Water Reclamation Plant

	DRY TONS PER YEAR (tpy)	TRUCK TRIPS PER YEAR
2002	744	31
Alternatives 1 and 3 (2020)	2,500	114
Alternatives 2 and 4 (2020)	3,622	164

Source: LWRP 2020 Plan

Effluent Management

The LWRP 2020 Plan will maintain existing effluent management facilities and increase reuse operations. Discharge to Piute Ponds will decrease from the current annual daily average of 6.2 mgd, which resulted in ~~unauthorized~~ effluent-induced overflows to Rosamond Dry Lake, to an annual average of approximately 2.6 mgd, which is sufficient to maintain Piute Ponds at its current size of 400 acres. Effluent delivery to the Impoundment Areas and Apollo Park will not change throughout the planning period. The increased effluent management capacity needed will be met primarily with increased agricultural reuse operations and storage reservoirs under Alternatives 1 and 2, and primarily with increased agricultural reuse operations and effluent land application under Alternatives 3 and 4. Figure 3-6 provides a flow chart of the existing and proposed effluent management systems.

Agricultural Reuse

Each alternative provides for agricultural reuse as the principal means of effluent management during the summer months. Two large agricultural areas have been identified near the LWRP from which District No. 14 would acquire the necessary acreage to implement the proposed large-scale agricultural reuse operations. The two areas are referred to in this report as the ~~w~~Western ~~a~~Agricultural ~~a~~Area and the ~~e~~Eastern ~~a~~Agricultural ~~a~~Area. Under Alternatives 1 ~~(Recommended Project)~~ and 2 (Recommended Project), the agricultural reuse operations would be sited within the eastern agricultural area, while under Alternatives 3 and 4 District No. 14 would acquire land within both of these areas. District No. 14 would acquire up to 4,170 acres under Alternative 1 and 4,650 acres under Alternative 2 for agricultural reuse operations, while under Alternatives 3 and 4, District No. 14 would acquire up to 13,880 acres and 13,940 acres, respectively for agricultural~~e~~ reuse and effluent land application operations.

The actual location of agricultural ~~reuse~~ operations may differ from the identified eastern and western areas, depending on the emergence of farming entities willing to use recycled water. A pump station and

JimGilleyCommentLetter.txt

-----Original Message-----
From: questions@ladpw.org [mailto:questions@ladpw.org]
Sent: Monday, September 15, 2008 3:59 PM
To: jimgilley@thegilleygroupllc.com
Subject: Answer to your feedback submitted on 09/15/2008 (Reference #26465)

Feedback:
It seems that the requirement for a General Plan Amendment or Conditional Use Permit for construction of water recharge facilities is an unnecessarily expensive and time-consuming mitigation measure since all the responsible agencies already have Director Review, Site Plan Review or similar entitlement processes that could be followed. 1

Answer:
Thank you for you comment regarding the mitigation measures proposed in the EIR for the North Los Angeles/Kern County Regional Recycled Water Project to address the long-term land-uses impacts of basins that could be used to recharge the groundwater basin with recycled water. We will include your comment and our response to it in the final EIR as required by the California Environmental Quality Act.

As stated in Mitigation Measure 3.8-3 in the draft EIR, the implementing agency would only obtain a CUP or General Plan amendment if it is deemed necessary by the appropriate jurisdiction.

Additional Information:
This e-mail originated at: Los Angeles County Waterworks District

Name: James Gilley
Email: jimgilley@thegilleygroupllc.com

Note: Information is accurate at the time of response and is subject to change without notice.
geven

lancaster ca
it's positively clear.

R. Rex Parris Mayor
Ronald D. Smith Vice Mayor
Ken Mann Council Member
Sherry Marquez Council Member
Ed Sileo Council Member
Mark V. Bozigian City Manager

October 7, 2008

Los Angeles County Waterworks District No.40
Jonathan King
900 South Fremont Avenue
Alhambra, California 91803

REF: NORTH LOS ANGELES/KERN COUNTY REGIONAL RECYCLED WATER DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT

Dear Mr. King:

As a member of the Regional Water Management Group for the Antelope Valley Integrated Regional Water Management Plan (IRWMP), the City of Lancaster (City) takes pleasure in expressing support for the Draft Program Environmental Impact Report (PEIR) for the North Los Angeles/Kern County Regional Recycled Water Project.

The City supports the North Los Angeles/Kern County Regional Recycled Water Project PEIR because it is a fundamental and critical component of the overarching, regional effort to maximize recycled water reuse in the Antelope Valley. This document will enable regional recycled water reuse and recharge and will facilitate the Valley's planning objectives detailed in the IRWMP along with projects that will help meet these objectives. 1

The PEIR will make possible the best use of recycled water within the Antelope Valley. From dust control and sanitary sewer flushing to the potential for groundwater recharge using recycled water, each CCR Title 22 authorized use of recycled water ultimately off-sets potable water use for non-potable applications and conserves the regions limited water supplies.

If you have any questions, please contact Peter Zorba, Associate Engineer–Environmental, at (661) 723-6234.

Sincerely,

James R. Williams

James R. Williams, PE
Director of Public Works

JRW/PZ/vp

cc: Mark Bozigian, City Manager
Brian Ludicke, Planning Director

L_LACntyWW40_King_PEIR_08-00538

44933 Fern Avenue • Lancaster, CA 93534 • 661.723.6000
www.cityoflancasterca.org

CHAPTER 11
Response to Comments

11.1 CEQA Requirements

Before LACWWD40 and the Responsible Agencies may approve the proposed project, LACWWD40 as the Lead Agency must certify that the Final PEIR: a) has been completed in compliance with CEQA; b) has been presented to the County of Los Angeles Board of Directors who reviewed and considered it prior to approving the project; and c) reflects LACWWD40's independent judgment and analysis.

CEQA Guidelines specify that the Final PEIR shall consist of the following:

- the Draft PEIR or a revision of that draft;
- comments and recommendations received on the Draft PEIR;
- a list of persons, organizations, and public agencies commenting on the Draft PEIR;
- the response of the Lead Agency to significant environmental points raised in the review and consultation process; and
- any other information added by the Lead Agency.

This Final PEIR for the North Los Angeles/Kern County Regional Recycled Water Project presents:

- the revised Draft PEIR (Chapters 1 through 9);
- A list of persons, organizations, and public agencies commenting on the Draft PEIR along with the written comment letters received (Chapter 10);
- A response to each comment received on the Draft PEIR including any revisions made to the text of the Draft PEIR in response to such comment (Chapter 11); and
- A compilation of additional revisions made to the text of the Draft PEIR by the Lead Agency (Chapter 12).

11.2 Comments on the Draft EIR and Responses to Comments

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. No comments were offered from the audience during the public hearing, other than a request for a time extension to the comment period by the Leona Valley Town Council.

Table 10-1 lists the agencies that submitted written comments on the Draft PEIR during the public review period. Comment letters are included in Chapter 10. Responses are included here in Chapter 11. The responses to comments are numbered to correspond to the comment numbers that appear in the margins of the comment letters.

11.3 Corrections and Additions to the Draft EIR

Revisions to the Draft PEIR were developed in response to comments received during the public review period. The revisions appear as indented text in the responses. This Final PEIR is a reprinted version of the Draft EIR that includes the revisions. Where the responses indicate additions or deletions to the text of the PEIR, additions are indicated in <u>underline</u>, deletions in ~~strikeouts~~.

11.4 Responses to Comments

Federal Aviation Administration (FAA), August 13, 2008

Comment FAA-1

The comment states that it is necessary under Part 77 of the Federal Aviation Regulations to notify the FAA of any proposal which would exceed certain elevations with respect to the ground and neighboring airports. To fulfill this requirement, the implementing agencies would need to complete project review through the FAA's 7460 airspace review process.

Response FAA-1

Mitigation Measure 3.8-1c on page 3.8-25 of the PEIR states that the implementing agencies shall submit their design plans for airspace analysis pursuant to FAA Part 7460 to determine whether any of the proposed project components or proposed construction equipment would protrude into protected airspace.

Comment FAA-2

The comment states that if the project includes building an open reservoir within the vicinity of an airport, then the implementing agencies should review FAA Advisory Circular 150/5200-33, Hazardous Wildlife Attractants on or Near Airports.

Response FAA-2

The proposed project would not include building of an open reservoir within the vicinity of an airport. In addition, Mitigation Measure 3.8-1d on page 3.8-25 of the PEIR identifies that the

implementing agencies should ensure that neither project design nor construction plans create temporary or permanent sources of open water or other wildlife attractants within the Airport Influence Areas.

State Water Resources Control Board, August 27, 2008

Comment SWRCB-1

The comment outlines the process required to apply for State Revolving Fund (SRF) loans. The comment states that prior to obtaining SRF funding, projects are subject to provisions of the Section 7 of the federal Endangered Species Act, Section 106 of the National Historic Preservation Act (NHPA), the federal Clean Air Act, the Coastal Zone Management Act, the Flood Plain Management Act, the Migratory Bird Treaty Act, and the Wild and Scenic Rivers Act.

Response SWRCB-1

The PEIR discusses each of these regulations and evaluates their applicability to each project component. The PEIR evaluates potential impacts of the proposed project to resources managed by these regulations. The PEIR proposes mitigation measures where necessary to ensure compliance with these regulations. If SRF funding is pursued, the implementing agencies will comply with loan application requirements as requested and describe how each project complies with each regulation.

Comment SWRCB-2

The comment requests that Mitigation Measure 3.1-1 on page 3.1-6 be modified to require that the replanted areas be monitored to ensure that plants are reestablished in the disturbed areas.

Response SWRCB-2

The following text has been added to Mitigation Measure 3.1-1 on page 3.1-6 of the Final PEIR.

> **Mitigation Measure 3.1-1:** Following construction activities, the implementing agencies shall restore disturbed areas by reestablishing pre-existing conditions including topography, repaving roadways, replanting trees, and/or reseeding with a native seed mix typical of the immediate surrounding area. <u>The implementing agencies shall be responsible for monitoring the replanted areas to ensure that revegetation is successful.</u>

Comment SWRCB-3

The comment states that compliance with the law should not be considered to be a mitigation measure. Mitigation Measure 3.6-2b on page 3.6-9 would require the construction contractor follow the provisions of the California Code of Regulations Title 8, Section 5163 through 5167 for General Industry Safety.

Response SWRCB-3

In response to this comment, Mitigation Measure 3.6-2b has been revised as follows:

Mitigation Measure 3.6-2b: The implementing agencies shall require the construction contractor(s) ~~to follow the provisions of California Code of Regulations Title 8, Sections 5163 through 5167 for General Industry Safety Orders to protect the project area from being contaminated by the accidental release of any hazardous materials and/or wastes.~~ to implement safety measures in accordance with General Industry Safety Orders for Spill and Overflow Control (CCR Title 8, Sections 5163-5167) to protect the project area from contamination due to accidental release of hazardous materials. The safety measures shall include, but not be limited to, the following:

- Spills and overflows of hazardous materials shall be neutralized and disposed of promptly.
- Hazardous materials shall be stored in containers that are chemically inert to and appropriate for the type and quantity of the hazardous substance.
- Containers shall not be stored where they are exposed to heat sufficient enough to rupture the containers or cause leakage.
- Specific information shall be provided regarding safe procedures and other precautions before cleaning or subsequent use or disposal of hazardous materials containers.

Disposal of all hazardous materials shall be in compliance with applicable California hazardous waste disposal laws. The construction contractor shall contact the local fire agency and the County Department of Public Health, Environmental Health Division, for any site-specific requirements regarding hazardous materials or hazardous waste containment or handling.

Department of Water Resources (DWR), State Water Project Encroachment Permit Section, October 3, 2008

Comment DWR-1

The comment states that the proposed pipelines would cross the California Aqueduct at 40th Street East and Elizabeth Lake Road and would therefore require an encroachment permit from DWR.

Response DWR-1

The PEIR on page 2-22 states that the implementing agencies would use the analysis contained within the PEIR to support the acquisition of a roadway encroachment permit/easement from DWR.

Comment DWR-2

The comment requests that DWR be provided with any subsequent environmental documentation when it becomes available for public review.

Response DWR-2

The requested documents will be provided to DWR once available. No response required.

Department of Fish and Game, October 10, 2008

Comment CDFG-1

The comment recommends that construction of the pipeline be subject to further project level CEQA review as special status botanical and wildlife species may become apparent based on specific focused surveys conducted at the specific trenching sites.

Response CDFG-1

Construction of the pipeline would occur primarily within roadway right-of-ways that do not support native vegetation or special-status species. Although the exact location and extent of the construction easement has not been identified, the PEIR includes mitigation measures that require the implementing agencies to conduct pre-construction surveys for special-status species and habitats (Mitigation Measure 3.3-3a). In the event that special-status plant species would be affected by construction, the PEIR requires avoidance of such species, if possible (Mitigation Measure 3.3-3b). If avoidance is not possible, the PEIR requires the implementing agencies to minimize the construction zone through areas with special-status species and to consult with CDFG to determine appropriate mitigation for areas where direct impacts to plants cannot be avoided (Mitigation Measure 3.3-3b, as amended per response to comment CDFG-8 below). The PEIR requires the implementing agency to restore all disturbed areas to pre-construction conditions and to develop a restoration plan (Mitigation Measure 3.3-3d). These mitigation measures are adequate to ensure impacts to special-status species and habitats due to construction of the proposed pipeline would be less than significant. The implementing agencies would not be required to prepared additional CEQA documentation for implementation of the pipeline once this PEIR is certified and adopted. See response to comment CDFG-8 for revisions to the above-mentioned mitigation measures.

Comment CDFG-2

The comment recommends that US Fish and Wildlife Service protocol surveys be conducted to determine the presence or absence of the Desert Tortoise and that restrictive fencing be used to exclude tortoise from project construction areas.

Response CDFG-2

Restrictive fencing to protect special-status ground-dwelling wildlife species from construction areas is addressed in Mitigation Measure 3.3-1d. The following text change has been made to Mitigation Measure 3.3-1a on page 3.3-14 to include protocol surveys for special-status species, such as Desert Tortoise, if deemed necessary after pre-construction reconnaissance surveys.

> **Mitigation Measure 3.3-1a:** The implementing agencies shall have a qualified biologist conduct a pre-construction field reconnaissance survey for special-status ground-dwelling species within the construction right-of-way. <u>If potential for special-status ground-dwelling species is identified then presence/absence protocol surveys shall be conducted. If protocol surveys identify the presence of special-status ground-dwelling species, the implementing agencies shall consult with CDFG to determine further required mitigation.</u>

Comment CDFG-3

The comment recommends that efforts be made to discourage attracting ravens to the project sites as they are a serious threat to Desert Tortoise survival.

Response CDFG-3

If desert tortoises are found to be present at the proposed project locations, consultation with CDFG would be required as stated in the revised Mitigation Measure 3.3-1a above, in which case CDFG can then require measures to assist in deterring ravens from the project site.

Comment CDFG-4

The comment agrees that an incidental take permit would be required if Mohave ground squirrel are detected or assumed present at the project site. The comment recommends that the trapping methods follow CDFG's trapping protocol which can be provided by the Department upon request.

Response CDFG-4

The following text change has been made to Mitigation Measure 3.3-1e on page 3.3-14.

> **Mitigation Measure 3.3-1e:** Prior to project implementation, a habitat assessment ~~will~~ shall be conducted by a qualified biologist to determine the potential for the Mohave ground squirrel to occur within construction zones. If the habitat assessment determines that potential habitat for the Mohave ground squirrel is present in the impact zone or within 300 feet of the construction zone, then the implementing agencies have two options: 1) assume the Mohave ground squirrel is present and either take the steps necessary to avoid any potential direct or indirect impacts (i.e., construction noise and dust) that may be incurred by the Mohave ground squirrel or 2) arrange for a qualified biologist with the necessary permits to implement a trapping program in accordance with CDFG's trapping protocol to determine the presence or absence of the Mohave ground squirrel. If Mohave ground squirrel is identified as present or assumed present, implementing agencies shall obtain an incidental take permit from CDFG pursuant to Section 2081 of the California Fish and Game Code and provide compensation at a ratio determined by CDFG.

Comment CDFG-5

The comment recommends that focused nesting surveys be preformed for loggerhead shrike within appropriate habitat.

Response CDFG-5

The PEIR identifies the presence of loggerhead shike in the project area in Table 2 of Biological Technical Report provided in Appendix E of the PEIR. Mitigation Measures 3.3-2a through 3.3-2c, 3.3-2e, and 3.3-2f require nesting bird surveys to be conducted prior to construction and in coordination with USFWS and CDFG and would cover the loggerhead shrike. Identified nesting sites would be avoided, and construction would occur out of the nesting season if possible, or buffer zones would be established as determined by CDFG and replacement habitat would not be necessary.

Comment CDFG-6

The comment recommends conducting burrowing owl presence or absence surveys in accordance with the Department's *1995 Staff Report on Burrowing Owl Mitigation* and the Burrowing Owl Consortium's *1992 Burrowing Owl Protocol and Mitigation Guidelines* including passive relocation guidelines. The guidelines described in the Draft PEIR may miss wintering burrowing owls which could be killed in their burrows during grading and trenching operations if done in the winter.

Response CDFG-6

The following text and Mitigation Measure have been added on page 3.3-14 and 3.3-15:

> The Mohave ground squirrel and burrowing owl have the ~~has~~ potential to occur in the native habitats of the proposed project area. Any impacts to these ~~on this~~ species would be considered significant and mitigation would be required. Implementation of Mitigation Measure 3.3-1e and 3.3-1f would reduce these impacts to less than significant.
>
> **Mitigation Measure 3.3-1f:** Prior to project implementation, a burrowing owl presence/absence survey shall be conducted by a qualified biologist in accordance with CDFG's *1995 Staff Report on Burrowing Owl Mitigation* and the *Burrowing Owl Consortium's 1992 Burrowing Owl Protocol and Mitigation Guidelines* to determine the potential for the burrowing owl to occur within impacted areas and construction zones. If the survey results in discovery of burrowing owl, sign, or potential burrow sites in the impact zone, then additional surveys shall be performed during the breeding season (April 15 to July 15) in accordance with the *1992 Guidelines* to determine use of the site by burrowing owl. Following this survey, the implementing agencies shall consult with CDFG to determine avoidance or mitigation measure to minimize project impacts to burrowing owl.

Comment CDFG-7

The comment agrees with the mitigation measures for native bird species in the Draft PEIR. Comment A further recommends that the project implement CDFG's native bird avoidance measures (Comment B through E).

Response CDFG-7

Comment B: The PEIR acknowledges the protection of native birds under the Migratory Bird Treaty Act (pages 3.3-10 and 3.3-15). Mitigation Measures 3.3-2b requires avoidance of direct impacts to any nesting birds and proposes construction outside of the breeding season (February 1 through August 31).

Comment C: If avoidance of the breeding season is not possible, all nests will be avoided by the reduction of the construction right of way (Mitigation Measure 3.3-2e) and creation of buffer zones in coordination with CDFG (Mitigation Measure 3.3-2c).

Comment D and E: Results of recommended protective mitigation measures and documented compliance will be accomplished through implementation of the Mitigation, Monitoring, and

Reporting Program (MMRP), which has been included at Chapter 11 in this Final PEIR. The following text changes have been made to Mitigation Measures 3.3-2a, 3.3-2c on page 3.3-16.

> **Mitigation Measure 3.3-2a:** Prior to any ground-disturbing activities, the ~~The~~ implementing agencies shall have a qualified biologist conduct a pre-construction spring/summer active season reconnaissance survey for nesting/roosting special-status mobile bird and bat species, and other nesting birds within ~~150~~ 300 feet (500 feet for raptors) of the construction limits of each project element to determine and map the location and extent of special-status species occurrence(s) that could be affected by the project.
>
> **Mitigation Measure 3.3-2c:** If construction and vegetation removal is proposed for the bird nesting period February 1 through August 31, then preconstruction surveys for nesting/roosting bird and bat species shall begin 30 days prior to construction disturbance with subsequent weekly surveys, the last one being no more than three days prior to work initiation. The surveys shall include habitat within 300 feet (500 feet for raptors) of the construction limits. ~~then a~~Active nest sites located during the pre-construction surveys shall be avoided and a non-disturbance buffer zone established dependent on the species and in consultation with the USFWS and CDFG. This buffer zone shall be delineated in the field with flagging, stakes or construction fencing. Nest sites shall be avoided with approved non-disturbance buffer zones until the adults and young are no longer reliant on the nest site for survival as determined by a qualified biologist. For species with high site fidelity, such as Swainson's hawk, if direct take of nests outside of the breeding seasons is required, the implementing agency shall contact CDFG to determine appropriate mitigation measures.

The following Mitigation Measure has been added on page 3.3-17.

> **Mitigation Measure 3.3-2g:** The implementing agencies shall instruct construction personnel on the importance of buffer zones and sensitivity of the delineated areas.

Comment CDFG-8

The comment recommends that focused spring and botanical surveys be performed as project phases are implemented. The comment concurs with the PEIR mitigation measures for avoidance of special-status botanical species and restoration of disturbed areas. The comment recommends methods for performing botanical surveys and recommends habitat acquisition instead of restoration for mitigation of direct impacts to special-status plant species.

Response CDFG-8

The following text changes have been made to Mitigation Measures 3.3-3a, 3.3-3b and 3.3-3d on pages 3.3-17 and 3.3-18.

> **Mitigation Measure 3.3-3a:** The implementing agencies shall have a qualified biologist conduct a pre-construction spring/summer floristic inventory and rare plant survey of the proposed project areas in accordance with CDFG's *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities*, revised May 8, 2000, to determine and map the location and extent of special-status plant

species populations within the construction right-of-way. The survey shall be conducted during the appropriate flowering time for target plant species.

Mitigation Measure 3.3-3b: If not possible to avoid, the implementing agencies shall minimize impacts on special-status plant species by reducing the construction right-of-way through areas with potential occurrences of special-status plant species. For unavoidable impacts to special-status species, consultation with CDFG shall be required to determine the impact area and further mitigation, which could include acquisition of habitat of equal or superior value at a ratio of at least 2:1.

Mitigation Measure 3.3-3d: ~~If re-vegetation is required, a detailed re-vegetation and special-status plant restoration program will~~ The implementing agencies shall restore all disturbed areas back to pre-construction conditions and a restoration plan shall be developed and implemented ~~and will contain~~ that contains the following items: responsibilities and qualifications of the personnel to implement and supervise the plan; ~~site selection;~~ site preparation and planting implementation; schedule; maintenance plan/guidelines; and monitoring plan~~; long-term preservation; and performance standards. It is recommended that long term preservation of restored areas include a permanent open space designation in perpetuity~~.

Comment CDFG-9

The comment recommends more stringent mitigation for Joshua Tree Woodlands and other Native Vegetation other than just compliance with the City of Palmdale's Native Desert Vegetation Ordinance.

Response CDFG-9

The following text change has been made to Mitigation Measures 3.3-4b on page 3.3-18 and Mitigation Measure 3.3-4c has been added.

Mitigation Measure 3.3-4b: Prior to the commencement of grading activities for any component of the proposed project, a qualified biologist/arborist shall be consulted to determine the biological/aesthetic value of potentially impacted trees under the jurisdiction of the Palmdale Native Desert Vegetation Ordinance. For protected vegetation located within the final impact areas, a proposal application would be necessary, including a desert vegetation preservation plan which depicts the location of each Joshua tree and California juniper, details tree age and health, and describes which can be saved and maintained on the site or relocated. A permit must be obtained from the City of Palmdale's landscape architect prior to removal of protected vegetation, which may require mitigation in the form of replacement plantings of all impacted vegetation ~~at a ratio to be determined by the City of Palmdale~~.

Mitigation Measure 3.3-4c: If avoidance of Joshua tree woodlands or other special-status vegetative community is not feasible, the implementing agencies shall acquire off-site habitat of equal or superior quality at a no less than a 2:1 ratio within remaining habitat in the Antelope Valley. Location, terms and conditions for habitat acquisition, protection, and maintenance shall be determined through consultation with resource agencies, including CDFG

Comment CDFG-10

The comment states that the project may result in impacts to jurisdictional drainages from trenching, grading and other project disturbances and that a Streambed Alteration Agreement (SAA) is required.

Response CDFG-10

The PEIR acknowledges that if project implementation results in impacts to jurisdictional drainages, the implementing agencies will secure a SAA or get documentation stating that one is not required. The PEIR identifies potential impacts to lake, stream, and riparian resources and listed species, and provides adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the SAA. The MMRP is included in Chapter 11 of the Final PEIR. Also, the project description states that construction methods such as jack and bore tunneling and directional drilling will be used under sensitive waterways to avoid impacts to these waterways to the extent feasible.

Mojave Desert Air Quality Management District, August 15, 2008

Comment MDAQMD-1

The comment recommends that Table 3.2-3 County Attainment Status on page 3.2-7 of the PEIR be updated.

Response MDAQMD-1

In response to this comment, the following changes were made to Table 3.2-3.

TABLE 3.2-3:
COUNTY ATTAINMENT STATUS

	Designation/Classification			
	Federal Standards		State Standards	
Pollutant	**Los Angeles**	**Kern**	**Los Angeles**	**Kern**
Ozone one hour	No Federal Standard[a]	No Federal Standard[a]	Nonattainment	Nonattainment
Ozone eight hour	~~Severe~~ Nonattainment; Classified Severe-17	Nonattainment	Unclassified	Unclassified
PM10	~~Serious Nonattainment~~ Unclassified	Nonattainment	Nonattainment	Nonattainment
PM2.5	~~Nonattainment~~ Unclassified attainment	Nonattainment	Nonattainment	Unclassified
CO	Unclassifiable Attainment	Attainment	Attainment	Unclassified
Nitrogen Dioxide	Unclassified Attainment	Unclassified	Attainment	Attainment
Sulfur Dioxide	Unclassified	Unclassified	Attainment	Attainment
Lead	No Designation	No Designation	Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	No Federal Standard	Unclassified	Unclassified
Sulfates	No Federal Standard	No Federal Standard	Attainment	Unclassified
Visibility-Reducing Particles	No Federal Standard	No Federal Standard	Unclassified	Unclassified

Comment MDAQMD-2

The comment expresses agreement that the proposed mitigation measures for air quality represent feasible mitigation.

Response MDAQMD-2

No response is required.

Regional Water Quality Control Board, Lahontan Region, October 3, 2008

Comment RWQCB-1

The comment notes that the project will require preparation of a salt management plan.

Response RWQCB-1

The PEIR notes on page 3.7-24 that the application of recycled water could increase total dissolved solids (TDS) loading to local groundwater. Mitigation Measure 3.7-5 commits implementing agencies to adopting user agreements with end users that include provisions for managing recycled water application methods to protect groundwater quality. The PEIR notes that the SWRCB is currently drafting a state-wide policy for Regional Boards to prepare salt management plans for groundwater basins with recycled water projects. This policy is not yet adopted and may change prior to the policy's adoption. Nonetheless, it is likely that future recycled water projects will be required to comply with regional salt management plans that outline water quality, application, treatment, and monitoring requirements. The goal of the SWRCB policy will be to provide state-wide consistency for regulation of recycled water projects and provide the means of obtaining compliance with the state's Groundwater Anti-Degradation Policy. In response to this comment, Mitigation Measure 3.7-5 has been changed to Mitigation Measure 3.7-5a, and the following text and mitigation measure have been added to page 3.7-24 and 3.7-25 as follows:

> SWRCB has acknowledged that use of recycled water for irrigation or other water supply augmentation can affect concentrations of salts and nutrients in groundwater basins, in excess of the water quality objectives established in Basin Plans. The regulation of recycled water itself is not adequate to address this issue; rather, SWRCB is drafting a policy that recommends Salt Management Plans (SMPs) for basins and watersheds to manage salts and nutrients from all water sources, including recycled water (SWRCB, 2008d). Currently, the draft policy suggests these SMPs would be basin-wide and would be funded pursuant to Water Code Sections 10750 *et seq*. The SMPs could require monitoring plans and a network of stations to monitor salt concentrations in groundwater for consistency with applicable water quality objectives. In addition, the SMPs could require implementation measures for sustainable management of salt and nutrient loading and an anti-degradation analysis demonstrating compliance with Resolution 68-16 for projects included in the plan. The SWRCB policy would not prevent stakeholders from developing a SMP that is more protective of water quality than the Basin Plan. This policy is still in draft format and may change in the future. Upon adoption of a Recycled Water Policy by SWRCB, the proposed project would be subject to all requirements of the policy, including salt management plans (Mitigation Measure 3.7-5b).

> **Mitigation Measure 3.7-5b**: The implementing agencies, in consultation with the Lahontan RWQCB, shall develop and implement a salt management plan, if needed in the future, to reduce the potential for salt and nutrient loading and minimize impacts to water quality in the Antelope Valley groundwater basin..

In addition, the following changes have been made to the discussion for Impact 3.7-10 on pages 3.7-29 and 3.7-30:

> Implementation of Recycled Water User Agreements as required by Mitigation Measure 3.7-5a would ensure minimal impacts to water quality due to the use of recycled water at agricultural reuse sites. Implementation of Mitigation Measure 3.7-5b would ensure minimal impacts to water quality due to the use of recycled water for all end uses, once the SWRCB adopts its Recycled Water Policy requiring implementation of SMPs.
>
> ### *Mitigation Measures*
>
> Implementation of Mitigation Measure 3.7-5a and 3.7-5b.
>
> **Significance after Mitigation:** Less than significant.

Comment RWQCB-2

The comment asks if the PEIR is intended to cover all Title 22 end uses listed in Table 1-2.

Response RWQCB-2

The PEIR notes on page 2-17 that the PEIR provides analysis for uses listed in Table 1-2 including but not limited to "irrigation of parks, schools, golf courses, sports complexes (e.g., Lancaster National Soccer Center), freeways, greenbelts, cemeteries, and landfills; landscape impoundments; fire suppression; city maintenance and street cleaning operations; culvert jetting; and construction applications, such as dust control." The PEIR is clear to note that some end uses such as any agriculture, some industrial projects, and groundwater recharge are covered at a program level only and could be implemented in the future only following subsequent CEQA evaluation. In response to the comment, for clarification Table 1-2 has been revised to indicate those uses for which the PEIR provides project-level detail. The end uses evaluated at the project level are highlighted and shown in bold typeface in Table 1-2 on page 1-16 and 1-17. These applications would not require additional CEQA evaluation prior to implementation. The other uses identified in the table are covered at a program level requiring additional CEQA compliance prior to implementation.

In addition, the following text change has been made on page 1-6:

> 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]

In addition, the following text change has been made on page 1-14:

> **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.

In addition, the following text change has been made on page 2-3:

> As explained in Chapter 1, Introduction and Project Background, the analyses in this PEIR are intended to provide **project-level coverage** for the following project components: construction and operation of the recycled water pipelines and M&I applications for recycled water as identified in bold typeface in Table 1-2.

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

TABLE 1-2
REGULATORY REQUIREMENTS FOR RECYCLED WATER USES IN CALIFORNIA[a]

Use of Recycled Water	Disinfected Tertiary Recycled Water	Treatment Level: Disinfected Secondary-2.2 Recycled Water	Treatment Level: Disinfected Secondary-23 Recycled Water	Treatment Level: 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[b]	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[c]	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	Disinfected Tertiary Recycled Water	Treatment Level: 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: WateReuse Association, Recycled Water Uses Allowed in California, http://www.watereuse.org/ca/usestable.html, 1/3/2008.

The following text change has been made on page 2-18:

> The customer locations, both existing and future, are identified in Figure 2-2. M&I applications for recycled water <u>that are covered at the project level in this PEIR</u> are <u>highlighted in bold typeface</u> in Table 1-2 and include, but are not limited to, the following…

Table 2-1 on page 2-6 has been revised as shown:

TABLE 2-1
CEQA COVERAGE BY PROJECT COMPONENT

Project-Level Analysis	Program-Level Analysis
Construction Operation of Recycled Water Pipeline	Construction Operation of Pump Stations
End Use: M I Applications (see Table 1-2)	Construction Operation of Storage Reservoirs
	End Use: Agricultural Irrigation
	End Use: Power Plant Cooling Water
	End Use: Groundwater Recharge

SOURCE: ESA, 2008.

Comment RWQCB-3

The comment requests clarification for the source of recycled water to be used in the backbone system.

Response RWQCB-3

As noted on page 2-20, the backbone system would convey water produced at either the Lancaster WRP, the Palmdale WRP, or the RWWTP. The backbone system has been designed as a conveyance system for recycled water only.

Comment RWQCB-4

The comment states that the mitigation measures identified for recharge of recycled water are not adequate since they lack specific project components.

Response RWQCB-4

The PEIR notes on page 2-18 that groundwater recharge projects are evaluated in this document at a program level only. Program-level EIRs provide general discussion of impacts, alternatives and mitigation measures. As specific projects are developed, subsequent CEQA documents that tier off of the program EIR are subject to mitigation measures adopted by the Lead Agency in the program EIR. Subsequent project-level CEQA documents provide detailed analysis of project impacts and provide site-specific mitigation measures and specific project alternatives.

For the proposed project, project specifics are not yet developed for any particular recharge project. Subsequent CEQA compliance would be required prior to implementation of a recycled water groundwater recharge project. The purpose of the program-level mitigation measures is to frame the potential issues and to commit implementing agencies to focus on implementing water quality monitoring, blending, and retention duration requirements. The PEIR concludes that with proper management and oversight in conjunction with local regulating authorities, groundwater recharge using recycled water can be an effective means of augmenting local water supply without jeopardizing water quality or public health.

Comment RWQCB-5

The comment identifies a discrepancy in the Executive Summary on page ES-28.

Response RWQCB-5

In response to this comment, Impact 4-5 has been correctly labeled in Section 4 and Table ES-1 has been revised to include Impact 4-5.

Comment RWQCB-6

The comment states that prior to recycled water use, the system operators will be required to show compliance with the Anti-Degradation Policy and obtain discharge permits from the RWQCB.

Response RWQCB-6

The PEIR notes on page 2-22 that WDRs/WRRs from the RWQCB would be necessary prior to initiating recycled water use. The SWRCB is currently drafting a Recycled Water Policy (see response to comment RWQCB-1) that addresses, among other things, Anti-Degradation requirements in accordance with Resolution No. 68-16. The implementing agencies shall comply with any Anti-Degradation requirements mandated in the SWRCB final Recycled Water Policy once it is adopted. If a consistency statement is required by the RWQCB prior to initiating recycled water use in accordance with the final Recycled Water Policy, then the implementing agencies shall comply.

Comment RWQCB-7

The comment notes that a SWPPP would be required for construction or stream crossings.

Response RWQCB-7

The PEIR acknowledges that construction activities could affect storm water runoff quality. Mitigation Measure 3.7-2 commits the implementing agencies to preparing and implementing BMPs during construction to comply with RWQCB storm water discharge permit requirements. The PEIR acknowledges that any construction activities affecting streams would be subject to RWQCB and CDFG approval.

Department of Transportation (Caltrans) District 7, Regional Planning, September 11, 2008

Comment CaltransD7-1

The comment states that any work to be performed within the State Right-of-Way will need an encroachment permit from Caltrans.

Response CaltransD7-1

The PEIR on page 2-22 states that the implementing agencies would use the analysis contained within the PEIR to support the acquisition of a roadway encroachment permit/easement from Caltrans.

Comment CaltransD7-2

The comment states that the proposed project needs to be designed to discharge clean storm water runoff.

Response CaltransD7-2

Mitigation Measure 3.7-2 on page 3.7-22 of the PEIR requires that the implementing agencies implement Best Management Practices (BMPs) to reduce pollutants in storm water discharges. In addition, Mitigation Measure 3.6-2a on page 3.6-9 of the PEIR requires that BMPs for handling hazardous materials during the project are implemented. Once construction of the pipeline is completed, roadways would be restored to their pre-existing condition and would not be expected to result in increased storm water runoff.

Comment CaltransD7-3

The comment states that any transportation of heavy construction equipment and/or materials which requires the use of oversized-transport vehicles on State highways will require a Caltrans transportation permit. The comment also states that a truck/traffic construction management plan is needed for the project and recommends that large size truck trips be limited to off-peak commute periods.

Response CaltransD7-3

Page 3.11-4 of the PEIR states that permits from Caltrans would be required for transportation of oversized loads and for transportation of certain materials. Mitigation Measure 3.11-1a on page 3.11-5 of the PEIR requires that a Traffic Control/Traffic Management Plan be prepared and implemented prior to construction. The plan would identify the hours of construction and hours for deliveries of materials.

Department of Transportation (Caltrans) District 9, August 20, 2008

Comment CaltransD9-1

The comment states that jack and bore is the approved method for pipeline installation under the highway. Work to be performed at the Gaskell Road location will need an encroachment permit from Caltrans.

Response CaltransD9-1

The PEIR on page 2-18 states that the pipeline would be installed by either trenching, jack-and-bore tunneling, or directional drilling. The EIR evaluates the potential impacts of using jack-and-bore tunneling methods. The PEIR on page 2-22 commits the implementing agencies to obtaining

a roadway encroachment permit/easement from Caltrans prior to project implementation. Jack-and-bore tunneling methods will be used as required by Caltrans.

Comment CaltransD9-2

The comment states that the Roadway Network section on page 3.11-1 should include a description of State Route 14 and the proposed pipeline crossing.

Response CaltransD9-2

In response to this comment, the following description of State Route 14 has been added to the Roadway Network section of the Final PEIR.

> **State Route 14** is a north-south state highway that passes through Palmdale and Lancaster and runs concurrently with State Route 138 from their junction in Palmdale to north of Lancaster. The pipeline would cross under State Route 14 at Gaskell Road, Avenue K, and Avenue P.

County of Los Angeles Airport Land Use Commission, August 21, 2008

Comment ALUCP-1

The comment states that since the project does not involve any changes in land uses, it does not fall under the purview of the Airport Land Use Commission. The comment also expresses agreement that the safety issues related to project construction within the Airport Influence area are properly addressed.

Response ALUCP-1

No response is required.

County Sanitation Districts of Los Angeles, October 7, 2008

Comment LACSDa-1

The comment requests that additional information be added to the description of LACSD in Chapter 1 of the PEIR.

Response LACSDa-1

The following text change has been made to the second paragraph on page 1-12 of the Final PEIR.

> District 14 owns and operates the LWRP and the adjoining approximately 64-mile network of trunk sewers.

Comment LACSDa-2

The comment requests that the text be clarified to indicate that RCSD's acquisition of additional recycled water from Los Angeles County would be subject to availability.

Response LACSDa-2

The following text change has been made to the fifth paragraph on page 1-12 of the Final PEIR.

> 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.

Comment LACSDa-3

The comment indicates that 16 mgd is not the actual permitted capacity of the Lancaster Water Reclamation Plant (LWRP) and a correction should be made to the text.

Response LACSDa-3

The following text change has been made to the sixth paragraph on page 1-12 of the Final PEIR.

> Currently, LWRP has a permitted capacity of ~~16~~ 18 mgd, of which 0.6 mgd is tertiary-treated effluent and the remaining is secondary-treated effluent.

Comment LACSDa-4

The comment requests that additional information be added to the text regarding where the effluent from the Antelope Valley Tertiary Treatment Plant is conveyed to.

Response LACSDa-4

The following text change has been made to the first paragraph on page 1-13 of the Final PEIR.

> 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.

Comment LACSDa-5

The comment requests that the use of secondary-treated effluent for maintenance of the Piute Ponds be clarified.

Response LACSDa-5

The following text change has been made to the first paragraph on page 1-13 of the Final PEIR.

> 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 ~~a minimum of 200~~ Piute Ponds at its current area of 400 ~~wetted~~ acres ~~of habitat suitable for recreational duck hunting at Piute Ponds~~.

Comment LACSDa-6

The comment requests that the temporary tertiary treatment process at the LWRP be mentioned in the description of the LWRP.

Response LACSDa-6

The following text has been added to the first paragraph on page 1-13 of the Final PEIR.

> Tertiary treated effluent is also being temporarily produced by a 1.0-mgd Membrane Bioreactor located in the LWRP.

Comment LACSDa-7

The comment requests that the text be edited to reflect that LACSD No. 14 has already purchased additional land to manage the increase effluent production.

Response LACSDa-7

The following text change has been made to the second paragraph on page 1-13 of the Final PEIR.

> To manage the increased effluent production, LACSD No. 14 has purchased ~~will purchase~~ land for additional storage reservoirs and for implementation of agricultural activities whereby the recycled water is used for irrigation.

Comment LACSDa-8

The comment requests that a discussion of LACSD No.14's commitment to diverting recycled water from agricultural operations to serve other emerging recycled water end uses be added to the Final PEIR.

Response LACSDa-8

The following text has been added to the second paragraph on page 1-13 of the Final PEIR.

> 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.

Comment LACSDa-9

The comment indicates that the effluent from the PWRP is not land applied and requests that the text be edited to reflect this.

Response LACSDa-9

The following text change has been made to the third paragraph on page 1-13 of the Final PEIR.

> The effluent from the PWRP is ~~either land applied (for percolation into the ground) or~~ used to irrigate trees and fodder crops on land leased from Los Angeles World Airports (LAWA).

Comment LACSDa-10

The comment requests that the discussion of planned upgrades to the Palmdale Water Reclamation Plant be clarified.

Response LACSDa-10

The following text change has been made to the fourth paragraph on page 1-13 of the Final PEIR.

> LACSD No. 20 plans to ~~increase~~ upgrade the ~~capacity of the~~ PWRP to 12 mgd of disinfected tertiary treatment by 2011, ~~providing disinfected tertiary treatment for all incoming wastewater~~.

Comment LACSDa-11

The comment requests that the text be edited to reflect that LACSD No. 20 has already purchased additional land to for storage reservoirs and for implementing agricultural reuse.

Response LACSDa-11

The following text change has been made to the fourth paragraph on page 1-13 of the Final PEIR.

> 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 ~~would~~ acquired land for storage reservoirs and for implementing agricultural reuse.

Comment LACSDa-12

The comment notes that the latest available draft regulations are now the Draft Recycled Water Policy published in August 2008.

Response LACSDa-12

The following text change has been made to the fourth paragraph on page 1-15 of the Final PEIR.

> 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 ~~January 2007~~ 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).

Comment LACSDa-13

The comment notes that UV light reduces but does not eliminate NDMA concentrations in recycled water.

Response LACSDa-13

The following text change has been made to the last paragraph on page 3.7-15 of the Final PEIR.

> UV light can be used to reduce ~~eliminate~~ NDMA concentrations in ~~from~~ recycled water.

Comment LACSDa-14

The comment notes that both Lake Palmdale and the California Aqueduct are waters of the U.S. and that the discussion regarding SWWPs should be edited to reflect this.

Response LACSDa-14

The following text change has been made to the first paragraph on page 3.7-17 of the Final PEIR.

> As described above, there are no waters of the U.S. in the project area that are subject to RWQCB storm water pollution prevention requirements.

Comment LACSDa-15

The comment suggests that LACWWD40 should confirm the language in Mitigation Measure 3.7-1d on page 3.7-20 of the PEIR with LACDPH.

Response LACSDa-15

Mitigation Measure 3.7-1d commits implementing agencies to obtaining approval from LACDPH prior to operating the recycled water system. Implementing agencies would be required to obtain approval from LACDPH for operation of the backbone system as noted on page 2-22 of the PEIR.

Comment LACSDa-16

The comment notes that the reclaimed effluent from the LWRP and the PWRP is not coagulated before it is used as a source of supply.

Response LACSDa-16

The following text change has been made to the last paragraph on page 3.7-24 of the Final PEIR.

> To be used as a source supply for these designations, the reclaimed effluent would at all times be adequately oxidized, ~~coagulated~~, clarified, filtered, and disinfected effluent.

Comment LACSDa-17

The comment recommends discussing salinity management plans to control salts in the basin.

Response LACSDa-17

The PEIR notes on page 3.7-24 that the application of recycled water could increase total dissolved solids (TDS) loading to local groundwater. Mitigation Measure 3.7-5 commits implementing agencies to adopting user agreements with end users that include provisions for managing recycled water application methods to protect groundwater quality. The PEIR notes that the SWRCB is currently drafting a state-wide policy for Regional Boards to prepare salinity management plans for groundwater basins. This policy is not yet adopted and may change prior to the policy's adoption. Nonetheless, it is likely that future recycled water systems will be required to comply with regional salt management plans that outline water quality, application, treatment, and monitoring requirements. The goal of the SWRCB policy will be to provide state-wide consistency for regulation of recycled water projects and provide the means of obtaining compliance with the state's Groundwater Anti-Degradation Policy. See response to comment RWQCB-1.

Comment LACSDa-18

The comment suggested that a grammatical error be corrected.

Response LACSDa-18

The following text has been added to the second paragraph on page 3.7-29 of the Final PEIR.

> Surface water quality also could be affected if over-application of recycled water resulted in surface ponding or direct runoff to local creeks or other ~~waterbodies~~ water bodies.

Comment LACSDa-19

The comment indicates that details regarding the groundwater recharge pilot project have been changed.

Response LACSDa-19

The first paragraph on page 3.7-30 describing Lancaster's GWR-RW Pilot Project was provided by the City of Lancaster. Minor details of the Pilot Project have changed; however, the intent, scale, location, and application of the GWR-RW Pilot Project have not changed. The comment has been noted; no changes have been made to the Final PEIR.

Comment LACSDa-20

The comment suggests changing the project implementation status of the LACSD projects to in progress in Table 4-1.

Response LACSDa-20

In response to this comment, the following changes were made to Table 4-1.

TABLE 4-1
ANTELOPE VALLEY RELATED PROJECTS

Project Name	Project Type	Project Sponsor	Project Implementation
Water Supply Projects			
Littlerock Dam Sediment Removal Project	Reservoir expansion, flood control	Palmdale Water District	2008-2011
Upper Amargosa Creek Recharge, Flood Control Habitat Restoration	Groundwater recharge	City of Palmdale	2008-2011
Recycled Water Projects			
LWRP 2020 Facilities Plan	Recycled water application	LACSD No. 14	In progress
PWRP 2025 Facilities Plan	Recycled water application	LACSD No. 20	In progress ~~2009-2011~~
City of Lancaster Division Street Recycled Water Project	Recycled water application	City of Lancaster	In progress
City of Lancaster Groundwater Recharge Project	Groundwater recharge	City of Lancaster	2009-2011
Rosamond Recycled Water Project	Recycled water pipeline, Recycled water application	RCSD	2009-2011
PWD Groundwater Recharge Reuse Projects	Groundwater recharge	Palmdale Water District	2010-2015
Wastewater Projects			
LWRP 2020 Facilities Plan	Treatment plant expansion	LACSD No. 14	In progress
PWRP 2025 Facilities Plan	Treatment plant expansion	LACSD No. 20	In progress ~~2011~~
RWWTP Expansion	Treatment plant expansion	RCSD	In progress

Comment LACSDa-21

The comment requests that the discussion of planned upgrades to the Palmdale Water Reclamation Plant be clarified.

Response LACSDa-21

The following text change has been made to the fourth paragraph on page 4-4 of the Final PEIR.

> The ~~capacity of the~~ PWRP will be ~~increased~~ upgraded to 12 mgd of disinfected tertiary treatment by 2011~~, providing tertiary treatment for all incoming wastewater~~ (LACSD, 2005).

Comment LACSDa-22

The comment indicates that details regarding the groundwater recharge pilot project have been changed.

Response LACSDa-22

The details regarding Lancaster's groundwater recharge pilot project were provided by the City of Lancaster and are consistent with the description found on page 3.7-30 of the PEIR. See response to comment LACSDa-19. The comment has been noted; no changes have been made to the Final PEIR.

Comment LACSDa-23

The comment requests that the build-out design capacity of 17,491 afy for the project be clarified.

Response LACSDa-23

The proposed recycled water pipeline has been designed to accommodate potential future demand for M&I end users in the Antelope Valley, including 17,491 afy in Los Angeles County as identified in 2006 Facilities Plan and 1,119 afy in Kern County in the Rosamond area, for a total of 18,610 afy. The text on page 4-10 of the Final PEIR has been changed as follows:

> The recycled water pipeline component of the proposed project would be designed to deliver approximately 17,491 afy of recycled water (at buildout) to M&I users ~~within the region~~ in Los Angeles County and 1,110 afy of recycled water to M&I users in Kern County.

In addition, the text on page 2-3 has been changed as follows to include potential future M&I demand in the Rosamond area:

> For existing and future end users identified to-date, the annual demand for recycled water in the Antelope Valley is estimated at a minimum of ~~20,091~~ 21,210 afy at buildout ~~(Kennedy/Jenks, 2006)~~. The system capacity of the proposed project would be designed to meet this demand. This demand includes 17,491 afy for M&I end uses ~~in the project area~~ in Los Angeles County as estimated in the *Final Facilities Planning Report* (Kennedy/Jenks, 2006), plus 1,119 afy for M&I end uses in the RCSD service area in Kern County (Seal, 2008), and 2,600 afy for use as cooling water at the planned Palmdale Hybrid Power Plant described further in Section 2.5.5 below.

In addition, the text on page 2-17 has been changed as follows:

> Total estimated recycled water demand at buildout for M&I end users in the Antelope Valley identified to-date is 17,491 afy in Los Angeles County (Kennedy/Jenks, 2006) and 1,119 afy in Kern County (Seal, 2008).

In addition, the text on page ES-3 has been changed as follows:

> For existing and future end users identified to-date, the annual demand for recycled water in the Antelope Valley is estimated at ~~20,091~~ 21,210 afy at buildout ~~(Kennedy/Jenks, 2006)~~. The system capacity of the proposed project would be designed to meet this demand. This demand includes 17,491 afy for M&I end uses in Los Angeles County~~the project area~~ (Kennedy/Jenks, 2006), plus 1,110 afy for M&I end uses in Kern County, and 2,600 afy for use as cooling water at the planned Palmdale Hybrid Power Plant.

Comment LACSDa-24

The comment recommends discussing salinity management plans to control salts in the basin.

Response LACSDa-24

The PEIR acknowledges on page 4-10 that groundwater quality could be affected by the cumulative effects of concurrent recharge and extraction projects. The PEIR concludes that management of recharge projects and compliance with Title 22 regulations would effectively manage groundwater quality in the Antelope Valley. Effective groundwater management on a regional level will require cooperation from multiple stakeholders. As noted on page 3.7-9, an adjudication process has been initiated to assist in managing the groundwater basin more effectively for the benefit of all regional stakeholders. In addition, as noted on page 3.7-24 SWRCB is currently developing a statewide general permit for landscape irrigation uses of recycled water, pursuant to AB 1481 that will incorporate salinity management measures. In addition, the SWRCB has prepared draft guidelines for the preparation of Salt Management Plans for recycled water systems throughout California. This policy is not yet adopted and may change prior to the policy's adoption. Nonetheless, it is likely that future recycled water systems will be required to comply with regional salt management plans that outline water quality, application, and treatment requirements. The goal of the SWRCB policy will be to provide state-wide consistency for regulation of recycled water projects and provide the means of obtaining compliance with the state's Groundwater Anti-Degradation Policy. See response to comment RWQCB-1. .

Comment LACSDa-25

The comment notes that the water demand figures in Table 5-3 appear to be less than overall demand in the *2007 Antelope Valley Integrated Regional Water Management Plan*.

Response LACSDa-25

The water demand figures in Table 5-3 are from the per-capita water use projections (Table 4-5) in the 2005 *Integrated Urban Water Management Plan for the Antelope Valley* prepared by Kennedy/Jenks for LACWWD40, RCSD, LACSD, and Quartz Hill Water District (Kennedy/Jenks, 2005). The column for "2010" has been revised to correct the error in addition as follows:

TABLE 5-3
WATER DEMAND PROJECTIONS (AF)

	2005	2010	2015	2020	2025	2030
District No. 40	58,525	74,884	90,735	106,299	120,762	134,565
Quartz Hill	5,469	6,345	7,360	8,537	9,903	11,488
Rosamond	2,954	4,742	7,036	10,438	15,487	22,977
Subtotal	**66,948**	**~~46,900~~ 85,971**	**105,130**	**125,274**	**146,152**	**169,030**

SOURCE: ~~RWMG, 2007~~ 2005 Integrated Urban Water Management Plan for the Antelope Valley, Kennedy/Jenks, 2005.

County Sanitation Districts of Los Angeles, October 2, 2008

Comment LACSDb-1

The comment expresses LACSD's support for the proposed project.

Response LACSDb-1

No response required.

Comment LACSDb-2

The comment recommends that the Distribution Pump Station 1A alternative be selected as the final location for the distribution pump station and finds Distribution Pump Station 1 to be an unacceptable alternative.

Response LACSDb-2

The County notes LACSD's preference and looks forward to continued cooperation in designing the backbone system.

Comment LACSDb-3

The comment recommends that the labels used for pipeline construction phasing be linked to the labels for the construction phasing used in the 2006 Final Facilities Planning Report, Antelope Valley Recycled Water Project.

Response LACSDb-3

Figure 2-3 of the PEIR identifies the proposed phasing of the project components. The implementation schedule for the individual components are subject to modification. In response to this comment, Figure 2-3 has been revised slightly to modify the implementation phasing.

Comments LACSDb-4

The comment notes that LACSD does not intend to be a signatory to the Recycled Water System JPA.

Response LACSDb-4

The County recognizes LACSD's position as a non-JPA stakeholder. The following revision to the text on page 2-22 have been made as follows:

> 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<u>, with the exception of LACSD</u>.

Comment LACSDb-5

The comment suggests that the County work closely with LACSD during project design to ensure system efficiency.

Response LACSDb-5

The comment is noted. The County looks forwarded to continued close coordination with the LACSD and RCSD as product water suppliers and key project stakeholders.

Rosamond Community Services District, October 3, 2008

Comment RCSD-1

The comment requests that location of Reservoir 4 in Table 2-2 be clarified.

Response RCSD-1

The following change has been made to Table 2-2 on page 2-7 of the Final PEIR.

TABLE 2-2
PROPOSED STORAGE RESERVOIRS

Reservoir	Location	Capacity (MG)	Figure
Reservoir 1	40th Street West and Avenue M	3.0	Figure 2-4
Reservoir 2	25th Street West and Palmdale Blvd Elizabeth Lake Road	4.4	Figure 2-5
Reservoir 3	40th Street East and Barrel Springs Road	2.1	Figure 2-6
Reservoir 4	~~Near~~ North of 60th Street West and Mojave-Tropico Road	2.0	Figure 2-7

Comment RCSD-2

The comment requests that additional information be added to the City of Palmdale General Plan policies on page 3.2-12.

Response RCSD-2

Policies ER 5.3.3 and 5.4.2 were copied directly from the City of Palmdale General Plan and should not be modified. No changes were made to the Final PEIR.

Comment RCSD-3

The comment requests that in the Geological Subunits section on page 3.5-3, all references of subunits be changed to subbasins.

Response RCSD-3

According to DWR Bulletin 118 regarding California's groundwater basins, there are no officially designated subbasins in the Antelope Valley. The comment has been noted however no changes were made to the Final PEIR.

Comment RCSD-4

The comment requests that in the Groundwater Subunits section on page 3.7-3, all references of subunits be changed to subbasins.

Response RCSD-4

According to DWR Bulletin 118 regarding California's groundwater basins, there are no officially designated subbasins in the Antelope Valley. The comment has been noted however no changes were made to the Final PEIR.

Comment RCSD-5

The comment requests that the Rosamond Wastewater Treatment Plant (RWWTP) be included in the discussion of where recycled water would be produced.

Response RCSD-5

The following text change has been made to the seventh paragraph on page 3.7-13.

> Recycled water produced at the RWWTP, LWRP, and PWRP will be of disinfected tertiary standards making it suitable for all end uses included in Title 22 (see Table 1-2), including M&I and agricultural applications.

Comment RCSD-6

The comment requests that Mitigation Measure 3.7-1d add that the Kern County Department of Public Health should be notified of new recycled water sites located in Kern County.

Response RCSD-6

The following text change has been made to Mitigation Measure 3.7-1d on page 3.7-20.

> **Mitigation Measure 3.7-1d**: Los Angeles County Department of Public Health (DPH), Cross Connection Control Program, or the Kern County Department of Public Health shall be advised of each new site in their respective counties where recycled water is to be used prior to placing the site into service.

Comment RCSD-7

The comment specifies that the proposed project is located in southeastern Kern County, not southwestern Kern County and requests that RCSD be included in the service areas considered for cumulative analysis.

Response RCSD-7

The following text change has been made to the second paragraph on page 4-2. The paragraph states that the service areas for LACWWD40 and all partner agencies were used for the cumulative analysis. The service area for RCSD is within this category. No change to the text was made regarding this part of the comment.

> Geographically, the proposed project is located in the Antelope Valley in northern Los Angeles County and ~~southwestern~~ southeastern Kern County.

Comment RCSD-8

The comment requests that additional information regarding Phase I of the Rosamond Recycled Water Project be added to the PEIR.

Response RCSD-8

The following text change has been made to the second paragraph on page 4-5. The paragraph states that the service areas for LACWWD40 and all partner agencies were used for the cumulative analysis. The service area for RCSD is within this category. No change to the text was made regarding this part of the comment.

> RCSD is currently constructing a 0.5 million gallons per day tertiary treatment plant adjacent to its existing evaporation ponds.

Comment RCSD-9

The comment requests that an additional 4,000 afy of recycled water demand be added for three planned solar collector power plants in the Rosamond area, in addition to the 2,600 afy of demand for cooling water at the Palmdale Hybrid Power Plant on page ES-3.

Response RCSD-9

The comment has been noted however no changes were made to the Final PEIR. The PEIR assumes that additional recycled water uses may be developed following adoption of the PEIR. Those projects developed subsequent to the adoption of this PEIR may require subsequent CEQA compliance documentation that includes by reference the analysis conducted for this PEIR.

Comment RCSD-10

The comment requests that Mitigation Measure 3.3-4b be edited to include the Kern County Habitat Conservation Plan.

Response RCSD-10

The proposed project is not within the boundaries of the Kern County Valley Floor Habitat Conservation Plan.

Comment RCSD-11

The comment requests that Mitigation Measure 3.3-4b be edited to require that Kern County Environmental Health Services be contacted prior to removal of impacted vegetation.

Response RCSD-11

The following text changes were made to Mitigation Measure 3.3-4b on page 3.3-19 of the Final PEIR.

> **Mitigation Measure 3.3-4b:** Prior to the commencement of grading activities for any component of the proposed project within the City of Palmdale, a qualified biologist/arborist shall be consulted to determine the biological/aesthetic value of potentially impacted trees under the jurisdiction of the Palmdale Native Desert Vegetation Ordinance. For protected vegetation located within the final impact areas, a proposal application would be necessary, including a desert vegetation preservation plan which depicts the location of each Joshua tree and California juniper, details tree age and health, and describes which can be saved and maintained on the site or relocated. A permit must be obtained from the City of Palmdale's landscape architect prior to removal of protected vegetation, which may require mitigation in the form of replacement plantings of all impacted vegetation at a ratio to be determined by the City of Palmdale. Prior to the removal of protected vegetation in Kern County, the Kern County Environmental Health Services shall be contacted.

Comment RCSD-12

The comment requests that page ES-13 of the Executive Summary be modified.

Response RCSD-12

In response to the comment, the following modification has been made to Mitigation Measure 3.4-1a:

> **Mitigation Measure 3.4-1a: …**All project activities within or adjacent to the *Historical area of Old Palmdale and Old Lancaster* and *Old Rosamond and Tropico Mine area* shall be monitored by a professional archaeologist as there is a high probability for subsurface feature discovery, which includes (though is not limited to) foundations, cisterns, wells, cesspools, basements, or associated elements of the *Old Palmdale roundhouse spur of the Southern Pacific Railroad*.

Comment RCSD-13

The comment requests that page ES-14 of the Executive Summary be modified.

Response RCSD-13

In response to the comment, the following modification has been made to Mitigation Measure 3.4-4e:

> **Mitigation Measure 3.4-4e:** All project activities within or adjacent to the *Historical area of Old Palmdale and Old Lancaster* and *Old Rosamond and Tropico Mine area* shall be monitored by a professional archaeologist as there is a high probability for subsurface feature discovery, which includes (though is not limited to) foundations, cisterns, wells, cesspools, basements, or associated elements of the *Old Palmdale roundhouse spur of the Southern Pacific Railroad*. If these elements are identified, mitigation measures shall be employed that include in-field evaluation by a professional archaeologist (per Secretary of the Interior Standards) and possible data recovery, as needed, per a mitigation treatment plan.

Comment RCSD-14

The comment requests that page ES-16 of the Executive Summary be modified since the USACE does not assume jurisdiction over many of the washes in the Antelope Valley. Water features that are not considered waters of the U.S. by USACE are not subject to NPDES permits or SWPPPs.

Response RCSD-14

In order to ensure that construction projects do not result in excessive soil erosion in regions not within USACE jurisdiction, Mitigation Measure 3.5-2 has been modified as follows

> **Mitigation Measure 3.5-2:** To control water and wind erosion during construction of the project, the implementing agencies shall ~~prepare a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Construction Permit. The SWPPP shall prescribe temporary~~ ensure that contractors implement Best Management Practices (BMPs) to control wind and water erosion during and shortly after construction of the project and permanent BMPs to control erosion and sedimentation once construction is complete. The BMPs ~~SWPPP would include soil erosion and sediment control measures that~~ could include, but would not be limited to, sediment barriers and traps, silt basins, and silt fences.

Comment RCSD-15

The comment requests that page ES-17 of the Executive Summary be modified since the USACE does not assume jurisdiction over many of the washes in the Antelope Valley. Water features that are not considered waters of the U.S. by USACE are not subject to NPDES permits or SWPPPs.

Response RCSD-15

In order to ensure that construction projects do not result in water quality impacts within regions not within USACE jurisdiction, Mitigation Measure 3.6-2a has been modified as follows

> **Mitigation Measure 3.6-2a:** C~~onsistent with Stormwater Pollution Prevention Plan (SWPPP) requirements, c~~onstruction contractor(s) shall be required to implement best management practices (BMPs) for handling hazardous materials during the project. The use of the construction BMPs shall minimize negative effects on groundwater and soils, and will include, without limitation, the following:

- Follow manufacturers' recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction.
- Avoid overtopping construction equipment fuel tanks.
- During routine maintenance of construction equipment, properly contain and remove grease and oils.
- Properly dispose of discarded containers of fuels and other chemicals.

Comment RCSD-16

The comment requests that page ES-19 of the Executive Summary be modified.

Response RCSD-16

In response to the comment, Mitigation Measure 3.7-1d has been modified as follows

> **Mitigation Measure 3.7-1d**: Los Angeles County Department of Public Health (DPH)~~,~~ Cross Connection Control Program for Los Angeles County and the Kern County Department of Public Health in Bakersfield for Kern County~~, or the Kern County Department of Public Health~~ shall be advised of each new site ~~in their respective counties~~ where recycled water is to be used prior to placing the site into service.

Comment RCSD-17

The comment requests that page ES-19 of the Executive Summary be modified since the USACE does not assume jurisdiction over many of the washes in the Antelope Valley. Water features that are not considered waters of the U.S. by USACE are not subject to NPDES permits or SWPPPs.

Response RCSD-17

The discussion for Impact 3.7-2 on pages 3.7-20 through 3.7-22 has been revised to omit all mention of a SWPPP. In order to ensure that construction projects do not result in water quality impacts in regions outside of USACE jurisdiction, Mitigation Measure 3.7-2 has been modified as follows:

> **Mitigation Measure 3.7-2:** The implementing agencies shall develop and implement ~~a SWPPP using~~ BMPs to minimize erosion and sedimentation. The implementing agencies shall include in contractor specifications that the contractor is responsible for developing and implementing the BMPs~~the SWPPP~~. The BMPs ~~SWPPP~~ shall be maintained at the site for the entire duration of construction.
>
> The objectives of the BMPs ~~SWPPP~~ are to identify pollutant sources that may affect the quality of storm water discharge and to implement measures ~~BMPs~~ to reduce pollutants in storm water discharges. The BMPs ~~SWPPP~~ for the proposed project shall include, but not be limited to, the implementation of the following elements:
>
> - Identification of all pollutant sources, including sources of sediment that may affect the quality of storm water discharges associated with construction activity from the construction site;
> - Identification of non-storm water discharges;
> - Estimate of the construction area and impervious surface area;
> - Preparation of a site map and maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs);
> - Identification of all applicable erosion and sedimentation control measures, waste management practices, and spill prevention and control measures;
> - Maintenance and training practices; and,
> - A sampling and analysis strategy and sampling schedule for discharges from construction activities.

Comment RCSD-18

The comment requests that page ES-21 of the Executive Summary be modified.

Response RCSD-18

The Impact Statement 3.8-2 in the Executive Summary on page ES-21 was incorrect and did not match the statement for Impact 3.8-2 in Chapter 3.8. Table ES-1 in the Executive Summary has been revised to correct this inconsistency.

In response to the comment, Mitigation Measure 3.8-1b has been modified as follows

> **Mitigation Measure 3.8-1b:** Prior to conducting construction activities within an AIA, the implementing agencies shall prepare an airport construction safety plan that would identify best management practices. The plan would include, at a minimum, construction timeframes and hours, lighting and flagging requirements, air traffic control communication requirements, access and egress restrictions, equipment staging area requirements, and personal safety equipment requirements for construction workers, and appropriate notification to aviators. The plan would be reviewed and approved by airport staff and implemented by both the airport and project construction staff and FAA.

Comment RCSD-19

The comment requests that page ES-25 of the Executive Summary be modified.

Response RCSD-19

In response to the comment, the seventh bullet point in Mitigation Measure 3.11-1a has been modified as follows:

- Include a plan to coordinate all construction activities with the Antelope Valley Union High School District and Southern Kern Unified School District at least two months in advance. The Antelope Valley Union High School District and Southern Kern Unified School District shall be notified of the timing, location, and duration of construction activities. The implementing agencies shall require its contractor to maintain vehicle, pedestrian, and school bus service during construction through inclusion of such provisions in the construction contract. The assignment of temporary crossing guards at designated intersections may be needed to enhance pedestrian safety during project construction. Also the following provisions shall be met:
  - Pipeline construction near schools shall occur when school is not in session (i.e., summer or holiday breaks). If this is not feasible, a minimum of two months prior to project construction, the implementing agencies shall coordinate with the Antelope Valley Union High School District and Southern Kern Unified School District to identify peak circulation periods at schools along the alignment(s) (i.e., the arrival and departure of students), and require their contractor to avoid construction and lane closures during those periods;
  - A minimum of two months prior to project construction, the implementing agencies shall coordinate with the Antelope Valley Union High School District and Southern Kern Unified School District to identify alternatives to their Safe

Routes to School program, alternatives for the school busing routes and stop locations, and other circulation provisions, as part of the Traffic Control/Traffic Management Plan;

Comment RCSD-20

The comment requests that page ES-26 of the Executive Summary be modified.

Response RCSD-20

In response to the comment, Mitigation Measure 3.11-1f has been modified as follows

> **Mitigation Measure 3.11-1f:** The implementing agencies shall consult with the Antelope Valley Transit Authority and the East Kern Regional Transit Express that connects to Lancaster at least one month prior to construction to coordinate bus stop relocations (if necessary) and to reduce potential interruption of transit service.

Comment RCSD-21

The comment requests that page ES-27 of the Executive Summary be modified.

Response RCSD-21

In response to the comment, Mitigation Measure 3.12-3 has been modified as follows

> **Mitigation Measure 3.12-3:** During project design, LACWWD40, RCSD, and Kern County and the implementing agencies shall require the use of energy efficient equipment, including pumps and lighting. Project facility design and construction methods that produce less waste, or that produce waste that could more readily be recycled or reused shall be encouraged.

Comment RCSD-22

The comment requests that page ES-27 of the Executive Summary be modified.

Response RCSD-22

In response to the comment, Mitigation Measure 4-3 has been modified as follows

> **Mitigation Measure 4-3:** The implementing agencies, shall communicate and coordinate project construction activities with other municipalities (e.g., Palmdale, Lancaster, and Rosamond CSD) and agencies (e.g., Caltrans, LA County DPW) in the Antelope Valley. Phasing of project construction shall be coordinated to minimize cumulative impacts to traffic and circulation.

Leona Valley Town Council, October 3, 2008

Comment LVTC-1

The comment expresses concern regarding the presence of prescription medications in recycled water and the effect they may have on the population over time as the concentrations increase.

The comment requests that this issue be addressed in the Final PEIR, in addition to Mitigation Measures 3.7-9 a, b, and c.

Response LVTC-1

The PEIR states on page 3.7-15 that recycled water may contain trace levels of pharmaceuticals and other potential water supply contaminants. Currently, there are no regulations or water quality objectives specifically for trace pharmaceuticals. The CDPH and RWQCBs regulate recycled water systems throughout the state. No evidence has been identified linking any public health risks associated with trace contaminants in recycled water applications. The quality of the recycled water produced at the water reclamation plants would be of sufficient quality for landscape irrigation and other industrial uses while being protective of public health. As stated on page 3.7-24 of the PEIR, recycled water use associated with the proposed project would comply with Title 22 of the California Code of Regulations. Recycled water provided by the LWRP, RWWTP, and PWRP would be treated to disinfected tertiary levels. The product recycled water may be used for the end use categories listed on Table 1-2 on page 1-16 of the PEIR.

Comment LVTC-2

The comment expresses concern regarding whether recharge water could migrate upstream and contaminate the groundwater in the Leona Valley.

Response LVTC-2

The proposed project includes groundwater recharge as a potential end use for recycled water. As stated on page 3.7-29 of the PEIR, the Water Recycling Criteria of Title 22 regulates the use of recycled water for groundwater and requires that groundwater recharge projects be regulated and approved on an individual case basis. Any potential groundwater recharge project using recycled water would be subject to strict regulatory reviews and additional, in-depth environmental assessment and documentation in accordance with CEQA prior to initiation of recharge activities. Implementation of pilot projects that include monitoring would be necessary to determine the impacts to existing groundwater quality. Mitigation Measures 3.7-9a through 3.7-9c on page 3.7-31 and 3.7-32 of the PEIR identify minimum requirements for future potential groundwater recharge projects in the project area.

Comment LVTC-3

The comment expresses concern about the location of proposed Reservoir 2 and its proximity to the San Andreas Fault.

Response LVTC-3

As shown in Figure 3.5-2 in the PEIR (page 3.5-4), Reservoir 2 is not located within the Alquist-Priolo Fault Zone for the San Andreas Fault. Alquist-Priolo Fault Zones are the areas around active faults where there is greater hazard due to fault rupture. Development is regulated in this zone to reduce the risk to humans and structures associated with seismic activity. Although Reservoir 2 is not in the Alquist-Priolo Fault Zone, it could be subject to intense ground shaking in the event of an earthquake. The PEIR includes Mitigation Measures 3.5-1 to ensure a site-

specific geotechnical investigation is conducted prior to the construction of Reservoir 2 and to ensure recommendations that result from this investigation are incorporated into the design specifications of Reservoir 2. Mitigation Measure 3.5-1 would minimize the risk of damage to facilities or the risk of structural failure due to surface rupture or intense ground shaking in the vicinity of Reservoir 2.

The PEIR provides a program-level analysis of the environmental impacts of constructing and operating the proposed storage reservoirs. When the location and design for Reservoir 2 are further refined, additional CEQA documentation will be prepared prior to construction of this reservoir. Subsequent CEQA documentation will include analyses that reflect the data and conclusions from the site-specific geotechnical investigation. LACWWD40 and/or the implementing agencies would develop additional, feasible mitigation, if necessary, to further reduce impacts due to seismic hazards to less than significant levels.

Antelope Acres Town Council, October 6, 2008

Comment AATC-1

The comment expresses concern regarding whether chloramines that AVEK puts in the water will still exist after treatment. The comment requests an explanation of the short and long term effects that the presence of chloramines would have on the following areas: agriculture, water banking, wildlife, domestic animals, road asphalt from street sweeping, and commercial plants.

Response AATC-1

Though chloramine is part of the potable water treatment process, it is not part of the recycled water treatment process and therefore would not be present in the recycled water produced by the LWRP, PWRP, and RWWTP. The quality of the recycled water produced at the water reclamation plants would be of sufficient quality to protect public health. As stated on page 3.7-24 of the PEIR, recycled water use associated with the proposed project would comply with Title 22 of the California Code of Regulations. Recycled water provided by the LWRP, RWWTP, and PWRP would be treated to disinfected tertiary levels. As such, the product recycled water may be used for all of the end use categories listed on Table 1-2 on page 1-16 of the PEIR.

Pat Moriarty, October 2, 2008

Comment PM-1

The comment expresses concern regarding the presence of chemicals such as pharmaceutical drugs and chloramine in the recycled water.

Response PM-1

Though chloramine is part of the potable water treatment process, it is not part of the recycled water treatment process and therefore would not be present in the recycled water produced by the LWRP, PWRP, and RWWTP. The quality of the recycled water produced at the water

reclamation plants would be of sufficient quality to protect public health. As stated on page 3.7-24 of the PEIR, recycled water use associated with the proposed project would comply with Title 22 of the California Code of Regulations. Recycled water provided by the LWRP, RWWTP, and PWRP would be treated to disinfected tertiary levels. As such, the product recycled water may be used for all of the end use categories listed on Table 1-2 on page 1-16 of the PEIR.

The proposed project includes groundwater recharge as a potential end use for recycled water. As stated on page 3.7-30 of the PEIR, the Water Recycling Criteria of Title 22 regulates the use of recycled water for groundwater and requires that groundwater recharge projects be regulated and approved on an individual case basis. Any potential groundwater recharge project using recycled water would be subject to strict regulatory reviews and additional, in-depth environmental assessment and documentation in accordance with CEQA prior to initiation of recharge activities. Implementation of pilot projects that include monitoring would be necessary to determine the impacts to existing groundwater quality. Mitigation Measures 3.7-9a through 3.7-9c on page 3.7-31 and 3.7-32 of the PEIR identify minimum requirements for future potential groundwater recharge projects in the project area.

Dean Webb, September 24, 2008

Comment DW-1

The comment expresses concern over the potential for the recycled water demand to impact to Piute Ponds.

Response DW-1

The proposed project would have no impact on the management of the Piute Ponds. The LACSD Lancaster WRP 2020 Facilities Plan adopted by the LACSD in 2004 provided minimum flow requirements to maintain the ponds for habitat value. LACSD manages the ponds in coordination with CDFG and EAFB. The Antelope Valley Regional Recycled Water Project would not affect the LACSD's obligation to maintain the ponds for habitat value.

James Gilley, September 15, 2008

Comment JG-1

The comment expresses concern that the requirement for a general plan amendment or conditional use permit for construction of water recharge facilities is an unnecessarily expensive and time-consuming mitigation measure since all the responsible agencies already have Director Review, Site Plan Review, or similar entitlement processes that could be followed.

Response JG-1

As stated in Mitigation Measure 3.8-3 on page 3.8-29 of the Draft PEIR, the implementing agency would only obtain a conditional use permit or a general plan amendment if it is deemed necessary by the appropriate jurisdiction.

City of Lancaster, October 7, 2008

Comment LAN-1

The comment expresses the City of Lancaster's support for the proposed project.

Response LAN-2

No response required.

CHAPTER 12
Lead Agency Revisions to Final PEIR

This chapter provides a compilation of revisions made to the Draft PEIR following the public review period in addition to those included in Chapter 11 as a result of responses to comments.

Executive Summary

The proper name of the lead agency has been clarified in the first sentence on page ES-1 and subsequently throughout the entire document as follows:

> The ~~County of Los Angeles Department of Public Works Waterworks District 40~~ Los Angeles County Waterworks District No 40, Antelope Valley (LACWWD40) as the Lead Agency has prepared this Draft Program Environmental Impact Report (PEIR) in consultation with the following Responsible Agencies…

The total annual demand for recycled water in the Antelope Valley has been revised to include demand in the RCSD service area in Kern County. The text on page ES-3 has been changed as follows:

> For existing and future end users identified to-date, the annual demand for recycled water in the Antelope Valley is estimated at 21,210 ~~20,091~~ afy at buildout (Kennedy/Jenks, 2006). The system capacity of the proposed project would be designed to meet this demand. This demand includes ~~17,491~~ 18,610 afy for M&I end uses in the project area (Kennedy/Jenks, 2006) and 2,600 afy for use as cooling water at the planned Palmdale Hybrid Power Plant.

Chapter 3.2 Air Quality

The following changes to the text on pages 3.2-17 and 3.2-18 have been made to more clearly articulate the effects of the proposed project to climate change and identify the reduction in greenhouse gas emissions that would result due to the offset of imported potable water with locally produced recycled water:

> **Impact 3.2-5: The proposed project would result in fewer greenhouse gas emissions than would result from importing a similar amount of water. ~~could conflict with implementation of state goals for reducing greenhouse gas emissions and thereby have a negative effect on global climate change.~~ Less than Significant.**

Greenhouse gas (GHG) impacts are considered to be exclusively cumulative impacts. As with other individual relatively small projects (i.e., projects that are not cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, or hydrogen plants or other stationary combustion sources that emit more than 25,000 metric tons CO_2E/yr), the project specific emissions from this proposed project would not be expected to individually have ~~an~~ a cumulative impact on global climate change (AEP, 2007). Rather the proposed project would be inherently energy efficient since it would produce less CO_2 than is required for importing a similar amount of water.~~, and the primary concern would be whether the proposed project would be in conflict with the state goals for reducing greenhouse gas emissions.~~

~~Two types of analyses are used to determining whether the proposed project could be in conflict with the state goals for reducing greenhouse gas emissions. The analyses are reviews of:~~

~~A. The potential conflicts with the CARB 44 early action strategies; and~~

~~B. The basic parameters of the project to determine whether its design is inherently energy efficient.~~

~~With regard to Item A, the proposed project does not pose any apparent conflict with the most recent list of the CARB early action strategies (see Table 3.2-4).~~

~~With regard to Item B, the~~ The proposed project would provide the primary backbone system for distribution of recycled water to local users in the Antelope Valley, which would use less energy in the long term relative to alternative water sources. A recently published resource book on the significance of greenhouse gas emissions in California from various projects presents an example "Green List" of the types of projects that may have a beneficial effect on greenhouse gas emissions and climate change. The draft Green List includes recycled water projects that reduce energy consumption related to water supplies that service existing development, such as the proposed project (CAPCOA, 2008). For the proposed project, the end uses for the recycled water would otherwise be met with imported potable water if the proposed project were not implemented. The imported water would be delivered through the SWP, which consumes a substantial amount of energy to convey water to southern California from the Sacramento-San Joaquin River Delta in northern California. A recent study by West Basin Municipal Water District has shown that the energy required to import SWP water is over six times the energy requirement for Title 22 recycled water when considering kilowatt-hours per acre-foot (LACSD, 2008). In addition, the same study indicates that Title 22 recycled water produces 338 tons of CO_2 for every 1000 af of water produced, while the SWP produces 2,250 tons of CO_2 for every 1000 af of water imported (West Basin, 2007; USEPA, 1995).[1] ~~Therefore,~~ Based on this analysis, the proposed project would be considered to be inherently energy efficient and would have a less than significant impact on greenhouse gasses. ~~reduce the amount of CO_2 produced due to potable offset with recycled water.~~

[1] Conversion factor: kWh/1333.333 = tons CO_2. (USEPA, 1995)

In addition, the proposed project would not conflict with state goals in AB32 for reducing greenhouse gas emissions. Two types of analyses are used to determining whether the proposed project could be in conflict with the state goals for reducing greenhouse gas emissions. The analyses are reviews of:

A. The potential conflicts with the CARB 44 early action strategies; and

B. The basic parameters of the project to determine whether its design is inherently energy efficient.

With regard to Item A, the proposed project does not pose any apparent conflict with the most recent list of the CARB early action strategies (see Table 3.2-4). With regard to Item B, as discussed above, the proposed project design is inherently energy efficient. The proposed project would not conflict with state goals for reducing greenhouse gas emission. There would be no impact.

~~The review of Items A, and B indicates that the proposed project would not conflict with the state goals in AB32, would be energy efficient, and would reduce greenhouse gas emissions produced for water delivery. Therefore, this impact would be less-than-significant.~~

Chapter 4.0 Cumulative Impacts

The following changes to the text on pages 4-6 and 4-7 have been made to clarify the significance of the cumulative impacts to air quality associated with construction of the proposed project:

Construction of the proposed project together with the identified cumulative projects located in the Antelope Valley would contribute additional emissions to existing conditions in the Antelope Valley air basin. The Antelope Valley is located primarily in Los Angeles County, which is in non-attainment for ozone, PM_{10} and $PM_{2.5}$ (see Chapter 3.2, Air Quality). The contribution of additional pollutants to an already impaired air basin could be considered a significant impact. Construction of the proposed project would result in emissions that exceed the significance thresholds established by the Antelope Valley Air Quality Management District (AVAQMD) and the Kern County Air Pollution Control District (KCAPCD) (see Chapter 3.2, Air Quality). ~~Therefore, construction of the proposed project, together with the projects listed in Table 4-1, could result in significant cumulative impacts to air quality in the Antelope Valley.~~

As described in Chapter 3.2, Air Quality, LACWWD40 in coordination with its partner agencies would be required to implement Mitigation Measures 3.2-1a through 3.2-1f, in accordance with the AVAQMD Air Quality Management Plan (AQMP) and Air Quality Attainment Plan (AQAP), to reduce emissions related to construction of pipelines, storage reservoirs, and pump stations to less than significant levels. These mitigation measures include control measures, such as a fugitive dust program, established by the AVAQMD and KCAPCD for reduction of emissions related to construction activities. The AQMP

> identifies construction activities as factors contributing to overall emissions sources; however, the AQMP does not conclude that individual construction projects would delay the attainment of air quality standards for the basin. Therefore, the proposed project ~~is not considered to~~ would not have a cumulatively considerable impact on air quality.

Greenhouse gas (GHG) impacts are considered to be exclusively cumulative impacts. The discussion of project impacts to greenhouse gas emissions provided in Chapter 3.2 analyzes the cumulative impacts of the proposed project to GHGs and climate change and concludes there would be less than significant impacts due to relative reductions in emissions of CO_2. For clarity, an additional discussion of cumulative impacts to GHGs has been added to page 4-11 of Chapter 4.0. The following text has been added:

> As already described in Chapter 3.2, operation of the proposed project would not have a cumulatively-considerable, incremental effect on greenhouse gas emissions. (See Impact 3.2-5 on page 3.2-17 in Chapter 3.2, Air Quality). The proposed project would provide the primary backbone system for distribution of recycled water to local users in the Antelope Valley that otherwise would use potable water if the proposed project is not implemented. The use of recycled water instead of potable water would use less energy in the long term, relative to alternative water sources such as imported water. The imported water would be delivered through the SWP, which consumes a substantial amount of energy to convey water to southern California from the Sacramento-San Joaquin River Delta in northern California. A recent study by West Basin Municipal Water District has shown that the energy required to import SWP water is over six times the energy requirement for Title 22 recycled water when considering kilowatt-hours per acre-foot (West Basin, 2007). In addition, the same study indicates that Title 22 recycled water produces 338 tons of CO_2 for every 1,000 af of water produced, while the SWP produces 2,250 tons of CO_2 for every 1,000 af of water imported (West Basin, 2007; USEPA, 1995).[2] Based on this analysis, the proposed project would reduce the relative amount of GHG emissions produced for every acre-foot of water provided by the proposed project and would be considered to be inherently energy efficient. Therefore, the proposed project would result in a cumulative net reduction of future GHG emissions relative to future GHG emissions without the project. The effects of the proposed project to greenhouse gas emissions would not be cumulatively considerable.

[2] Conversion factor: kWh/1333.333 = tons CO_2. (USEPA, 1995)

Appendices

ESA

APPENDIX A

NOTICE OF PREPARATION

NOTICE OF PREPARATION

Date: October 29, 2007

To: Calif. Office of Planning and Research
Responsible and Trustee Agencies
Other Interested Parties

Subject: Notice of Preparation of a Program Environmental Impact Report

Project: North Los Angeles–Kern County Regional Recycled Water Master Plan

Lead Agency: Los Angeles County Waterworks District No. 40

This Notice of Preparation (NOP) has been prepared to notify agencies and interested parties that the Los Angeles County Waterworks District No. 40 (LACWWD40) as the Lead Agency is beginning preparation of a Program Environmental Impact Report (PEIR) pursuant to the California Environmental Quality Act (CEQA) for the proposed North Los Angeles–Kern County Regional Recycled Water Master Plan (proposed project), as described below. The proposed project would be implemented in conjunction with the following partner agencies, which shall serve as Responsible Agencies for this project: the City of Lancaster, the City of Palmdale, the Rosamond Community Services District, the County Sanitation Districts of Los Angeles County, Palmdale Water District, Antelope Valley-East Kern Water Agency, and Quartz Hill Water District. In addition, the PEIR may also be used by the U.S. Bureau of Reclamation for compliance with the National Environmental Policy Act.

LACWWD40 is soliciting the views of interested persons and agencies as to the scope and content of the environmental information to be studied in the PEIR. In accordance with CEQA, agencies are requested to review the project description provided in this NOP and provide comments on environmental issues related to the statutory responsibilities of the agency. The PEIR will be used by LACWWD40 and the Responsible Agencies when considering approval of the proposed project.

In accordance with the time limits mandated by CEQA, comments to the NOP must be received by LACWWD40 no later than 30 days after publication of this notice. We request that comments to this NOP be received no later than November 27, 2007. Please send your comments to the address shown below. Please include a return address and contact name with your comments.

Los Angeles County Waterworks District No. 40
Attn: Jonathan King
900 South Fremont Avenue
Alhambra, California 91803
FAX: (626) 300-3385

One public meeting will be held to receive public comments and suggestions on the proposed project. The scoping meeting will include a brief presentation providing an overview of the proposed project. After the presentation, oral comments will be accepted. Written comment forms will be supplied for those who wish to submit comments in writing at the scoping meeting; written comments may also be submitted anytime during the NOP review period. The scoping meeting will be held as follows:

DATE: Tuesday, November 6, 2007

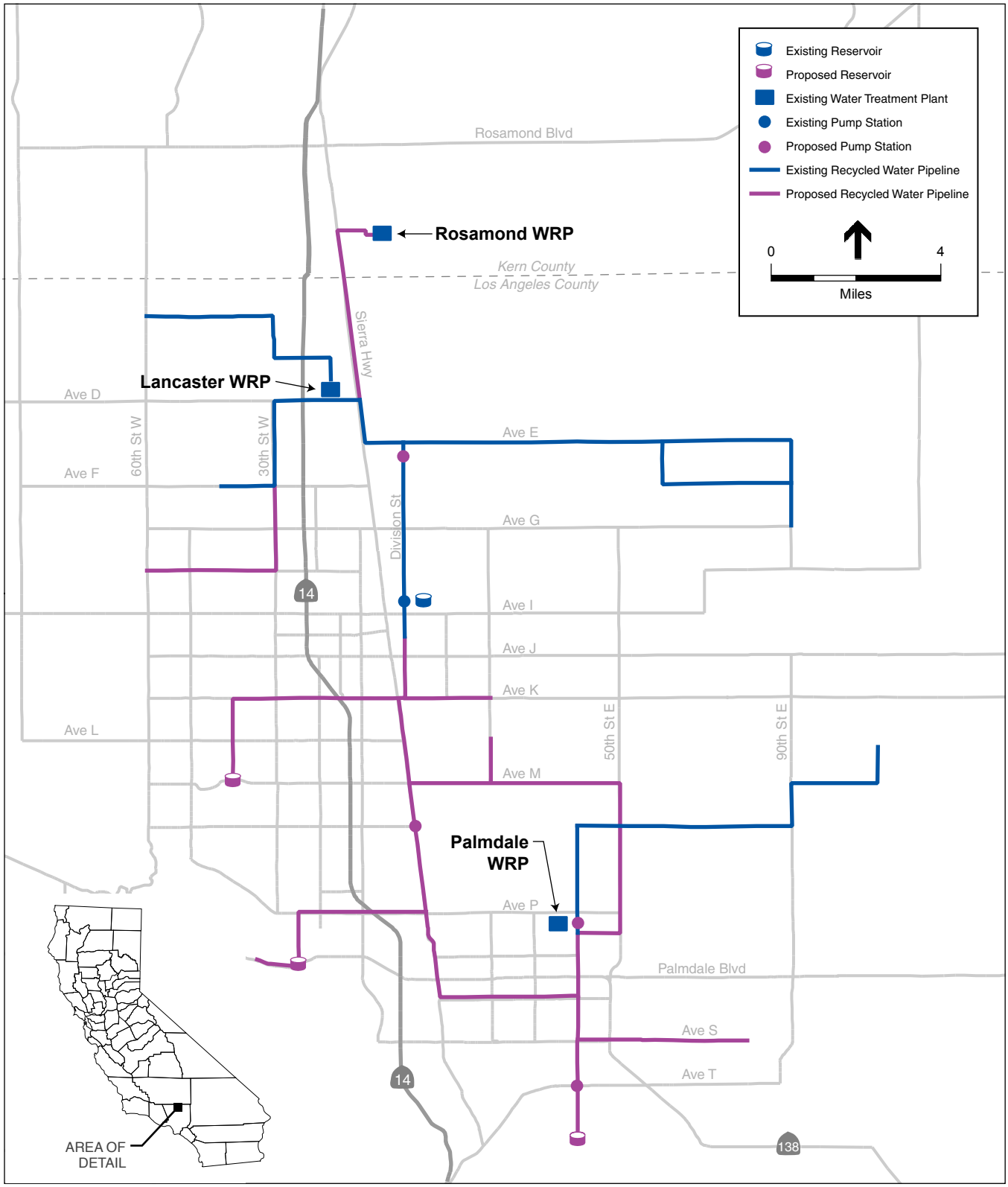
TIME: 3:00 PM
LOCATION: Larry Chimbole Cultural Center
38350 Sierra Hwy, Palmdale, CA 93550
661-267-5656

Project Location: The proposed project would be located in the Antelope Valley, which encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County and western San Bernardino County. The area is bordered on the southwest by the San Gabriel Mountains, on the northwest by the Tehachapi Mountains, and on the east by a series of hills and buttes that generally follow the San Bernardino county line. The proposed project would be located within the City of Palmdale, the City of Lancaster, the Town of Rosamond, and unincorporated communities within Los Angeles and Kern Counties. The project area is indicated on **Figure 1**.

Project Background: Population growth in the Antelope Valley is increasing rapidly. As the population increases, the demand for potable water increases as well. LACWWD40 provides potable water to the region supplied from imported water and local groundwater. The Antelope Valley East Kern Water Agency provides imported water via the California Aqueduct.

Lancaster Water Reclamation Plant (LWRP), Palmdale Water Reclamation Plant (PWRP) and Rosamond Wastewater Treatment Plant (RWWTP) provide wastewater treatment for the major urbanized portions of the Antelope Valley. The LWRP and PWRP are owned and operated by the Los Angeles County Sanitation Districts. The RWWTP is owned and operated by the Rosamond Community Services District. Each of these facilities is in the process of being upgraded to provide 100 percent tertiary-treated effluent that is suitable for use for landscape irrigation.

Project Description: The proposed project is the construction of a regional recycled water distribution system that would include backbone conveyance pipelines, storage reservoirs, and pump stations. **Figure 1** shows the proposed locations for the proposed facilities. LACWWD40 completed the Recycled Water Facilities Plan in 2006. The proposed project would provide the primary backbone systems for transmission and distribution of recycled water to end users in the Antelope Valley. As identified in the Facilities Plan, the end users could include, but would not be limited to the following:



SOURCE: Kennedy/Jenks Consultants; ESA

North LA/Kern County Regional Recycled Water Master Plan . 206359

Figure 1
Existing and Proposed Facilities

- landscape irrigation of parks, schools, golf courses, sports complexes, greenbelts and residential open space areas, cemeteries, landfills, city maintenance and street cleaning operations;
- agricultural irrigation;
- proposed new power plant cooling water; and
- groundwater recharge.

The PEIR will evaluate potential effects of each of these potential end uses. Recycled water use would comply with the California Department of Public Health (formerly the Department of Health Services) recycled water regulations contained in Title 22 of the California Code of Regulations. In addition, the proposed project would be subject to conditions imposed by the Regional Water Quality Control Board (RWQCB) pursuant to Water Recycling Requirements (WRRs). The RWQCB would issue WRRs to LACWWD40 that would cover the proposed end uses.

The Facilities Plan identifies phases for gradual construction of the proposed project. The construction of Phase 1A is complete. Phase 1A includes the Division Street pipeline in the City of Lancaster. The proposed project, which includes the remaining phases described in the Facilities Plan, will be covered in this PEIR.

Construction activities for installation of the new pipelines, pump stations, storage tanks and reservoirs potentially would require open trenching in city streets, jack and bore or micro-tunneling under key intersections and creeks, and demolition and grading at reservoir sites.

Project Benefits: If implemented, project generated benefits would include:

- Reducing potable water demand currently provided either by local groundwater, local surface water or imported from the State Water Project (SWP);
- Potential for recharging the Antelope Valley s groundwater basin;
- Providing increased effluent management capacity; and
- Promoting the State s policies for beneficial reuse of recycled water to replace potable water where possible.

Issues to Be Addressed In the PEIR: The PEIR will evaluate potential impacts of the proposed project including construction and operation of the proposed pump stations, storage tanks, and recycled water pipelines. The PEIR will discuss alternatives to the proposed project including the No Project Alternative.

The PEIR will provide project-level impact analyses of construction and operation of the facilities shown in Figure 1. The PEIR will also provide project-level analyses of many of the end uses proposed in the Facilities Plan including landscape irrigation and agricultural irrigation. The PEIR will provide a program-level assessment of the potential for using the recycled water system to augment groundwater supplies and to provide cooling water for power plants. Subsequent CEQA would be required prior to implementing a groundwater recharge program with recycled water or using recycled water at a power plant.

The PEIR will evaluate potential direct, indirect, and cumulative impacts associated with implementation of the project. The PEIR will assess both short-term construction impacts as well as long-term effects associated with project operation and recycled water use. The following sections summarize potential effects of the project to be evaluated in the PEIR at a minimum.

Aesthetics: New storage facilities may affect public vistas and may also require occasional nighttime security lighting. The PEIR will assess the potential impacts of the proposed project on aesthetics and visual resources and identify mitigation measures to minimize the effects if necessary.

Air Quality: Construction would generate emissions from construction equipment exhaust, earth movement, construction workers commute, and material hauling for the entire construction period. The project s construction emissions could adversely affect the regional air quality within the Antelope Valley. The PEIR will estimate daily exhaust and fugitive emissions based on detailed construction activities by project phasing to assess the potential long-term and short-term air quality impact. The PEIR will identify sensitive receptors within the project area that could be adversely affected by the project construction. The PEIR will assess the potential impacts of the proposed project to air quality and identify mitigation measures to minimize the effects if necessary.

Biological Resources: Construction of storage reservoirs and pump stations and installation of pipelines could occur in areas that support special-status plant or animal species. The PEIR will evaluate potential impacts of the proposed project to habitat associated with special-status species and identify mitigation measures to minimize any such effects if necessary.

Cultural Resources: Excavation could occur in archaeologically sensitive areas. The PEIR will evaluate the potential impacts of the proposed project on archaeological and paleontological resources. The PEIR will identify mitigation measures to minimize cultural resources impacts if necessary.

Geology and Soils: The Antelope Valley is located in a seismically active region of California. Seismic activity on local faults within the region could cause considerable ground shaking in the project area. The PEIR will evaluate the potential geologic hazards associated with the project for each facility location. The PEIR will also evaluate potential effects to soil quality resulting from long term recycled water use. The PEIR will identify mitigation measures, as necessary, to minimize impacts.

Hazards and Hazardous Materials: Contaminated soils and groundwater could be encountered during construction of the proposed project, due to neighboring industrial land uses and the potential for leaking underground storage tanks. The PEIR will assess the potential for encountering contaminated soils and groundwater and other hazardous materials and will develop measures to ensure that any hazards encountered during construction would be handled in accordance with applicable regulations. The PEIR will identify mitigation measures, as necessary, to minimize impacts.

Hydrology and Water Quality: Excavation and construction activities could affect storm water quality if sediment or spills run off construction sites. The PEIR will identify storm water quality protection measures required during construction activities such as sediment fencing and spill prevention and containment. The PEIR will identify recycled water application restrictions designed to protect public health and local water quality. The PEIR will identify mitigation measures, as necessary, to minimize hydrology and water quality impacts.

Land Use: Construction activities associated with the project would result in short-term disturbances to adjacent land uses. The PEIR will identify the project s potential effects on land uses and will evaluate the project s consistency with local planning efforts and compatibility with neighboring land uses. The PEIR will identify mitigation measures, as necessary, to minimize impacts to land use.

Population and Housing: The PEIR will discuss regional water demands and will evaluate the project s effects on the regional water supplies. The PEIR will discuss the project s potential to support or induce growth in the region and will identify the direct and indirect adverse effects of growth.

Noise: Construction activities associated with the project would generate short-term noise that could affect nearby residences and businesses adjacent to the proposed construction areas. Operation of the proposed project could generate noise that would impact nearby sensitive land uses. The PEIR will identify sensitive receptors near the proposed facilities. The PEIR will evaluate the proximity of sensitive land uses relative to noise-generating activities associated with construction and with long-term operation of the proposed project. The PEIR will identify mitigation measures, as necessary, to minimize impacts.

Traffic and Transportation: Excavation activities associated with the proposed project would temporarily disrupt traffic on roadways, potentially affecting local traffic, bus routes, and emergency vehicle access routes. Open trenching within city streets could require temporary lane and intersection closure. The PEIR will describe the duration and extent of the impact to traffic on the roadways affected by the proposed project. The PEIR will also evaluate potential impacts to parking. The PEIR will identify mitigation measures to minimize potential adverse effects.

Utilities and Public Services: Excavation within city streets would encounter underground utilities. Local service could be temporarily disrupted during construction. The PEIR will evaluate the project s potential to affect utilities and public services and will identify mitigation measures to minimize the effects.

APPENDIX B

NOP SCOPING REPORT

North LA/Kern County Regional Recycled Water Master Plan
Program EIR
Scoping Meeting

DATE:	November 6, 2007
TIME:	3:00 PM
LOCATION:	Larry Chimbole Cultural Center 38350 Sierra Hwy, Palmdale, CA 93550
SPONSORS:	Tom Barnes, ESA Jennifer Jacobus, ESA David Rydman, Los Angeles County Waterworks 40 Jonathan King, Los Angeles County Waterworks 40

Attendees

Steve Dassler	City of Lancaster	sdassler@cityoflancaster.org
Gordon L. Phair	City of Palmdale	gphair@cityofpalmdale.org

Verbal Comments

- Copy of schedule
- Describe the purpose of pump stations
- Show the project pressure zones
- Describe the integration of the system among agencies

PALMDALE

a place to call home

JAMES C. LEDFORD, JR.
Mayor

MIKE DISPENZA
Mayor Pro Tem

STEVEN D. HOFBAUER
Councilmember

STEPHEN KNIGHT
Councilmember

TOM LACKEY
Councilmember

38300 Sierra Highway

Palmdale, CA 93550-4798

Tel: 661/267-5100

Fax: 661/267-5122

TDD: 661/267-5167

November 27, 2007

Los Angeles County Waterworks District No. 40
Attn: Jonathan King
900 South Fremont Avenue
Alhambra, CA 91803

RE: Notice of Preparation for a Program Environmental Impact Report; North Los Angeles County/ Kern County Regional Recycled Water Master Plan

Dear Mr. King:

Thank you for the opportunity to provide input on the above referenced project. At this time, the City of Palmdale is not requesting any additional environmental analysis above that identified within the Notice of Preparation. We look forward to reviewing the Draft EIR when available.

If you have any questions regarding this matter, please contact Susan Koleda or me at (661) 276-5200.

Sincerely

Asoka Herath
Director of Planning

cc: Gordon Phair

Auxiliary aids provided for communication accessibility upon 72 hours' notice and request

www.cityofpalmdale.org

WATER RECLAMATION
SOLID WASTE MANAGEMENT

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

STEPHEN R. MAGUIN
Chief Engineer and General Manager

November 27, 2007

File No.: 31-900.13.10J

Mr. Jonathan King
Los Angeles County Waterworks District No. 40
900 South Fremont Avenue
Alhambra, California 91803

Dear Mr. King:

North Los Angeles/Kern County Regional Recycling Water Master Plan

The County Sanitation Districts of Los Angeles County (Districts) received a Notice of Preparation of a Program Environmental Impact Report (PEIR) for the subject project on October 29, 2007. We offer the following comments:

1. The Districts recommend that the Notice of Preparation state in the first paragraph that the PEIR will address the construction of the pipeline network, pump stations, storage facilities, and impacts of recycled water uses excluding groundwater recharge and power plants. Potential impacts of groundwater recharge and power plants will be addressed in subsequent environmental documentation.

2. In the first paragraph on page 1, please make the following edit: " … the County Sanitation Districts Nos. 14 and 20 of Los Angeles County, …"

3. In the fourth paragraph on page 2, please make the following edit: "The LWRP and PWRP are owned and operated by the Los Angeles County Sanitation Districts Nos. 14 and 20."

4. In the fourth paragraph on page 2, please make the following edit: "… suitable for use for beneficial uses such as landscape irrigation, industrial purposes, and groundwater recharge."

5. On page 4, the Districts recommend adding "construction and dust control" to the list of potential end users.

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2770.

Very truly yours,

Stephen R. Maguin

Bryan T. Langpap
Supervising Engineer
Planning Section

BTL:BD:ld

Recycled Paper
Doc #: 903183

STATE OF CALIFORNIA – THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, *Governor*

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

DEC 0 5 2007

Mr. Jonathan King
Los Angeles County Waterworks District No. 40
900 S. Fremont Avenue
Alhambra, California 91803

Notice of Preparation of the Plan Draft Environmental Report for North Los Angeles and Kern County Regional Recycle Water Master Plan, East Branch California Aqueduct, Between Milepost 341.49 and Milepost 351.32, Southern Field Division, Los Angeles County, SCH 2007101125

Dear Mr. King:

Thank you for the opportunity to review and comment on the Notice of Preparation for the North Los Angeles/Kern County Regional Recycle Water Master Plan Draft Environmental Impact Report. The proposed project is the construction of a regional recycled water distribution system that would include backbone conveyance pipelines, storage reservoirs, and pump stations. Features of the proposed project include transmission and distribution of recycled water to end users in the Antelope Valley for landscape and agricultural irrigation, new power plant cooling water and groundwater recharge. The site is located within the City of Palmdale, the City of Lancaster, the Town of Rosamond and unincorporated communities within Los Angeles and Kern Counties.

Based on the preliminary information provided, potential encroachment from this development exists within Department of Water Resources (DWR) right of way. The Developer should be made aware of the need for an Encroachment Permit (EP) if their proposed development affects DWR land or facilities. An EP from DWR is required prior to start of any construction work in DWR right of way in accordance with water code section 12899. More information on obtaining an encroachment permit from DWR can be viewed at:

http://wwwdoe.water.ca.gov/Services/Real_Estate/Encroach_Rel/index.cfm

Please provide DWR with a copy of any subsequent environmental documentation when it becomes available for public review. Any future correspondence relating to DWR's concerns should be sent to:

Banafsheh Behnam, Chief
Maintenance Engineering Section
Division of Operations and Maintenance
1416 Ninth Street, Room 649-2
Sacramento, CA 95814

If you have any questions, please contact Banafsheh Behnam, Chief of the Maintenance Engineering Section, at (916) 653-0344 or James Rathke at (916) 654-5783.

Sincerely,

Teresa M. Engstrom

for Dave Samson, Chief
State Water Project Operations Support Office
Division of Operations and Maintenance

cc: State Clearinghouse
Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, California 95814

SOUTHERN CALIFORNIA

ASSOCIATION of GOVERNMENTS

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818 West Seventh Street

12th Floor

Los Angeles, California

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Orange County: Chris Norby, Orange County • Christine Barnes, La Palma • John Beauman, Brea • Lou Bone, Tustin • Debbie Cook, Huntington Beach • Leslie Daigle, Newport Beach • Richard Dixon, Lake Forest • Troy Edgar, Los Alamitos • Paul Glaab, Laguna Niguel • Robert Hernandez, Anaheim • Sharon Quirk, Fullerton

Riverside County: Jeff Stone, Riverside County • Thomas Buckley, Lake Elsinore • Bonnie Flickinger, Moreno Valley • Ron Loveridge, Riverside • Greg Pettis, Cathedral City • Ron Roberts, Temecula

San Bernardino County: Gary Ovitt, San Bernardino County • Lawrence Dale, Barstow • Paul Eaton, Montclair • Lee Ann Garcia, Grand Terrace • Tim Jasper, Town of Apple Valley • Larry McCallon, Highland • Deborah Robertson, Rialto • Alan Wapner, Ontario

Ventura County: Linda Parks, Ventura County • Glen Becerra, Simi Valley • Carl Morehouse, San Buenaventura • Toni Young, Port Hueneme

Tribal Government Representative: Andrew Masiel, Sr., Pechanga Band of Luiseño Indians

Orange County Transportation Authority: Art Brown, Buena Park

Riverside County Transportation Commission: Robin Lowe, Hemet

San Bernardino Associated Governments: Paul Leon

Ventura County Transportation Commission: Keith Millhouse, Moorpark

10/24/07

November 15, 2007

Mr. Jonathan King
Los Angeles County Waterworks District No. 40
900 S. Fremont Avenue
Alhambra, CA 91803

RE: SCAG Clearinghouse No. I 20070651 North Los Angeles/Kern County Regional Recycled Water Master Plan

Dear Mr. King:

Thank you for submitting the **North Los Angeles/Kern County Regional Recycled Water Master Plan** for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the **North Los Angeles/Kern County Regional Recycled Water Master Plan**, and have determined that the proposed Project is not regionally significant per SCAG Intergovernmental Review (IGR) Criteria and California Environmental Quality Act (CEQA) Guidelines (Section 15206). Therefore, the proposed Project does not warrant comments at this time. Should there be a change in the scope of the proposed Project, we would appreciate the opportunity to review and comment at that time.

A description of the proposed Project was published in SCAG's **October 16-31, 2007** Intergovernmental Review Clearinghouse Report for public review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this Project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1857. Thank you.

Sincerely,

LAVERNE JONES, Planning Technician
Program Development and Evaluation Division

Doc #141741

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
www.nahc.ca.gov
ds_nahc@pacbell.net

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900 S. FREMONT AVE.

November 6, 2007

Mr. Jonathan King
Los Angeles County Waterworks District No. 40
900 S. Fremont Avenue
Alhambra, CA 91803

Re: SCH# 2007101125; CEQA Notice of Preparation (NOP) draft Environmental Impact Report (DEIR) for North Los Angeles/Kern County Regional Recycled Water Master Plan; Los Angeles County, California

Dear Mr. King:

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 measurers 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 pubic 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 treatmentof 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 cultura 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,

Dave Singleton
Program Analyst

Attachment: Native American Contact List

Native American Contacts
Los Angeles County
November 5, 2007

Charles Cooke
32835 Santiago Road
Acton , CA 93510
(661) 269-1422
(661) 733-1812

Chumash
Fernandeno
Tataviam
Kitanemuk

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th Street, Rm. 403
Los Angeles , CA 90020
(213) 351-5324
(213) 386-3995 FAX

Beverly Salazar Folkes
1931 Shadybrook Drive
Thousand Oaks , CA 91362
805 492-7255

Chumash
Tataviam
Fernandeño

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez
981 N. Virginia
Covina , CA 91722
(626) 339-6785

Yowlumne
Kitanemuk

San Manuel Band of Mission Indians
Henry Duro, Chairperson
26569 Community Center Drive
Highland , CA 92346
(909) 864-8933
(909) 864-3724 - FAX
(909) 864-3370 Fax

Serrano

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838
Newhall , CA 91322
tsen2u@msn.com
(661) 753-9833 Office
(760) 885-0955 Cell
(760) 949-1604 Fax

Fernandeño
Tataviam
Serrano
Vanyume
Kitanemuk

Fernandeno Tataviam Band of Mission Indians
Randy Guzman-Folkes, Cultural/Environ Depart
601 South Brand Boulevard, Suite 102
San Fernando , CA 91340
ced@tataviam.org
(818) 837-0794 Office
(805) 501-5279 Cell
(818) 837-0796 Fax

Fernandeno
Tataviam

San Manuel Band of Mission Indians
Ann Brierty, Environmantal Department
101 Pure Water Lane
Highland , CA 92346
abrierty@sanmanuel-nsn.gov
(909) 863-5899 EXT-4321

(909) 862-5152 Fax

Serrano

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#2007101125; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Noth Los Angeles/Kern County Regional Recycled Water Master Plan; Loss Angeles County Waterworks District No. 40;

APPENDIX C

INITIAL STUDY CHECKLIST

Draft

NORTH LOS ANGELES/KERN COUNTY REGIONAL RECYCLED WATER MASTER PLAN

Initial Study

Prepared for:
Los Angeles County
Waterworks District 40

February 2008

Draft

NORTH LOS ANGELES/KERN COUNTY REGIONAL RECYCLED WATER MASTER PLAN

Initial Study

Prepared for:
Los Angeles County
Waterworks District 40

February 2008

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Oakland

Petaluma

Portland

Sacramento

San Diego

San Francisco

Seattle

Tampa

Woodland Hills

206359

ESA

ENVIRONMENTAL CHECKLIST

Initial Study

1. Project Title:	North Los Angeles/Kern County Regional Recycled Water Master Plan
2. Lead Agency Name and Address:	Los Angeles County Waterworks District No. 40 900 South Fremont Avenue Alhambra, California 91803
3. Contact Person and Phone Number:	Jonathan King, (626) 300-3389
4. Project Location:	Antelope Valley, California
5. Project Sponsor's Name and Address:	N/A
6. General Plan Designation(s):	Various
7. Zoning Designation(s):	Various

8. Description of Project: See attached Project Description

9. Surrounding Land Uses and Setting: See attached Project Description

Environmental Factors Potentially Affected

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

- ☒ Aesthetics
- ☒ Biological Resources
- ☒ Hazards and Hazardous Materials
- ☐ Mineral Resources
- ☐ Public Services
- ☒ Utilities and Service Systems
- ☒ Agriculture Resources
- ☒ Cultural Resources
- ☒ Hydrology and Water Quality
- ☒ Noise
- ☐ Recreation
- ☒ Mandatory Findings of Significance
- ☒ Air Quality
- ☒ Geology, Soils and Seismicity
- ☒ Land Use and Land Use Planning
- ☐ Population and Housing
- ☒ Transportation and Traffic

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

Signature	Date
Printed Name	For

Environmental Checklist

Aesthetics

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
1. AESTHETICS—Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☒	☐	☐

Discussion

a) According to the *City of Palmdale General Plan, City of Lancaster General Plan, Los Angeles County General Plan,* and the *Kern County General Plan*, there are no designated scenic vistas in the project area. However, there are local roadways in the project area that could potentially serve as scenic routes (City of Lancaster, 2007). The Antelope Valley Freeway (State Route 14 (SR-14) runs north to south in the project area; portions of the proposed recycled water pipeline cross SR-14. SR-14 has not been officially designated as a scenic highway; however, it has been determined that the freeway has scenic value. SR-14 has long-range views of the San Gabriel Mountains, San Bernardino Mountains, and Tehachapi Mountains. The Lancaster General Plan also names Avenue M between SR-14 and 60th Street West as scenic, as it provides views of the San Gabriel Mountains. This area of Avenue M is near the proposed pipeline and one aboveground storage reservoir. The PEIR will evaluate the effects of the proposed project on scenic vistas and will develop mitigation measures, if necessary, to minimize impacts to scenic vistas.

b) There are no official or eligible state scenic highways in the project area, as designated by the California Department of Transportation (Caltrans) under the California Scenic Highway Program (Caltrans, 2007). Accordingly, there are no associated state scenic corridors in the vicinity of the proposed project, which are defined as the land generally adjacent to and visible by motorists from a scenic highway. No scenic resources, such as rock outcroppings or historic buildings, would be affected by the proposed project. Therefore, there would be no impact.

c) Construction of the proposed project would require the use of heavy equipment and storage of materials at construction sites. During construction, excavated areas, stockpiled soils, and other materials within the project corridor would constitute negative

aesthetic elements in the visual landscape. However, these effects would be temporary during project construction.

The proposed project includes the following permanent aboveground structures: three distribution pump stations, two booster pump stations, and four storage reservoirs. The placement of these facilities could significantly affect the character of the surrounding area. The PEIR will evaluate the potential impacts of aboveground project components on visual character and identify mitigation measures to reduce their visual impacts.

d) The proposed project includes aboveground facilities that would need nighttime lighting for security purposes. The PEIR will evaluate this potential impact and develop mitigation measures to ensure placement of the lighting does not adversely affect nighttime views in the area or create glare.

References

California Department of Transportation (Caltrans). 2007. California State Scenic Highway Mapping System. Kern County. Available on-line at: http://www.dot.ca.gov/hq/LandArch/ scenic_highways/index.htm. Accessed November 6, 2007.

City of Palmdale, *City of Palmdale General Plan*, adopted January 25, 1993.

City of Lancaster, *City of Lancaster 2020 General Plan*, adopted October 28, 1997; last revised January 28, 2003.

City of Lancaster, *Draft Master Environmental Assessment for General Plan 2030*, April 30, 2007.

Los Angeles County Department of Regional Planning, *Los Angeles County General Plan*, adopted November 25, 1980, last amended January 9, 1990.

County of Los Angeles, *Antelope Valley Areawide General Plan*, an element of the Los Angeles County General Plan, adopted December 4, 1986.

County of Kern, *Kern County General Plan*, approved June 15, 2004.

Agricultural Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
2. AGRICULTURAL RESOURCES In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. **Would the project:**				
a) Convert 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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☒	☐	☐	☐
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland of Statewide Importance to non-agricultural use?	☐	☒	☐	☐

Discussion

a) None of the proposed aboveground features (storage reservoirs and pump stations) would be located on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as designated by the California Department of Conservation, Farmland Mapping and Monitoring Program (FMMP). The proposed recycled water pipelines would be located within existing roadway right-of-ways. No important farmland would be converted to non-agricultural use as a result of the proposed project. Construction and operation of the storage reservoirs and pump stations would have no impact on farmland.

b) The proposed recycled water pipelines would be constructed within the right-of-way of existing roadways. The proposed storage reservoirs and pump stations would not be located on land designated as important farmland by the FMMP. The PEIR will identify any land in the project vicinity that is under a Williamson Act contract or is zoned for agricultural use and will identify any conflicts with such zoning or Williamson Act contracts.

c) The California Department of Conservation FMMP has designated lands in the project vicinity as Prime Farmland (CDC, 2007). Construction of the proposed pipeline could have a short-term, temporary affect on the use of adjacent neighboring farmland. The PEIR will evaluate this potential impact and develop mitigation measures to reduce impacts to farmland to less than significant levels if necessary.

References

California Department of Conservation (CDC), Farmland Mapping and Monitoring Program, FMMP Viewer via ESA portal, accessed November 9, 2007.

Air Quality

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
3. AIR QUALITY Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion

a) The proposed project is located within the jurisdiction of the Antelope Valley Air Quality Management District (AVAQMD), which has the authority to regulate air pollutant emissions from stationary sources for all or portions of the Antelope Valley area. The following table provides the AVAQMD Air Quality Thresholds of Significance:

Air Pollutant	Project Operation and Construction (lbs/day) Thresholds of Significance
CO	548
VOC	137
NOx	137
SOx	137
PM10	82

SOURCE: AVAQMD, 2005, CEQA and Federal Conformity Guidelines, May, 2005

Construction activities for the proposed project may necessitate the use of machinery and methods that could have an affect on the air quality. The PEIR will evaluate the potential for project construction emissions to conflict with the air quality plan and will develop mitigation measures to minimize conflicts if necessary. Operation of the proposed project

would not generate emissions and would have no impact on implementation of the air quality plan.

b/c/d) The proposed project is located in the Mojave Desert Air Basin (Basin) in an area characterized by suburban development, scattered single-family houses, and agriculture. The Basin is in non-attainment for state standards for ozone (O_3) and particulate matter (PM_{10}) (CARB, 2007).

Operation of the proposed project would not result in emissions that would affect air quality in the Basin or neighboring sensitive receptors. However, construction of the proposed project could result in substantial pollutant concentrations that could create new air quality violations or exacerbate existing air quality violations in the Basin and affect sensitive receptors. Therefore, the proposed project could have a potentially significant impact on air quality. This resource area will be discussed in the PEIR. Sensitive receptors near the project corridor will be identified, and mitigation measures will be developed to reduce impacts to air quality if necessary.

e) Project-related construction activities could result in short-term emissions and associated objectionable odors from diesel vehicle exhaust. Due to the short-term nature of construction activities, odor impacts would be considered less than significant.

References

AVAQMD, *CEQA and Federal Conformity Guidelines*, May, 2005

California Air Resourcese Board (CARB), *2006 Area Designations for State Ambient Air Quality Standards*. Available on-line at http://www.arb.ca.gov/desig/adm/adm.htm. Accessed November 9, 2007.

Biological Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
4. BIOLOGICAL RESOURCES— Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

Discussion

a/b/c/d/e/f) Based on a preliminary review of the California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB), the following special-status species and sensitive habitats could occur at or within the vicinity of the proposed project: Mojave ground squirrel, desert tortoise, burrowing owl, coastal California gnatcatcher, rare plants, and Joshua Tree Woodland. The PEIR will evaluate in detail the biological resources in the project vicinity, including special-status species and their habitat, riparian habitat, sensitive natural communities, and jurisdictional wetlands. In addition, the PEIR will identify local policies protecting biological resources, such as Joshua Trees, and identify the Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCPs) that include the project area, such as the West Mojave Plan HCP. The PEIR will identify potential impacts to biological resources due to construction and operation of the proposed project. If necessary, mitigation measures will be developed to reduce impacts to biological resources to less than significant levels.

References

California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB), 2006.

U.S. Department of the Interior, Bureau of Land Management, California Desert District, *Final Environmental Impact Report and Statement for the West Mojave Plan*, January 2005.

Cultural Resources

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES— Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in □15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to □15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion

a/b/c/d) According to the *Antelope Valley Areawide General Plan* (1986) and the *City of Lancaster 2020 General Plan* (2003), the project area has significant archeological history and sensitive prehistoric resources. The archeological areas with highest sensitivity are noted to be around Amargosa Creek, Rosamond Dry Lake, and the Little Rock Wash. The project area also includes important historic buildings, including mixed-vintage residences from the early and mid-20th century (City of Lancaster, 2003). Although portions of the proposed project would be installed in areas where most archaeological resources would have been recovered or destroyed during prior construction, there is the potential for construction activities, such as grading and excavation, to result in significant impacts to cultural resources. This resource area will be discussed in the PEIR, and mitigation measures will be developed to reduce impacts to less than significant levels.

References

County of Los Angeles, *Antelope Valley Areawide General Plan*, an element of the Los Angeles County General Plan, adopted December 4, 1986.

City of Lancaster, *City of Lancaster 2020 General Plan*, adopted October 28, 1997; last revised January 28, 2003.

Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
6. GEOLOGY, SOILS, AND SEISMICITY— Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☒	☐	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☒	☐	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Discussion

a.i/ii/iii) The proposed project is located in a seismically active area. The project area includes the City of Palmdale, which is included on the California Geological Survey's Alquist-Priolo Earthquake Fault Zoning Map 4E for Los Angeles County (California Geological Survey, 2007). Rupture of a known earthquake fault could result in adverse effects to proposed facilities. Damage to pipelines, storage reservoirs, and pump stations could be expected as a result of groundshaking during a seismic event. Damage from earthquakes is often the result of liquefaction of alluvial soils underlying large rigid structures, such as storage reservoirs. Liquefaction occurs primarily in areas of recently deposited sands and silts and in areas of high groundwater levels.

The PEIR will describe in detail the existing seismic conditions in the project area and evaluate the potential effects of seismic events and seismic-related ground failure on proposed facilities. The PEIR will include mitigation measures, if necessary, to reduce the impact of seismic events on project facilities to less than significant levels. The

proposed project would be designed in accordance with Uniform Building Code (UBC) and California Building Code (CBC) requirements and current seismic design standards to minimize seismic impacts and to reduce the risk of damage caused by liquefaction.

a.iv) The topography in the vicinity of the proposed project is generally flat; however, some of the proposed storage reservoirs may be built on hillsides. The PEIR will include mitigation measures, if necessary, to reduce the impact of landslides on project facilities. The proposed pipeline would be designed in accordance with UBC and CBC requirements and current design standards to reduce the risk of damage caused by landslides and minimize impacts to less than significant levels.

b) The proposed project would result in land disturbance greater than one acre; therefore, the Lead Agency would be required to file a Notice of Intent with the State Water Resources Control Board (SWRCB) to comply with the National Pollution Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activity (GCP). In accordance with the NPDES GCP, the Lead Agency would be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) for the proposed project. The SWPPP would include an Erosion Control Plan to minimize soil erosion during construction and prevent soil from washing off the construction site into storm drains, drainage canals, creeks, streams and other natural habitats. Soil erosion and sediment control measures would reflect best management practices (BMPs) and could include, but not be limited to, sediment barriers and traps, silt basins, and silt fences. The impact of the proposed project on soil erosion would be considered less than significant.

In addition, according to the proposed project description, all soils removed or disturbed during excavation and grading during construction of the storage reservoirs and pump stations would be replaced prior to site restoration. The proposed pipeline would be installed under existing roadways and thus would not affect surface soils. The proposed project would not contribute to the loss of topsoil and the impact is considered less than significant.

c) The proposed project is located in the Antelope Valley, which is located in the western portion of the Mojave Desert geomorphic province. The Antelope Valley is bounded partially by the San Gabriel Mountains to the southwest and the Tehachapi Mountains to the northwest. Erosional features such as broad alluvial basins that receive non-marine sediments from the adjacent uplands dominate the Mojave Desert region. The Antelope Valley is composed of thick deposits of alluvial and lacustrine materials (LACSD, 2005). The PEIR will describe the geologic units and soils in the project area and will determine the potential effects of the proposed project on soils, including the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse.

d) Expansive soils possess a shrink-swell characteristic that can result in structural damage over a long period of time. Expansive soils are largely comprised of silicate clays, which expand in volume when water is absorbed and shrink when dried. The PEIR will describe

the existing characteristics of the soils in the project area. The proposed facilities would comply with the UBC and CBD and current standards for the use or avoidance of expansive soil materials. Therefore, impacts related to expansive soils would be considered less than significant.

e) The proposed project does not include construction of septic tanks or alternative wastewater disposal systems. There would be no impact.

References

California Geological Survey, California Department of Conservation, *Alquist Priolo Earthquake Fault Zones*, http://www.consrv.ca.gov/cgs/rghm/ap/Pages/affected.aspx, accessed December 16, 2007.

Sanitation Districts of Los Angeles County (LACSD), *Palmdale Water Reclamation Plant 2025 Facilities Plan & Final EIR*, September 2005.

Hazards and Hazardous Materials

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
7. HAZARDS AND HAZARDOUS MATERIALS Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create 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?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐
d) Be 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 it create a significant hazard to the public or the environment?	☒	☐	☐	☐
e) 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, would the project result in a safety hazard for people residing or working in the project area?	☐	☒	☐	☐
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☒	☐	☐

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☒	☐	☐

Discussion

a/b) Construction of the proposed project would require equipment that utilize hazardous materials such as petroleum fuels and oil. During construction activities, such hazardous materials could accidentally be spilled or otherwise released into the environment. Therefore, the proposed project could create a significant hazard to the environment or public due to hazardous materials. This resource area will be discussed in the PEIR, and mitigation measures will be developed to reduce impacts to less than significant levels by requiring construction contractors to follow BMPs.

Operation of the proposed project would not require routine transport, use, or disposal of hazardous materials or create a significant hazard due to accidental release of hazardous materials into the environment. The proposed project is a recycled water system including facilities to transport and store recycled water. The proposed project does not include treatment facilities that would require use of hazardous chemicals.

c) No hazardous materials would be routinely used during operation of the proposed project. However, project construction would require use of hazardous materials as described above. The PEIR will identify the locations of schools and other sensitive receptors relative to the project components. If necessary, mitigation measures will be developed to reduce hazardous emissions or the potential for accidental release of hazardous substances during construction to less than significant levels.

d) Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal EPA) to develop and annually update the Hazardous Waste and Substances Sites (Cortese) List. The Cortese List is a planning document used by state and local agencies to comply with CEQA requirements in providing information about the location of hazardous materials release sites. The information contained in the Cortese List is provided by Cal EPA's Department of Toxic Substance Control (DTSC) and other state and local government agencies.

A preliminary search of the DTSC Cortese List database identified properties in the project vicinity and adjacent to the proposed recycled water pipeline corridor that are known hazardous waste sites (DTSC, 2007). The PEIR will evaluate the hazardous sites in the vicinity of the proposed project.

e/f) Components of the proposed project are within two miles of airports, including Palmdale Regional Airport, Air Force Plant 42, and Edwards Air Force Base. The PEIR will include a review of applicable airport land use plans and evaluate the potential effects of the proposed project to public safety for people residing or working in the project area. If necessary, the PEIR will include mitigation measures to ensure the proposed project complies with applicable airport land use plans and reduce any potential hazards to public safety to less than significant levels.

g) Construction of the proposed project would require transportation of equipment and materials that could interfere with emergency response or evacuation plans. Roadways could be temporarily blocked due to operation or storage of construction equipment and material deliveries, particularly during construction of the proposed pipeline. The effect of project construction on emergency response and evacuation plans will be discussed in the PEIR. Mitigation measures, such as a traffic control plan, will be developed to reduce impacts to less than significant levels.

h) The project area is characterized by residential communities, agricultural operations, open space, and vacant lands. Some project components, including proposed storage reservoirs sites, are located near open spaces and the foothills of Angeles National Forest. Construction of the proposed project would require equipment and activities that use petroleum fuels and oil and could result in accidental spills leading to fire-related hazards. The PEIR will evaluate the potential for construction of the proposed project to accidentally result in wildland fires during project construction. Operation of the proposed project would not pose a risk to wildland fires. If necessary, the PEIR will develop mitigation measures to be implemented during project construction to reduce the risk of exposing people or structures to a significant risk of loss, injury or death due to wildland fires to less than significant levels.

References

State of California, Department of Toxic Substance Control (DTSC). 2007. Available on-line at: http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm. Accessed November 14, 2007. Site identified: John Alexander Research, Inc, 1753 Sierra Hwy, Rosamond CA 93560.

Hydrology and Water Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
8. HYDROLOGY AND WATER QUALITY— Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	☐	☒	☐	☐
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☒	☐	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☒	☐	☐
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

a/f) During construction of the proposed project, excavated soils would have the potential to erode and be transported to down-gradient areas. This potential erosion/sedimentation may result in water quality standard violations. Operation of the proposed project would deliver recycled water to end users for various applications, including landscape irrigation and groundwater recharge. Such end uses could affect water quality of underlying groundwater aquifers. The PEIR will evaluate the potential for the proposed project to effect water quality standards for both surface water and groundwater and will develop mitigation measures to reduce project impacts to less than significant levels. Construction of the proposed project would be required to comply with the SWRCB NPDES GCP, including implementation of a SWPPP and Erosion Control Plan to protect surface water quality. Resulting impacts of project construction to surface water quality would be considered less than significant. Operation of the proposed project would be

subject to conditions imposed by the Regional Water Quality Control Board (RWQCB) pursuant to Water Recycling Requirements (WRRs). Recycled water use associated with the proposed project would comply with the California Department of Public Health (formerly the Department of Health Services) recycled water regulations contained in Title 22 of the California Code of Regulations. Resulting impacts of project operation, including end uses, would be considered less than significant. The use of recycled water for groundwater recharge and cooling water at power plants will be evaluated at a program level in the PEIR. Subsequent CEQA documentation will fully evaluate the impacts of these end uses on surface and groundwater quality.

b) The proposed project includes a recycled water distribution and storage system that would deliver recycled water to end users for various applications, including groundwater recharge. The PEIR will evaluate the effects of the proposed groundwater recharge at a program level. The proposed project would result in a direct net increase in aquifer volume due to the proposed groundwater recharge end use. The proposed project also would replace existing potable uses with recycled water, reducing demand for potable water. Therefore, the proposed project would have a beneficial impact on groundwater supplies and aquifer volume.

c/d/e) The proposed project is not expected to substantially alter existing drainage patterns within the project area. The proposed project would not alter the drainage pattern of any stream or river. The recycled water pipelines would be installed within existing roadway right-of-ways; after construction, roadways would be restored to existing conditions. Construction of the proposed pump stations and storage resources may require excavation and light grading; however soils would be replaced and sites restored back to existing conditions to the extent feasible. The PEIR will evaluate the proposed pump stations and storage reservoirs at a program level. The design of the pump stations and storage reservoirs have not been determined but may include storm water drainage features to capture and transport storm water offsite. The size of these proposed aboveground project components are not large enough to contribute substantial additional sources of storm water or runoff. The resulting impact of the proposed project to erosion, siltation, flooding, and storm water runoff is expected to be less than significant.

g/h/i) The Flood Insurance Rate Maps (FIRMs) produced by the Federal Emergency Management Agency indicate areas prone to flood hazards due to major storm events, including 100-year and 500-year flood zones. According to the FIRMs, the proposed project could place structures within 100-year and 500-year flood hazard areas (Los Angeles County, 2007). The PEIR will identify the flood hazard areas and develop mitigation measures to minimize the effect of flooding on the proposed facilities to less than significant levels.

j) The proposed project site is approximately 40 miles from the Pacific Ocean. The proposed project would not expose people or structures to a significant risk of loss, injury, or death due to seiches or tsunamis. The proposed project would be located

primarily in areas characterized by flat topography except for possible low-lying hillside locations for proposed storage reservoirs. It is anticipated that the proposed project would not expose people or structures to a significant risk of loss, injury, or death due to mudflows.

References

Los Angeles County Department of Regional Planning, *Draft Preliminary General Plan*, Safety Element, June 28, 2007. Available online: http://planning.lacounty.gov/spGPMain.htm

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Land Use and Land Use Planning

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
9. LAND USE AND LAND USE PLANNING— Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict 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?	☐	☒	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☒	☐	☐

Discussion

a) The proposed project involves the construction of a recycled water pipeline, pump stations, and storage facilities. The pipeline would be entirely underground; the pump stations and storage facilities would be aboveground but are point features that would have no effect on the surrounding areas and would not divide an established community. There would be no impact.

b) The proposed project is subject to the goals and policies of the Los Angeles County General Plan (1990), Kern County General Plan (2004), Los Angeles County Antelope Valley Areawide Plan (1986), City of Palmdale General Plan (1993), and City of Lancaster General Plan (2003). The PEIR will discuss all land use plans, policies, and regulations that apply to the proposed project. The proposed recycled water pipeline would be installed within the public right-of-way along existing roadways. The proposed pump stations and storage reservoirs would be located on parcels owned by public agencies. If necessary, mitigation measures will be developed to reduce impacts of the proposed project on land use to less than significant levels.

c) The proposed project is within the boundary of the West Mojave Plan HCP (BLM, 2005). The PEIR will describe the West Mojave Plan HCP and identify any other HCPs or NCCPs that include the project area. The PEIR will identify potential conflicts with any HCPs or NCCPs and develop mitigation measures if necessary to avoid conflicts and reduce impacts to less than significant levels.

References

City of Palmdale, *City of Palmdale General Plan*, adopted January 25, 1993.

City of Lancaster, *City of Lancaster 2020 General Plan*, adopted October 28, 1997; last revised January 28, 2003.

Los Angeles County Department of Regional Planning, *Los Angeles County General Plan*, adopted November 25, 1980, last amended January 9, 1990.

Los Angeles County Department of Regional Planning, *Antelope Valley Areawide General Plan*, an element of the Los Angeles County General Plan, adopted December 4, 1986.

Kern County Planning Department, *Kern County General Plan*, approved June 15, 2004.

U.S. Department of the Interior, Bureau of Land Management (BLM), California Desert District, *Final Environmental Impact Report and Statement for the West Mojave Plan*, January 2005.

Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
10. MINERAL RESOURCES—Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

a/b) The California Department of Conservation, California Geological Survey (CGS) classifies the regional significance of mineral resources in accordance with the California Surface Mining and Reclamation Act of 1975 (SMARA). CGS designates Mineral Resource Zones (MRZs) that have regionally significant mineral deposits. The proposed project is not located within any designated MRZs (Los Angeles County, 2007; LACSD, 2005; Kern County, 2004). The closest MRZs to the project area is the Little Rock Creek Fan located at the southeast edge of the City of Palmdale. The proposed project would

have no impact on mineral resources. Mineral Resources will not be discussed further in the PEIR.

References

Sanitation Districts of Los Angeles County (LACSD), *Palmdale Water Reclamation Plant 2025 Facilities Plan & Final EIR*, September 2005.

Los Angeles County Department of Regional Planning, *Draft Preliminary General Plan*, Open Space & Conservation Element, June 28, 2007. Available online: http://planning.lacounty.gov/spGPMain.htm

Kern County Planning Department, *Kern County General Plan*, *Land Use*, *Conservation and Open Space Element*, approved June 15, 2004.

Noise

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
11. NOISE—Would the project:				
a) Result 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?	☐	☒	☐	☐
b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☒	☐
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Discussion

a/b/d) Construction of the proposed project would result in intermittent, temporary, elevated noise levels in and around the project area. Construction noise and vibration would result from operation of equipment and vehicles and would fluctuate depending on equipment

type, duration of use, and distance between the noise source and receptor. Construction of the proposed project would temporarily increase ambient noise and vibration levels at nearby sensitive receptors. Construction of the proposed project would be conducted in accordance with all local noise ordinances and standards. The PEIR will identify sensitive receptors in the project area, such as residences and schools, and develop mitigation measures to reduce the effects of construction noise and vibration to less than significant levels, if necessary

c) Operation of the proposed recycled water pipelines and storage reservoirs would not generate any additional noise and would not result in a permanent increase in ambient noise levels in the project vicinity. Operation of the pump stations would generate noise periodically when pumps are running. The PEIR will develop mitigation measures to ensure that design of the pump station housing includes materials to buffer noise such that any increases in noise levels above existing levels do not exceed standards established by local noise ordinances and regulations.

e/f) Components of the proposed project are within two miles of airports, including Palmdale Regional Airport, Air Force Plant 42, and Edwards Air Force Base. The PEIR will include a review of applicable airport land use plans and compatibility of the proposed project with such plans. As described above, the proposed project would not result in a significant permanent increase in noise levels and thus would not expose people living or working near airports to excessive noise levels. The impacts would be considered less than significant.

Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
12. POPULATION AND HOUSING— Would the project:				
a) Induce 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)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) The proposed project would not build new homes or businesses and would not have a direct impact on population growth in the project area.

Operation of the proposed project would result in the use of recycled water for end uses currently being served by potable water, such as landscape irrigation. The proposed project would effectively result in an increase in the available potable water supply due to the offset by recycled water use and thus could indirectly result in population growth. The potential growth inducing effects of the proposed project will be addressed in the PEIR in the **Growth Inducement** chapter. Population and Housing will not be addressed further in the PEIR.

It is expected that population growth in the project area will occur in accordance with planned and approved population growth projections in local planning documents, such as the Los Angeles County, Kern County, Palmdale, and Lancaster General Plans. The potable water made available due to the proposed project will be used to meet the needs of planned population growth. The PEIR will evaluate the proposed project's relationship with growth and secondary impacts of growth.

b/c) The proposed project does not involve the construction or demolition of housing. Therefore, the proposed project would not displace people or housing, and there would be no impact.

Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
13. PUBLIC SERVICES— Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of, or the 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 following public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion

a.i-v) Operation of the proposed project would result in the use of recycled water for end uses currently being served by potable water, such as landscape irrigation. The proposed project would reduce demand for potable water supply in the project area. The proposed

project would not require additional public services, such as fire protection, police protection, schools, or parks. There would be no impact to public services. Public Services will not be discussed further in the PEIR.

Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
14. RECREATION—Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a/b) Operation of the proposed project would result in the use of recycled water for end uses currently being served by potable water, such as landscape irrigation. The proposed project would reduce demand for potable water supply in the project area. The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities. The proposed project would not require the construction of additional recreational facilities. The proposed project would have no impact on recreation. Recreation will not be discussed further in the PEIR

Transportation and Traffic

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
15. TRANSPORTATION AND TRAFFIC— Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	☐	☒	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☒	☐	☐

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Result 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?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☒	☐	☐
f) Result in inadequate parking capacity?	☐	☐	☒	☐
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.)?	☐	☒	☐	☐

Discussion

a/b/e/g) Construction of the proposed project would increase local traffic and result in temporary lane closures due to installation of the recycled water pipeline and due to the transport and delivery of construction equipment, materials, excavated soils, and backfill, and daily worker trips. Construction of the proposed project is not expected to require complete road closures. The PEIR will describe the existing traffic loads, capacities, level-of-service standards for roadways (e.g., SR-14), bus routes, and bike routes in the project vicinity. The PEIR will include mitigation measures, if necessary, to mitigate the effects of construction related traffic to less than significant levels.

c/d) The construction and operation of the proposed project would not affect air traffic patterns, levels, or locations. The proposed project would not alter current roadway designs. No impacts are expected.

f) Construction of the proposed project would create a temporary demand for parking for construction workers and construction vehicles. All temporary parking would be located at designated staging areas along the pipeline alignment and at pump station and storage reservoir locations. The number of parking spaces required would not be substantial.

Operation of the proposed project would require regular maintenance at the proposed pump stations and storage reservoirs. Parking spaces would be included in the design of pump station and storage reservoir facilities to accommodate maintenance vehicles. Impacts would be less than significant.

Utilities and Service Systems

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
16. UTILITIES AND SERVICE SYSTEMS—Would the project:				
a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
d) Require new or expanded water supply resources or entitlements?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☒	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☒	☐	☐

Discussion

a) The proposed project would convey and store recycled water produced at existing water treatment plants: the LWRP, PWRP, and RWWTP. The recycled water used by proposed end users would be disinfected tertiary treated effluent. Recycled water use associated with the proposed project would comply with the California Department of Public Health (formerly the Department of Health Services) recycled water regulations contained in Title 22 of the California Code of Regulations. In addition, the proposed project would be subject to conditions imposed by the Regional Water Quality Control Board (RWQCB) pursuant to Water Recycling Requirements (WRRs). The WRRs would cover the proposed end uses. The PEIR will describe in detail the applicable water quality regulations for recycled water. The proposed project would not conflict with any wastewater treatment regulations. The impact would be less than significant.

b) The proposed project would convey and store recycled water produced at existing water treatment plants: the LWRP, PWRP, and RWWTP. The proposed project does not include construction of new treatment facilities. There would be no impact.

c) The proposed project includes construction of five new pump stations and four new storage reservoirs. The exact location, footprint and design for each of these aboveground

facilities has not been determined. Construction of these facilities could result in an increase in impervious surface area in the project vicinity and require the construction of new on-site storm water drainage features. The PEIR will evaluate the impact of these new facilities on storm water at a program level.

d) The proposed project would convey and store disinfected tertiary-treated recycled water produced at the LWRP, PWRP and RWTTP. The LWRP and PWRP are owned and operated by the Los Angeles County Sanitation Districts (LACSD). The RWWTP is owned and operated by the Rosamond Community Services District (RCSD). Each of these facilities is in the process of being upgraded to provide 100 percent tertiary-treated effluent that is suitable for use for landscape irrigation. No new water resources or entitlements are required by the proposed project. There would be no impact.

e) The proposed project would benefit LACSD and RCSD by providing beneficial uses for the effluent produced at their treatment plants. The proposed project is being designed with adequate capacity to handle the volume of effluent to be produced at the LWPR, PWRP, and RWTTP after the planned upgrades are completed. There would be no impact.

f/g) The proposed project would require excavation and grading for installation of the recycled water pipeline, storage reservoirs, and pump stations. All soils removed or disturbed during excavation and grading during construction of the storage reservoirs and pump stations would be replaced prior to site restoration. However, installation of the recycled water pipeline would likely result in excess excavated soils. The PEIR will determine the approximate amount of excess soils to be produced during project construction. The PEIR will identify landfills in the project vicinity that have adequate permitted capacity to accept solid waste construction debris such as spoil soils. The PEIR will identify local, state, and federal regulations related to solid waste and determine appropriate mitigation measures, if necessary, to ensure the proposed project complies with such regulations.

Mandatory Findings of Significance

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
17. MANDATORY FINDINGS OF SIGNIFICANCE—Would the project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Have impacts that would be individually limited, but cumulatively considerable? (Cumulatively considerable means 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.)	☒	☐	☐	☐
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion

a) The proposed project would implement the LACWWD40 Regional Recycled Water Master Plan, including recycled water pipelines, pump stations, and storage reservoirs. The recycled water pipelines would be installed within roadway right-of-ways. The exact location of the pump stations and storage reservoirs has not been determined. The PEIR will describe in detail the biological resources and cultural resources in the project area, including the biological and cultural resources at all potential locations for pump stations and storage reservoirs. The PEIR will develop mitigation measures, if necessary, to reduce any impacts of project construction and operation to biological and cultural resources to less than significant levels.

b) The PEIR will identify a list of related projects in the project vicinity to determine whether or not the proposed project would have impacts that are individually limited but cumulatively considerable.

c) Construction of the proposed project could result in substantial adverse effects, either direct or indirect, on human beings due to impacts to air quality, hazardous materials, noise, soils/seismicity and other resources. The PEIR will identify sensitive receptors in the project area and identify, if possible and if necessary, mitigation measures to reduce adverse effects to human beings to less than significant levels.

Operation of the proposed project is not expected to have substantial adverse effects on human beings. Operation of the proposed facilities would not directly affect public health or well being. Application of recycled water for the proposed end uses also would not affect public health or well being because all end uses would be in compliance with CDPH Title 22 regulations that dictate acceptable uses for disinfected tertiary-treated recycled water. The application of recycled water for groundwater recharge would be evaluated in the PEIR at a program level.

APPENDIX D

URBEMIS AIR QUALITY CALCULATIONS

3/3/2008 2:41:03 PM

Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\dsa\Application Data\Urbemis\Version9a\Projects\Lacwwd40 pipeline.urb924

Project Name: LACWWD40

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 1/1/2009-9/1/2009 Active Days: 174	**18.43**	**94.69**	**45.76**	**0.05**	**0.17**	**5.20**	**5.36**	**0.06**	**4.78**	**4.84**	**9,703.79**
Asphalt 01/01/2009-09/01/2009	13.99	56.75	26.79	0.04	0.16	3.33	3.48	0.05	3.06	3.11	6,025.74
Paving Off-Gas	7.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	3.39	20.13	10.59	0.00	0.00	1.74	1.74	0.00	1.60	1.60	1,418.81
Paving On Road Diesel	2.88	36.53	14.75	0.04	0.15	1.59	1.74	0.05	1.46	1.51	4,451.45
Paving Worker Trips	0.05	0.09	1.45	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.48
Trenching 01/01/2009-09/01/2009	4.44	37.93	18.97	0.00	0.01	1.87	1.88	0.00	1.72	1.72	3,678.05
Trenching Off Road Diesel	4.36	37.79	16.64	0.00	0.00	1.86	1.86	0.00	1.71	1.71	3,429.28
Trenching Worker Trips	0.08	0.14	2.32	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.77

Phase Assumptions

Phase: Trenching 1/1/2009 - 9/1/2009 - Default Trenching Description

Off-Road Equipment:

4 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 1/1/2009 - 9/1/2009 - Default Paving Description

Acres to be Paved: 509.09

Off-Road Equipment:

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1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\dsa\Application Data\Urbemis\Version9a\Projects\lacwwd40 pump reservoir.urb924

Project Name: lacwwd40 reservoir pump

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 1/1/2009-1/30/2009 Active Days: 22	3.22	**26.53**	14.14	0.00	**5.61**	1.34	**6.94**	**1.17**	1.23	**2.40**	**2,371.70**
Mass Grading 01/01/2009-02/01/2009	3.22	26.53	14.14	0.00	5.61	1.34	6.94	1.17	1.23	2.40	2,371.70
Mass Grading Dust	0.00	0.00	0.00	0.00	5.60	0.00	5.60	1.17	0.00	1.17	0.00
Mass Grading Off Road Diesel	3.18	26.46	12.98	0.00	0.00	1.33	1.33	0.00	1.23	1.23	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.07	1.16	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 2/2/2009-2/27/2009 Active Days: 20	3.22	**26.53**	14.14	0.00	**5.61**	1.34	**6.94**	**1.17**	1.23	**2.40**	**2,371.70**
Fine Grading 02/01/2009-03/01/2009	3.22	26.53	14.14	0.00	5.61	1.34	6.94	1.17	1.23	2.40	2,371.70
Fine Grading Dust	0.00	0.00	0.00	0.00	5.60	0.00	5.60	1.17	0.00	1.17	0.00
Fine Grading Off Road Diesel	3.18	26.46	12.98	0.00	0.00	1.33	1.33	0.00	1.23	1.23	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.07	1.16	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39

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Time Slice 3/2/2009-3/31/2009 Active Days: 22	2.19	12.82	9.14	0.00	0.01	1.10	1.11	0.00	1.01	1.01	1,214.65
Asphalt 03/01/2009-04/01/2009	2.19	12.82	9.14	0.00	0.01	1.10	1.11	0.00	1.01	1.01	1,214.65
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.08	12.55	7.05	0.00	0.00	1.09	1.09	0.00	1.00	1.00	979.23
Paving On Road Diesel	0.01	0.15	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	17.75
Paving Worker Trips	0.07	0.12	2.03	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.67
Time Slice 4/1/2009-4/1/2009 Active Days: 1	3.57	23.02	**16.15**	**0.00**	0.02	**1.75**	1.77	0.01	**1.61**	1.62	2,354.26
Asphalt 03/01/2009-04/01/2009	2.19	12.82	9.14	0.00	0.01	1.10	1.11	0.00	1.01	1.01	1,214.65
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.08	12.55	7.05	0.00	0.00	1.09	1.09	0.00	1.00	1.00	979.23
Paving On Road Diesel	0.01	0.15	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	17.75
Paving Worker Trips	0.07	0.12	2.03	0.00	0.01	0.01	0.02	0.00	0.00	0.01	217.67
Building 04/01/2009-06/01/2009	1.38	10.19	7.01	0.00	0.01	0.65	0.66	0.00	0.60	0.60	1,139.61
Building Off Road Diesel	1.30	9.79	4.94	0.00	0.00	0.63	0.63	0.00	0.58	0.58	893.39
Building Vendor Trips	0.03	0.30	0.24	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.39
Building Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	195.83
Time Slice 4/2/2009-4/30/2009 Active Days: 21	1.38	10.19	7.01	0.00	0.01	0.65	0.66	0.00	0.60	0.60	1,139.61
Building 04/01/2009-06/01/2009	1.38	10.19	7.01	0.00	0.01	0.65	0.66	0.00	0.60	0.60	1,139.61
Building Off Road Diesel	1.30	9.79	4.94	0.00	0.00	0.63	0.63	0.00	0.58	0.58	893.39
Building Vendor Trips	0.03	0.30	0.24	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.39
Building Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	195.83

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Time Slice 5/1/2009-6/1/2009 Active Days: 22	**25.35**	10.21	7.34	0.00	0.01	0.65	0.67	0.00	0.60	0.60	1,174.38
Building 04/01/2009-06/01/2009	1.38	10.19	7.01	0.00	0.01	0.65	0.66	0.00	0.60	0.60	1,139.61
Building Off Road Diesel	1.30	9.79	4.94	0.00	0.00	0.63	0.63	0.00	0.58	0.58	893.39
Building Vendor Trips	0.03	0.30	0.24	0.00	0.00	0.01	0.01	0.00	0.01	0.01	50.39
Building Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.01	0.00	0.00	0.01	195.83
Coating 05/01/2009-06/01/2009	23.96	0.02	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.77
Architectural Coating	23.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.77

Phase Assumptions

Phase: Fine Grading 2/1/2009 - 3/1/2009 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 1.12

Maximum Daily Acreage Disturbed: 0.28

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 1/1/2009 - 2/1/2009 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 1.12

Maximum Daily Acreage Disturbed: 0.28

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 3/1/2009 - 4/1/2009 - Default Paving Description
Acres to be Paved: 0.28
Off-Road Equipment:
4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 4/1/2009 - 6/1/2009 - Default Building Construction Description
Off-Road Equipment:
1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day
2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 5/1/2009 - 6/1/2009 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

APPENDIX E

BIOLOGICAL RESOURCES TECHNICAL REPORT

Los Angeles County Waterworks District No. 40 Recycled Water Master Plan Project

Biological Technical Report

Prepared for

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June 11, 2008

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APPENDIX

Appendix A Plant and Wildlife Compendia

1.0 INTRODUCTION

This Biological Technical Report has been prepared to support California Environmental Quality Act (CEQA) documentation for the proposed North Los Angeles Kern County Recycled Water Master Plan. This information has been reported in accordance with accepted scientific and technical standards that are consistent with the requirements of the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG).

1.1 PROJECT LOCATION AND DESCRIPTION

The Los Angeles County Waterworks District No. 40 (LACWWD40) proposes the North Los Angeles Kern County Recycled Water Master Plan Project (hereafter referred to as proposed project) to provide the primary backbone systems for distribution of recycled water to end users in the Antelope Valley. The project involves the construction of a regional recycled water distribution system that includes conveyance pipelines, storage reservoirs, and pump stations. The proposed project would be implemented in conjunction with the following partner agencies: the City of Lancaster, the City of Palmdale, the Rosamond Community Service District, the County Sanitation Districts Nos. 14 and 20 of Los Angeles County, Palmdale Water District, Antelope Valley-East Kern Water Agency (AVEK) and Quartz Hill Water District.

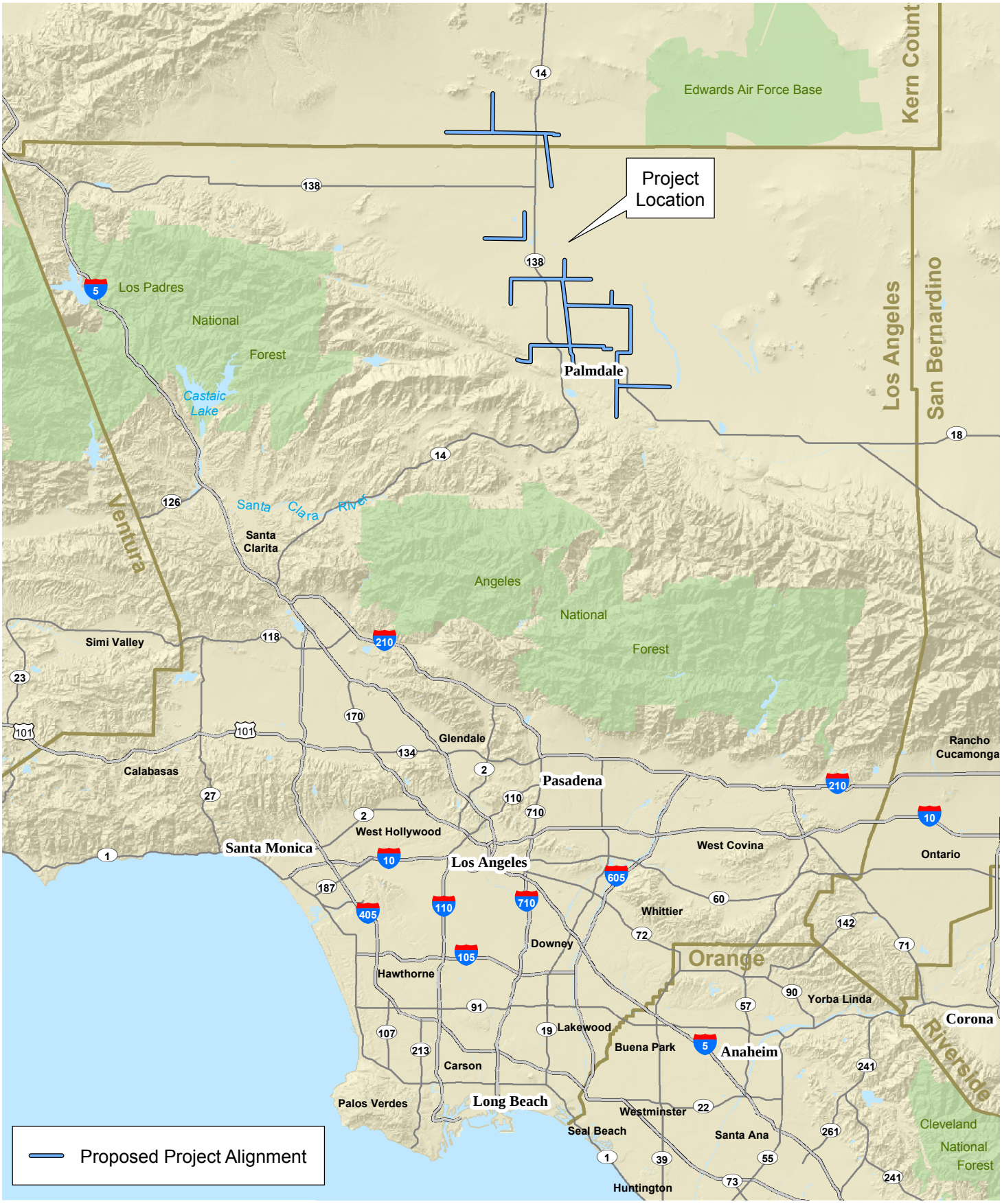
LACWWD40 proposes to develop and construct a recycled water system to serve the Antelope Valley Area in an attempt to reduce the present and future demands on its potable water supplies. The development of this recycled water resource is consistent with Chapter 7, Article 7, Section 13551 of the Water Reclamation Law as set forth in the California Water Code. LACWWD40 is the lead agency for the proposed project.

1.2 REGIONAL ENVIRONMENTAL SETTING

The proposed project would be located in the Antelope Valley at the western end of the Mojave Desert and is bordered on the south by the San Gabriel Mountains and on the northwest by the Tehachapi Mountains. Northeast of the proposed project is the Edwards Air Force Base. The northernmost components of the proposed project site are located in the Rosamond Hills. The proposed project then generally follows Highway 14 southward to the San Andreas Rift Zone at the base of the San Gabriel Mountains. The Cities of Palmdale and Lancaster are located in the southern parts, while the Town of Rosamond is in the northernmost part of the proposed project (Exhibits 1 and 2).

The proposed project site ranges in elevation from 2,300 feet on the valley floor to just over 3,000 feet in the vicinity of Palmdale at the base of the San Gabriel Mountains. Little Rock Creek wash flows to the north and drains into Rosamond Lake and is primarily a dry lake bed. Amargoso Creek flows eastward within the San Andreas Rift Zone before turning northward through the cities of Palmdale and Lancaster north to the Piute Ponds at southwest corner of Rosamond Dry Lake bed.

The proposed project study area includes a variety of residential, commercial, industrial, institutional, agricultural, and open space uses. Prominent among the various land uses in the proposed project study are the aerospace and agricultural industries (Exhibits 3 and 4).



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Regional Location

Exhibit 1

County of LA, WaterWorks Dist No 40 RFP for RWMP EIR

N W E S

10 5 0 10 Miles

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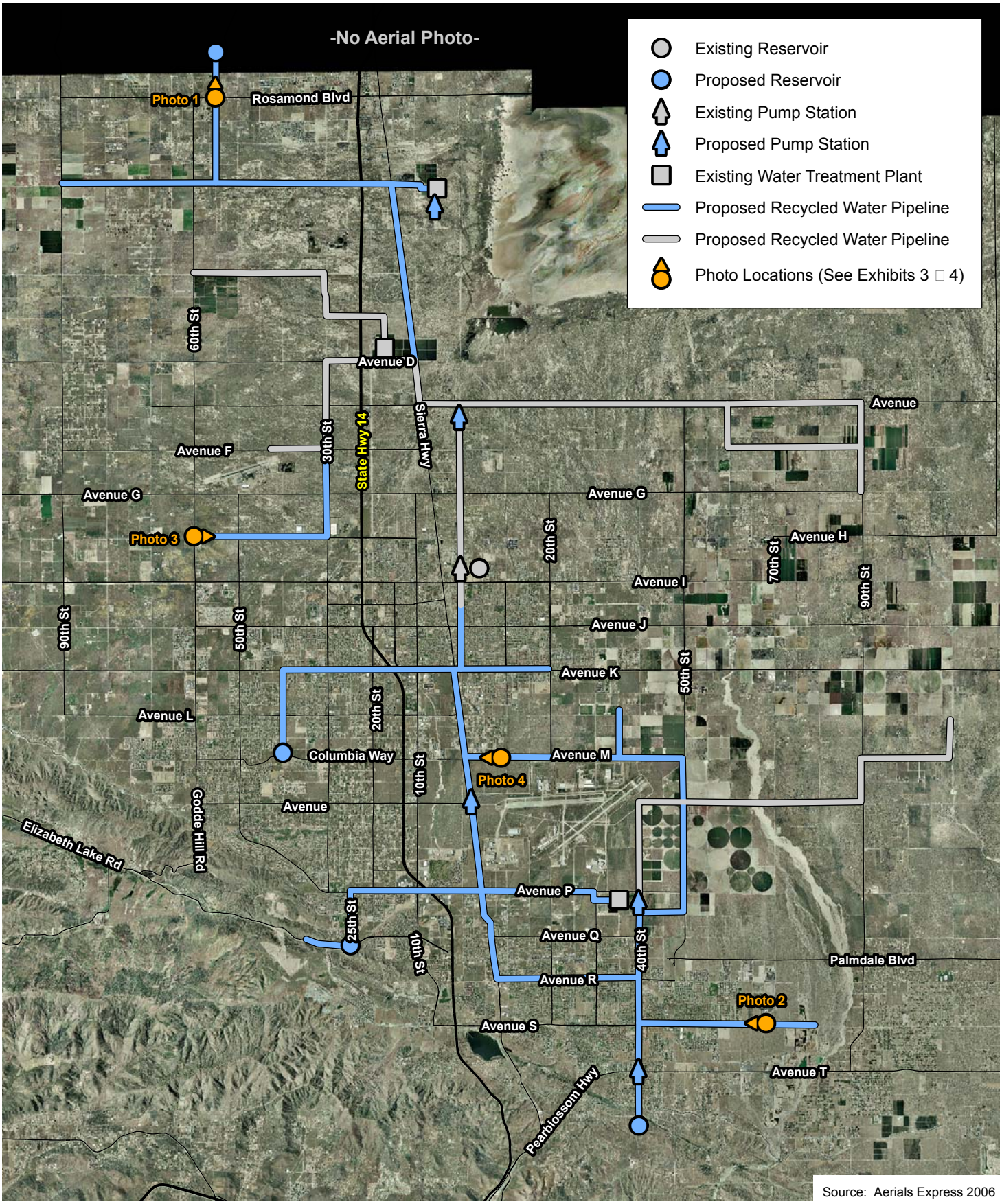

Source: Aerials Express 2006

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Local Vicinity

Exhibit 2

County of LA, WaterWorks Dist No 40 RFP for RWMP EIR

N W E S

3 1.5 0 3 Miles

BonTerra CONSULTING

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Photo 1: View North to Rosamond Blvd

Photo 2: View West on Ave. S

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Illustrative Photos of Proposed Project Site

Exhibit 3

County of LA, WaterWorks Dist No 40 RFP for RWMP EIR

BonTerra CONSULTING

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Photo 3: View East at 90th St.

Photo 4: View West on Columbia Way

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Illustrative Photos of Proposed Project Site

Exhibit 4

County of LA, WaterWorks Dist No 40 RFP for RWMP EIR

BonTerra CONSULTING

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2.0 SURVEY METHODOLOGIES

The data provided in this report are based on field observations from a general survey of the proposed project area conducted by BonTerra Consulting on January 30 and 31, 2008. In addition, other pertinent information was obtained from studies and other documentation prepared by biologists who have previously conducted research in the project vicinity. No focused surveys for special status or other sensitive biological resources were conducted due to the master-plan level of analysis and the lack of project specifies. The study area for the proposed project includes all project components and immediate surrounding areas as generally shown on Exhibit 2.

2.1 LITERATURE REVIEW

In order to evaluate the biological resources found within the study area, literature searches and database reviews were conducted. Available literature describing biological, geological, soils, and hydrologic resources within the region was examined. At a minimum, the literature examined included the following:

- U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps: Soledad Mountain, Bissell, Rosamond, Rosamond Lake, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale;

- California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDB) record search for USGS 7.5-minute topographic quadrangle maps: Soledad Mountain, Bissell, Rosamond, Rosamond Lake, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale (CDFG 2008);

- Los Angeles County Significant Ecological Area Study prepared by England and Nelson Environmental Consultants (1976) for Los Angeles County Department of Regional Planning and Environmental Systems Research Institute;

- Various literature specific to descriptions of the habitat, vegetation types, and special status species occurring in the project region (see References); and

- Aerial photographs (Aerial Express 2006).

2.2 GENERAL PLANT SURVEYS

Reconnaissance-level plant surveys were conducted along the proposed pipeline routes and within proposed new facility footprints (storage reservoirs and pump stations) on January 30 and 31, 2008 by BonTerra Consulting Botanist Andrea Edwards. The purpose of the surveys was to describe the vegetation present in the study area and evaluate the potential for the presence of special status species. All plant species observed were recorded in field notes and are listed in the appendix; the most prevalent species are mentioned in the vegetation descriptions below. Plant species were identified in the field or collected for later identification. Plants were identified using taxonomic keys in Hickman (1993) and Munz (1974). Taxonomy follows Hickman (1993) or current scientific journals for scientific and common names. Vegetation in the study area was classified into vegetation types based on the CDFG's List of California Terrestrial Natural Communities (CDFG 2003). It should be noted that the surveys were conducted during the winter following a regional drought, so most annual species were not observable and some shrubs could not be identified. General vegetation information for the remainder of the study area was gleaned from a variety of botanical sources (see References).

2.3 GENERAL WILDLIFE SURVEYS

A general survey of the study area for amphibians, reptiles, birds, and mammals was conducted simultaneously with the general survey of vegetation conducted on January 30 and 31, 2008. During the surveys, the proposed project study area was evaluated for its potential to support special status species that are known to occur or are expected to occur in the region. All species observed during the course of the surveys were documented in field notes and are listed in the Plant and Wildlife Compendia A. Active searches for reptiles and amphibians included lifting, overturning, and carefully replacing rocks and debris. Birds were identified by visual and auditory recognition. Surveys for mammals were conducted during the day and included searching for and identifying diagnostic sign, including scat, footprints, scratch-outs, dust bowls, burrows, and trails. Taxonomy and nomenclature for wildlife generally follows Stebbins (2003) for amphibians and reptiles, American Ornithologists Union (2007) for birds, and Baker *et al.* (2003) for mammals. All wildlife species observed were recorded in field notes and are mentioned in discussion below. General wildlife information for the remainder of the proposed project study area was gleaned from a variety of sources which describe regional biological resources.

3.0 EXISTING BIOLOGICAL RESOURCES

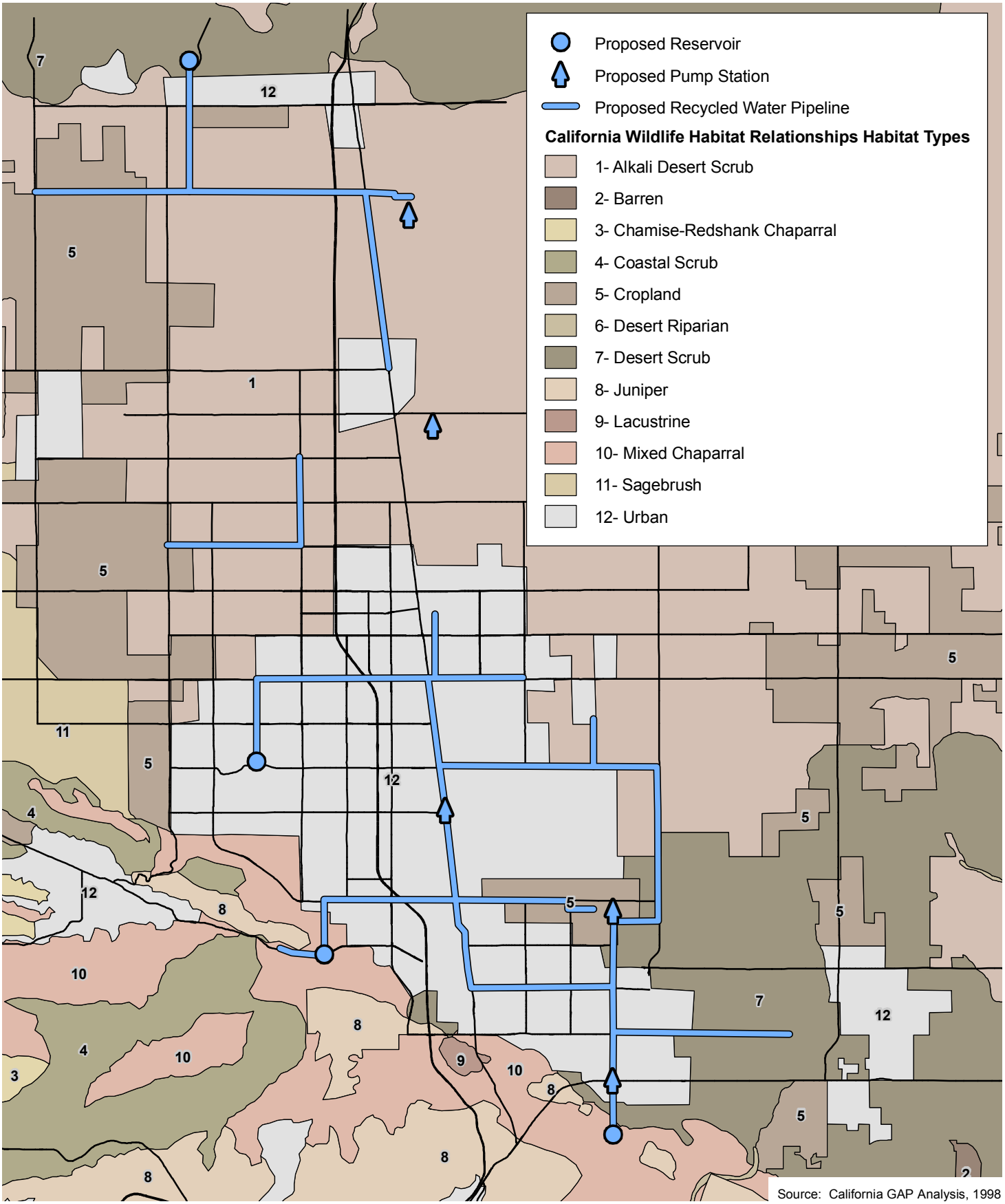
This section describes the biological resources that generally occur or potentially occur in the proposed project study area. Vegetation types, wildlife populations and movement patterns, special status vegetation types, and special status plant and wildlife species, either known to occur or potentially occurring in the proposed project study area, are discussed below.

3.1 VEGETATION AND WILDLIFE

3.1.1 Vegetation

As noted in Exhibit 5, the following California Wildlife Habitat Relationships system general habitat types typically occur in the proposed project area: desert scrub, urban, cropland, alkali desert scrub, and mixed chaparral (CDFG 2002). Vegetation types observed within the proposed project area during the field surveys included several desert scrub habitats that mix and blend together throughout the study area: creosote bush scrub, Joshua tree woodland, rabbitbrush scrub, saltbush scrub, and California juniper scrub. Other vegetation types present included alkali meadow and grassland. Ruderal, agricultural, ornamental, disturbed, and developed areas were also present. A brief description of each of type area is found below.

Creosote bush scrub was dominated by creosote bush (*Larrea tridentata*); other common species included Mormon tea (*Ephedra nevadensis*), burrobrush cheesebush (*Hymenoclea salsola*), California buckwheat (*Eriogonum fasciculatum*), and great basin sagebrush (*Artemisia tridentata*). Joshua tree woodland was dominated by Joshua tree (*Yucca brevifolia*); other common species included California juniper (*Juniperus californica*) and Mormon tea. Rabbitbrush scrub was dominated by rubber rabbitbrush (*Chrysothamnus nauseosus*); other common species included fourwing saltbush (*Atriplex canescens*), burrobrush cheesebush, great basin sagebrush, Mormon tea, and California buckwheat. Saltbush scrub was dominated by shadscale (*Atriplex confertifolia*), allscale (*Atriplex polycarpa*), and fourwing saltbush; other common species included great basin sagebrush. California juniper scrub was dominated by California juniper; other common species included Our Lord's candle (*Yucca whipplei*), antelope bush (*Purshia tridentata*), interior goldenbush (*Ericameria linearifolia*), creosote bush, Mormon tea, and California buckwheat.



Source: California GAP Analysis, 1998

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Regional Habitat Types

Exhibit 5

County of LA, WaterWorks Dist No 40 RFP for RWMP EIR

N W E S

3 1.5 0 3 Miles

BonTerra CONSULTING

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Ruderal areas have been impacted by past mechanical soil disturbance and were dominated by weedy native and non-native species, including tumbleweed (*Amaranthus albus*), annual bursage (*Ambrosia acanthicarpa*), long-beaked filaree (*Erodium botrys*), jimson weed (*Datura wrightii*), and brome grass (*Bromus* sp.). Agricultural fields either contained row crops or bare soil with irrigation systems in place. Ornamental areas have been landscaped with non-native species such as tamarisk (*Tamarix aphylla*), ornamental pine (*Pinus* sp.), sweetgum (*Liquidambar styraciflua*), and assorted hedges, turf grasses, and decorative flowerbeds. Disturbed areas have been recently impacted by mechanical soil disturbance and were generally devoid of any vegetation. Developed areas included rural residences and paved roadways, bicycle trails, and sidewalks.

Desert scrub vegetation types and the other areas mentioned above occurred along the proposed recycled water pipeline alignments. Storage Reservoir 1 is located within a private gated community and was therefore inaccessible; however, it appeared to contain saltbush scrub with some Joshua trees, along with ornamental and developed areas. Storage Reservoir 2 includes the Amargosa Creek riparian drainage that was generally devoid of vegetation and filled with sediment; the drainage was surrounded mainly by rabbitbrush scrub, with some Joshua trees present. Storage Reservoir 3 contained California juniper scrub and was recovering from recent wildfire. Storage Reservoir 4 contained creosote bush and saltbush scrubs.

Distribution Pump Station 1 contained saltbush scrub and an alkali meadow vegetation type with muddy clay soils and ponded water that was dominated by salt grass (*Distichlis spicata*); other common species included shadscale and rubber rabbitbrush. Distribution Pump Station 2 included the developed Palmdale Water Reclamation Plant with its open oxidation ponds, a grassland area dominated by barley (*Hordeum* sp.), and disturbed areas. This pump stations also included an inaccessible airport property that appeared to contain rabbitbrush scrub, either mowed grasslands or ruderal areas, and a small agricultural area.

Booster Pump Station 1 contained the developed Lockheed Martin complex and Joshua tree woodlands east of Sierra Highway, and rabbitbrush and creosote bush scrubs west of Sierra Highway. Booster Pump Station 2 is located at the intersection of 40th Street East and Pearblossom Highway; the northwest corner parcels contained ornamental and disturbed areas, with a small debris basin ringed with rabbitbrush scrub; the northeast corner parcels contained disturbed areas and rabbitbrush scrub with some Joshua trees; and, the southwest corner parcels contained disturbed areas and rabbitbrush scrub.

3.1.2 Wildlife

Wildlife habitats of the proposed project study area vary from low quality to high quality. High quality habitats are present where native habitat types are undisturbed and have connectivity to other open spaces areas. Native habitat types within the proposed project study area include chaparral habitats associated with the foothills of the San Gabriel Mountains located in the vicinity of Palmdale and desert scrub habitats (e.g., creosote bush scrub, Joshua tree woodland, rabbitbrush scrub, saltbush scrub, and California juniper scrub) of the valley floor that dominates northward of Palmdale. In addition, some riparian habitats of Amargosa Creek, especially west of Palmdale, provide high quality native habitats for wildlife. Non-native habitats generally provide low quality wildlife habitat; however, agricultural areas can provide high quality habitat for certain wildlife species (i.e., raptor foraging habitat discussed below). Note that the following discussions are limited to common or widespread wildlife species and does not include those considered to be special status species (see Section 3.3.4).

Amphibians

Amphibians require moisture for at least a portion of their life cycle and many require standing or flowing water for reproduction. Although most of the study area is dry for much of the year, a number of amphibian species occur or are expected to occur. These species are able to survive in dry areas by remaining beneath the soil in burrows or under logs or leaf litter, emerging only when temperatures are low and humidity is high. Many of these species habitats are associated with water, and they emerge to breed once the rainy season begins. Soil moisture conditions can remain high throughout the year within some habitat types, depending on factors such as amount of vegetation cover, elevation, and slope aspect.

The valley floor from Palmdale northwards is expected to support a limited community of amphibians due to the general lack of water, but the chaparral habitats in the vicinity of Palmdale, and especially Amargosa Creek, are expected to support a more diverse assemblage of amphibian species. Desert scrub habitats on the valley floor from Palmdale northward may provide suitable habitat for red-spotted toad (*Bufo punctatus*). Amphibian species that may occur in the chaparral habitats in the vicinity of Palmdale include the western toad (*Bufo boreas*), black-bellied salamander (*Batrachoseps nigriventris*), and California (*Pseudacris [Hyla] cadaverina*) and Pacific (*Pseudacris [Hyla] regilla*) treefrogs. The introduced bullfrog (*Rana catesbeiana*) is also expected to occur throughout the proposed project study area wherever permanent or even semi-permanent surface water occurs.

Reptiles

Reptilian diversity and abundance typically varies with vegetation type and substrate characteristics. Many species occur in only one or two vegetation types; however, most will forage in a variety of habitats. Most species occurring in open areas use rodent burrows for cover and protection from predators and extreme weather conditions.

The desert scrub habitats of the valley floor of Palmdale northward provide potential habitat for a wide variety of lizards and snakes. The following lizard Lizards that may occur in these habitats of the proposed project study area include banded gecko (*Coleonyx variegatus*), desert iguana (*Dipsosaurus dorsalis*), common chuckwalla (*Sauromalus obesus*), Great Basin collared lizard (*Crotaphytus bicinctores*), long-nosed leopard lizard (*Gambelia wislizenii*), zebra-tailed lizard (*Callisaurus craconoides*), desert spiny lizard (*Sceloporus magister*), side-blotched lizard (*Uta stansburiana*), long-tailed brush lizard (*Urosaurus graciosus*), desert horned lizard (*Phrynosoma platyrhinos*), yucca night lizard (*Xantusia vigilis*), and western whiptail (*Cnemidophorus tigris*). Snake species that may occur include western blind snake (*Leptotyphlops humilis*), rosy boa (*Charina trivirgata*), spotted leaf-nosed snake (*Phyllorhynchus decurtatus*), coachwhip (*Masticophis flagellum*), western patch-nosed snake (*Salvadora hexalepis*), glossy snake (*Arizona elegans*), gopher snake (*Pituophis melanoleucus*), common kingsnake (*Lampropeltis getulus*), long-nosed snake (*Rhinocheilus lecontei*), western shovel-nosed snake (*Chionactis occipitalis*), night snake (*Hypsiglena torquata*), speckled rattlesnake (*Crotalus mitchelli*), Mojave rattlesnake (*Crotalus scutulatus*), and sidewinder (*Crotalus cerastes*).

The variety of lizard and snake species that inhabit the foothills of the San Gabriel Mountains near Palmdale are expected to differ from those found on the valley floor northward, though several species are expected to occur in both areas. Lizards that may occur in the chaparral habitats in the vicinity of Palmdale include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard, western skink (*Eumeces skiltonianus*), Gilbert s skink (*Eumeces gilberti*), and southern alligator lizard (*Elgaria multicarinata*). Snakes that may occur include ring-necked snake (*Diadophis punctatus*), western yellow-bellied racer (*Coluber constrictor*), coachwhip, California whipsnake (*Masticophis lateralis*), glossy snake, gopher snake, common kingsnake, long-nosed snake, black-

headed snake (*Tantilla planiceps*), lyre snake (*Trimorphodon bisculatus*), night snake, and western rattlesnake (*Crotalis oreganus*).

Birds

A variety of bird species are expected to be residents in the proposed project study area, using the habitats throughout the year. Other species are present only during certain seasons. For example, the yellow-rumped warbler (*Dendroica coronata*) and white-crowned sparrow (*Zonotrichia leucophrys*) are common in the proposed project study area during the winter season and then migrate north in spring to breed north of region during the summer season.

Birds expected to be resident of the desert scrub habitats on the valley floor of the proposed project study area from Palmdale northward include California quail (*Callipepla californica*), greater roadrunner (*Geococcyx californianus*), ladder-backed woodpecker (*Picoides scalaris*), common raven (*Corvus corax*), verdin (*Auriparus flaviceps*), cactus wren (*Campylorhynchus brunneicapillus*), rock wren (*Salpinctes obsoletus*), and bewick s wren (*Thryomanes bewickii*). For the spring summer breeding season, resident birds are joined by migratory species that arrive in spring and depart southward in fall. Migratory species expected to breed in the desert scrub habitats of the proposed project study area include lesser nighthawk (*Chordeiles acutipennis*), Costa s hummingbird (*Calypte costae*), ash-throated flycatcher (*Myiarchus cinerascens*), sage sparrow (*Amphispiza belli*), black-throated sparrow (*Amphispiza bilineata*), and Scott s oriole (*Icterus parisorum*).

The variety of resident bird species that inhabit the foothills of the San Gabriel Mountains near Palmdale are expected to differ from those found on the valley floor northward, though several species are expected to occur in both areas of the proposed project study area. Birds expected to be resident along Amargosa Creek or the chaparral habitats in the vicinity of Palmdale include the California quail, Nuttall s woodpecker (*Picoides pubescens*), western scrub jay (*Aphelocoma californica*), common raven, bushtit (*Psaltriparus minimus)*, Bewick s wren, California thrasher (*Toxostoma redivivum*), California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculates*), and lesser goldfinch (*Carduelis psaltria*). Migratory species expected to breed in this portion of the proposed project study area include Black-chinned hummingbird (*Archilochus alexandri*), Costa s hummingbird, ash-throated flycatcher, black-chinned sparrow (*Spizella atrogularis*), and black-headed grosbeak (*Pheuticus melanocephalus*).

The non-native habitats of the proposed project study area include agricultural habitats that can provide high quality habitat for birds at all seasons. Depending on the stage of crop rotation, agricultural fields often provide an abundance of foraging opportunities for birds of prey (raptors). Prey for raptors can include mammals, birds, reptiles, and insects. The red-tailed hawk (*Buteo jamaicensis*) is a common year-round resident in the Antelope Valley that forages primarily on mammals. Another common year-round resident is the American kestrel (*Falco sparverius*), a small species of falcon, that forages on a variety of small prey from mammals to birds to reptiles, but will also take insects such as dragonflies. The agricultural fields during the winter season often support large flocks of wintering birds such as the horned lark (*Eremophila alpestris*), mountain bluebird (*Sialia currucoides*), American pipit (*Anthus rubescens*), red-winged blackbird (*Agelaius phoeniceus*), and western meadowlarks (*Sturnella neglecta*). These species can form large wintering flocks on agricultural fields and provide abundant prey for those raptors, particularly the larger falcon species that specialize in capturing birds. The Antelope Valley has long been known for supporting a high density and diverse assemblage of raptors during the winter season.

Mammals

The desert scrub habitats of the valley floor of Palmdale northward provide potential habitat for a wide variety of small ground dwelling mammals in this portion of the proposed project study area. Those species that may occur in these habitats of the proposed project study area include Crawford's desert shrew (*Notiosorex crawfordi*), desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), white-tailed antelope squirrel (*Ammospermophilus leucurus*), Botta's pocket gopher (*Thomomys bottae*), little pocket mouse (*Perognathus longimembris*), long-tailed pocket mouse (*Chaetodipus formosus*), desert pocket mouse (*Chaetodipus penicillatus*), chisel-toothed kangaroo rat (*Dipodomys microps*), Panamint kangaroo rat (*Dipodomys panamintinus*), Merriam's kangaroo rat (*Dipodomys merriami*), western harvest mouse (*Reithrodontomys megalotis*), cactus mouse (*Peromyscus eremicus*), deer mouse (*Peromyscus maniculatus*), canyon mouse (*Peromyscus crinitus*), and desert woodrat (*Neotoma lepida*).

The variety of small ground dwelling mammals that inhabit the foothills of the San Gabriel Mountains near Palmdale are expected to differ from those found on the valley floor northward, though several species are expected to occur in both areas of the proposed project study area. Species that may occur in the chaparral habitats in the vicinity of Palmdale include ornate shrew (*Sorex ornatus*), desert shrew, broad-footed mole (*Scapanus latimanus*), brush rabbit (*Sylvilagus bachmani*), desert cottontail, Merriam's chipmunk (*Tamias merriami*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher, California pocket mouse (*Chaetodipus californicus*), agile kangaroo rat (*Dipodomys agilis*), western harvest mouse, cactus mouse, California mouse (*Peromyscus californicus*), deer mouse, brush mouse (*Peromyscus boylii*), pinyon mouse (*Peromyscus truei*), desert woodrat, and California vole (*Microtus californicus*).

Bats occur throughout most of southern California and a variety of species are expected to occur within the proposed project study area. Foraging is expected to occur throughout the proposed project study area, but potential roosting sites appear limited and include trees, mines, and buildings. Most of the bats that occur in the proposed project study area are either inactive during the winter (hibernate) or migrate south to warmer climates. Bats expected to forage in the proposed project study area include California myotis (*Myotis californicus*), western pipistrelle (*Pipistrellus hesperus*), big brown bat (*Eptesicus fuscus*), and the Brazilian free-tailed bat (*Tadarida brasiliensis*).

Larger mammals expected to occur within the proposed project study area include the coyote (*Canis* latrans), kit fox (*Vulpes macrotis*), gray fox (*Urocyon cinereoargenieus*), ringtail (*Bassariscus astutus*), raccoon (*Procyon lotor*), long-tailed weasel (*Mjustela frenata*), western spotted skunk (*Spilogale gracilis*), striped skunk (*Mephitis mephitis*), mountain lion (*Felis* concolor), and bobcat (*Felis* rufus), and mule deer (*Odocoileus hemionus*). The kit fox is the only one of these species that is restricted to the desert scrub habitats on the valley floor from Palmdale northward of the proposed project study area. Of the rest, only the coyote and western spotted skunk have the potential to occur throughout the proposed project study area.

3.2 WILDLIFE MOVEMENT

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967; Soule 1987; Harris and Gallagher 1989; Bennett 1990). Corridors mitigate the effects of this fragmentation by: (1) allowing animals to move

between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events, such as fire or disease, will result in population or local species extinction; and (3) serving as travel routes for individual animals as they move in their home ranges in search of food, water, mates, and other necessary resources (Noss 1983; Farhig and Merriam 1985; Simberloff and Cox 1987; Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas or individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (e.g., foraging for food or water, defending territories, or searching for mates, breeding areas, or cover). A number of terms such as "wildlife corridor", "travel route", "habitat linkage", and "wildlife crossing" have been used in various wildlife movement studies to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this analysis, these terms are defined as follows:

- *Travel route* a landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and to provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It contains adequate food, water, and or cover while moving between habitat areas and provides a relatively direct link between target habitat areas.

- *Wildlife corridor* a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors, often referred to as "habitat or landscape linkages," can provide both transitory and resident habitat for a variety of species.

- *Wildlife crossing* a small, narrow area, relatively short in length and generally constricted in nature that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These often represent "choke points" along a movement corridor, which may impede wildlife movement and increase the risk of predation.

It is important to note that in a large open space area in which there are few or no man-made or naturally occurring physical constraints to wildlife movement, wildlife corridors as defined above may not yet exist. Given an open space area that is both large enough to maintain viable populations of species and provide a variety of travel routes (e.g., canyons, ridgelines, trails, riverbeds, and others), wildlife will use these "local" routes while searching for food, water, shelter, and mates and will not need to cross into other large open space areas. Based on their size, location, vegetative composition, and availability of food, some of these movement areas (e.g., large drainages and canyons) are used for longer lengths of time and serve as source areas for food, water, and cover, particularly for small- and medium-sized animals. This is especially true if the travel route is within a larger open space area. However, once open space areas become constrained and or fragmented as a result of urban development or construction of physical obstacles such as roads and highways, the remaining landscape features or travel routes that connect the larger open space areas become corridors as long as they provide adequate space,

cover, food, and water, and do not contain obstacles or distractions (e.g., man-made noise, lighting) that would generally hinder wildlife movement.

Open space areas within the proposed project study area are highly fragmented by existing development. Prominent features that are expected to convey wildlife movement include the drainages, in particular Amargosa Creek and Little Rock Wash. Amargosa Creek follows the San Andreas Rift Zone to Palmdale where it turns to the north, essentially following State Highway 14, before draining into the Piute Ponds near Rosamond Lake. Amargosa Creek is severely fragmented by existing development in the Cities of Lancaster and Palmdale and not expected to support regional wildlife movement. Little Rock wash also moves north from the San Gabriel Mountains onto the Antelope Valley floor before draining into the Rosamond dry lake bed. Little Rock Wash is expected to support some regional wildlife movement as it is generally east of the Cities of Lancaster and Palmdale; however, the components of the proposed project fall outside of Little Rock Wash. In addition, the foothills of the San Gabriel Mountains are expected to support regional wildlife movement east and west and generally to the south of the proposed project components.

3.3 SPECIAL STATUS BIOLOGICAL RESOURCES

The following section addresses special status biological resources observed, reported, or that have the potential to occur in the project study areas. These resources include plant and wildlife species that have been afforded special status and or recognition by federal and state resource agencies, as well as private conservation organizations. In general, the principal reason an individual taxon (i.e., species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitations of its population size, geographic range, and or distribution resulting in most cases from habitat loss. Tables 2 and 3 provide a summary of each special status plant and wildlife species known to occur in the project region including information on the status, likelihood for occurrence within the study area, and definitions for the various status designations. In addition, special status biological resources include vegetation types and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. These resources have been defined by federal, state, and local government conservation programs. Sources used to determine the special status of biological resources are as follows:

- California Native Plant Society s (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California record search for USGS 7.5-minute topographic quadrangle maps: Soledad Mountain, Bissell, Rosamond, Rosamond Lake, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale (CNPS 2008);

- Wildlife California Wildlife Habitat Relationships Database System; CNDDB (CDFG 2008); various Federal Register notices from the USFWS regarding listing status of wildlife species; and List of Special Animals (CDFG 2008b).

3.3.1 <u>Definitions of Special Status Biological Resources</u>

A federally listed Endangered species is one facing extinction throughout all, or a significant portion of, its geographic range. A federally listed Threatened species is one likely to become endangered within the foreseeable future throughout all or a significant portion of its range. The presence of any federally listed Threatened or Endangered species on a project site generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct. Harm in this sense can include any disturbance to habitats used by the species during any portion of its life history.

Proposed species are those officially proposed by the USFWS for addition to the federal Threatened and Endangered species lists. Because proposed species may soon be listed as Threatened or Endangered, these species could become listed prior to or during implementation of a proposed development project.

The State of California considers an Endangered species as one whose prospects of survival and reproduction are in immediate jeopardy, a Threatened species as one present in such small numbers throughout its range that it is likely to become an Endangered species in the near future in the absence of special protection or management, and a Rare species as one present in such small numbers throughout its range that it may become Endangered if its present environment worsens. The Rare species designation applies only to California native plants. State-listed Threatened and Endangered species are fully protected against take unless an incidental take permit is obtained from CDFG.

A California Species of Special Concern is an informal designation used by the CDFG for some declining wildlife species that are not State candidates. This designation does not provide legal protection but signifies that these species are recognized as special status by the CDFG.

Species that are California Fully Protected include those protected by special legislation for various reasons, such as the mountain lion and white-tailed kite. Fully Protected species may not be taken or possessed at any time.

A species that is considered a Special Animal is one that is tracked by the CNDDB. Species of Local Concern are those that have no official status with the resource agencies, but are being watched because either there is a unique population in the region, or the species is declining in the region.

The CNPS is a resource conservation organization that has developed an inventory of California's special status plant species (CNPS 2008). This inventory is the summary of information on the distribution, rarity, and endangerment of California's vascular plants. This rare plant inventory is comprised of four lists. CNPS presumes that List 1A plant species are extinct in California because they have not been seen in the wild for many years. CNPS considers List 1B plants as rare, threatened, or endangered throughout their range. List 2 plant species are considered rare, threatened, or endangered in California but more common in other states. Plant species for which CNPS needs additional information are included on List 3. List 4 plant species are those of limited distribution in California whose susceptibility to threat appears low at this time.

3.3.2 Special Status Vegetation Types

In addition to providing an inventory of special status plant and wildlife species, the CNDDB also provides an inventory of vegetation types that are considered special status by CDFG. Other habitats considered special status by local, state, and federal resource agencies are typically protected by ordinance, code, or regulation under which conformance typically requires a permit or other discretionary action prior to impacting the habitat. Also, all wetland and riparian vegetation types are also considered special status because the California Fish and Game Code, Section 1600, protects and conserves fish and wildlife resources by regulating substantial changes of the bed, channel, or bank of any river, stream, or lake; these areas are discussed below under Jurisdictional Resources. Special status vegetation types within the study area are considered a high priority for preservation.

Joshua tree woodlands, which occur in scattered locations throughout the proposed project area, are considered rare and worthy of consideration by CNDDB according to CDFG (2003). Further, portions of the proposed project located within the City of Palmdale are under the jurisdiction of the

Palmdale Native Desert Vegetation Ordinance, which applies to all public and private property which contains Joshua trees or other desert vegetation including California juniper (Palmdale, City of, 1992). For development in these areas, a proposal application would be necessary, including a desert vegetation preservation plan which depicts the location of each Joshua tree and California juniper, details tree age and health, and describes which can be saved and maintained on the site or relocated. A permit must be obtained from the City's landscape architect prior to removal of protected vegetation.

Joshua tree and California juniper locations within the proposed project area that occur within the City of Palmdale include roughly the southern half of the proposed pipeline alignments. In addition, the Storage Reservoir 2 area contains some Joshua trees and California junipers, and the proposed Storage Reservoir 3 parcels are completely covered with California juniper scrub. Booster Pump Station 1 contains undeveloped parcels east of Sierra Highway that are completely covered with Joshua tree woodlands, and some Joshua trees also occur on the parcels west of the Sierra Highway, Finally, Booster Pump Station 2 contains a few Joshua trees located within the rabbitbrush scrub habitat.

3.3.3 Special Status Plants

Eleven (11) special status plant species are known to occur in the proposed project region (e.g., the Soledad Mountain, Bissell, Rosamond, Rosamond Lake, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale USGS quadrangle maps). These plants and their potential to occur within the vicinity of the proposed project are listed in Table 2.

3.3.4 Special Status Wildlife

A total of 35 special-status wildlife species are known to occur or potentially occur in the proposed project study area. A list of these species as well as the potential for their occurrence within the proposed project study area is provided in Table 3.

TABLE 1
SPECIAL STATUS PLANTS POTENTIALLY OCCURRING IN THE STUDY AREA

Scientific Name /Common Name	Regulatory Status (Federal/State/CNPS)	Habitat and Regional Occurrence	Potential for Occurrence in Vicinity of Proposed Project
Astragalus preussii var. *laxiflorus* Lancaster milk-vetch	-/-/List 1B.1	Found on alkaline flats in the southwest Mojave Desert (Munz 1974). Collected in 1991 and 1992 in project vicinity at southern portion of Edwards Air Force Base (UCJEPS 2008).	May occur; suitable habitat is present, especially at Distribution Pump Station 1.
Calochortus striatus alkali mariposa lily	-/-/List 1B.2	Found at moist alkali places in desert habitats (Twisselmann 1995). Many occurrences documented during and after the 1980s in Lancaster, Rosamond Lake area, etc, often in desert scrubs along roads and railroad tracks in project vicinity (CDFG 2008).	May occur; suitable habitat is present throughout project area.
Canbya candida white pygmy-poppy	-/-/List 4.2	Found on sandy soils (Twisselmann 1995) in creosote bush scrub and Joshua tree woodland in western Mojave Desert (Munz 1974). Reported in 1965 in Joshua tree woodland/saltbush scrub near Buckhorn Lake, Edwards Air Force Base (CDFG 2008).	May occur; suitable habitat is present throughout project area.
Carex vulpinoidea fox sedge	-/-/List 2.2	Found in marshes, swamps, and riparian woodlands (CNPS 2008). Historical occurrence from 1902 near Lancaster (CDFG 2008).	Not expected to occur; no suitable habitat present.
Chorizanthe parryi var. *parryi* Parry's spineflower	-/-/List 3.2	Found in dry sandy places, mostly in coastal sage scrub (Munz 1974); associated with openings in chaparral and coastal scrub (CNPS 2008). Historical occurrence from 1896 near Lancaster (CDFG 2008).	Not expected to occur; no suitable habitat present.
Cymopterus deserticola desert cymopterus	-/-/List 1B.2	Found in creosote bush scrub and Joshua tree woodland in Mojave Desert (Munz 1974). Collected in 1950s in Kramer area to northeast of project vicinity and in 1970s in Boron area and northern portion of Edwards Air Force Base (UCJEPS 2008).	May occur; suitable habitat is present throughout project area.
Eriophyllum mohavense Barstow woolly sunflower	-/-/List 1B.2	Found in sandy or rocky places in creosote bush scrub (Munz 1974). Reported in 1995 in saltbush scrub near Buckhorn Lake, Edwards Air Force Base (CDFG 2008).	May occur; suitable habitat is present throughout project area.
Eschscholzia minutiflora ssp. *twisselmannii* Red Rock poppy	-/-/List 1B.2	Found on desert washes, flats, and slopes in western Mojave Desert (Hickman 1993). Reported in 1977 in project vicinity in creosote/saltbush scrub, Edwards Air Force Base (CDFG 2008).	May occur; suitable habitat is present throughout project area.
Layia heterotricha pale-yellow layia	-/-/List 1B.1	Restricted to clay, usually the highly local beds of ultra-fine friable dry bog clay in the mountains (Twisselmann 1995). Historical occurrence from 1895 near Lancaster (CDFG 2008).	Not expected to occur; no suitable habitat present.

TABLE 1 (Continued)
SPECIAL STATUS PLANTS POTENTIALLY OCCURRING IN THE STUDY AREA

Scientific Name /Common Name	Regulatory Status (Federal/State/CNPS)	Habitat and Regional Occurrence	Potential for Occurrence in Vicinity of Proposed Project
Loeflingia squarrosa var. *artemisiarum* sagebrush loeflingia	-□□List 2.2	Sand dunes and sandy flats in Mojave Desert (Hickman 1993). Reported in 2005 in southeast corner of proposed project area, in gravel quarry north of Pearblossom Highway (CDFG 2008).	May occur; suitable habitat is present throughout project area.
Opuntia basilaris var. *brachyclada* short-joint beavertail	-□□List 1B.2	Dry slopes in Joshua tree woodlands on desert slopes of San Gabriel Mountains (Munz 1974). Reported in 1989 in southeast corner of proposed project area near Pearblossom Highway and in multiple locations in southwest corner of proposed project area near Elizabeth Lake Road, west of Palmdale (CDFG 2008).	May occur; suitable habitat is present throughout project area.

LEGEND

Federal (USFWS)		**State (CDFG)**	
FE	Endangered	SE	Endangered
FT	Threatened	ST	Threatened
FC	Candidate	SR	Rare

California Native Plant Society (CNPS) List Categories

List 1A Plants Presumed Extinct in California
List 1B Plants Rare, Threatened, or Endangered in California and Elsewhere
List 2 Plants Rare, Threatened, or Endangered in California But More Common Elsewhere
List 3 Plants About Which We Need More Information □A Review List
List 4 Plants of Limited Distribution – A Watch List

California Native Plant Society (CNPS) Threat Code Extensions

None Plants lacking any threat information
.1 Seriously Endangered in California (over 80□ of occurrences threatened; high degree and immediacy of threat)
.2 Fairly Endangered in California (20□80□ of occurrences threatened)
.3 Not very Endangered in California (less than 20□ of occurrences threatened or no current threats known)

TABLE 2
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Species	Status		Occurrence within study area	Potential for Occurrence in Proposed Project
	USFWS	CDFG		
Amphibians				
Bufo californicus arroyo toad	FE	SSC	Known to occur just outside study area within Little Rock Creek drainage; Critical Habitat upstream of Little Rock Reservoir.	Not expected to occur within vicinity of Proposed Project.
Rana aurora draytonii California red-legged frog.	FT	SSC	Known to occur in Amargosa Creek drainage; Critical Habitat near west end of pipeline alignment on Elizabeth Lake Road.	May occur in Amargosa Creek drainage segment of Proposed Project.
Rana muscosa mountain yellow-legged frog.	FE	SSC	Historical records in upper Little Rock Creek drainage just outside study area.	Not expected to occur within vicinity of Proposed Project.
Reptiles				
Actinemys marmorata pallida southwestern pond turtle		SSC	Amargosa and Little Rock Creeks provide potentially suitable habitat and within known range of species.	May occur in Amargosa Creek drainage segment of Proposed Project.
Gopherus agassizii Desert tortoise	FT	CT	Native habitats of study area provide potentially suitable habitat and within known range of species.	Not expected to occur within vicinity of Proposed Project due to disturbance and fragmentation of native habitats.
Phrynosoma coronatum [*blainvillii* population] coast [San Diego] horned lizard		SSC	Native habitats at base of San Gabriel Mountains provide potentially suitable habitat and within known range of species.	May occur within vicinity of Proposed Project components at base of San Gabriel Mountains.
Uma scoparia Mojave fringe-toed lizard		SSC	Native habitats with wind-blown sand (e.g. Little Rock Wash and Rosamond Lake) provide potentially suitable habitat and within known range of species.	Not expected to occur within vicinity of Proposed Project due to lack of suitable habitat.
Anniella pulchra pulchra Silvery legless lizard		SSC	Native habitats at base of San Gabriel Mountains provide potentially suitable habitat and within known range of species.	May occur within vicinity of Proposed Project components at base of San Gabriel Mountains.
Salvadora hexalepis virgultea coast patch-nosed snake		SSC	Native habitats at base of San Gabriel Mountains provide potentially suitable habitat and within known range of species.	May occur within vicinity of Proposed Project components at base of San Gabriel Mountains.
Thamnophis hammondii Two-striped garter snake		SSC	Amargosa and Little Rock Creeks provide potentially suitable habitat and within known range of species.	May occur within Amargosa Creek drainage segment of Proposed Project.

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Species	Status		Occurrence within study area	Potential for Occurrence in Proposed Project
	USFWS	CDFG		
Birds				
Pelecanus erythrorhynchos American white pelican	□	SSC[1]	Known to occur during migration (rare in winter) in study are; requires open bodies of water for foraging; does not nest in region.	May occur for foraging within vicinity of Proposed Project where open bodies of water exist; not expected to nest within vicinity of Proposed Project.
Phalacrocorax auritus Double-crested cormorant	□	SSC[1]	Known to occur during migration and winter; requires open bodies of water for foraging; nests in region in vicinity of relatively large bodies of water, but not known to nest within study area.	May occur for foraging within vicinity of Proposed Project where open bodies of water exist; not expected to nest in vicinity of Proposed Project.
Ixobrychus exilis Least bittern	□	SSC[1]	Secretive species that is expected to be a rare visitor to study area; requires marsh habitats for foraging and nesting.	Not expected to occur within vicinity of Proposed Project due to lack of marsh habitats within vicinity of Proposed Project.
Plegadis chihi White-faced ibis	□	SSC[1]	Known to occur in marsh habitats of study area; known rookery at Piute Ponds.	May occur for foraging within vicinity of Proposed Project where open bodies of water exist; not expected to nest due to lack of marsh habitats within vicinity of Proposed Project.
Accipiter cooperii Cooper's hawk	□	SSC[1]	Known to occur year-round within study area; requires groves of trees for nesting.	Expected to occur within vicinity of Proposed Project during migration and winter; expected to be rare in summer but may nest within vicinity of Proposed Project where groves of trees exist.
Accipiter striatus Sharp-shinned hawk	□	SSC[1]	Known to occur in migration and winter within study area; does not nest within study area.	Expected to occur within vicinity of Proposed Project during migration and winter; not expected to nest in vicinity of Proposed Project.
Aquila chrysaetos golden eagle	□	SSC[3]	Known to occur for foraging throughout open spaces (native and non-native habitats) of study area; requires mountainous topography for nesting.	Expected to occur within vicinity of Proposed Project year-round; low potential to nest in foothill areas within vicinity of Proposed Project.
Buteo regalisl Ferruginous hawk	□	SSC[2]	Known to occur for foraging throughout open spaces (native and non-native habitats) of study area during migration and winter; nests to north of the region.	Expected to occur within vicinity of Proposed Project during migration and winter; not expected to nest within vicinity of Proposed Project.
Buteo swainsoni Swainson's hawk	□	ST[1]	Known to occur during migration within study area as rare migrant; requires groves of trees for nesting; rare nester within study area.	May occur within vicinity of Proposed Project during migration; may nest within vicinity of Proposed Project where groves of trees are present.

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Species	Status		Occurrence within study area	Potential for Occurrence in Proposed Project
	USFWS	CDFG		
Circus cyaneus Northern harrier	□	SSC[1]	Known to occur throughout open spaces (native and non-native habitats) of study area year-round; rare in summer; marsh habitats within study area provide potentially suitable nesting habitat (i.e. Piute Ponds).	Expected to occur within vicinity of Proposed Project during migration and winter; may occur in summer; low potential to nest in vicinity of Proposed Project within habitats other than marsh habitats (i.e. dense ruderal fields).
Elanus leucurus White-tailed kite	□	FP[1]	Known to occur throughout open spaces (native and non-native habitats) of the study area year-round; requires groves of trees near agricultural areas for nesting.	Expected to occur year-round in vicinity of Proposed Project; may nest where groves of trees are present near agricultural areas in vicinity of Proposed Project.
Falco columbarius merlin	□	SSC[2]	Known to occur for foraging throughout open spaces (native and non-native habitats) of study area during migration and winter; nests to north of the region.	Expected to occur within vicinity of Proposed Project during migration and winter; not expected to nest within vicinity of Proposed Project.
Falco mexicanus Prairie falcon	□	SSC[1]	Known to occur for foraging throughout open spaces (native and non-native habitats) of study area; requires mountainous topography for nesting.	Expected to occur within vicinity of Proposed Project year-round; low potential nest in foothill areas in vicinity of Proposed Project.
Falco peregrinus anatum American peregrine falcon	Delisted	SE[1]	Known to occur primarily as rare migrant to open spaces (native and non-native habitats) of study area; marsh habitats provide most suitable foraging habitat for this species within study area; requires cliffs or tall buildings (i.e., inaccessible ledges) for nesting.	Expected to occur within vicinity of Proposed Project as rare migrant; not expected to nest within vicinity of Proposed Project.
Charadrius alexandrinus nivosus Western snowy plover	FT□	SSC[1]	Known to occur during migration and summer (rare in winter) within study area; requires dry lake beds or ponds with sufficient edge for nesting (e.g. Lancaster sewage ponds, Piute Ponds, Rosamond Lake).	Expected to occur at ponds (e.g. Lancaster sewage ponds) within vicinity of Proposed Project; may nest at ponds (e.g. Lancaster sewage ponds) within vicinity of Proposed Project.
Charadrius montanus Mountain plover	□	SSC[2]	Known to occur on agricultural fields during migration and winter within study area; nests north of the region.	Expected to occur on agricultural fields within vicinity of Proposed Project; not expected to nest within vicinity of Proposed Project.
Numenius americanus Long-billed curlew	□	SSC[1]	Known to occur on agricultural fields during migration and winter within study area; nests north of the region.	Expected to occur on agricultural fields within vicinity of Proposed Project; not expected to nest within vicinity of Proposed Project.
Chlidonias niger Black tern	□	SSC[1]	Known to occur during migration within study area; requires open bodies of water for foraging; nests north of the region.	Expected to occur within vicinity of Proposed Project where bodies of water are present; not expected to nest within vicinity of Proposed Project.

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Species	Status		Occurrence within study area	Potential for Occurrence in Proposed Project
	USFWS	CDFG		
Larus californicus California gull	□	SSC[1]	Known to occur during migration and winter within study area; requires open bodies of water for foraging; nests north of the region.	Observed during survey; not expected to nest within vicinity of Proposed Project.
Asio flammeus short-eared owl	□	SSC[1]	Known to occur during migration and winter within study area; marsh habitats within study area provide potentially suitable nesting habitat (i.e. Piute Ponds).	Expected to occur within vicinity of Proposed Project during migration and winter; not expected to nest within vicinity of Proposed Project due to lack of marsh habitats.
Asio otus long-eared owl	□	SSC[1]	Known to occur year-round within study area; requires groves of trees and adjacent open space habitats for nesting.	May occur within vicinity of Proposed Project year-round; may nest within vicinity of Proposed Project where groves of trees exist.
Athene cunicularia Burrowing owl	□	SSC[3]	Known to occur year-round within study area; requires burrows (usually provided by ground squirrels) in open habitats (e.g. grasslands or agriculture) or even semi-open habitats (e.g. sparse desert scrub) for nesting.	May occur within vicinity of Proposed Project year-round; may nest within vicinity of Proposed Project.
Empidoxax traillii extimus Southwestern willow flycatcher	FE	SE[1,4]	Not known to occur within study area but migratory species with potential to occur for nesting where suitable habitat is present; requires willow riparian habitats for nesting (similar to least Bell□s vireo).	May occur within vicinity of Proposed Project; potentially suitable nesting habitat in the Amargosa Creek drainage segment of Proposed Project.
Lanius ludovicianus Loggerhead shrike	□	SSC[1]	Known to occur year-round within study area; requires combination of open space habitats (both agriculture and native habitats) with trees or shrubs for nesting.	Observed during survey; may nest within vicinity of Proposed Project.
Vireo bellii pusillus Least Bell□s vireo	FE	SE[1]	Known to occur during summer in Amargosa Creek west of Palmdale; requires willow riparian habitats for nesting.	May occur within vicinity of Proposed Project; potentially suitable nesting habitat in the Amargosa Creek drainage segment of Proposed Project.
Vireo vicinior Gray vireo	□	SSC[1]	Know to occur during summer near Valyermo; nesting habitat within study area consists of juniper and scrub habitats at base of San Gabriel Mountains for nesting.	May occur within Proposed Project components at base of San Gabriel Mountains.
Toxostoma lecontei Le Conte□s thrasher	□	SSC	Known to occur year-round within study area; nesting habitat within study area consists of desert scrub especially where Joshua trees are present.	Expected to occur within vicinity of Proposed Project; may nest within vicinity of Proposed Project where valley floor supports native desert scrub habitats.

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Species	Status		Occurrence within study area	Potential for Occurrence in Proposed Project
	USFWS	CDFG		
Dendroica petechia brewsteri western yellow warbler		SSC[1]	Known to occur as common migrant within study area; has potential to nest where suitable habitat is present on north slope of San Gabriel Mountains; requires willow riparian habitats for nesting.	Expected to occur as migrant and may occur for nesting within vicinity of Proposed Project; potentially suitable nesting habitat in the Amargosa Creek drainage segment of Proposed Project.
Icteria virens yellow-breasted chat		SSC[1]	Known to occur as common migrant within study area; has potential to nest where suitable habitat is present on north slope of San Gabriel Mountains; requires willow riparian habitats for nesting.	May occur as migrant and may occur for nesting within vicinity of Proposed Project; potentially suitable nesting habitat in the Amargosa Creek drainage segment of Proposed Project.
Agelaius tricolor tricolored blackbird		SSC	Known to occur as year-round resident within study area; has nested at Piute Ponds; nesting habitat within study area consists of marsh habitats with foraging in adjacent grasslands or agricultural fields.	Expected to occur for foraging within vicinity of Proposed Project in grassland and agricultural fields; not expected to nest within vicinity of Proposed Project due to lack of marsh habitats.
Mammals				
Antrozous pallidus pallid bat		SSC	Potentially suitable foraging and roosting habitat within study area and within known range of species.	May occur within vicinity of Proposed Project for foraging and roosting.
Corynorhinus townsendii Townsend's big-eared bat		SSC	Potentially suitable foraging and roosting habitat within study area and within known range of species.	May occur within vicinity of Proposed Project for foraging and roosting.
Spermophilus mohavensis Mohave ground squirrel		ST	Native habitats provide potentially suitable habitat and study area within known range of species.	May occur within vicinity of Proposed Project where native habitats exist.
Onchomys torridus ramona Southern grasshopper mouse		SSC	Native habitats provide potentially suitable habitat and study area within known range of species.	May occur within vicinity of Proposed Project where native habitats exist.
Taxidea taxus American badger		SSC	Native habitats provide potentially suitable habitat and study area within known range of species.	May occur within vicinity of Proposed Project where native habitats exist.

TABLE 2 (Continued)
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA

Species	Status		Occurrence within study area	Potential for Occurrence in Proposed Project
	USFWS	CDFG		

LEGEND:

Federal (USFWS)		**State (CDFG)**	
FE	Endangered	SE	Endangered
FT	Threatened	ST	Threatened
FC	Candidate	SSC	Species of Special Concern
		FP	Fully Protected

SSC[1] Only breeding activities are tracked by the CNDDB
SSC[2] Only wintering areas habitat is tracked by the CNDDB
SSC[3] Both breeding activities and wintering areas are tracked by the CNDDB
SSC[4] State listing includes all subspecies

T Note that the federal listing as Threatened for the western snowy plover only pertains to that segment of the population that breeds along the Pacific coast.

3.3.5 Jurisdictional Resources

Wetlands and permanent and intermittent drainages, creeks, and streams are generally subject to the jurisdiction of the USACE under Section 404 of the Federal Clean Water Act. By USACE definition, all aquatic or riverine habitats between the ordinary high water mark of rivers, creeks, and streams, are considered waters of the United States and may fall under USACE jurisdiction. If adjacent wetlands occur, the limits of jurisdiction extend beyond the ordinary high water mark to the outer edge of the wetlands. Wetlands are defined by USACE as those areas that are inundated or saturated by surface or groundwater at a frequency or duration to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE 1987). The presence and extent of wetland areas are normally determined by examination of the vegetation, soils, and hydrology of a site. The USACE definition of wetlands requires that all three wetland identification parameters be met.

Recent changes in USACE regulations have excluded isolated waters from requiring permits. Due to the lack of any navigable water ways, Antelope Valley regional offices have not been claiming jurisdiction over drainage features in the region. The current jurisdictional status should be determined through consultation with the USACE prior to project initiation

Streambeds are subject to regulation by the CDFG under Section 1602 of the California Fish and Game Code. A stream is defined under these regulations as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. This definition includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFG jurisdiction typically extends to the edge of the riparian vegetation canopy.

After project designs are finalized and actual impact areas are decided, then exact locations and acreages of jurisdictional features within the impact areas can be determined through a jurisdictional delineation. Features identified during field surveys within the proposed project area that may potentially be jurisdictional include but are not limited to: along the proposed pipeline, located at the southwest corner of Division Road and Milling Street; along the proposed pipeline and at Storage Reservoir 2, Amargosa Creek riparian drainage and debris basin are located on the north side of Elizabeth Lake Road; existing culverts along the proposed pipeline on Rancho Vista Boulevard between 25th Street and 20th Street, on Avenue R east of Sierra Highway, and on 40th Street south of Avenue R; along the proposed pipeline where 40th Street (south of Pearblossom Highway) crosses the California Aqueduct; drainages vegetated with rabbitbrush and saltbush scrub in the two large southern-most parcels being considered for Storage Reservoir 3; alkali meadows at parcels being considered for Distribution Pump Station 1; and, a small existing debris basin next to residential development at a parcel being considered for Booster Pump Station 2. There may also be additional potentially jurisdictional drainage features which would be identified in a delineation survey.

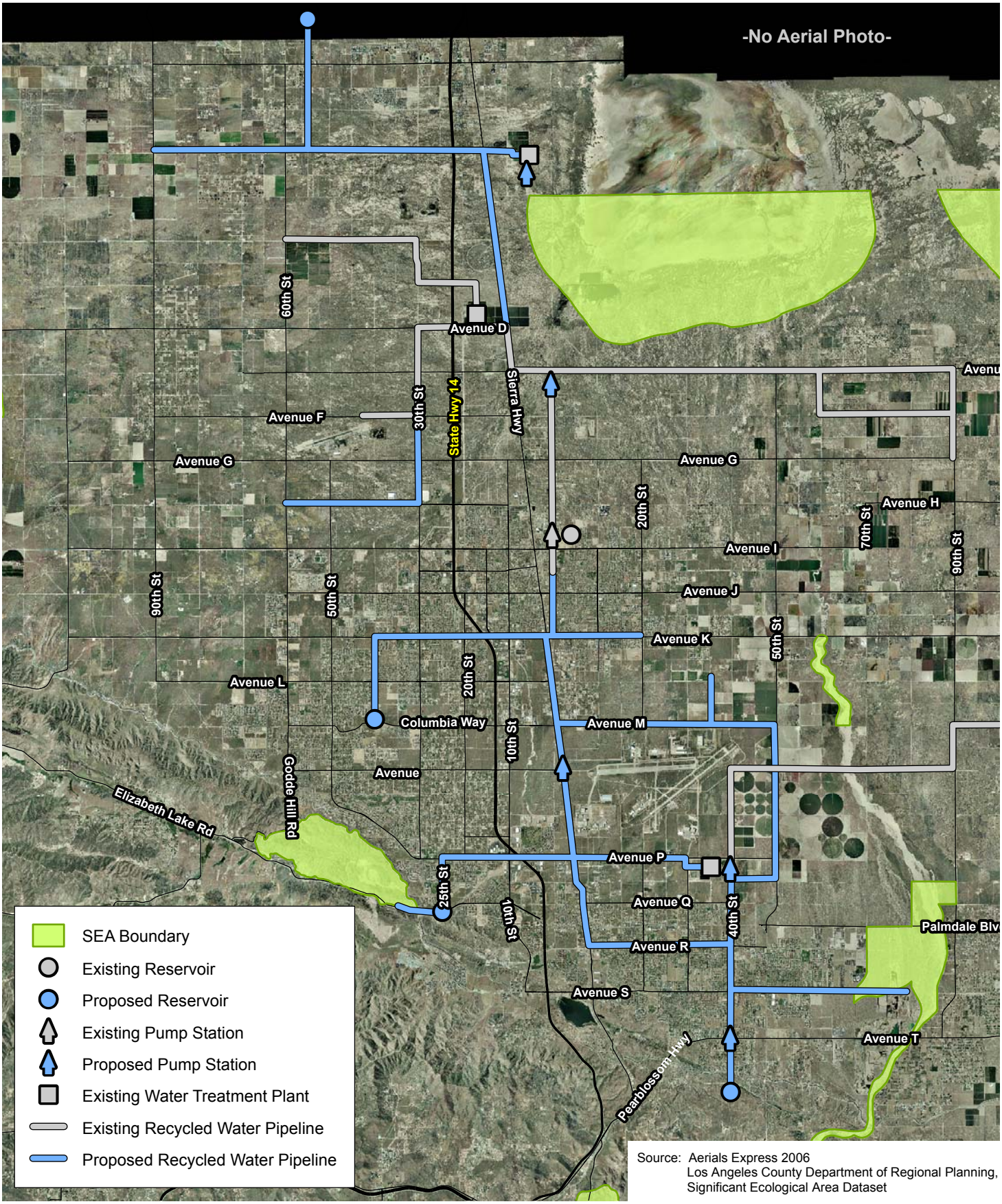
3.3.6 Other Sensitive Biological Resources

Within the proposed project study area, no regional Habitat Conservation Plans or Natural Community Conservation Plans have been adopted. However, some unincorporated portions of the service area are within Los Angeles County Significant Ecological Area (SEA) general plan designations, which indicate the presence of sensitive resources and require county environmental review.

The SEA program was originally adopted in the 1970s (England and Nelson 1976), but now the County of Los Angeles is currently reviewing the SEA program as part of the General Plan Update. Recommendations from the county's consulting biologist include some boundary revisions which

would group smaller SEAs into larger connected SEAs (PCR 2000). The proposed Antelope Valley SEA is in the vicinity and generally to the east of the proposed project study area (Exhibit 6). Although the proposed boundaries cover a considerably larger area, they generally contain the same resources that are present in the existing SEA boundaries. A revised general plan and SEA program is not expected to be adopted late 2008. The following is the description of the revised Antelope Valley SEA (PCR 2000).

Antelope Valley SEA. The proposed Antelope Valley SEA covers 222,325 total acres and encompasses a wide variety of topographic features. The orientation and extent of the proposed SEA recognizes the importance of the Little Rock and Big Rock Creek watershed contributions to the surface and subsurface hydrology of the Antelope Valley, and the desert dry lakes. It also encompasses the remaining undeveloped portions of Lovejoy Butte and all of Alpine, Piute, Black, and Saddleback Buttes. Outside of Los Angeles County jurisdiction, the functional area of the SEA extends into the Angeles National Forest along the southern margin and into Kern County to encompass the remainder of the dry lake playas and their watershed areas. At its southern edge the SEA includes the headwaters and important lower tributary drainages for Little Rock and Big Rock Creeks. This area supports healthy desert montane riparian habitats, typically with willow, cottonwood, and alder (along the creek channels) and open formations of western sycamore (on the alluvial plains). Where the washes approach the dry lakes (particularly Rosamond Dry Lake) sufficient subsurface water once existed supporting dense mesquite bosque formations and formed playa lakes, seasonal pools and sheet flows. While most of these unique features have been lost to land conversion or changes in groundwater levels, some of these formations persist around the margins of the lakes. Piute Ponds, on the southwestern margin of Rosamond Dry Lake, support freshwater marsh and alkali grassland habitat, providing essential wintering areas and resident habitat for waterfowl, wading birds, marshland birds, and a variety of other vertebrate species. The majority of the 222,325 acres proposed for the Antelope Valley SEA are within unincorporated Los Angeles County accounting for approximately 197,634 acres. Other jurisdictions within the SEA include: 9,887 acres within Angeles National Forest; 11,074 acres within the City of Palmdale; and 3,730 acres within the City of Lancaster.



Source: Aerials Express 2006
Los Angeles County Department of Regional Planning, Significant Ecological Area Dataset

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Significant Ecological Areas

Exhibit 6

County of LA, WaterWorks Dist No 40 RFP for RWMP EIR

N W E S

3 1.5 0 3 Miles

BonTerra CONSULTING

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4.0 PROJECT IMPACTS

4.1 INTRODUCTION

The determination of impacts in this analysis is based on the general area of proposed project study area and its components. Impacts on biological resources were evaluated including those that involve the initial loss of habitats due to grading, construction, and construction-related activities as well as those that would be related to impacts on the adjacent remaining habitat due to construction activities (e.g., noise, dust) or operation of the project (e.g., human activity, indirect lighting).

Biological impacts associated with the proposed project were evaluated with respect to the following special status biological issues:

- Federally- or state-listed Endangered or Threatened species of plant or wildlife;
- Streambeds, wetlands, and their associated vegetation;
- Habitats suitable to support a federally- or state-listed Endangered or Threatened species of plant or wildlife;
- Species designated as California Species of Special Concern or federal Species of Concern;
- Habitat, other than wetlands, considered special status by regulatory agencies (USFWS, CDFG, Los Angeles County) or resource conservation organizations; and
- Other species or issues of concern to regulatory agencies or conservation organizations (e.g., CNPS).

The actual and potential occurrence of these resources in the proposed project study area was correlated with the following significance criteria to determine whether the impacts of the proposed project on these resources would be considered significant.

4.2 SIGNIFICANCE CRITERIA

The environmental impacts relative to biological resources are assessed using impact significance criteria that mirror the policy contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the state to:

> *Prevent the elimination of fish or wildlife species due to man s activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities…*

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7, Thresholds of Significance, each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A significance threshold is quantitative, qualitative, or performance level in relation to a particular environmental effect, that would normally be determined to be significant by the agency if the threshold is exceeded.

In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Appendix G of the CEQA Guidelines is

more specific in addressing biological resources and encompasses a broader range of resources to be considered, including: candidate, sensitive, or special status species; riparian habitat or other sensitive natural communities; federally protected wetlands; fish and wildlife movement corridors; local policies or ordinances protecting biological resources; and, adopted habitat conservation plans. These factors are considered through the checklist of questions answered during the Initial Study process that is used to determine appropriate environmental documentation for a project (i.e., Negative Declaration, Mitigated Negative Declaration, or EIR). Because these questions are derived from standards in other laws, regulations, and other commonly used thresholds, we have used these standards as a basis for defining significance thresholds for this analysis. For each of the thresholds identified below, the section of CEQA upon which the threshold was derived has been provided. For the purpose of this analysis, impacts to biological resources are considered significant (before considering offsetting mitigation measures) if one or more of the follow conditions would result from implementation of the proposed project:

1. *If the project has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Game and Wildlife Service (CEQA Guidelines, Appendix G, IV. [a]).*[1]

2. *If the project has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service (CEQA Guidelines, Appendix G, IV. [b]).*

3. *If the project has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (CEQA Guidelines, Appendix G, IV. [c]).*

4. *If the project interferes substantially with the movement of any native or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites (CEQA Guidelines, Appendix G, IV. [d]).*

5. *If the project conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance CEQA Guidelines, Appendix G, IV. [e]).*

6. *If the project conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (CEQA Guidelines, Appendix G, IV. [f]).*

An evaluation of whether an impact on biological resources would result in a substantial adverse effect must consider both the resource itself and how that resource fits into a regional context. For the proposed project, the regional setting of the project includes the Antelope Valley.

For the purposes of the impact analysis, substantial adverse effect is defined as the loss or harm of a magnitude which, based on current scientific data and knowledge, would: (1) substantially

[1] Endangered and threatened species as used in this threshold are those listed by the USFWS and or CDFG as Threatened or Endangered. Section 15380 of CEQA indicates that a lead agency can consider a non-listed species (e.g., CNPS List 1B plants) to be Endangered, Rare, or Threatened for the purposes of CEQA if the species can be shown to meet the criteria in the definition of rare or endangered. For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special status species was considered in determining if a non-listed species met the definitions for rare and endangered according to Section 15380 of CEQA.

diminish population numbers of a species or distribution of a habitat type within the region; or (2) eliminate the functions and values of a biological resource in the region.

4.3 DIRECT IMPACTS

4.3.1 Vegetation Type Impacts

Within the proposed project study area, the precise location of vegetation types has not been delineated and the precise location of project impacts has not been determined. Based on general information regarding the vegetation occurring in the proposed project study area, it is assumed that much of the proposed project would be located in areas not supporting native vegetation (i.e., developed areas or roads within Lancaster and Palmdale). However, the project area includes extensive desert scrub habitats that may also be impacted depending on the final project design. Installation of the proposed recycled water pipelines will occur generally within the existing roadway rights-of-way where feasible, but some soil removal will be necessary. Most pipeline impacts are expected to occur within areas along existing roadways that do not support native vegetation (ornamental plantings, ruderal weedy patches, disturbed dirt shoulders, developed roadways and sidewalks, etc.). However, depending on final designs, the proposed pipeline construction could impact minor amounts of native desert scrub vegetation adjacent to the roadways.

Construction of proposed storage reservoirs and pump stations will likely present a greater impact to native vegetation, but the type and extent must be determined after the final parcel selection is complete. Small impacts to common vegetation types would probably be less than significant due to the abundance of common vegetation types in the region. Impacts on special status vegetation types are discussed below in Section 4.3.5 of this report.

4.3.2 Wildlife Impacts

The following discussion of wildlife impacts focuses on the common species occurring in the proposed project study area. Impacts on special status wildlife species are discussed separately in Section 4.3.5 of this report.

Due to the lack of site specific information for the construction of the various proposed project components and the known presence of wildlife in the region in general, it is assumed that wildlife would be impacted to some degree. Most impacts to wildlife would be associated with the construction and operation of the storage reservoirs and pump stations located in undeveloped areas. It can be assumed that each storage reservoir would result in approximately one-half to one acre of permanent habitat disturbance, depending on the site characteristics and the size of the reservoir. Construction of the pipelines would occur generally within the existing roadway right-of-way where feasible, but some impact to adjacent open space habitats would be expected. At the scale of the whole proposed project, some temporary and permanent loss of native wildlife habitat, including direct mortality of wildlife, and fragmentation of existing wildlife habitat is expected. These impacts would be considered adverse but not substantial enough to warrant a finding of significance per CEQA. Therefore, mitigation for these impacts would not be required.

4.3.3 Wildlife Movement Impacts

Site specific information for most of the proposed project components are unknown, however, impacts on wildlife movement are expected to be minimal based on the general proposed area of impacts and the type of impact that would occur. The construction of reservoirs would result in permanent structures which may impede some local movement of wildlife in the immediate vicinity. These structures, however, are unlikely to effect regional movement because their locations would not be within canyon bottoms or drainages where such movement normally occurs. In addition, the

size of the above ground structures are relatively small and wildlife would be expected to easily travel around them. The other proposed activity, pipeline construction, would be temporary and would occur in short segments at a time. It is therefore not expected to result in substantial adverse effects on wildlife movement. Impacts on wildlife movement are, therefore, considered less than significant and no mitigation would be required.

4.3.4 Jurisdictional Resource Impacts

Any phase or component of the proposed project that involves impacting drainages, streams, or wetlands through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification to a jurisdictional drainage would require permits from the Regional Water Quality Control Board (RWQCB) and the CDFG before any development could commence. Permits from the USACE may be required depending on current jurisdictional status. Both permanent and temporary (construction-related) impacts are regulated and would therefore trigger the need for permits.

The USACE regulates discharges of dredged fill materials into waters of the United States pursuant to Section 404 of the CWA. A federal permit may be required from the USACE Regulatory Branch should improvements associated with the proposed project result in the discharge of material within the USACE s jurisdiction. If necessary, temporary impacts would likely be authorized via Section 404 Nationwide Permit (NWP) 33, Temporary Construction, Access, and Dewatering. If the project would result in permanent impacts, it is anticipated that the proposed improvements could be authorized via NWP 12, Utility Line Discharges. NWP 12 typically authorizes discharges of dredged or fill material associated with excavation, backfill, or bedding for utility lines (e.g., water pipelines, including outfall and intake structures, providing there is no change in preconstruction contours, as long as impacts would be less than 0.5 acre).

For the USACE 404 permit to be approved, a 401 Water Quality Certification from the RWQCB would be required. Drainages (streambeds) located within the boundaries of the project area would be considered jurisdictional by the CDFG; therefore, a 1602 Streambed Alteration Agreement (SAA) would need to be obtained prior to any jurisdictional impact.

Compensatory mitigation for the loss of wetland or riparian function and values is a fundamental component of the applicable regulatory programs. Mitigation can take several forms. It can consist of (1) avoidance or minimization of impacts, (2) compensation in the form of habitat creation, or (3) compensation through participation in a mitigation bank. The first type of mitigation (avoidance or minimization of impacts) is preferred by the agencies and should be investigated to the maximum extent possible. For any project that impacts riparian vegetation, it is preferred by the agencies that compensation through the creation of habitat be performed on the site and in kind (i.e., riparian woodland for riparian woodland; sandy bottom for sandy bottom). The exact requirements of any special permit conditions established for this project would be dictated by regulatory agencies following review of the formally submitted project application. If impacts to jurisdictional waters cannot be avoided through project design, all federal and state permits must be obtained, as detailed in Regulatory Requirement 3.4-1.

Based on the presence of jurisdictional areas present within the boundaries of the proposed project, the potential for impacting jurisdictional drainages is considered likely. Some proposed pipelines traverse drainages and or other jurisdictional features which may require temporary or permanent impacts to these resources. Impacts on wetlands in the project area could occur as a result of changes in water quality. Runoff of silt from the project construction areas, or improper disposal of petroleum and chemical products from construction equipment could temporarily impact water quality during construction.

However, most of these impacts would likely be small (under 0.1-acre per impact area) and temporary (occurring only during the construction phase). Due to the very limited quantity of jurisdictional waters expected to be impacted, the temporary nature of the vast majority of these impacts, and the staggered time frame in which the impacts would occur, impacts on jurisdictional waters are considered less than significant. In addition, adherence with Regulatory Requirement 1 will further reduce these impacts.

4.3.5 Special Status Biological Resource Impacts

Special Status Vegetation Type Impacts

Within the proposed project area, the precise location of special status vegetation types has not been delineated and the precise location of impacts has not been determined. Based on general information regarding the special status vegetation occurring in the region and the general location of proposed project components, it is assumed that special status vegetation types (i.e., Joshua tree woodlands) may be impacted. In addition, any Joshua trees and California junipers located within the City of Palmdale that may be impacted by the proposed project are under the jurisdiction of the Palmdale Native Desert Vegetation Ordinance. Due to the rarity of these vegetation types and the potentially large amount of vegetation to be removed as part of the entire project, this impact may be substantially adverse and is considered potentially significant. Impacts on special status vegetation types would be reduced to less than significant with implementation of Regulatory Requirement 1 and Mitigation Measures 1, 2 and 3.

Special Status Plants

The presence or absence of special status plants within the proposed project area has not been determined due to the lack of finalized impact areas. Based on existing information, many special status plant species have the potential to be impacted. Due to the special status of these species, this impact maybe be substantially adverse and is therefore considered potentially significant. Impacts on these species would be reduced to less than significant with implementation of Mitigation Measure 2.

Special Status Wildlife

Due to the lack of site specific information for the construction of the various proposed project components and the known presence of many special status wildlife species in the project vicinity, it is assumed that some may be potentially impacted. In addition, there is potential for six species listed as State and/or Federally Threatened and Endangered to occur within the vicinity of the proposed project. These species are the California red-legged frog, Swainson's hawk, American peregrine falcon, southwestern willow flycatcher, least Bell's vireo, and Mohave ground squirrel. USFWS Critical Habitat for one of these species, the California red-legged frog, is located at least partially within the proposed project study area along Amargosa Creek. Although no direct impacts would be expected to be incurred by this species, there is the potential for indirect impacts such as noise and dust during construction of the proposed project components in Amargosa Creek. As a result, this impact may result in substantially adverse effects and is considered potentially significant. Impacts on the California red-legged frog would be reduced to less than significant with implementation of Mitigation Measure 4. Although rare in the proposed project study area, there is potential for the Swainson's hawk to nest in the vicinity of the proposed project wherever there are clumps of trees adjacent to open space habitats (native and non-native). Any direct or indirect impacts on nesting Swainson's hawk would be considered as potentially significant. Implementation of Mitigation Measure 4 and 6 would reduce impacts on Swainson's hawk to less than significant. The American peregrine falcon is expected to occur as a rare migrant and not expected to nest. Potential project impacts on this species would not be considered significant and no mitigation

would be required. Willow riparian habitats along Amargosa Creek provide potentially suitable habitat for the southwestern willow flycatcher and least Bell s vireo and both species may occur. Any impacts on these species would be considered as significant. Implementation of Mitigation Measure 4 would reduce impacts on the southwestern willow flycatcher and least Bell s vireo to less than significant. The Mohave ground squirrel has potential to occur in the native habitats of the proposed project study area. Any impacts on this species would be considered significant and mitigation would be required. Implementation of Mitigation Measure 5 would reduce these impacts to less than significant.

Implementation of the proposed project may result in loss of foraging habitat for thirteen special status raptor species, both temporary and permanent, through construction of the project components. These 13 raptor species are Cooper s hawk, sharp-shinned hawk, golden eagle, ferruginous hawk, Swainson s hawk (addressed above for potential impacts on nesting), northern harrier, white-tailed kite, merlin, prairie falcon, American peregrine falcon, short-eared owl, long-eared owl, and burrowing owl. Construction of the pipeline components would result in temporary loss of foraging habitat, while the construction of above ground structures such as storage reservoirs and pump stations would result in the permanent loss of potential foraging habitat. This impact would represent an incremental loss of foraging habitat for these species that is adverse, but not substantial enough to warrant a finding of significance. Although the burrowing owl is not an Endangered or Threatened species, potential impacts on this species through loss of an occupied burrow would meet the significance criteria in Section 15380 of the CEQA guidelines, and mitigation would be required. Impacts on the burrowing owl would be reduced with implementation of Mitigation Measure 4 and 6. In addition, the loss of an active raptor nest would also be considered a violation of the California Fish and Game Code 3505.5. Therefore, Mitigation Measure 6 is provided to avoid or reduce impacts on raptor nests, resulting in a less than significant impact.

5.0 CUMULATIVE IMPACTS

This section discusses the cumulative impacts of the proposed project with respect to past, current, and probable future projects within the proposed project region. Geographically, the proposed project is located in the Antelope Valley in northern Los Angeles County and southwestern Kern County. For the purposes of this analysis, all projects within the service area of LACWWD40 and all partner agencies were considered when evaluating potential cumulative impacts due to construction and operation of the proposed project. Due to the extremely limited impacts to natural vegetation and areas expected to be occupied by special status wildlife relative to the disturbed nature of nearly all of the proposed impact areas of the project, the project is expected to have a negligible incremental increase in the over projected regional impacts. This impact is considered less than significant.

6.0 MITIGATION

This section focuses on regulatory requirements and mitigation measures that would reduce potential impacts of the proposed project found to be significant or potentially significant. Strategies to mitigate each impact to a level of less than significant are identified and described.

6.1 REGULATORY REQUIREMENTS

RR 1 Prior to the construction of any phase or component of the proposed project that involves impacting drainages, streams, or wetlands through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification to a jurisdictional drainage, a jurisdictional delineation shall be conducted. Any jurisdictional impacts would require permits from the USACE, the RWQCB, and the CDFG before any development could

commence. Both permanent and temporary (construction-related) impacts are regulated and would therefore trigger the need for permits. Compensatory mitigation for the loss of wetland or riparian function and values is a fundamental component of the applicable regulatory programs.

RR 2 Prior to the issuance of a grading permit for construction of each of the proposed project components, the Project Applicant shall determine whether or not the construction activities require coverage under the NPDES (National Pollutant Discharge Elimination System) General Storm Water Permit for Storm Water Discharges Associated with Construction Activities (Water Quality Order 99-08-DWQ) or the NPDES General Permit for Storm Water Discharges Associated with Construction Activity from Small Linear Underground Projects (Water Quality Order 2003-0007-DWQ). If the project component meets the criteria for coverage under either of these two NPDES permits, then the Project Applicant will be responsible for filing a Notice of Intent, a SWPPP (stormwater pollution prevention plan) if applicable, and the appropriate fees to the State Water Resources Control Board, Division of Water Quality in order to obtain coverage under the applicable NPDES permit. Pursuant to the permit requirements, the Project Applicant shall minimize construction related pollutants, including erosion-related sediment, in the site runoff through the implementation of Best Management Practices.

6.2 MITIGATION MEASURES

MM 1 Prior to the commencement of grading activities for any component of the proposed project, a qualified biologist/arborist shall be consulted to determine the biological/aesthetic value of potentially impacted trees under the jurisdiction of the Palmdale Native Desert Vegetation Ordinance. For protected vegetation located within the final impact areas, a proposal application would be necessary, including a desert vegetation preservation plan which depicts the location of each Joshua tree and California juniper, details tree age and health, and describes which can be saved and maintained on the site or relocated. A permit must be obtained from the City's landscape architect prior to removal of protected vegetation, which may require mitigation in the form of replacement plantings of all impacted vegetation at a ratio to be determined by the City.

MM 2 Prior to project implementation, a biological renaissance survey will be conducted by a qualified biologist to map and determine the extent and location of all special status vegetation types, and to assess the suitability for special status plant species and conduct focused surveys at the appropriate time of year if suitable habitat is present within or adjacent to the proposed impact area. Surveys will definitively determine the absence or the presence and location of all special status plant species. If present, an assessment of the potential impacts will be conducted. If potentially significant impacts are assessed, the Project Applicant will attempt to avoid, or minimize if not possible to avoid, the impacts by adjusting the location of the proposed pipeline alignment or storage reservoir/pump station location. For unavoidable impacts, a mitigation plan shall be prepared and implemented to off-set such impacts.

Impacted special status vegetation types will be restored on the site. A re-vegetation program will be implemented in accordance with an appropriate agency-approved landscape palette developed for the region on all graded areas not utilized for improvements or structures. Restoration will consist of seeding and planting containers of appropriate species. For those special status plants species that may

be replanted, a pre-construction survey during the peak flowering period will be conducted by the project biologist. The limits of each plant or plant population location within the impact area will be clearly delineated with lath and brightly colored flagging. If the plant is located in the impact area, the loss will be mitigated by seed and bulb collection if appropriate (depending on the growth type of the species), and re-vegetation into a suitable mitigation site in the vicinity.

A detailed re-vegetation and special status plant restoration program will be developed and implemented and will contain the following items: responsibilities and qualifications of the personnel to implement and supervise the plan; site selection; site preparation and planting implementation; schedule; maintenance plan guidelines; monitoring plan; long-term preservation; and performance standards. It is recommended that long term preservation of restored areas include a permanent open space designation in perpetuity.

MM 3 Earth-moving equipment will avoid maneuvering in areas outside the identified limits of construction in order to avoid disturbing open space areas that will remain undeveloped. Prior to construction, the natural open space limits will be marked by the construction supervisor and a qualified biologist. These limits will be identified on the construction drawings. The applicant will submit a letter to the appropriate agencies verifying that construction limits have been flagged in the field. No earth-moving equipment will be allowed within the open space areas.

MM 4 Prior to project implementation, a biological renaissance survey will be conducted by a qualified biologist to determine if potential habitat is present for the following species: California red-legged frog, Swainson s hawk (nesting only), southwestern willow flycatcher, and least Bell s vireo. If potential habitat is present for these species, then the Project Applicant will arrange for a qualified biologist with the necessary permits to conduct focused surveys for the specific species warranted. If focused surveys determine that the special status species is present, then the Project Applicant shall take the steps necessary to avoid any potential direct or indirect impacts (i.e. construction noise and dust) that may be incurred by the special status species present. If impacts are unavoidable, then consultation with the CDFG and or USFWS shall occur in order to obtain the required take permit prior to any project activities that may result in impacts on California red-legged frog, Swainson s hawk (nesting only), southwestern willow flycatcher, and least Bell s vireo.

MM 5 Prior to project implementation, a habitat assessment will be conducted by a qualified biologist to determine the potential for the Mojave ground squirrel to occur. If the habitat assessment determines that potential habitat for the Mojave ground squirrel is present in the impact zone or within 300 feet of the construction zone, then the Project Applicant has two options: 1) assume the Mojave ground squirrel is present and either take the steps necessary to avoid any potential direct or indirect impacts (i.e., construction noise and dust) that may be incurred by the Mojave ground squirrel or 2) arrange for a qualified biologist with the necessary permits to implement a trapping program to determine the presence or absence of the Mojave ground squirrel.

MM 6 The project has the potential to impact nesting raptors, including special status species (Cooper s hawk, golden eagle, Swainson s hawk, white-tailed kite, long-eared owl, and burrowing owl), as well as other common raptor species, should they nest within the vicinity of the proposed project site. No earlier than 45 days and no

later than 20 days prior to construction or grading site preparation activities that would occur during the nesting breeding season of raptors potentially nesting on the site (typically February through August), the applicant shall have a survey conducted by a qualified biologist to determine if active raptor nests protected by the California Fish and Game Code are present in the construction zone or within 300 feet of the construction zone. A report of this field survey shall be submitted to the appropriate agency. Construction can proceed if no active raptor nests are located during this survey. If an active nest is found during the survey, a 500-foot (this distance may be vary depending on the bird species and construction activity, as determined by the biologist) fence barrier (subject to the review and approval of a qualified biologist) shall be erected around the nest site and clearing and construction within the fenced area shall be postponed or halted, at the discretion of the biological monitor, until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. The biologist shall serve as a construction monitor during those periods when construction activities shall occur near active nest areas to ensure that no inadvertent impacts on these nests shall occur. Results of the raptor survey and any subsequent monitoring shall be provided to the CDFG.

7.0 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the proposed mitigation measures will mitigate biological impacts to a level that is less than significant.

8.0 REFERENCES

American Ornithologists Union (AOU). 2007. *Check-list of North American Birds* (7th ed., as revised through 48th Supplement). Washington, D.C.: AOU. http: www.aou.org checklist index.php3.

Baker, R.J., L.C. Bradley, R.D. Bradley, J.W. Dragoo, M.D. Engstrom, R.S. Hoffmann, C.A. Jones, F. Reid, D.W. Rice, and C. Jones. 2003 (December). Revised Checklist of North American Mammals North of Mexico, 2003. *Occasional Papers (No. 229).* Waco, TX: Museum of Texas Tech University.

Bennett, A.F. 1990. Habitat Corridors and the Conservation of Small Mammals in the Fragmented Forest Environment. *Landscape Ecology* 4(2 3):109 122. New York, NY: International Association for Landscape Ecology.

California Department of Fish and Game (CDFG 2008). 2008. California Natural Diversity Database. Records of Occurrence for Soledad Mountain, Bissell, Rosamond, Rosamond Lake, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale USGS quadrangle maps. Sacramento, CA: CDFG, Natural Heritage Division.

California Department of Fish and Game (CDFG 2008b). February 2008. Special Animals List Threatened and Endangered Mammals. Natural Heritage Division. Sacramento, California.

California Department of Fish and Game (CDFG). 2003. List of California Terrestrial Natural Communities Recognized by the Natural Diversity Data Base. Sacramento, CA: Natural Heritage Division.

California Department of Fish and Game. (CDFG 2002). California Wildlife Habitat Relationships Database System. Natural Heritage Division. Sacramento, California.

California Native Plant Society (CNPS). 2008. Electronic Inventory of Rare and Endangered Vascular Plants of California. Records of Occurrence for Soledad Mountain, Bissell, Rosamond, Rosamond Lake, Lancaster West, Lancaster East, Ritter Ridge, and Palmdale USGS quadrangle maps. Sacramento, CA: CNPS. http: www.cnps.org inventory.

England and Nelson. 1976. *Los Angeles County Significant Ecological Area Study*. (Prepared for the Los Angeles County Department of Regional Planning and Environmental Systems Research Institute). Riverside, California: England and Nelson Environmental Consultants.

Farhig, L., and G. Merriam. 1985. *Habitat patch connectivity and population survival.* Ecology 66:1,792-1,768.

Harris, L.D., and P.B. Gallagher. 1989. *New Initiatives for Wildlife Conservation; The Need for Movement Corridors.* Pages 11-34 in G. Mackintosh, ed. *Preserving Communities and Corridors*. Defenders of Wildlife., Washington, D.C. 96pp.

Hickman, J.C. Editor. 1993. *The Jepson Manual Higher Plants of California*. University of California Press, Berkeley, CA.

Los Angeles County Waterworks District no. 40 (LACWWD40), 2006. Antelope Valley Recycled Water Project, Final Facilities Planning Report. Prepared by Kennedy Jenks Consultants 2006,

MacArthur, R.H. and E.O. Wilson. 1967. *The Theory of Island Biogeography*. Princeton University Press. Princeton, NJ.

Munz, P.A. 1974. *A Flora of Southern California*. University of California Press, Berkeley, CA.

Noss, R.F. 1983. *A Regional Landscape Approach to Maintain Diversity.* BioScience 33:700-706.

Palmdale, City of. 1992. *Palmdale Native Desert Vegetation Ordinance* (No. 952, Section 2). http:www.cityofpalmdale.orgcityhallcodesNativeplantordinance 20repaired.pdf.

PCR 2000. PCR Project Team, Los Angeles County Significant Ecological Area Update Study, November 2000.

Simberloff, D., and J. Cox. 1987. Consequences and Costs of Conservation Corridors. Conser. Biol. 1:63-71.

Soule, M.E. 1987. Viable Populations for Conservation. Cambridge University Press, New York, NY.

Stebbins, R.C. 2003. *A Field Guide to Western Reptiles and Amphibians.* 3rd ed. Houghton-Mifflin Company. Boston, MA.

U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station, Environmental Laboratory.

APPENDIX A
PLANT AND WILDLIFE COMPENDIA

PLANT COMPENDIUM

GYMNOSPERMS
***CUPRESSACEAE* - CYPRESS FAMILY**
Juniperus californica California juniper
***EPHEDRACEAE* - EPHEDRA FAMILY**
Ephedra nevadensis Mormon tea
***PINACEAE* - PINE FAMILY**
Pinus sp. ornamental pine
FLOWERING PLANTS
CLASS DICOTYLEDONES (DICOTS)
***AMARANTHACEAE* - AMARANTH FAMILY**
Amaranthus albus tumbleweed
***ASTERACEAE (COMPOSITAE)* - SUNFLOWER FAMILY**
Ambrosia acanthicarpa annual bursage
Artemisia tridentata great basin sagebrush
Chrysothamnus nauseosus rubber rabbitbrush
Ericameria linearifolia interior goldenbush
Hymenoclea salsola burrobrush cheesebush
***CHENOPODIACEAE* - GOOSEFOOT FAMILY**
Atriplex canescens fourwing saltbush shad scale
Atriplex confertifolia shadscale
Atriplex polycarpa allscale
***ERICACEAE* - HEATH FAMILY**
Arctostaphylos sp. manzanita
***GERANIACEAE* - GERANIUM FAMILY**
Erodium botrys long-beaked filaree
***HAMAMELIDACEAE* - WITCH-HAZEL FAMILY**
Liquidambar styraciflua sweetgum

PLANT COMPENDIUM
(Continued)

***POLYGONACEAE* - BUCKWHEAT FAMILY**
Eriogonum fasciculatum California buckwheat
***ROSACEAE* - ROSE FAMILY**
Purshia tridentata antelope bush
***SOLANACEAE* - NIGHTSHADE FAMILY**
Datura wrightii jimson weed
***TAMARICACEAE* - TAMARISK FAMILY**
Tamarix aphylla tamarisk
***ZYGOPHYLLACEAE* - CALTROP FAMILY**
Larrea tridentata creosote bush
CLASS MONOCOTYLEDONES (MONOCOTS)
***LILIACEAE* - LILY FAMILY**
Yucca brevifolia Joshua tree
Yucca whipplei Our Lord's candle
***POACEAE [GRAMINEAE]* - GRASS FAMILY**
Bromus sp. brome
Distichlis spicata salt grass
Hordeum brachyantherum (?) meadow barley
denotes non-native species

WILDLIFE COMPENDIUM

Reptiles
XANTUSIIDAE - NIGHT LIZARDS
Xantusia vigilis yucca night lizard
Birds
ANATIDAE - WATERFOWL
Branta canadensis Canada goose
Anas platyrhynchos mallard
Anas clypeata northern shoveler
Anas crecca green-winged teal
Aythya affinis lesser scaup
Bucephala albeola bufflehead
Mergus merganser common merganser
Oxyura jamaicensis ruddy duck
ODONTOPHORIDAE - QUAILS
Callipepla californica California quail
ACCIPITRIDAE - HAWKS
Buteo jamaicensis red-tailed hawk
FALCONIDAE - FALCONS
Falco sparverius American kestrel
RALLIDAE - RAILS
Fulica americana American coot
SCOLOPACIDAE - SANDPIPERS & PHALAROPES
Tringa melanoleuca greater yellowlegs
LARIDAE - GULLS & TERNS
Larus californicus California gull
COLUMBIDAE - PIGEONS & DOVES
Columba livia rock pigeon

WILDLIFE COMPENDIUM
(Continued)

Zenaida macroura mourning dove
TROCHILIDAE - HUMMINGBIRDS
Calypte anna Anna's hummingbird
PICIDAE - WOODPECKERS
Colaptes auratus northern flicker
LANIIDAE - SHRIKES
Lanius ludovicianus loggerhead shrike
CORVIDAE - JAYS & CROWS
Aphelocoma californica western scrub-jay
Corvus corax common raven
ALAUDIDAE - LARKS
Eremophila alpestris horned lark
HIRUNDINIDAE - SWALLOWS
Tachycineta bicolor tree swallow
TROGLODYTIDAE - WRENS
Salpinctes obsoletus rock wren
Thryomanes bewickii Bewick's wren
TURDIDAE - THRUSHES & ROBINS
Sialia mexicana western bluebird
Sialia currucoides mountain bluebird
Turdus migratorius American robin
MIMIDAE - THRASHERS
Mimus polyglottos northern mockingbird
Toxostoma redivivum California thrasher
STURNIDAE - STARLINGS
Sturnus vulgaris European starling

WILDLIFE COMPENDIUM
(Continued)

EMBERIZIDAE - SPARROWS & JUNCOS
Pipilo crissalis California towhee
Zonotrichia leucophrys white-crowned sparrow
ICTERIDAE - BLACKBIRDS
Agelaius phoeniceus red-winged blackbird
Sturnella neglecta western meadowlark
Euphagus cyanocephalus Brewer's blackbird
FRINGILLIDAE - FINCHES
Carpodacus cassinii Cassin's finch
Carpodacus mexicanus house finch
Carduelis psaltria lesser goldfinch
PASSERIDAE - OLD WORLD SPARROWS
Passer domesticus house sparrow
LEPORIDAE - HARES & RABBITS
Sylvilagus audubonii desert cottontail
Lepus californicus black-tailed jackrabbit
SCIURIDAE - SQUIRRELS
Spermophilus beecheyi California ground squirrel

APPENDIX F

EDR REPORT EXECUTIVE SUMMARY

EDR DataMap®
Environmental Atlas

LA/Kern County Recycle Water Facility
Los Angeles, CA

January 10, 2008

Inquiry number 2113440.1s

EDR® Environmental
Data Resources Inc

The Standard in Environmental Risk Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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FOCUS MAP SUMMARY

Database	Total Plotted
FEDERAL RECORDS	
NPL	0
Proposed NPL	0
Delisted NPL	0
NPL LIENS	0
CERCLIS	1
CERC-NFRAP	0
LIENS 2	0
CORRACTS	0
RCRA-TSDF	0
RCRA-LQG	5
RCRA-SQG	130
RCRA-CESQG	1
RCRA-NonGen	19
US ENG CONTROLS	0
US INST CONTROL	0
ERNS	23
HMIRS	15
DOT OPS	1
CDL	1
US BROWNFIELDS	0
DOD	1
FUDS	0
LUCIS	0
CONSENT	0
ROD	0
UMTRA	0
ODI	0
DEBRIS REGION 9	0
MINES	0
TRIS	0
TSCA	0
FTTS	1
HIST FTTS	1
SSTS	1
ICIS	0
PADS	0
MLTS	0
RADINFO	0
FINDS	179
RAATS	0
STATE AND LOCAL RECORDS	
Hist Cal-Sites	1
CA Bond Exp. Plan	0
SCH	2
Toxic Pits	1
State Landfill	3

FOCUS MAP SUMMARY

Database	Total Plotted
CA WDS	11
WMUDS/SWAT	2
Cortese	61
SWRCY	10
LUST	84
CA FID UST	44
SLIC	0
UST	47
HIST UST	90
AST	3
LIENS	0
SWEEPS UST	95
CHMIRS	16
Notify 65	0
DEED	0
VCP	0
DRYCLEANERS	18
WIP	1
CDL	34
RESPONSE	2
HAZNET	428
EMI	103
HAULERS	1
ENVIROSTOR	5
TRIBAL RECORDS	
INDIAN RESERV	0
INDIAN LUST	0
INDIAN UST	0
EDR PROPRIETARY RECORDS	
Manufactured Gas Plants	0

NOTES:

Sites may be listed in more than one database

EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

PALMDALE, CA 93534

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Transporters, Storage and Disposal
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
US BROWNFIELDS	A Listing of Brownfields Sites
FUDS	Formerly Used Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
RAATS	RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

CA BOND EXP. PLAN	Bond Expenditure Plan
SLIC	Statewide SLIC Cases
LIENS	Environmental Liens Listing
Notify 65	Proposition 65 Records
DEED	Deed Restriction Listing
VCP	Voluntary Cleanup Program Properties

EXECUTIVE SUMMARY

TRIBAL RECORDS

INDIAN RESERV..... Indian Reservations
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
INDIAN UST..... Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

The Map ID column refers to the Map ID-Focus Map(s) of the listed site.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL RECORDS

CERCLIS: The Comprehensive Environmental Response, Compensation and Liability Information System contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the CERCLIS list, as provided by EDR, and dated 04/23/2007 has revealed that there is 1 CERCLIS site within the searched area.

Site	Address	Map ID
LOCKHEED MARTIN AERONAUTICS PA	***AVENUE P AND 15TH STREE***	***151-16***

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 09/11/2007 has revealed that there are 5 RCRA-LQG sites within the searched area.

Site	Address	Map ID
Not reported	42644 VALLEYLINE RD	128-15
LOCKHEED MARTIN AERONAUTICS PA	***AVENUE P AND 15TH STREE***	***151-16***
LM AERONAUTICS - PALMDALE, SIT	***AVENUE M @ 20TH STREET***	***151-16***
NORTHROP GRUMMAN CORP. AVMC	***3520 E AVENUE M***	***162-16***

EXECUTIVE SUMMARY

Site	Address	Map ID
Not reported	*520 AVE P*	*183-19*

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 09/11/2007 has revealed that there are 130 RCRA-SQG sites within the searched area.

Site	Address	Map ID
PYRAMID AUTOBODY & FRAME	*45351 N DIVISION ST*	*20-12*
PETRO LOCK INC	*45315 N TREVOR AVE*	*23-12*
PRECISION CYLINDER HEAD	*45255 TREVOR ST*	*23-12*
L&M AUTO BODY	*45116 N YUCCA*	*23-12*
HONDA AUTO SPECIALIST	*45239 DIVISION*	*23-12*
BENNETT FRAME ALIGN	*45223 N TREVOR AVE*	*23-12*
DESERT BODY WORKS	*420 WEST AVE I*	*23-12*
GRUBL BMW SUBARU	*45201 SIERRA HWY*	*23-12*
TOMS BODY SHOP	*202 W AVENUE I*	*23-12*
KENS SERVICE CENTER	*359 W AVE I*	*23-12*
BOB HOWLE AUTO	*226 W AVE I*	*23-12*
HIROS TRANS	*150 E AVE STE I*	*23-12*
VERIZON CALIFORNIA INC LANCAST	*45243 N BEECH AVE*	*23-12*
SPRINGS AUTO CENTER	*45159 SIERRA HWY*	*23-12*
LANCASTER IMPORTS	*45234 BEECH AVE*	*23-12*
PRECISION AUTOMOTIVE	*45117 SIERRA HWY STE 2*	*23-12*
SIERRA TOYOTA INC	*45134 SIERRA HWY*	*23-12*
PICKUS RPR SVC	*45137 N TREVOR AVE*	*23-12*
SIERRA AUTOMOTIVE AND TOWING	*45134 N TREVOR*	*23-12*
DESERT DETAIL & AUTO GLASS	*45117 SIERRA HWY*	*23-12*
WAYNES PLACE	*45101 TREVOR AVE A*	*23-12*
MIKE SMITH AUTO	*45134 3RD ST E*	*26-12*
YARMINE DRIVELINES	*45057 SIERRA HIGHWAY*	*28-12*
PIONEER EDSEL SALES	*45005 N SIERRA HWY*	*28-12*
GEORGES CLEANERS	*44759 N BEECH AVE*	*28-12*
H W HUNTER INC	*44733 N SIERRA HWY*	*28-12*
THE BRAKE DOCTOR	*525 W NEWGROVE*	*28-12*
LANCASTER JEEP RENAUL	*44606 SIERRA HWY*	*28-12*
DANNYS AUTO & TRANS	*44506 N SIERRA HWY*	*28-12*
ROSAS MOBIL MECANICA	*44508 N SIERRA HWY B*	*28-12*
CREDIT COUNTRY	*44555 N SIERRA HWY*	*28-12*
DOMINATOR MOTORSPORTS	*44500 N SIERRA HWY*	*28-12*
COMACHO AUTO SALES	*44446 N SIERRA HWY*	*28-12*
SIERRA MOWER AND CHAINSAW	*44435 SIERRA HWY*	*28-12*
MIDAS MUFFLER	*44430 N SIERRA HWY*	*28-12*
M J THE MTRCYCLE SHOP	*45009 YUCCA AVE*	*30-12*
RG AUTOMOTIVE & MOBIL SVC	*45005 YUCCA AVE*	*30-12*
TEDS PORSCHE AUDI AND VW	*45003 YUCCA*	*30-12*
CHUCK RICHARDSON	*44946 3RD ST EAST*	*33-12*
AL AUTO RPR AND BRAKES	*44732 N YUCCA*	*35-12*
C & R STARTER DRIVES	44659 N TREVOR AVENUE	35-12

EXECUTIVE SUMMARY

Site	Address	Map ID
ADAMS METALLIZING	***44632 TREVOR ST***	***35-12***
ACTION AUTO BODY AND PAINT	***312 W NORBERRY***	***35-12***
LANCASTER BODY AND FRAME	***226 WEST NUGENT ST***	***35-12***
JAPANESE AUTO SVC	***211 W OVINGTON***	***35-12***
MILLERS HIGH DESERT CARB	***202 W OVINGTON ST***	***35-12***
T & M AUTOMOTIVE	***213 W PONDERA***	***38-12***
SMITH AL TRUCKING	***104 WEST AVE J***	***38-12***
CHEVRON STATION 9 7932	100 E AVENUE J	38-12
ANTELOPE VALLEY EXPRESS DRY CL	***131 E AVE J***	***40-12***
WESTSIDE TRANS	***43935 N DIVISION***	***41-12***
SNAPPS SERVICE CENTER	***44209 DIVISION STREET***	***45-12***
EXXON CO USA LANCASTER BULK PL	***115 W AVE J-5***	***45-12***
CIC RESEARCH	***44211 YUCCA AVE UNIT E***	***46-12***
TIP TOP TREE SVC	***44107 N YUCCA***	***46-12***
ACME RENTS	***44110 YUCCA ST***	***46-12***
SEARS ROEBUCK CO	***44111 YUCCA ST***	***46-12***
LANCASTER MAINT STATION	***44023 SIERRA HYW***	***50-12,15***
CANDYS AUTO SVC	***43939 DIVISION ST***	***52-12,15***
CAPTAIN KS ONE HR PHOTO	***43907 N 15TH ST WEST***	***53-12,15***
ONE HOUR COLOR PHOTO	***43805 N 15TH ST W***	***53-12,15***
CASSON & SONS GOODYEAR INC	***43729 15TH ST W***	***53-12,15***
THE TIRE STORE	***43923 SIERRA HWY***	***55-12,15***
ANTELOPE VALLEY MRI	***43713 N 20TH ST W***	***70-15***
ANTELOPE VALLEY COLLEGE	***3041 AVENUE K***	***73-14***
CHEVRON STATION 9 7989	***857 W AVE K***	***79-15***
LANCASTER FIRESTONE	***735 W AVE K***	***79-15***
CIRCLE K STORE #1355	***111 EAST AVENUE K***	***81-15***
TEXACO SERVICE STATION	***43620 CHALLENGER***	***82-15,16***
TESORO GASOLINE DIGAS LANCASTE	***1333 W AVE K***	***85-15***
COMMERCE CLEANERS	***1068 W AVE K***	***86-15***
BURGESS AUTO BODY PAINT	***146 E AVE K 4 SUITE A***	***98-15***
ANTELOPE VALLEY FORD	***1155 AUTOMALL DR***	***102-15***
AUTO TECH COLLISION CTR	***1155 AUTO MALL DR W UTI***	***102-15***
H W HUNTER	***1130 AUTO MALL DR***	***102-15***
SIERRA TOYOTA	***43301 12TH ST W***	***102-15***
AERO BENDING CO	***43328 N DIVISION ST***	***103-15***
LANCASTER AUTO GROUP	***43244 DRIVERS WY***	***105-15***
LANCASTER HONDA	***43226 DRIVERS WAY***	***105-15***
DELUXE CHECK PRINTERS INC	***42933 BUSINESS CENTER P***	***117-15***
NATIONAL WATER WORKS HDWW1790	***42839 N SIERRA HWY***	***118-15***
H AND S AUTOMOTIVE	***42807 N SIERRA HWY***	***118-15***
CHEVRON STATION 20 1268	***4163 W AVE L***	***121-14***
WEST SIDE CLEANERS	***4029 W AVE L***	***123-14***
VONS NO 29	***4033 W AVE L***	***123-14***
WESTSIDE CLEANERS	4029 WEST AVENUE L	123-14
WESTSIDE CLEANERS	4029 WEST AVENUE L	123-14
ARMOR RENTALS	***42213 N DIVISIONS***	***136-15***
ADAMS STEEL	42353 8TH ST EAST	137-15
ANTELOPE VALLEY CARB	***42239 SIERRA HWY***	***140-15***
RIDERS CHOICE	***42211 SIERRA HWY***	***140-15***
DALES HITCHIN STATION INC	***42207 3RD ST E***	***142-15***
B F I SERVICES GRP INC	***42159 N 3RD ST E***	***142-15***
CHUCKS AUTOMOTIVE	***42211 N SIERRA HWY STE***	***142-15***
LOS ANGELES FIRE DEPARTMENT	***42110 SIXTH ST WEST***	***149-15***
ARCO FACILITY NO 05579	***41923 SIERRA HWY***	***150-15***
AVENUE M AUTOMOTIVE	***461 EAST AVE M***	***152-15***

EXECUTIVE SUMMARY

Site	Address	Map ID
CIRCULATION AIR INC	***1109 W AVE M***	***157-15,16***
DOUGLAS AIRCRAFT CO	3000 E AVENUE M	159-16
ANTELOPE VALLEY COUNTRY CLUB	***39800 COUNTRY CLUB DR***	***175-19***
KITS CAMERAS 1 HOUR NO 116	***1233 W AVE P STE 1107***	***176-19***
MAACO AUTOPAINTING AND BODYWOR	***520 E AVE P***	***179-19***
ELIOPULOS MOTORS	***730 W AVE P***	***180-19***
EXPRESSLY PORTRAITS INC	***1233 W AVENUE P UNIT 40***	***181-19***
NORTHRIDGE EQUIPMENT RENTAL	***38860 N SIERRA HWY***	***207-19***
A V AUTO PARTS	***38711 SIERRA HWY***	***209-19,23***
FRENCYS DENT SHOP	***38744 N 6TH ST EAST UNI***	***210-19,23***
DATA AUTOMOTIVE	***38633 N 6TH ST EAST***	***214-19,23***
MURRAYS TRANSMISSION	***38545 6TH ST E***	***214-23***
MITCHS AUTO	***38554 6TH ST E***	***214-23***
VALLEY VOLKSWAGEN AND HONDA	***38525 N 6TH ST E***	***214-23***
SAM TRANSMISSIONS AND AUTO REP	***38475 6TH ST E 2E***	***214-23***
AFFORDABLE TIRE	***924 E AVE Q 6***	***218-23***
MIRACLE CLEANERS	***38456 N SIERRA HWY***	***218-23***
PACC AUTOMOTIVE	***38446 8TH ST E***	***218-23***
A PRO CLEANERS	***533 E PALMDALE BLVD UNI***	***218-23***
PACIFIC BELL	***901 PALMDALE BLVD***	***218-23***
EDS EXXON SVC	***400 W PALMDALE***	***218-23***
MIDAS MUFFLER SHOP	***926 EAST PALMDALE BLVD***	***218-23***
SHELL SERVICE STATION	***1853 E PALMDALE***	***221-24***
WINSTON TIRE CO#182	***1540 E PALMDALE BLVD***	***223-24***
WILSON AMBULANCE	***38241 6TH ST E***	***232-23***
PALMDALE UNI BODY AND FRAME	***38018 9TH ST E***	***232-23***
CASSON SONS GOODYEAR	***37957 SIERRA HWY***	***232-23***
A 1 RENTALS	***831 E AVE R***	***232-23***
TIRE PROS	***37925 SIERRA HWY UNIT J***	***248-23***
E Z RACING	***37925 SIERRA HWY UNIT W***	***248-23***
ARMANDO AUTO BODY SHOP AND PAI	***37824 5TH ST STE B***	***251-23***
CHEVRON STATION NO 205671	***37217 47TH ST E***	***266-25***
ALFA CLEANERS	***4626 E AVE S STE A***	***268-25***

RCRA-CESQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-CESQG list, as provided by EDR, and dated 09/11/2007 has revealed that there is 1 RCRA-CESQG site within the searched area.

Site	Address	Map ID
GADSDEN CLEANERS	43535 GADSDEN AVE #G	79-15

EXECUTIVE SUMMARY

RCRA-NonGen: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA-NonGen list, as provided by EDR, and dated 09/11/2007 has revealed that there are 19 RCRA-NonGen sites within the searched area.

Site	Address	Map ID
CHEVRON USA INC LANCASTER BULK	***45218 N SIERRA HWY***	***23-12***
CENTURY 1 HR CLEANERS	***551 W AVE J***	***28-12***
BLUMEL MARTIN	***1027 W AVE "K"***	***79-15***
NORTHROP TRAINING CENTER K4	***314 E AVE K4***	***97-15***
KELVIN LIGHTNER DBA LIGHTNER T	43218 COTTAGE LN	110-14
LOVGEE MICHAEL EQUIP	***237 E AVE M***	***156-15***
USAF PLANT 42, SITE 3	***3000 E AVENUE M***	***159-16***
L AND S CONSTRUCTION	***40308 MARAVILLA DR***	***172-19***
EZ RECYCLING INC	39450 3RD ST EAST	187-19
J T S TRUCKING	***1309 BERKSHIRE DR***	***191-19***
EZ RECYCLING INC	39360 E 3RD ST	192-19
MCCONMELL ROOFING INC	***39025 8TH ST E***	***203-19***
RUSSELLS MFG	***38820 3RD ST E***	***208-19,23***
TGJ TRANSPORT	4146 BOLTON AVE	213-20,21,24,25
HANKS SERVICE CENTER	***38519 6TH ST***	***214-23***
SAL GARCIA AND SONS TRUCKING	***38222 12TH ST E***	***229-24***
SMITH AND THOMPSON PUMPING CO	***2208 GREGORY AVE***	***256-24***
A + M GENTRY TRUCKING	3607 E AVE T 2	275-24
A & M GENTRY TRUCKING	***3607 E AVE T2***	***275-24***

ERNS: The Emergency Response Notification System records and stores information on reported releases of oil and hazardous substances. The source of this database is the U.S. EPA.

A review of the ERNS list, as provided by EDR, and dated 12/31/2006 has revealed that there are 23 ERNS sites within the searched area.

Site	Address	Map ID
SIERRA HWY AND PATTERSON	SIERRA HWY AND PATTERSO	3-6
307 WEST AVE I	307 WEST AVE I	24-12
45115 DIVISION ST.	45115 DIVISION ST.	27-12
501 WEST LANCASTER BLVD.	501 WEST LANCASTER BLVD	28-12
SIERRA HWY AT AVENUE "J"	SIERRA HWY AT AVENUE "J	28-12
572 E AVE J	572 E AVE J	39-12
44141 N YUCCA AVE	44141 N YUCCA AVE	46-12
44141 N. YUCCA AVE	44141 N. YUCCA AVE	46-12
44078 BEACH AVE	44078 BEACH AVE	48-12
43901 17TH ST. EAST	43901 17TH ST. EAST	51-13,16
CORNER OF AVENUE J10 & 17 ST.	CORNER OF AVENUE J10 &	54-13,16
502 EAST AVE J-9	502 EAST AVE J-9	57-12,15
43830 10TH ST W.	43830 10TH ST W.	60-12,15
43731 22ND ST EAST	43731 22ND ST EAST	68-16
43530 GADSDEN AVENUE	43530 GADSDEN AVENUE	79-15
AVE K AT 22ST WEST	AVE K AT 22ST WEST	84-14
1155 AUTOMALL DRIVE	1155 AUTOMALL DRIVE	102-15
43243 16TH ST. WEST	43243 16TH ST. WEST	108-15

EXECUTIVE SUMMARY

Site	Address	Map ID
42148 FOURTH ST. EAST	42148 FOURTH ST. EAST	146-15
AVENUE M & 20TH ST E	AVENUE M & 20TH ST E	151-16
38459 3RD ST E NR INTERS. AVE	38459 3RD ST E NR INTER	216-23
37925 SIERRA HWY	37925 SIERRA HWY	232-23
5650 DIAMOND STREET	5650 DIAMOND STREET	257-25

HMIRS: The Hazardous Materials Incident Report System contains hazardous material spill incidents reported to the Department of Transportation. The source of this database is the U.S. EPA.

A review of the HMIRS list, as provided by EDR, and dated 10/01/2007 has revealed that there are 15 HMIRS sites within the searched area.

Site	Address	Map ID
Not reported	330 W PILLSBURY	38-12
Not reported	37731 SIXTH ST EAST	254-23
Not reported	37731 SIXTH ST EAST	254-23
Not reported	37731 6TH ST EAST	254-23
Not reported	37731 6TH ST EAST	254-23
Not reported	37731 6TH ST	254-23
Not reported	37731 6TH STREET EAST	254-23
Not reported	37731 6TH ST EAST	254-23
Not reported	37731 6TH ST	254-23
Not reported	37731 6TH STREET EAST	254-23
Not reported	37731 6TH ST EAST	254-23
Not reported	37731 6TH ST EAST	254-23
Not reported	37731 6TH ST	254-23
Not reported	37731 6TH ST EAST	254-23
Not reported	37731 6TH ST	254-23

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

A review of the DOT OPS list, as provided by EDR, and dated 08/14/2007 has revealed that there is 1 DOT OPS site within the searched area.

Site	Address	Map ID
SOUTHERN CALIFORNIA GAS CO	CHAGAL AVE. & TRUMAN ST	61-13,16

CDL: A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

A review of the US CDL list, as provided by EDR, and dated 09/01/2007 has revealed that there is 1 US

CDL site within the searched area.

Site	Address	Map ID
3995 W AVENUE H	3995 W AVENUE H	15-11

DOD: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 DOD site within the searched area.

Site	Address	Map ID
EDWARDS AIR FORCE BASE		0-6,7,9

FTTS: FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act) over the previous five years. To maintain currency, EDR contacts the Agency on a quarterly basis.

A review of the FTTS list, as provided by EDR, and dated 07/06/2007 has revealed that there is 1 FTTS site within the searched area.

Site	Address	Map ID
NASA AF PLANT #42	1500 E AVENUE M	163-16

HIST FTTS: A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

A review of the HIST FTTS list, as provided by EDR, and dated 10/19/2006 has revealed that there is 1 HIST FTTS site within the searched area.

Site	Address	Map ID
NASA AF PLANT #42	1500 E AVENUE M	163-16

SSTS: Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

A review of the SSTS list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 SSTS

site within the searched area.

Site	Address	Map ID
HOME SAVING TERMITE CONTROL, I	43145 BUSINESS CENTER P	115-15

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 10/18/2007 has revealed that there are 179 FINDS sites within the searched area.

Site	Address	Map ID
PYRAMID AUTOBODY & FRAME	***45351 N DIVISION ST***	***20-12***
A V COLLISION REPAIRS INC	***45351 N DIVISION ST***	***20-12***
PETRO LOCK INC	***45315 N TREVOR AVE***	***23-12***
PRECISION CYLINDER HEAD	***45255 TREVOR ST***	***23-12***
L&M AUTO BODY	***45116 N YUCCA***	***23-12***
HONDA AUTO SPECIALIST	***45239 DIVISION***	***23-12***
BENNETT FRAME ALIGN	***45223 N TREVOR AVE***	***23-12***
CHEVRON USA INC LANCASTER BULK	***45218 N SIERRA HWY***	***23-12***
DESERT BODY WORKS	***420 WEST AVE I***	***23-12***
GRUBL BMW SUBARU	***45201 SIERRA HWY***	***23-12***
TOMS BODY SHOP	***202 W AVENUE I***	***23-12***
KENS SERVICE CENTER	***359 W AVE I***	***23-12***
BOB HOWLE AUTO	***226 W AVE I***	***23-12***
HIROS TRANS	***150 E AVE STE I***	***23-12***
VERIZON CALIFORNIA INC LANCAST	***45243 N BEECH AVE***	***23-12***
SPRINGS AUTO CENTER	***45159 SIERRA HWY***	***23-12***
LANCASTER IMPORTS	***45234 BEECH AVE***	***23-12***
PRECISION AUTOMOTIVE	***45117 SIERRA HWY STE 2***	***23-12***
SIERRA TOYOTA INC	***45134 SIERRA HWY***	***23-12***
PICKUS RPR SVC	***45137 N TREVOR AVE***	***23-12***
SIERRA AUTOMOTIVE AND TOWING	***45134 N TREVOR***	***23-12***
DESERT DETAIL & AUTO GLASS	***45117 SIERRA HWY***	***23-12***
WAYNES PLACE	***45101 TREVOR AVE A***	***23-12***
MIKE SMITH AUTO	***45134 3RD ST E***	***26-12***
YARMINE DRIVELINES	***45057 SIERRA HIGHWAY***	***28-12***
PIONEER EDSEL SALES	***45005 N SIERRA HWY***	***28-12***
GEORGES CLEANERS	***44759 N BEECH AVE***	***28-12***
H W HUNTER INC	***44733 N SIERRA HWY***	***28-12***
THE BRAKE DOCTOR	***525 W NEWGROVE***	***28-12***
LANCASTER JEEP RENAUL	***44606 SIERRA HWY***	***28-12***
DANNYS AUTO & TRANS	***44506 N SIERRA HWY***	***28-12***
ROSAS MOBIL MECANICA	***44508 N SIERRA HWY B***	***28-12***
CREDIT COUNTRY	***44555 N SIERRA HWY***	***28-12***
DOMINATOR MOTORSPORTS	***44500 N SIERRA HWY***	***28-12***
OIL RITE	44451 N. SIERRA HWY	28-12
COMACHO AUTO SALES	***44446 N SIERRA HWY***	***28-12***
SIERRA MOWER AND CHAINSAW	***44435 SIERRA HWY***	***28-12***

EXECUTIVE SUMMARY

Site	Address	Map ID
MIDAS MUFFLER	***44430 N SIERRA HWY***	***28-12***
CENTURY 1 HR CLEANERS	***551 W AVE J***	***28-12***
M J THE MTRCYCLE SHOP	***45009 YUCCA AVE***	***30-12***
RG AUTOMOTIVE & MOBIL SVC	***45005 YUCCA AVE***	***30-12***
TEDS PORSCHE AUDI AND VW	***45003 YUCCA***	***30-12***
CHUCK RICHARDSON	***44946 3RD ST EAST***	***33-12***
AL AUTO RPR AND BRAKES	***44732 N YUCCA***	***35-12***
C & R STARTER DRIVES	44659 N TREVOR AVENUE	35-12
ADAMS METALLIZING	***44632 TREVOR ST***	***35-12***
ACTION AUTO BODY AND PAINT	***312 W NORBERRY***	***35-12***
LANCASTER BODY AND FRAME	***226 WEST NUGENT ST***	***35-12***
APCCO CHEMICAL CO.	203 W. OLDFIELD ST.	35-12
JAPANESE AUTO SVC	***211 W OVINGTON***	***35-12***
MILLERS HIGH DESERT CARB	***202 W OVINGTON ST***	***35-12***
MONITORING STATION	315 W. PONDERA ST	38-12
T & M AUTOMOTIVE	***213 W PONDERA***	***38-12***
SO CAL GAS CO	***44416 DIVISION ST***	***38-12***
SMITH AL TRUCKING	***104 WEST AVE J***	***38-12***
CHEVRON 97932	100 E AVENUE J	38-12
ANTELOPE VALLEY EXPRESS DRY CL	***131 E AVE J***	***40-12***
WESTSIDE TRANS	***43935 N DIVISION***	***41-12***
SNAPPS SERVICE CENTER	***44209 DIVISION STREET***	***45-12***
EXXON CO USA LANCASTER BULK PL	***115 W AVE J-5***	***45-12***
CIC RESEARCH	***44211 YUCCA AVE UNIT E***	***46-12***
TIP TOP TREE SVC	***44107 N YUCCA***	***46-12***
ACME RENTS	***44110 YUCCA ST***	***46-12***
SEARS ROEBUCK CO	***44111 YUCCA ST***	***46-12***
CALTRANS DISTRICT 7/LANCASTER	***44023 SIERRA HWY***	***50-12***
LANCASTER MAINT STATION	***44023 SIERRA HYW***	***50-12,15***
CANDYS AUTO SVC	***43939 DIVISION ST***	***52-12,15***
CAPTAIN KS ONE HR PHOTO	***43907 N 15TH ST WEST***	***53-12,15***
ONE HOUR COLOR PHOTO	***43805 N 15TH ST W***	***53-12,15***
JIFFY LUBE #2967	43750 15TH STREET W	53-12,15
CASSON & SONS GOODYEAR INC	***43729 15TH ST W***	***53-12,15***
THE TIRE STORE	***43923 SIERRA HWY***	***55-12,15***
ANTELOPE VALLEY MRI	***43713 N 20TH ST W***	***70-15***
ANTELOPE VALLEY COLLEGE	***3041 AVENUE K***	***73-14***
CHEVRON STATION 9 7989	***857 W AVE K***	***79-15***
BLUMEL MARTIN	***1027 W AVE "K"***	***79-15***
LANCASTER FIRESTONE	***735 W AVE K***	***79-15***
CIRCLE K STORE #1355	***111 EAST AVENUE K***	***81-15***
TEXACO SERVICE STATION	***43620 CHALLENGER***	***82-15,16***
TESORO GASOLINE DIGAS LANCASTE	***1333 W AVE K***	***85-15***
COMMERCE CLEANERS	***1068 W AVE K***	***86-15***
NORTHROP TRAINING CENTER K4	***314 E AVE K4***	***97-15***
BURGESS AUTO BODY PAINT	***146 E AVE K 4 SUITE A***	***98-15***
ANTELOPE VALLEY FORD	***1155 AUTOMALL DR***	***102-15***
AUTO TECH COLLISION CTR	***1155 AUTO MALL DR W UTI***	***102-15***
H W HUNTER	***1130 AUTO MALL DR***	***102-15***
JHH MOTORCARS INC	43301 12TH ST WEST	102-15
SIERRA TOYOTA	***43301 12TH ST W***	***102-15***
AERO BENDING CO	***43328 N DIVISION ST***	***103-15***
FLAT, HIGH DESERT TERRAIN	43301 DIVISION ST	103-15
LANCASTER AUTO GROUP	***43244 DRIVERS WY***	***105-15***
LANCASTER HONDA	***43226 DRIVERS WAY***	***105-15***
DELUXE CHECK PRINTERS INC	***42933 BUSINESS CENTER P***	***117-15***

EXECUTIVE SUMMARY

Site	Address	Map ID
NATIONAL WATER WORKS HDWW1790	***42839 N SIERRA HWY***	***118-15***
H AND S AUTOMOTIVE	***42807 N SIERRA HWY***	***118-15***
CHEVRON STATION 20 1268	***4163 W AVE L***	***121-14***
WEST SIDE CLEANERS	***4029 W AVE L***	***123-14***
VONS NO 29	***4033 W AVE L***	***123-14***
AUTOZONE #5403	4007 W AVENUE L	123-14
NU-EASE INC	42644 VALLEYLINE RD	128-15
HARDCAST ENTERPRISES, INC.	42525 5TH STREET E	132-15
WALKER CASTING & FABRICATION	42525 5TH STREET E	132-15
ARMOR RENTALS	***42213 N DIVISIONS***	***136-15***
ANTELOPE VALLEY CARB	***42239 SIERRA HWY***	***140-15***
RIDERS CHOICE	***42211 SIERRA HWY***	***140-15***
DALES HITCHIN STATION INC	***42207 3RD ST E***	***142-15***
B F I SERVICES GRP INC	***42159 N 3RD ST E***	***142-15***
CHUCKS AUTOMOTIVE	***42211 N SIERRA HWY STE***	***142-15***
LOS ANGELES FIRE DEPARTMENT	***42110 SIXTH ST WEST***	***149-15***
ARCO FACILITY NO 05579	***41923 SIERRA HWY***	***150-15***
LOCKHEED MARTIN AERONAUTICS PA	***AVENUE P AND 15TH STREE***	***151-16***
LM AERONAUTICS - PALMDALE, SIT	***AVENUE M @ 20TH STREET***	***151-16***
AVENUE M AUTOMOTIVE	***461 EAST AVE M***	***152-15***
LOVGEE MICHAEL EQUIP	***237 E AVE M***	***156-15***
CIRCULATION AIR INC	***1109 W AVE M***	***157-15,16***
USAF PLANT 42, SITE 3	***3000 E AVENUE M***	***159-16***
PHOENIX HIGH COMMUNITY DAY	421 WEST AVENUE M	160-15
NORTHROP GRUMMAN CORP. AVMC	***3520 E AVENUE M***	***162-16***
L AND S CONSTRUCTION	***40308 MARAVILLA DR***	***172-19***
ANTELOPE VALLEY COUNTRY CLUB	***39800 COUNTRY CLUB DR***	***175-19***
KITS CAMERAS 1 HOUR NO 116	***1233 W AVE P STE 1107***	***176-19***
JIFFY LUBE #2680	1040 W RANCHO VISTA BLV	178-19
MAACO AUTOPAINTING AND BODYWOR	***520 E AVE P***	***179-19***
ELIOPULOS MOTORS	***730 W AVE P***	***180-19***
EXPRESSLY PORTRAITS INC	***1233 W AVENUE P UNIT 40***	***181-19***
SEARS 1068/6098	1345 W AVENUE P	182-19
EXXONMOBIL OIL CORP NO 12596	520 AVE P	183-19
EZ RECYCLING INC	39450 3RD ST EAST	187-19
J T S TRUCKING	***1309 BERKSHIRE DR***	***191-19***
EZ RECYCLING INC	39360 E 3RD ST	192-19
ANN VERDE LEARNING PLAZA	39360-B SUMMERWIND DR.	193-19
OAK TREE LEARNING CENTER (OPPO	39139 10TH ST. EAST	201-19,20
LOS AMIGOS	39129 10TH STREET	201-19,20
MCCONMELL ROOFING INC	***39025 8TH ST E***	***203-19***
NORTHRIDGE EQUIPMENT RENTAL	***38860 N SIERRA HWY***	***207-19***
RUSSELLS MFG	***38820 3RD ST E***	***208-19,23***
A V AUTO PARTS	***38711 SIERRA HWY***	***209-19,23***
FRENCYS DENT SHOP	***38744 N 6TH ST EAST UNI***	***210-19,23***
DATA AUTOMOTIVE	***38633 N 6TH ST EAST***	***214-19,23***
MURRAYS TRANSMISSION	***38545 6TH ST E***	***214-23***
MITCHS AUTO	***38554 6TH ST E***	***214-23***
VALLEY VOLKSWAGEN AND HONDA	***38525 N 6TH ST E***	***214-23***
HANKS SERVICE CENTER	***38519 6TH ST***	***214-23***
SAM TRANSMISSIONS AND AUTO REP	***38475 6TH ST E 2E***	***214-23***
AFFORDABLE TIRE	***924 E AVE Q 6***	***218-23***
MIRACLE CLEANERS	***38456 N SIERRA HWY***	***218-23***
PACC AUTOMOTIVE	***38446 8TH ST E***	***218-23***
PLAZE DEL CENTRO 501-569 E PAL	533 E PALMDALE AVE	218-23
A PRO CLEANERS	***533 E PALMDALE BLVD UNI***	***218-23***

EXECUTIVE SUMMARY

Site	Address	Map ID
THE GUIDANCE CHARTER	1125-A E. PALMDALE BLVD	218-23
PACIFIC BELL	***901 PALMDALE BLVD***	***218-23***
EDS EXXON SVC	***400 W PALMDALE***	***218-23***
AUTOZONE #5460	***1138 E PALMDALE BLVD***	***218-23,24***
MIDAS MUFFLER SHOP	***926 EAST PALMDALE BLVD***	***218-23***
SHELL SERVICE STATION	***1853 E PALMDALE***	***221-24***
KRAGEN AUTO PARTS #0787	2042 PALMDALE BLVD	221-24
WINSTON TIRE CO#182	***1540 E PALMDALE BLVD***	***223-24***
SAL GARCIA AND SONS TRUCKING	***38222 12TH ST E***	***229-24***
WILSON AMBULANCE	***38241 6TH ST E***	***232-23***
PALMDALE UNI BODY AND FRAME	***38018 9TH ST E***	***232-23***
CASSON SONS GOODYEAR	***37957 SIERRA HWY***	***232-23***
A 1 RENTALS	***831 E AVE R***	***232-23***
CACTUS ELEMENTARY	38060 20TH ST. EAST	236-24
WILDFLOWER ELEMENTARY	38136 35TH ST. EAST	237-24
TIRE PROS	***37925 SIERRA HWY UNIT J***	***248-23***
E Z RACING	***37925 SIERRA HWY UNIT W***	***248-23***
SIERRA AUTO BODY	37835 SIERRA HIGHWAY	248-23
ARMANDO AUTO BODY SHOP AND PAI	***37824 5TH ST STE B***	***251-23***
DESERT ROSE ELEMENTARY	37730 27TH ST. EAST	253-24
SMITH AND THOMPSON PUMPING CO	***2208 GREGORY AVE***	***256-24***
CHAPARRAL ELEMENTARY	37500 - 50TH ST. EAST	260-25
SHADOW HILLS INTERMEDIATE	37315 60TH ST. EAST	263-25
BUENA VISTA ELEMENTARY	37230 - 37TH ST. EAST	264-24
BARREL SPRINGS ELEMENTARY	37230 37TH ST. EAST	264-24
GOLDEN POPPY	37230 37TH STREET EAST	264-24
CHEVRON STATION NO 205671	***37217 47TH ST E***	***266-25***
ALFA CLEANERS	***4626 E AVE S STE A***	***268-25***
CIMARRON ELEMENTARY	36940 45TH ST. EAST	271-25
A & M GENTRY TRUCKING	***3607 E AVE T2***	***275-24***

STATE AND LOCAL RECORDS

HIST CAL-SITES: Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. The source is the California Department of Toxic Substance Control. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

A review of the HIST Cal-Sites list, as provided by EDR, and dated 08/08/2005 has revealed that there is 1 HIST Cal-Sites site within the searched area.

Site	Address	Map ID
AVENUE A UNAUTHORIZED DISPOSAL	***AVENUE A 1-1/2 MILE EAS***	***11-7***

EXECUTIVE SUMMARY

SCH: This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category. depending on the level of threat to public health and safety or the. environment they pose.

A review of the SCH list, as provided by EDR, and dated 08/28/2007 has revealed that there are 2 SCH sites within the searched area.

Site	Address	Map ID
REX PERRIS VALLEY CONTINUATION	***AVENUE Q/6TH STREET***	***210-19,23***
PONDEROSA ELEMENTARY SCHOOL	***PEARBLOSSOM HIGHWAY/37T***	***273-24***

TOXIC PITS: The Toxic Pits Cleanup Act Sites database identifies sites suspected of containing hazardous substances where cleanup has not yet been completed. The data come from the State Water Resources Control Board.

A review of the Toxic Pits list, as provided by EDR, and dated 07/01/1995 has revealed that there is 1 Toxic Pits site within the searched area.

Site	Address	Map ID
OSAGE INDUSTRIES Closure Date: 06/30/92	43723 SENTRY LANE	76-14

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list, as provided by EDR, and dated 09/10/2007 has revealed that there are 3 SWF/LF sites within the searched area.

Site	Address	Map ID
CALTRANS LANCASTER MAINTENANCE	44023 SIERRA HIGHWAY	50-12
LAIDLAW TRANSIT, INC	***39110 3RD STREET, EAST***	***200-19***
LA CO PUBLIC WRKS, ROADS DEPT,	38126 SIERRA HWY	233-23

WDS: California Water Resources Control Board - Waste Discharge System.

A review of the CA WDS list, as provided by EDR, and dated 06/19/2007 has revealed that there are 11 CA WDS sites within the searched area.

Site	Address	Map ID
ALTERNATIVE AUTO DISMANTLING I	45555 N DIVISION ST	18-12
A A 2 AUTO SALVAGE	45509 DIVISION ST	18-12
GENERAL AUTO SALVAGE	45339 DIVISION ST	20-12
LARRY LILLEY MOTORCYCLE	***45345 SIERRA WAY***	***22-12***
LANCASTER AQUIFER STORAGE	INTER AVE J / DIVISIO	38-12
UNITED PARCEL SERVICE	***290 W AVENUE L***	***122-15***
A 1 AUTO DISMANTLING	42230 4TH ST E	141-15
DON PEARSON	361 E AVENUE L12	143-15
SANDSTONE DESIGN	39007 10TH ST E	204-19,20

EXECUTIVE SUMMARY

Site	Address	Map ID
ALAMEDA METALS CORP	37815 6TH ST E	254-23
RPS INC	37731 6TH ST	254-23

WMUDS/SWAT: The Waste Management Unit Database System is used for program tracking and inventory of waste management units. The source is the State Water Resources Control Board.

A review of the WMUDS/SWAT list, as provided by EDR, and dated 04/01/2000 has revealed that there are 2 WMUDS/SWAT sites within the searched area.

Site	Address	Map ID
AIR FORCE PLANT 42	AIR FORCE PLANT 42	165-16
ANTELOPE RUBBISH	AVE M / 40TH ST	170-14

CORTESE: This database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release and all solid waste disposal facilities from which there is known migration. The source is the California Environmental Protection Agency/Office of Emergency Information.

A review of the Cortese list, as provided by EDR, and dated 04/01/2001 has revealed that there are 61 Cortese sites within the searched area.

Site	Address	Map ID
GREAT LAKES CARBON CORPOR	1050 SIERRA US HWY 14	2-6
PRATT & WHITNEY BUILDING	***1899 STAZOL (FLIGHT LIN***	***4-5***
JOHN ALEXANDER RESEARCH I	1753 SIERRA	8-6
ANTELOPE VALLEY FAIRGROUN	155 I	23-12
7-11 #18020	***304 AVE I E***	***25-12***
SOUTHERN PACIFIC TRANS. CO.	***44922 SIERRA HWY N***	***28-12***
UNOCAL #0773	***44856 SIERRA HWY***	***28-12***
CITY OF LANCASTER	***44733 SIERRA HWY N***	***28-12***
UNKNOWN	***44633 SIERRA HWY N***	***28-12***
LANCASTER FORD CO	***44614 SIERRA HWY N***	***28-12***
HENRY WALSMA	***44354 SIERRA HWY N***	***28-12***
GORRINDO TEXACO	***44339 SIERRA HWY N***	***28-12***
CALTRANS LANCASTER	***44023 SIERRA HWY N***	***28-12***
7-11 #17837	***44011 SIERRA HWY***	***28-12***
MISSION INDUSTRIES	***44926 YUCCA AVE N***	***31-12***
LANCASTER MOVING AND STORAGE	***44813 YUCCA AVE N***	***31-12***
ANTELOPE VALLEY BUS INC	***44706 YUCCA AVE N***	***35-12***
ANTELOPE VALLEY MOSQUITO ABAT	***127 OLDFIELD ST W***	***35-12***
THE DAIRY	***44419 DIVISION ST***	***38-12***
CHEVRON #9-7932	***100 AVE J E***	***38-12***
SNAPPS SERVICE CENTER	***44209 DIVISION STREET***	***45-12***
JANA STORE FIXTURES	***123 AVE J-5 W***	***45-12***
CONTINENTAL BAKING	***44117 DIVISION ST N***	***45-12***
UNOCAL BULK PLANT #345	***44141 YUCCA AVE N***	***46-12***
GOODYEAR TIRE	***43729 15TH ST W***	***53-12,15***
LANCASTER COMMUNITY HOSPITAL	***43830 10TH ST N***	***60-12,15***
CHEVRON #9-7989	8576 K	79-15

EXECUTIVE SUMMARY

Site	Address	Map ID
WOODLAND HILLS HONDA	***43607 10TH ST W***	***79-15***
LANCASTER RENTALS	***43631 SIERRA HWY N***	***80-15***
GEMCO STORE #521 FORMER	***1333 AVE K W***	***85-15***
ARCO #1917	***1326 AVE K***	***85-15***
UNOCAL #5570	43559 10TH ST N	94-15
RALPH MILLER PROPERTY	***42851 SIERRA HWY N***	***118-15***
NU-EASE INC	***42644 VALLEY LINE RD N***	***128-15***
AV READY MIX	***42201 DIVISION ST N***	***140-15***
UNKNOWN	***42142 VALLEY LINE RD N***	***150-15***
SITE 1 TANK 1-1/2 BLDG 147	***1502 AVE M E***	***151-16***
SITE 1 T1-6 BLDG 198	***1502 AVE M E***	***151-16***
SITE 1 TANK 1-8 BLDG 143	***1502 AVE M E***	***151-16***
SITE 1 TANK 1-11/1-10 BLDG 127	***1502 AVE M E***	***151-16***
FIRE STATION #129	***421 AVENUE M W***	***153-15***
SITE 2 TANK 2-4/5 BLDG 21	2500 M	167-16
SITE 2 BLDG 210	***39959 SIERRA HWY***	***174-19***
SITE 7 TANK 7-4 BLDG 730	2001 P	186-18,19
SITE 7 TANK 7-1 BLDG 752	2001 P	186-18,19
MASSARIAI	***39500 SIERRA HWY***	***188-19***
HDOC #055	***38627 SIERRA HWY N***	***209-23***
KAUFMAN & BOARD OF SO CAL INC	***2721 ELIZABETH LAKE RD***	***217-22***
CIRCLE K STORES #5608	***38405 SIERRA HWY N***	***218-23***
76 PRODUCT FACILITY #1016	***38405 SIERRA HWY N***	***218-23***
LA CO FIRE STATION #037	***38318 9TH ST E***	***218-23***
PETRO-LOCK INC	***38206 SIERRA HWY N***	***218-23***
JACOBS OIL INC	***1104 E PALMDALE BLVD***	***224-23,24***
WILSON AMBULANCE SERVICE	***38241 6TH ST E***	***232-23***
LADPW MD-5	***381226 SIERRA HWY***	***232-23***
SOUTHERN PACIFIC - PALMDALE	***38021 SIERRA HWY***	***232-23***
7-11 #15127	2873 R	241-24
ANTELOPE VALLEY TRUCKING	***37900 6TH ST E***	***245-23***
PALMDALE HIGH SCHOOL	***2137 AVE R E***	***246-24***
A V READY MIX	***37815 6TH ST E***	***254-23***
WESTON BUILDERS SUPPLY CO	***37822 N 6TH ST E***	***254-23***

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 10/09/2007 has revealed that there are 10 SWRCY sites within the searched area.

Site	Address	Map ID
LEES BEES	45101 YUCCA AVE	23-12
D & R RECYCLING	326 E AVENUE I	25-12
DIVISION RECYCLE CENTER	43847 DIVISION ST	59-12,15
TOMRA PACIFIC INC	1220 W AVENUE K	85-15
SAV ON DRUG #3708	***43543 20TH ST W***	***88-15***
TOMRA PACIFIC INC/VONS #29	4033 W AVENUE L	123-14
ADAMS STEEL OF LANCASTER	42353 8TH ST EAST	137-15
MARCO RECYCLING CENTER	38223 6TH ST E	232-23
PALMDALE RECYCLING METALS	38022 SIERRA HWY	232-23
A V READY MIX	***37815 6TH ST E***	***254-23***

EXECUTIVE SUMMARY

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 10/10/2007 has revealed that there are 84 LUST sites within the searched area.

Site	Address	Map ID
PRATT & WHITNEY BUILDING	***1899 STAZOL (FLIGHT LIN***	***4-5***
Facility Status: Leak being confirmed		
UNOCAL (DOMINGUEZ FIELD)	17810 CENTRAL AVE S	9-4
Facility Status: Case Closed		
MONAHANS ELECTRIC	***45318 N SIERRA HWY***	***22-12***
Facility Status: Leak being confirmed		
PETRO LOCK INC	***45315 N TREVOR AVE***	***23-12***
PETRO LOCK INC.	45315 TREVOR AVENUE	23-12
Facility Status: Remedial action (cleanup) Underway		
FORM CHEVRON FACILITY #1001488	45218 SIERRA HWY AVE I	23-12
Facility Status: Post remedial action monitoring		
CHEVRON #9-5509	104 AVE I W	23-12
Facility Status: Case Closed		
7-11 #18020	***304 AVE I E***	***25-12***
Facility Status: Case Closed		
SOUTHERN PACIFIC TRANS. CO.	***44922 SIERRA HWY N***	***28-12***
Facility Status: Leak being confirmed		
UNOCAL #0773	***44856 SIERRA HWY***	***28-12***
Facility Status: Case Closed		
Facility Status: Case Closed		
H W HUNTER INC	***44733 N SIERRA HWY***	***28-12***
Facility Status: Case Closed		
CITY OF LANCASTER	***44733 SIERRA HWY N***	***28-12***
Facility Status: Leak being confirmed		
UNKNOWN	***44633 SIERRA HWY N***	***28-12***
Facility Status: Preliminary site assessment underway		
LANCASTER FORD CO	***44614 SIERRA HWY N***	***28-12***
Facility Status: Case Closed		
Facility Status: Case Closed		
HENRY WALSMA	***44354 SIERRA HWY N***	***28-12***
Facility Status: Case Closed		
GORRINDO TEXACO	***44339 SIERRA HWY N***	***28-12***
Facility Status: Remedial action (cleanup) Underway		
CALTRANS LANCASTER	***44023 SIERRA HWY N***	***28-12***
Facility Status: Case Closed		
CALTRANS MAINTENANCE STATION	44023 SIERRA HIGHWAY	28-12
Facility Status: Leak being confirmed		
7-11 #17837	***44011 SIERRA HWY***	***28-12***
Facility Status: Case Closed		
MISSION INDUSTRIES	***44926 YUCCA AVE N***	***31-12***
Facility Status: Case Closed		
LANCASTER MOVING AND STORAGE	***44813 YUCCA AVE N***	***31-12***
Facility Status: Preliminary site assessment underway		

EXECUTIVE SUMMARY

Site	Address	Map ID
ANTELOPE VALLEY BUS INC Facility Status: Case Closed	***44706 YUCCA AVE N***	***35-12***
ANTELOPE VALLEY MOSQUITO ABAT Facility Status: Case Closed	***127 OLDFIELD ST W***	***35-12***
THE DAIRY Facility Status: Case Closed	***44419 DIVISION ST***	***38-12***
SOUTHERN CALIFORNIA GAS COMPAN Facility Status: Leak being confirmed	44416 DIVISION STREET,	38-12
CHEVRON #9-7932 Facility Status: Case Closed	***100 AVE J E***	***38-12***
MOBIL MINI MART Facility Status: Preliminary site assessment underway	101 EAST AVENUE J	38-12
ELITE CAR WASH Facility Status: Leak being confirmed	44267 DIVISION ST. N	41-12
SNAPPS SERVICE CENTER Facility Status: Case Closed	***44209 DIVISION STREET***	***45-12***
JANA STORE FIXTURES Facility Status: Post remedial action monitoring	***123 AVE J-5 W***	***45-12***
CONTINENTAL BAKING Facility Status: Case Closed	***44117 DIVISION ST N***	***45-12***
FORMAL RENTAL SERVICES CORP Facility Status: Case Closed	44110 YUCCA AVE	46-12
UNOCAL BULK PLANT #345 Facility Status: Leak being confirmed	***44141 YUCCA AVE N***	***46-12***
LITTLE OIL COMPANY	44125 N YUCCA AVENUE	46-12
BUTLER SCALES Facility Status: Preliminary site assessment workplan submitted	***43859 SIERRA HWY***	***47-12***
GOODYEAR TIRE Facility Status: Case Closed	***43729 15TH ST W***	***53-12,15***
ANTELOPE VALLEY DISTRIBUTION Facility Status: Case Closed	43851 NORTH DIVISION ST	59-12,15
LANCASTER COMMUNITY HOSPITAL Facility Status: Case Closed	***43830 10TH ST N***	***60-12,15***
CHEVRON STATION 9 7989 Facility Status: Case Closed	***857 W AVE K***	***79-15***
WOODLAND HILLS HONDA Facility Status: Case Closed	***43607 10TH ST W***	***79-15***
LANCASTER RENTALS Facility Status: Case Closed	***43631 SIERRA HWY N***	***80-15***
SHELL SERVICE STATION Facility Status: Case Closed	43620 CHALLENGER WAY	82-15,16
GEMCO STORE #521 FORMER Facility Status: Remedial action (cleanup) Underway	***1333 AVE K W***	***85-15***
ARCO #1917 Facility Status: Case Closed Facility Status: Remediation Plan	***1326 AVE K***	***85-15***
K-20 MINI MART Facility Status: Leak being confirmed	1850 W AVENUE K	88-15

EXECUTIVE SUMMARY

Site	Address	Map ID
RALPH MILLER PROPERTY Facility Status: Case Closed	***42851 SIERRA HWY N***	***118-15***
SUPER KWIK DAIRY Facility Status: Leak being confirmed	4358 W. AVENUE L	125-14
NU-EASE INC Facility Status: Case Closed	***42644 VALLEY LINE RD N***	***128-15***
AV READY MIX Facility Status: Case Closed	***42201 DIVISION ST N***	***140-15***
UNKNOWN Facility Status: Case Closed	***42142 VALLEY LINE RD N***	***150-15***
ARCO #05579 Facility Status: Case Closed	***41923 N SIERRA HWY***	***150-15***
SITE 5 FUEL FARM Facility Status: Preliminary site assessment underway	2501 AVE P E	151-16
SITE 1 TANK 1-1/2 BLDG 147 Facility Status: Pollution Characterization	***1502 AVE M E***	***151-16***
SITE 1 T1-5 BLDG 145 Facility Status: Remedial action (cleanup) Underway	1502 AVE M E	151-16
SITE 1 T1-6 BLDG 198 Facility Status: Case Closed	***1502 AVE M E***	***151-16***
SITE 1 TANK 1-8 BLDG 143 Facility Status: Case Closed	***1502 AVE M E***	***151-16***
SITE 1 TANK 1-11/1-10 BLDG 127 Facility Status: Case Closed	***1502 AVE M E***	***151-16***
SITE 1 T1-4 BLDG 145 Facility Status: Pollution Characterization	1502 AVE M E	151-16
FIRE STATION #129 Facility Status: Case Closed	***421 AVENUE M W***	***153-15***
SITE 4 NORTHROP Facility Status: Case Closed Facility Status: Leak being confirmed	3520 AVE M E	159-16
SITE 2 TANK 2-6/7/8/9/10 B 210 Facility Status: Case Closed Facility Status: Case Closed	***2500 AVE M E***	***161-16***
SITE 2 BLDG 210 Facility Status: Case Closed	***39959 SIERRA HWY***	***174-19***
MASSARIAI Facility Status: Remedial action (cleanup) Underway	***39500 SIERRA HWY***	***188-19***
NORTHRIDGE EQUIPMENT RENTALS/C Facility Status: Leak being confirmed	***38860 N SIERRA HWY***	***207-19***
HDOC #055 Facility Status: Case Closed	***38627 SIERRA HWY N***	***209-23***
GAS CO - HIGH DESERT STA #055 Facility Status: Case Closed	38627 SIERRA HWY N	209-23
KAUFMAN & BOARD OF SO CAL INC Facility Status: Case Closed	***2721 ELIZABETH LAKE RD***	***217-22***
CIRCLE K STORES #5608 Facility Status: Case Closed	***38405 SIERRA HWY N***	***218-23***

EXECUTIVE SUMMARY

Site	Address	Map ID
CITY OF PALMDALE COMMUNITY DEV Facility Status: Preliminary site assessment workplan submitted	38405 N SIERRA HWY	218-23
76 PRODUCT FACILITY #1016 Facility Status: Case Closed	***38405 SIERRA HWY N***	***218-23***
VALLARTA STATION Facility Status: Leak being confirmed	470 EAST PALMDALE BLVD	218-23
LA CO FIRE STATION #037 Facility Status: Case Closed	***38318 9TH ST E***	***218-23***
PIERCE PROPERTY Facility Status: Case Closed	932 EAST AVENUE Q-10	218-23
PETRO-LOCK INC Facility Status: Pollution Characterization	***38206 SIERRA HWY N***	***218-23***
SHELL SERVICE STATION Facility Status: Leak being confirmed Facility Status: Leak being confirmed	1853 PALMDALE BOULEVARD	221-24
JACOBS OIL CO Facility Status: Case Closed	***1518 PALMDALE BLVD E***	***223-24***
WILSON AMBULANCE SERVICE Facility Status: Case Closed	***38241 6TH ST E***	***232-23***
LADPW MD-5 Facility Status: Remediation Plan	***381226 SIERRA HWY***	***232-23***
SOUTHERN PACIFIC - PALMDALE Facility Status: Case Closed	***38021 SIERRA HWY***	***232-23***
7-11 #15127 Facility Status: Case Closed	02873 AVE R E	241-24
ANTELOPE VALLEY TRUCKING Facility Status: Case Closed	***37900 6TH ST E***	***245-23***
PALMDALE HIGH SCHOOL Facility Status: Case Closed	***2137 AVE R E***	***246-24***
A V READY MIX Facility Status: Case Closed	***37815 6TH ST E***	***254-23***
WESTON BUILDERS SUPPLY CO Facility Status: Case Closed	***37822 N 6TH ST E***	***254-23***

CA FID: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 44 CA FID UST sites within the searched area.

Site	Address	Map ID
PETRO LOCK INC	***45315 N TREVOR AVE***	***23-12***
ANTELOPE VALLEY FAIR	***155 E AVENUE I***	***23-12***
PIONEER HONDA	***45005 N SIERRA HWY***	***28-12***
H.W. HUNTER DODGE/CHRYSLER	***44733 N SIERRA HWY***	***28-12***
LANCASTER JEEP EAGLE	***44606 N SIERRA HWY***	***28-12***

EXECUTIVE SUMMARY

Site	Address	Map ID
LITTLE MINI MART #101	***538 W AVENUE J***	***28-12***
THE SOUTHLAND CORP SS 17837	***44011 SIERRA HWY***	***28-12***
MISSION UNIFORM SERVICE	***44926 N YUCCA AVE***	***31-12***
CONSOLIDATED FREIGHTWAYS	***330 W PILLSBURY***	***38-12***
THE DAIRY DIV ST	***44419 DIVISION ST***	***38-12***
ELITE CAR WASH	***44267 N DIVISION ST***	***41-12***
CONTINENTAL BAKING CO	***44177 N DIVISION***	***45-12***
BUTLER'S SCALES	***43857 N SIERRA HWY***	***47-12***
SEARS SERVICE DEPT	***44111 N VUCCA AVE***	***47-12***
LITTLE OIL CO INC	***44125 N YUCCA***	***47-12***
MUNCY CHIROPRACTIC CORP	***43931 N DIVISION ST***	***52-12,15***
GOODYEAR	***43729 W 15TH ST***	***53-12,15***
LANCASTER COMMUNITY HOSPITAL	***43830 10TH ST N***	***60-12,15***
ANTELOPE VALLEY COLLEGE	***3041 W AVENUE K***	***73-14***
LANCASTER RENTALS	***43631 SIERRA HWY N***	***80-15***
CIRCLE K STORE #1355	***111 EAST AVENUE K***	***81-15***
ARCO 361	1326 AVE K	85-15
MOBIL STATION	***2005 W AVE J***	***88-15***
CRUISE THRU DAIRY	***504 E AVE K***	***91-15***
CHEVRON USA	***4163 W AVENUE L***	***121-14***
UNITED PARCEL SERVICE	***290 W AVENUE L***	***122-15***
NU-EASE INC	***42644 N VALLEY LINE RD***	***128-15***
ALEX T PIUOVAROFF SR	***42616 E 2ND ST***	***129-15***
ALEX SANITATION SERV	***323 E AVENUE L-4***	***129-15***
PIPELINE MATERIALS INC	***42525 N VALLEY LINE RD***	***133-15***
THE SOUTHLAND CORP SS 18020	304 E AVE	142-15
AIR FORCE PLANT SITE 3	***300 E AVENUE M***	***156-15***
SITE 2 TANK 2-6/7/8/9/10 B 210	***2500 AVE M E***	***161-16***
NORTHROP CORP B2 DIVISION PALM	***3520 E AVENUE M***	***162-16***
AF PLANT 42, SITE 1(ROCKWELL -	***1500 E AVENUE M***	***163-16***
PALMDALE SCHOOL DIST	***919 E P8 ST***	***199-19***
NORTHRIDGE EQUIPMENT RENTALS/C	***38860 N SIERRA HWY***	***207-19***
TERRIBLE HERBST #66	***556 E PALMDALE BLVD***	***218-23***
DAVID & KAHTLEEN EZRA	***470 E PALMDALE BLVD***	***218-23***
PETRO-LOCK INC.	***38206 N SIERRA HWY***	***218-23***
SOUTHERN PACIFIC TRANSP CO	***38021 N SIERRA HWY***	***232-23***
ANTNLOPE VALLEY TRUCKING	***37900 E N 006TH ST***	***250-23***
WESTON BUILDERS SUPPLY CO	***37822 N 6TH ST E***	***254-23***
JOHN SEILER	***4249 PALMDALE HILLS DR***	***276-27,28***

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 10/10/2007 has revealed that there are 47 UST sites within the searched area.

Site	Address	Map ID
DELORES HOUSE PROPERTY	1483 SIERRA HWY	1-6
GREAT LAKES CARBON CORP.	1050 SIERRA HWY	3-6
PETRO LOCK INC	45315 TREVOR AVE	23-12
LA CO SHERIFF LANCASTER STA	***501 W LANCASTER BLVD***	***28-12***
HADDAD MOBIL SERVICE STA	505 W AVENUE J	28-12
JACOBS OIL CO INC	560 W AVENUE J	28-12

EXECUTIVE SUMMARY

Site	Address	Map ID
THE DAIRY	***44419 DIVISION ST***	***38-12***
SOUTHERN CALIFORNIA GAS CO	44416 DIVISION ST	38-12
MOBIL MINI MART	101 E AVENUE J	38-12
ELITE CAR WASH	44267 DIVISION ST	41-12
LITTLE OIL CO	***44125 YUCCA AVE***	***46-12***
WALSMA OIL INC	***44141 YUCCA AVE***	***46-12***
BUTLER SCALES	***43859 SIERRA HWY***	***47-12***
ANTELOPE VLY DIST F B C IND	43851 DIVISION ST	59-12,15
LANCASTER COMMUNITY HOSPITAL	43830 10TH ST W	60-12,15
LITTLE MINI MART #101	538 W AVENUE J # 101	63-15
CHEVRON USA SS 097989	857 W AVENUE K	79-15
A-1 AUTO REPAIR	43607 SIERRA HWY	80-15
ARCO PRODUCTS #05686	111 W AVENUE K	81-15
TEXACO/EQUILON #61-058-2051	43620 CHALLENGER WAY	82-15,16
ARCO PRODUCTS #01917	1326 W AVENUE K	85-15
GREEN PASTURES DAIRY	1661 W AVENUE K	87-15
K-20 MINI MART	1850 W AVENUE K	88-15
CHEVRON TAJMAHAL	1752 W AVENUE K	88-15
CRUISE THRU DAIRY	504 E AVENUE K	89-15
TOSCO/UNOCAL #30924	43559 10TH ST W	94-15
CHEVRON USA SS 201268	4163 W AVENUE L	121-14
SUPER KWIK DAIRY	4358 W AVENUE L	125-14
DAKOTA VENTURES-LANCASTER	42011 SIERRA HWY	150-15
ARCO PRODUCTS #05579	41923 SIERRA HWY	150-15
NORTHROP/ AFP 42, SITE 4	3520 E AVENUE M	162-16
NORTHROP/ AFP 42, SITE 3	***3000 E AVE M***	***166-16***
PALMDALE SCHOOL DISTRICT	***919 E AVENUE P8***	***194-19,20***
PALMDALE SCHOOL DISTRICT	39139 10TH ST E	201-19,20
NORTHRIDGE EQUIPMENT RENTALS	38860 SIERRA HWY	207-19
CIRCLE K STORES #5608	38405 SIERRA HWY	218-23
TEX-MART	***470 E PALMDALE BLVD***	***218-23***
SOUTHLAND CORP SS 24483	703 E PALMDALE BLVD	218-23
PACIFIC BELL PLDCA01/KC132	***901 E PALMDALE BLVD***	***218-23***
KANGAROO OIL AND MARKET	***960 E PALMDALE BLVD***	***218-23,24***
11TH GAS FOOD MART	***1104 E PALMDALE BLVD***	***218-23***
SONNY SHELL	***1853 E PALMDALE BLVD***	***223-24***
PALMDALE CARWASH	***1520 E PALMDALE BLVD***	***223-24***
JAMAL HADDAD	***1518 E PALMDALE BLVD***	***223-24***
LA CO DPW MD5	38126 SIERRA HWY	233-23
PACIFIC BELL PLDLCA11/KCW35	37241 47TH ST E	258-25
CHEVRON USA SS 205671	37217 47TH ST E	258-25

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 90 HIST UST sites within the searched area.

Site	Address	Map ID
DESERT CONST.	***1515 SIERRA HWY***	***1-6***
GREAT LAKES CARBON CORP.	***1050 SIERRA HIGHWAY***	***2-6***
JOHN CALANDRI FARMS	65TH STREET WEST / GA	5-4
TAPIA BROS. INC.	85TH ST / GASKELL	6-3,4
BEERY RANCH	7531 GASKELL RD	7-4

EXECUTIVE SUMMARY

Site	Address	Map ID
REPEATER BLDG.	45401 SPEARMAN	23-12
PETRO LOCK INC	***45315 N TREVOR AVE***	***23-12***
PETRO-LOCK, INC.	45315 TREVOR AVE	23-12
GRUBL BMW SUBARU	***45201 SIERRA HWY***	***23-12***
WHITE'S ARCO	310 W AVENUE I	23-12
GOLDEN STATE MVG. & STG. CO.,	132 E AVENUE I	23-12
ABC RADIATOR SERVICE	528 W AVENUE I	23-12
GENERAL TELEPHONE CO OF CALIF	***45243 BEECH***	***23-12***
SPARKLETTS DRINKING WATER CORP	45035 TREVOR AVE	23-12
7-ELEVEN STORE #18020 (2144)	305 E AVENUE I	25-12
PIONEER HONDA	45005 SIERRA HWY	28-12
H W HUNTER INC	***44733 N SIERRA HWY***	***28-12***
LANCASTER FORD LINC/MERCURY	44606 SIERRA HWY	28-12
THE OIL EXCHANGE	44451 SIERRA HWY	28-12
DEPT OF PUBLIC WORKS	***419 W AVENUE J***	***28-12***
CEDAR-J CARWASH	560 W AVENUE J	28-12
WHITE'S ARCO	538 W AVENUE J	28-12
LANCASTER	44023 SIERRA HWY	28-12
7-11 #17837	***44011 SIERRA HWY***	***28-12***
DESERT INDUSTRIAL SUPPLY	44929 YUCCA AVE	31-12
MISSION UNIFORM SERVICE	***44926 N YUCCA AVE***	***31-12***
DESERT MOVING & STORAGE CO., I	44814 YUCCA AVE	31-12
ANTELOPE VALLEY WAREHOUSE	44720 YUCCA AVE	35-12
FACILITIES OFFICE	44711 CEDAR AVE	37-12
CONSOLIDATED FRIGHTWAYS	330 W PILLSBURY ST	38-12
GOLDEN PAC FOODS	330 W PILLSBURY ST	38-12
THE DAIRY	***44419 DIVISION ST***	***38-12***
LANCASTER	44416 DIVISION ST	38-12
TEXACO	211 W AVENUE J	38-12
97932	100 E AVENUE J	38-12
LITTLE OIL CO	***44125 YUCCA AVE***	***46-12***
ACME RENTS	***44110 YUCCA AVE***	***46-12***
SEARS SERVICE DEPT.	***44111 YUCCA AVE***	***46-12***
UNION OIL SERVICE STATION #034	44141 YUCCA AVE	46-12
DESERT MINE INDUSTRIES	43857 SIERRA HWY	47-12
MAIN PLACE OF BUSINESS	43851 SIERRA HWY	47-12
MUNCY CHIROPRACTIC CORP.	43931 DIVISION ST	52-12,15
ANTELOPE VALLEY COLLEGE AUTO	3041 W AVENUE K	73-14
ANTELOPE VALLEY COMMUNITY COLL	3041 W AVENUE K	73-14
CHEVRON	***857 W AVENUE K***	***79-15***
SEARS, ROEBUCK & CO.	828 W AVENUE K	79-15
LANCASTER RENTALS	***43631 SIERRA HWY N***	***80-15***
CIRCLE K STORE #1355	***111 EAST AVENUE K***	***81-15***
DIGAS	1333 W AVENUE K	85-15
GOODYEAR TIRE CENTER #1771	1303 W AVENUE K	85-15
LARRY BRUCE & ROBERT DREWLO	***1326 W AVENUE K***	***85-15***
H & E DO-IT-YOURSELF CENTERS	1308 W AVENUE K	85-15
THE LITTLE STORE	***604 E AVENUE K***	***89-15***
LANCASTER CENTER	290 W AVENUE L	122-15
C.A. RASMUSSEN, INC.	42725 2ND ST E	127-15
NU-EASE INC	***42644 VALLEY LINE RD***	***128-15***
ALEX J. PIVOVAROFF, JR.	323 E. AVE. L-4	129-15
DAVID A. AND PATRICIA Q. FOX	42525 VALLEY LINE RD	133-15
R.S. STODDARD COMPANY	42525 VALLEY LINE RD	133-15
A.V. READY MIX, INC.	42201 DIVISION ST	140-15
YENTES WELDING	42209 5TH ST E	143-15

EXECUTIVE SUMMARY

Site	Address	Map ID
FIRE STATION #129	421 E AVENUE M	152-15
ANTELOPE VALLEY F.D. DISPATCH	421 E AVENUE M	152-15
CATES CONSTRUCTION, INC.	213 E AVENUE M	156-15
SITE 3, AIR FORCE PLANT 42	3000 EAST AVENUE "M"	159-16
SITE 1, AIR FORCE PLANT 42	1500 E AVENUE M	163-16
FIRE STATION # 24	1050 W AVENUE P	178-19
GASCO SERVICE STATION #055	38627 NORTH SIERRA HWY	209-23
UNION OIL SERVICE STATION #101	38405 SIERRA HWY	218-23
STATION #1016	38405 SIERRA HWY	218-23
DAVE'S UNION 76	38405 SIERRA HWY	218-23
7-ELEVEN STORE #24483 (2144)	38400 SIERRA HWY	218-23
TERRIBLE HERBST #66	556 E PALMDALE BLVD	218-23
PALMDALE TEXACO.	470 E PALMDALE BLVD	218-23
PACIFIC BELL (KC-132)	***901 E PALMDALE BLVD***	***218-23***
KANGAROO OIL SERVICE STATION	***960 E PALMDALE BLVD***	***218-23,24***
FIRE STATION #37	38318 9TH ST E	218-23
PETRO-LOCK - KWIK OIL	38206 SIERRA HWY	218-23
PALMDALE GREEN PASTURES DAIRY	38415 20TH ST E	221-24
PALMDALE & 20 ST SHELL STATION	***1853 E PALMDALE BLVD***	***223-24***
JACOBS OIL	1518 E PALMDALE BLVD	223-24
DAVE ELLIATTS CAR SALES	1361 E PALMDALE BLVD	224-23,24
DAVE ELLECITTS CAR SALES	1361 E PALMDALE BLVD	224-23,24
PALMDALE STATION	38021 SIERRA HWY	232-23
A-1 RENTALS	831 E AVENUE R	232-23
MAINTENANCE DISTRICT #5	38126 SIERRA HWY	233-23
7-ELEVEN STORE # 15127 (2144)	2873 E AVENUE R	241-24
ANTELOPE VALLEY TRUCKING COMPA	37900 6TH ST E	245-23
PALMDALE READY MIX	37815 6TH ST E	254-23
WESTON BUILDERS SUPPLY CO	37822 6TH ST E	254-23

AST: The Aboveground Storage Tank database contains registered ASTs. The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the AST list, as provided by EDR, and dated 09/17/2007 has revealed that there are 3 AST sites within the searched area.

Site	Address	Map ID
LA COUNTY FIRE DEPT STATION 13	43225 N 25TH ST W	112-14
LA COUNTY FIRE DEPT STATION 24	1050 W AVENUE P	178-19
LA COUNTY FIRE DEPT STATION 37	38318 E 9TH ST EAST	218-23

SWEEPS: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1980's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 95 SWEEPS UST sites within the searched area.

EXECUTIVE SUMMARY

Site	Address	Map ID
DESERT CONST.	*1515 SIERRA HWY*	*1-6*
LA CO FD FIRE STA #117	*45550 N DIVISION ST*	*18-12*
PETRO LOCK INC	*45315 N TREVOR AVE*	*23-12*
ANTELOPE VALLEY FAIR	*155 E AVENUE I*	*23-12*
JIM PROTHRO AUTOMOTIVE	*226 W AVE I*	*23-12*
WHITES BLACK GOLD OIL CO #151	*310 W AVE I*	*23-12*
GENERAL TELEPHONE CO OF CALIF	*45243 BEECH*	*23-12*
SPARKLETTS DRINKING WATER CORP	*45035 N TREVOR AVE*	*23-12*
THE SOUTHLAND CORP SS 18020	*304 E AVE I*	*25-12*
PIONEER HONDA	*45005 N SIERRA HWY*	*28-12*
H.W. HUNTER DODGE/CHRYSLER	*44733 N SIERRA HWY*	*28-12*
LANCASTER JEEP EAGLE	*44606 N SIERRA HWY*	*28-12*
LUTHER RAY JACKSON	*44503 N SIERRA HWY*	*28-12*
DEPT OF PUBLIC WORKS	*419 W AVENUE J*	*28-12*
HADDAD MOBIL SERVICE STA	*505 W AVE J*	*28-12*
LITTLE MINI MART #101	*538 W AVENUE J*	*28-12*
JACOBS OIL CO INC	*44339 N SIERRA HWY*	*28-12*
CALIF DEPT OF TRANSPORTATION	*44023 N SIERRA HWY*	*28-12*
THE SOUTHLAND CORP SS 17837	*44011 SIERRA HWY*	*28-12*
MISSION UNIFORM SERVICE	*44926 N YUCCA AVE*	*31-12*
W B CARTER & D L CARTER TRUST	*44706 N YUCCA AVE*	*35-12*
ANTELOPE VALLEY MOSQUITO ABAT	*127 W OLDFIELD ST*	*35-12*
LANCASTER SCHOOL DISTRICT	*44711 N CEDAR AVE*	*37-12*
CONSOLIDATED FREIGHTWAYS	*330 W PILLSBURY*	*38-12*
THE DAIRY DIV ST	*44419 DIVISION ST*	*38-12*
SO CALIF GAS CO	*44416 N DIVISION ST*	*38-12*
JACOBS OIL CO INC	*221 W AVE J*	*38-12*
CHEVRON USA SS 7932	*100 E AVE J*	*38-12*
JACOBS OIL CO. INC.	*101 E AVE J*	*38-12*
ELITE CAR WASH	*44267 N DIVISION ST*	*41-12*
S E MOORTHY	*44209 N DIVISION ST*	*45-12*
CONTINENTAL BAKING CO	*44177 N DIVISION*	*45-12*
WALSMA OIL INC	*44141 YUCCA AVE*	*46-12*
BUTLER'S SCALES	*43857 N SIERRA HWY*	*47-12*
SEARS SERVICE DEPT	*44111 N VUCCA AVE*	*47-12*
LITTLE OIL CO INC	*44125 N YUCCA*	*47-12*
LIONS CONSTRUCTION	*44033 N DIVISION*	*49-12*
MUNCY CHIROPRACTIC CORP	*43931 N DIVISION ST*	*52-12,15*
GOODYEAR	*43729 W 15TH ST*	*53-12,15*
LANCASTER COMMUNITY HOSPITAL	*43830 10TH ST N*	*60-12,15*
WICKS LUMBER	43755 DIVISION ST	66-15
ANTELOPE VALLEY COLLEGE	*3041 W AVENUE K*	*73-14*
CHEVRON	*857 W AVENUE K*	*79-15*
LANCASTER FIRESTONE	*735 W AVE K*	*79-15*
LANCASTER RENTALS	*43631 SIERRA HWY N*	*80-15*
CARLON AUTO SALES	*43555 N SIERRA HWY*	*80-15*
CIRCLE K STORE #1355	*111 EAST AVENUE K*	*81-15*
ARCO #1917	*1326 AVE K*	*85-15*
GREEN PASTURES DAIRY	*1661 W AVE K*	*87-15*
ALAMEDA MANAGEMENT CO #554	*2033 W AVE J*	*88-14,15*
MOBIL STATION	*2005 W AVE J*	*88-15*
CRUISE THRU DAIRY	*504 E AVE K*	*91-15*
CHANG HYON CHOE	*628 E AVE K*	*91-15*
U-HAUL	*42925 N SIERRA HWY*	*118-15*
CHEVRON USA	*4163 W AVENUE L*	*121-14*
UNITED PARCEL SERVICE	*290 W AVENUE L*	*122-15*

EXECUTIVE SUMMARY

Site	Address	Map ID
NU-EASE INC	***42644 N VALLEY LINE RD***	***128-15***
ALEX T PIUOVAROFF SR	***42616 E 2ND ST***	***129-15***
ALEX SANITATION SERV	***323 E AVENUE L-4***	***129-15***
PIPELINE MATERIALS INC	***42525 N VALLEY LINE RD***	***133-15***
A V READY MIX INC	***42201 N DIVISION ST***	***140-15***
A V READY MIX	42201 SIERRA HWY	140-15
GARY INGLETT	42142 VALLEY LINE RD	150-15
ARCO FACILITY NO 05579	***41923 SIERRA HWY***	***150-15***
AIR FORCE PLANT SITE 3	***300 E AVENUE M***	***156-15***
LA CO FD FIRE STA #129	***421 W AVE M***	***160-15***
SITE 2 TANK 2-6/7/8/9/10 B 210	***2500 AVE M E***	***161-16***
NORTHROP CORP B2 DIVISION PALM	***3520 E AVENUE M***	***162-16***
AF PLANT 42, SITE 1(ROCKWELL -	***1500 E AVENUE M***	***163-16***
LA CO FD FIRE STA #024	***1050 W AVE P***	***178-19***
PALMDALE SCHOOL DIST	***919 E P8 ST***	***199-19***
NORTHRIDGE EQUIPMENT RENTALS/C	***38860 N SIERRA HWY***	***207-19***
GASCO	***38627 N SIERRA HWY***	***209-23***
UNOCAL CORP SS 1016	***38405 N SIERRA HWY***	***218-23***
TERRIBLE HERBST #66	***556 E PALMDALE BLVD***	***218-23***
DAVID & KAHTLEEN EZRA	***470 E PALMDALE BLVD***	***218-23***
PACIFIC BELL PLDCA01/KC132	***901 E PALMDALE BLVD***	***218-23***
KANGAROO OIL SERVICE STATION	***960 E PALMDALE BLVD***	***218-23,24***
JAZZY J'S HOUSE OF RIBS	***906 E PALMDALE BLVD***	***218-23***
VACANT - SERV STA	***38258 N SIERRA HWY***	***218-23***
VACANT	38240 SIERRA HWY	218-23
PETRO-LOCK INC.	***38206 N SIERRA HWY***	***218-23***
PALMDALE & 20 ST SHELL STATION	***1853 E PALMDALE BLVD***	***223-24***
COMMUNITY CAR CENTER	***1520 E PALMDALE BLVD***	***223-24***
JACOBS OIL CO INC	***1518 E PALMDALE BLVD***	***223-24***
PALMDALE AUTO CENTER	***1540 PALMDALE BLVD***	***223-24***
DRAMIS, JAMES-AUTO REPAIR	***1361 E PALMDALE BLVD***	***224-23,24***
JACOBS OIL INC	***1104 E PALMDALE BLVD***	***224-23,24***
SOUTHERN PACIFIC TRANSP CO	***38021 N SIERRA HWY***	***232-23***
ANTELOPE VALLEY REFRIGERATING	***602 E AVE R***	***232-23***
ROAD ELEMENT MD5	***38126 N SIERRA HWY***	***233-23***
THE SOUTHLAND CORP SS 15127	***2873 E AVE R***	***241-24***
ANTNLOPE VALLEY TRUCKING	***37900 E N 006TH ST***	***250-23***
WESTON BUILDERS SUPPLY CO	***37822 N 6TH ST E***	***254-23***
JOHN SEILER	***4249 PALMDALE HILLS DR***	***276-27,28***

CHMIRS: The California Hazardous Material Incident Report System contains information on reported hazardous material incidents, i.e., accidental releases or spills. The source is the California Office of Emergency Services.

A review of the CHMIRS list, as provided by EDR, and dated 12/31/2005 has revealed that there are 16 CHMIRS sites within the searched area.

Site	Address	Map ID
Not reported Not reported Date Completed: 06-NOV-89	1050 SIERRA HWY, CROSS AVE "D" 1/4 MI W/SIERRA	3-6 13-7,9
Not reported Not reported Date Completed: 18-DEC-90	501 WEST LANCASTER BLVD SIERRA HWY @ AVENUE "J"	28-12 28-12

EXECUTIVE SUMMARY

Site	Address	Map ID
Not reported	43731 22ND ST EAST	68-16
Not reported	3728 SPICE ST.	83-14
Not reported	1155 AUTOMALL DRIVE	102-15
Not reported	1155 AUTO MALL DR	102-15
Not reported	3059 BRENTWOOD AVE	106-14
Not reported	43243 16TH ST WEST	108-15
Not reported	42936 36TH STREET WEST	119-14
Not reported	8TH ST / AVE P LOCKHEED	173-19
Date Completed: 07-AUG-88		
Not reported	39224 BUCKSKIN CT	195-18,19
Not reported	38659 SIERRA HWY	209-19,23
Date Completed: 25-JAN-88		
Not reported	2415 OAKCREST AVE	252-24
Not reported	37520 70TH ST EAST	259-25

DRYCLEANERS: A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaners' agents; linen supply; coin-operated laundries and cleaning; drycleaning plants except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

A review of the CLEANERS list, as provided by EDR, and dated 07/31/2007 has revealed that there are 18 CLEANERS sites within the searched area.

Site	Address	Map ID
GEORGES CLEANERS	***44759 N BEECH AVE***	***28-12***
CENTURY 1 HR CLEANERS	***551 W AVE J***	***28-12***
SCOTT S AUTO TECH	310 NICOBAR ST	35-12
SEARS SERVICE DEPT.	***44111 YUCCA AVE***	***46-12***
STANLEY STEAMER CARPET CLEANER	***314 E AVENUE K STE 205***	***77-15***
DONNA HAMILTON DBA GADSDEN CLE	***43535 GADSDEN AVE STE G***	***79-15***
STARLA JOHNSON DBA GADSDEN CLE	***43535 GADSDEN AVE STE G***	***79-15***
COMMERCE CLEANERS	***1068 W AVE K***	***86-15***
WEST SIDE CLEANERS	***4029 W AVE L***	***123-14***
WESTSIDE CLEANERS	4029 W AVENUE L	123-14
AV TRUCK REPAIR	42425 5TH ST E UNIT A	134-15
AV TRUCK REPAIR	42425 5TH ST E UNIT B	134-15
FLUMS MACHINE FACTORY	39450 3RD ST E STE 132	189-19
CYCLE ZONE 1	38619 6TH ST. EAST	214-23
MIRACLE CLEANERS	***38456 N SIERRA HWY***	***218-23***
A PRO CLEANERS	***533 E PALMDALE BLVD UNI***	***218-23***
GATEWAY CLEANERS	***1813-A PALMDALE BLVD***	***223-24***
ALFA CLEANERS	***4626 E AVE S STE A***	***268-25***

EXECUTIVE SUMMARY

WIP: Well Investigation Program case in the San Gabriel and San Fernando Valley area.

A review of the WIP list, as provided by EDR, and dated 09/30/2007 has revealed that there is 1 WIP site within the searched area.

Site	Address	Map ID
MISSION INDUSTRIES	***44926 YUCCA AVE N***	***31-12***
Facility Status: Historical		

CDL: A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

A review of the CDL list, as provided by EDR, and dated 09/30/2007 has revealed that there are 34 CDL sites within the searched area.

Site	Address	Map ID
Not reported	46121 53RD ST WEST	14-10,11
Not reported	45731 48TH ST WEST	17-11
Not reported	501 LANCASTER BLVD	28-12
Not reported	44725 FOXTON AVE.	34-12
Not reported	44740 GINGHAM AVE	36-12
Not reported	44324 BEECH AVE	42-12
Not reported	44301 CEDAR ST	43-12
Not reported	43907 17TH STREET EAST	54-13,16
Not reported	1117 WEST AVENUE J10	56-12,15
Not reported	43844 EMILE ZOLA ST	58-13,16
Not reported	10TH ST WEST / AVENUE	60-15
Not reported	43733 ADLER AVE	67-15
Not reported	1225 FRANKLIN	75-16
Not reported	43548 KIRKLAND AVE, #30	92-15
Not reported	43363 16TH ST WEST, APT	99-15
Not reported	43230 GADSDEN AVE, UNIT	111-15
Not reported	42307 7TH ST EAST	138-15
Not reported	4373 QUARTZ HILL RD	168-14
Not reported	38934 8TH ST EAST	206-19
Not reported	3461 ELIZABETH LAKE RD	212-18,22
Not reported	38540 3RD STREET EAST	216-23
Not reported	551 E AVENUE 99	218-23
Not reported	38515 LILACVIEW AVE	219-24
Not reported	38308 JEANETTE ST	226-24
Not reported	3524 EAST AVENUE R, #30	237-24
Not reported	3255 E AVENUE R	239-24
Not reported	37951 MELTON AVE	244-24
Not reported	1302 AVENUE R-2	247-24
Not reported	37826 BIRCH TREE LANE	249-24
Not reported	3094 E AVENUE R6	255-24
Not reported	4856 E AVENUE R12	261-25
Not reported	37350 50TH STREET EAST	262-25
Not reported	4137 E AVENUE S10	272-24,25
Not reported	4057 AVENUE T-2	274-24

EXECUTIVE SUMMARY

RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the RESPONSE list, as provided by EDR, and dated 08/28/2007 has revealed that there are 2 RESPONSE sites within the searched area.

Site	Address	Map ID
GREAT LAKES CARBON CORP.	***1050 SIERRA HIGHWAY***	***2-6***
AVENUE A UNAUTHORIZED DISPOSAL	***AVENUE A 1-1/2 MILE EAS***	***11-7***

HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests & continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, & disposal method. The source is the Department of Toxic Substance Control is the agency

A review of the HAZNET list, as provided by EDR, and dated 12/31/2006 has revealed that there are 428 HAZNET sites within the searched area.

Site	Address	Map ID
AUTO PROS II	1525 SIERRA HWY	1-6
HARRY HAWATMEH	300 SIERRA HWY	10-6,7
SWIFT TRANSPORTATION INC	2801 W AVENUE H	16-11
RITE AID SOUTHWEST DISTRIBUTIO	2801 W AVENUE H	16-11
A V COLLISION REPAIRS INC	***45351 N DIVISION ST***	***20-12***
CITY OF LANCASTER	45356 DIVISION ST	20-12
A.V. COLLISION REPAIRS	***45351 N DIVISION ST***	***20-12***
GENERAL AUTO WRECKING	45339 DIVISION	20-12
BRIGHT LATH & PLASTER INC	45331 N DIVISION ST	20-12
CITY OF LANCASTER	45333 4TH ST E	21-12
CITY OF LANCASTER DEPT OF PUBL	45337 3RD ST	21-12
CITY OF LANCASTER PUBLIC WORKS	346 E AVENUE H13	21-12
CITY OF LANCASTER	331 E AVENUE H13	21-12
CITY OF LANCASTER	45317-45325 3RD ST E	21-12
CITY OF LANCASTER	315 E AVENUE H14	21-12
LARRY LILLEY MOTORCYCLE	***45345 SIERRA WAY***	***22-12***
PETRO LOCK INC	45315 TREVOR AVE	23-12
PETRO LOCK INC	***45315 N TREVOR AVE***	***23-12***
KNIGHT ENGINEERING	45322 NO TREVOR AVE	23-12
L&M AUTO BODY	***45116 N YUCCA***	***23-12***
DRAKE AUTOMOTIVE	45255 N TREVOR AVE	23-12
VICS BIMMER SHOP	45253 N TREVOR AVE	23-12
L & M AUTO BODIES	45116 NORTH YUCCA ST	23-12
A V AUTO BODY & TRUCK	***45231 N TREVOR AVE***	***23-12***
ROCCOS HONDA AUTO SPEC	45239 N DIVISION	23-12
GOLDEN EAGLE COLLISION	***45232 TREVOR AVE***	***23-12***
DESERT BODY WORKS	***420 WEST AVE I***	***23-12***
WINSTON TIRE COMPANY #27	45201 SIERRA HIGHWAY	23-12
INTERNATIONAL CAR CONNECTION	***45201 N SIERRA HWY***	***23-12***
GRUBL BMW SUBARU	***45201 SIERRA HWY***	***23-12***
TOMS BODY SHOP	***202 W AVENUE I***	***23-12***
FOREIGN CAR SPECIALISTS	212 WEST AVENUE I	23-12
LITTLE DESIGNS	420 W AVENUE I	23-12
CITY OF LANCASTER	528 W AVENUE I	23-12

EXECUTIVE SUMMARY

Site	Address	Map ID
L & S AUTOMOTIVE	528 WEST AVENUE I	23-12
CITY OF LANCASTER	518 W AVENUE I	23-12
AV AUTO CLINIC	359 W AVE I	23-12
AV KAWASAKI-YAMAHA	400 WEST AVE I	23-12
A. V. ENGINES	383 WEST AVE. I	23-12
4 M H INC DBA A V AUTO PAINT &	339 WEST AVE I	23-12
BOB HOWLE AUTO	***226 W AVE I***	***23-12***
HIROS TRANS	***150 E AVE STE I***	***23-12***
VERIZON CA INC LANCASTER PY	***45243 N BEECH AVE***	***23-12***
SIERRA TOYOTA INC	***45134 SIERRA HWY***	***23-12***
SIERRA AUTOMOTIVE AND TOWING	***45134 N TREVOR***	***23-12***
REID'S SIERRA AUTO BODY	45116 N YUCCA AVE	23-12
AMERICAN WRECKING INC	45117 SIERRA HWY	23-12
THE MOVING CONNECTION	45059 N TREVOR AVE	23-12
CALCOL INC DBA CALIFORNIA COLL	***45050 N TREVOR AVE***	***23-12***
MAGNA COLOR	45024 N TREVOR AVE	23-12
CITY OF LANCASTER/PUBLI WORKS	45036-45058 BEECH AVE	28-12
YARMINE DRIVELINES	***45057 SIERRA HIGHWAY***	***28-12***
YARMAN DRIVE SHAFTS	45057 N SIERRA HWY	28-12
CITY OF LANCASTER	45057 SIERRA HWY	28-12
CITY OF LANDCASTER	45057 BEECH AVE	28-12
CITY OF LANCASTER	45033 SIERRA HWY	28-12
CITY OF LANCASTER PUBLIC WORKS	45039 BEECH AVE	28-12
CITY OF LANCASTER	45031 SIERRA HWY	28-12
CITY OF LANCASTER PUBLIC WORKS	45029 BEECH AVE	28-12
L. A. CNTY SHERIFF'S DEPT/SSB-	45021 N SIERRA HWY	28-12
JOHNSON CONTROLS - LANCASTER S	501 W LANCASTER BLVD	28-12
LACO SHERIFF'S DEPT/LANCASTER	501 W LANCASTER BLVD	28-12
JOHNSON CONTROLS LANCASTER STA	501 W LANCASTER BLVD	28-12
CITY OF LANCASTER	***44907 N. SIERRA HWY.***	***28-12***
CITY OF LANCASTER	557 W LANCASTER BLVD	28-12
CITY OF LANCASTER	44856 SIERRA HIGHWAY	28-12
UNOCAL #0773	***44856 SIERRA HWY***	***28-12***
CITY OF LANCASTER	44846 N SIERRA HWY	28-12
GEORGES CLEANERS	***44759 N BEECH AVE***	***28-12***
H W HUNTER INC	***44733 N SIERRA HWY***	***28-12***
H.W. HUNTER DODGE/CHRYSLER	***44733 N SIERRA HWY***	***28-12***
EAGLE AUTO BODY	***44624 NO SIERRA HWY***	***28-12***
AAMCO TRANSMISSION	44617 SIERRA HWY	28-12
HP TRANSMISSION CENTER	44615 N SIERRA HWY	28-12
B.M. STARKSEN INC	44613 N SIERRA HWY	28-12
LANCASTER JEEP RENAUL	***44606 SIERRA HWY***	***28-12***
DISCOUNT TIRE CENTERS #124	44556 N SIERRA HWY	28-12
LINGAIAH JANUMPALLY	44517 SIERRA HWY	28-12
ELISA BLANCO	44500 SIERRA HWY	28-12
CORONA CAR CARE	44500 NORTH SIERRA HWY.	28-12
DOMINATOR MOTORSPORTS	***44500 N SIERRA HWY***	***28-12***
PUNKY'S AUTO BODY & PAINT	44500 N SIERRA HWY	28-12
OIL RITE	44451 SIERRA HWY	28-12
CAMACHO AUTO SALES	44446 N SIERRA HWY	28-12
SIERRA MOWER AND CHAINSAW	***44435 SIERRA HWY***	***28-12***
MIDAS MUFFLER & BRAKE SHOP	44430 N SIERRA HWY	28-12
LA CNTY DEPT OF PUBLIC WORKS	419 WEST AVENUE J	28-12
LOS ANGELES COUNTY DEPT OF PUB	419 W AVENUE J	28-12
QUALITY 45-MINUTE PHOTO	540 W AVE "J"	28-12
CENTURY 1 HR CLEANERS	***551 W AVE J***	***28-12***

EXECUTIVE SUMMARY

Site	Address	Map ID
CITY OF LANCASTER	540 W AVENUE J	28-12
HADDAD MOBIL MINI MART	505 WEST AV J	28-12
ROBERT GORRINDO	44339 NORTH SIERRA HIGH	28-12
7-11 #17837	***44011 SIERRA HWY***	***28-12***
DESERT WINDS HIGH SCHOOL	45030 N 3RD STREET E	29-12
LEO'S AUTO BODY WORKS	45003 YUCCA AVE	30-12
UNO VETERINARY CORPORATION	44848 N YUCCA AVE	31-12
ANTELOPE VALLEY HIGH SCHOOL	44900 DIVISION ST	32-12
ANTELOPE VALLEY HIGH SCHOOL	***44900 N DIVISION STREET***	***32-12***
SOUTHERN CALIFORNIA EDISON	44900 DIVISION ST	32-12
AVUSD - MAINTENECE OFFICE	44865 3RD ST E	33-12
GERSTENBERGER CONSTRUCTION COR	310 NEWGROVE ST	35-12
INDUSTRIAL RADIATOR & MUFFLER	***44706 YUCCA AVE***	***35-12***
ADAMS METALLIZING	***44632 TREVOR ST***	***35-12***
CALIFORNIA COLLISION CENTER	312 WEST NORBERRY	35-12
ACTION AUTO BODY AND PAINT'	***312 W NORBERRY***	***35-12***
BLUE STREAK AUTOMOTIVE	321 W NUGENT	35-12
LANCASTER BODY AND FRAME	***226 WEST NUGENT ST***	***35-12***
AFFORDABLE AUTO BODY & PAINT	118 W NUGENT ST	35-12
LANCASTER AUTOMOTIVE	202 WEST OVINGTON	35-12
LANCASTER SCHOOL DISTRICT	***44711 N CEDAR AVE***	***37-12***
THE DAIRY	***44419 DIVISION ST***	***38-12***
SO CALIF GAS CO	***44416 N DIVISION ST***	***38-12***
CHEVRON STATION #97932	100 EAST AVENUE J	38-12
CHEVRON 97932	100 E AVENUE J	38-12
THE FOOTHEALTH CENTER OF ANTEL	44300 N DIVISION STREET	41-12
LUXURY AUTO SPA	44267 DIVISION ST	41-12
SNAPP SERVICE CENTER	44209 NORTH DIVISION ST	45-12
ANTELOPE VALLEY CHIROPRACTIC G	44130 NORTH DIVISION ST	45-12
CONTINENTAL BAKING COMPANY	44117 N DIVISION	45-12
TIP TOP TREE SVC	***44107 N YUCCA***	***46-12***
ACME RENTS	***44110 YUCCA ST***	***46-12***
ACME RENTS INC	44110 YUCCA AVE	46-12
SEARS ROEBUCK AND CO.	44111 YUCCA	46-12
SEARS ROEBUCK CO	***44111 YUCCA ST***	***46-12***
WALSMA OIL CO. INC. BULK PLANT	44141 NORTH YUCCA AVENU	46-12
UNOCAL 76 BULK PLANT #300345	44141 NORTH YUCCA AVENU	46-12
44125 YUCCA, LLC/LITTLE OIL CO	44125 YUCCA AVE	46-12
BUTLER SCALES	***43859 SIERRA HWY***	***47-12***
CALTRANS DISTRICT 7/LANCASTER	***44023 SIERRA HWY***	***50-12***
CANDY'S AUTO ELECTRIC	43939 DIVISION ST	52-12,15
CANDYS AUTO SVC	***43939 DIVISION ST***	***52-12,15***
WAYNE & DAVE'S AUTOMOTIVE	43937 DIVISION ST	52-12,15
MUNCY CHIROPRACTIC OFFICE	43931 DIVISION ST	52-12,15
HONDAMOTION	43941 NORTH DIVISION ST	52-12,15
CITY OF LANCASTER	43903 DIVISION ST	52-12,15
CAPTAIN KS ONE HR PHOTO	***43907 N 15TH ST WEST***	***53-12,15***
ONE HOUR COLOR PHOTO	***43805 N 15TH ST W***	***53-12,15***
MARK C BLOOME	43729 W 15TH STREET	53-12,15
CASSON & SONS GOODYEAR INC	***43729 15TH ST W***	***53-12,15***
SPEEDEE OIL CHANGE & TUNE-UP	43750 N 15TH WEST	53-15
HEIDI'S CHILDREN'S DENTAL CENT	43731 N 15TH ST, WEST,	53-15
THE TIRE STORE	***43923 SIERRA HWY***	***55-12,15***
1X GLATFELTER, CURTIS	43843 DIVISION AVE	59-12,15
WALLIS BURKITT	43827 N. DIVISION STREE	59-12,15
HIGH DESERT OCCUPATIONAL MEDIC	43835 N 10TH ST WEST	60-12,15

EXECUTIVE SUMMARY

Site	Address	Map ID
LANCASTER COMMUNITY HOSPITAL	***43830 10TH ST N***	***60-12,15***
DAVID M.KERN,DDS	43823 NORTH 10TH ST.WES	60-15
LAMEER MD	43807 N 10TH ST WEST,#D	60-15
ROBERT R LAWRENCE MD	43847 N HEATON AVE STE	62-15
LANCASTER CARDIOLOGY MEDICAL G	43847 N HEATON AVE STE	62-15
GILBERT WHITCOMB CONSTRUCTION	43819 LONE OAK	64-15
UNITED STATES POST OFFICE	43824 20TH ST WEST	65-15
STOCK COMPONENTS INC	43755 DIVISION ST	66-15
RIDERS CHOICE	43719 SIERRA HWY	69-15
HASSAN BACCHUS, MD INC	43723 20TH ST W #101	70-15
ANTELOPE VALLEY MRI	***43713 N 20TH ST W***	***70-15***
KARREY MORRISON	43725 N 27TH ST WEST	71-14
ANTELOPE VALLEY COLLEGE	***3041 W AVENUE K***	***73-14***
PRO TRANS	43657 MOCCASIN PLACE	74-14
RAYMOND SERVIN	1225 FRANKLIN	75-16
STANLEY STEAMER CARPET CLEANER	***314 E AVENUE K STE 205***	***77-15***
CINDY BOWEN	43616 DEJAY STREET	78-14,15
CHEVRON 97989	857 W AVE K	79-15
KEMMA INC	43607 NORTH 10ST WEST	79-15
LANCASTER FIRESTONE	***735 W AVE K***	***79-15***
LOWES HIW - LANCASTER #2502	730 W AVENUE K	79-15
1 DAY PAINT & BODY CENTERS INC	803 W AVENUE K	79-15
SUNSHINE CLEANERS	43535 GADSDEN AVE STE G	79-15
DONNA HAMILTON DBA GADSDEN CLE	***43535 GADSDEN AVE STE G***	***79-15***
GADSDEN CLEANERS	43535 GADSDEN AVE SUITE	79-15
STARLA JOHNSON DBA GADSDEN CLE	***43535 GADSDEN AVE STE G***	***79-15***
UNITED RENTALS INC #561	43631 SIERRA HIGHWAY	80-15
LANCASTER RENTALS	***43631 SIERRA HWY N***	***80-15***
NORTH VALLEY VETERINARY CLINIC	43619 N SIERRA HIGHWAY	80-15
ERNIE KAPPAS	***43607 N SIERRA HWY***	***80-15***
ARCO PRODUCTS COMPANY	111 WEST AVE K	80-15
LANCASTER ECONOMIC DEVELOPMENT	104 AVENUE K EAST	81-15
CIRCLE K STORES INC.#1355	111 EAST AVENUE K	81-15
PRESTIGE STATIONS INC #5345	111 WEST AVENUE K	81-15
PETRO SERVICES	43581 N DIVISION ST	81-15
TEXACO SERVICE STATION	***43620 CHALLENGER***	***82-15,16***
CHIEF AUTO PARTS #29810	1000 EAST AVE K	82-15,16
TOYS R US	***1333 W AVE K***	***85-15***
ARCO PRODUCTS COMPANY	1326 W AVENUE K	85-15
LARRY BRUCE & ROBERT DREWLO	***1326 W AVENUE K***	***85-15***
KRAGEN AUTO PARTS #345	1242 WEST AVENUE K	85-15
SMILECARE FAMILY DENTISTRY #75	1228 W AVENUE K	85-15
ANTELOPE VALLEY DENTISTRY	1228 WEST AVENUE K	85-15
BACK IN A FLASH	1220 WEST AVENUE K	85-15
GREEN PASTURES DAIRY	***1661 W AVE K***	***87-15***
CHIROPRACTIC OFFICE OF JOSEPH	2061 WEST AVE K	88-14,15
LANCASTER PET CLINIC	2060 WEST AVE K	88-14,15
K 20 MINI MART	1850 W AVE K	88-15
DAN ARY, TRUSTEE	1850 WEST K AVENUE	88-15
SAV ON DRUG #3708	***43543 20TH ST W***	***88-15***
ALBERTSONS 6322	43543 20TH ST WEST	88-15
SMITH FOOD ONE-HOUR PHOTO #708	43543 20TH STREET WEST	88-15
THE LITTLE STORE	***604 E AVENUE K***	***89-15***
OLYMPIA DENTAL CENTER	822 EAST AVENUE K	90-15
BOB ARBETMAN'S UNION 76	43559 NORTH 10TH STREET	94-15
A V CHIRO-SPORT	1146 COMMERCE CENTER DR	95-15

EXECUTIVE SUMMARY

Site	Address	Map ID
FRAZEE PAINT # 52	1206 COMMERCE CENTER DR	95-15
FRAZEE PAINT # 52	1206 COMMERCE CENTER DR	95-15
HARDWAY MANUFACTURING INC	43424 COPELAND CIRCLE	97-15
NORTHROP GRUMMAN CORP	314 E AVE K4	97-15
BURGESS AUTO BODY PAINT	***146 E AVE K 4 SUITE A***	***98-15***
COUNTY SANITATION DISTS OF LOS	43422 10TH ST WEST	100-15
LA COUNTY SANITATION DISTRICTS	43422 10TH ST W	100-15
COUNTY SANITATION DIST OF LOS	43422 10TH ST. WEST	100-15
LA COUNTY SANITATION DISTRICTS	43422 10TH STREET WEST	100-15
ANTELOPE VALLEY FORD	***1155 AUTOMALL DR***	***102-15***
H W HUNTER INC	1130 AUTO MALL DR	102-15
H W HUNTER	***1130 AUTO MALL DR***	***102-15***
SIERRA TOYOTA	***43301 12TH ST W***	***102-15***
AERO BENDING CO	***43328 N DIVISION ST***	***103-15***
ATKINSONS ASSOC	233 EAST AVE K6	103-15
LANCASTER AUTO GROUP	***43244 DRIVERS WY***	***105-15***
LANCASTER HONDA	***43226 DRIVERS WAY***	***105-15***
KAISER PERMANENTE	43112 15TH STREET WEST	107-15
RADFORD CABINETS INC	216 E AVENUE K8	113-15
B & M GREEN ENTERPRISES	43121 VENTURE	114-15
LANCE CAMPER MANUFACTURING	43120 VENTURE ST	114-15
L.A. COUNTY WATERWORK DISTRICT	43205 NO. DIVISION ST.	116-15
ADHOR FARMS	***43061 N SIERRA HWY***	***116-15***
DELUXE CHECK PRINTERS INC	***42933 BUSINESS CENTER P***	***117-15***
U-HAUL COMPANY OF CALIFORNIA	42925 SIERRA HWY	118-15
CAMACHO AUTO SALES INC	42907 SIERRA HWY	118-15
NATIONAL WATER WORKS HDWW1790	***42839 N SIERRA HWY***	***118-15***
INEZ CRAVENS	***42831 N SIERRA HIGHWAY***	***118-15***
STEVENS CONSTRUCTIONS	530 WEST AVE L	120-15
CHEVRON STATION 20 1268	***4163 W AVE L***	***121-14***
SAV-ON #9618	4105 W AVENUE L	121-14
CVS PHARMACY # 9618	4105 W AVENUE L	121-14
SAV ON DRUG #3018	4105 W AVENUE L	121-14
UNITED PARCEL SERVICE, INC	290 WEST AVENUE L	122-15
WEST SIDE CLEANERS	***4029 W AVE L***	***123-14***
VONS NO 29	***4033 W AVE L***	***123-14***
THE MOVING STORE	42755 SIERRA HWY	126-15
NU EASE INC	42644 VALLEY LINE RD	128-15
NU-EASE INC	***42644 VALLEY LINE RD***	***128-15***
KARS	42635 SIERRA HWY	128-15
DEBELLING & HOLMES	42618 4TH ST E	130-15
BILL'S LANDSCAPING INC	42536 4TH ST EAST	131-15
HARDCAST ENT INC	***42525 5TH ST EAST***	***132-15***
SOUTHLAND FRAMERS INC	42307 4TH ST EAST	135-15
UNDERGROUND UNLIMITED	42353 8TH ST E	137-15
PRAFUL AMIN	42307 6TH STREET	139-15
ANTELOPE VALLEY CARB	***42239 SIERRA HWY***	***140-15***
KARCO TRANSMISSIONS	42211 SIERRA HWY	140-15
DALES HITCHIN STATION INC	***42207 3RD ST E***	***142-15***
DALES HITCHIN STATION INC	42207 N 3RD ST E	142-15
BFI WASTE SYSTEMS OF NORTH AME	42159 N 3RD ST E	142-15
COUNTY OF LA DEPT OF PUBLIC WO	42007 NORTH 40TH ST EAS	144-16
SUPER LIGHTS INC	42155 8TH ST EAST	145-15
SUPER LIGHTS INC	42144 8TH ST EAST	145-15
NATIONAL METAL STAMPINGS INC	42110 8TH ST E	145-15
HIGH SIERRA GENERAL ENGINEERIN	42148 4TH ST EAST	146-15

EXECUTIVE SUMMARY

Site	Address	Map ID
D CONSTRUCTION	42111 5TH ST E	147-15
STORE STUFF	42133 CHALLENGER WAY	148-15,16
LOS ANGELES FIRE DEPARTMENT	***42110 SIXTH ST WEST***	***149-15***
SOIL TECH INC	42104 6TH ST EAST	149-15
ARCO PRODUCTS COMPANY	41923 SIERRA HWY	150-15
BP WEST COAST PRODUCTS LLC 055	41923 SIERRA HWY	150-15
ARCO FACILITY NO 05579	***41923 SIERRA HWY***	***150-15***
A A PORTANOVA & SONS INC	42021 4TH ST E	152-15
AVENUE M AUTOMOTIVE	***461 EAST AVE M***	***152-15***
GRANITE CONSTRUCTION COMPANY	213 EAST AVENUE M	156-15
CIRCULATION AIR INC	***1109 W AVE M***	***157-15,16***
AG SOD FARMS INC	41120 40TH ST EAST	158-16
NORTHROP CORP B2 DIVISION PALM	***3520 E AVENUE M***	***162-16***
AF PLANT 42, SITE 1(ROCKWELL -	***1500 E AVENUE M***	***163-16***
GAUR ENTERPRISE INC	41923 SIERRA HWY	169-15
PACIFIC BELL	39959 SIERRA HWY	174-19
ANTELOPE VALLEY COUNTRY CLUB I	39800 COUNTRY CLUB DR	175-19
ANTELOPE VALLEY COUNTRY CLUB	***39800 COUNTRY CLUB DR***	***175-19***
THE PICTURE PEOPLE INC	***1233 W AVENUE P UNIT 40***	***176-19***
CIRCLE CEE PRECISION	39725 SIERRA HWY	177-19
RITZ/KITS CAMERA #938	1233 W AVE P STE 1107	178-19
LA COUNTY FIRE DEPT #27	1050 WEST AVENUE P	178-19
MIZAR INC	1040 W AVE P	178-19
UNOCAL #5673	1022 W AVENUE P	178-19
UNOCAL #5673	***1022 W RANCHO VISTA BLV***	***178-19***
LA CO FD FIRE STA #024	***1050 W AVE P***	***178-19***
GRACE VENTURS LLC	39525 W 10TH ST	178-19
TELESIS COLLISION CENTER	636 EAST AVENUE P	179-19
MAACO AUTOPAINTING AND BODYWOR	***520 E AVE P***	***179-19***
LOWE'S HIW-PALMDALE #791	39500 LOWES DR	180-19
LOWES HIW	39500 LOWES DR	180-19
WASHINGTON MUTUAL BANK	1261 W AVENUE P	181-19
KIT'S CAMERA #116	1233 WEST AVENUE "P"	181-19
EXPRESSLY PORTRAITS INC	***1233 W AVENUE P UNIT 40***	***181-19***
SEARS ROEBUCK AND CO 1068/6098	1345 WEST AVENUE P	182-19
EXXONMOBIL OIL CORPORATION	520 W AVENUE P	183-19
Not reported	***520 AVE P***	***183-19***
THE HOME DEPOT #638	340 WEST AVE P	183-19
WAL-MART STORE #1660	320 WEST AVENUE P	184-19
WESTERN DENTAL SERVICES, INC.	510 W AVE P	184-19
MIKE FREEMAN'S GERMAN AUTOMOTI	39450 STREET EAST	187-19
C AND T MACHINING	39450 3RD ST EAST	187-19
BROTHERS SWISS INC	39450 3RD ST EAST #107	187-19
BLACKWELLS IMPORT SERVICE CENT	39450 3RD ST E STE 113	187-19
TRI-MAR PRECISION INC	39450 3RD ST EAST STE 1	189-19
WINNEL DEVELOPMENT CORPORATION	39450 3RD ST E STE 134	189-19
EXPRESS STOP PHOTO (TARGET #06	39440 10TH ST WEST	190-19
1 X TARGET	39440 10TH STREET W.	190-19
TITEQ CORP	39360 3RD ST EAST UNIT	192-19
R B MACHINING, INC.	39360 3RD ST EAST UNIT	192-19
R B MACHINING	39360 3RD ST EAST UNIT	192-19
PALMDALE SCHOOL DISTRICT	39210 NO TENTH ST EAST	194-19,20
PALMDALE SCHOOL DISTRICT	***919 E AVENUE P8***	***194-19,20***
TEJON CONSTRUCTORS INC	926 E AVENUE P-8	194-19,20
STEVE BROWN	2002 COMSTOCK CRT	197-19
DEPT AIRPORTS-CITY OF LA	2044 E AVENUE P8	198-20

EXECUTIVE SUMMARY

Site	Address	Map ID
PROFESSIONAL PIPELINE	39130 3RD STREET	200-19
HIGHLAND AUTO BODY AND PAINT	39126 3RD ST E	200-19
VISION AUTO BODY & COLLISION	39126 3RD STREET EAST	200-19
ANDRE'S AUTO BODY	39126 3RD ST EAST	200-19
LAIDLAW TRANSIT, INC	***39110 3RD STREET, EAST***	***200-19***
CITY OF PALMDALE - 3RD ST MAIN	39110 3RD ST E	200-19
CITY OF PALMDALE 3RD ST MAINT	39110 3RD ST E	200-19
PALMDALE SCHOOL DIST	39139 -10TH ST EAST	201-19,20
CITY PALMDALE - PUBLIC WORKS	39015 STANRIDGE AVE	205-19
NORTHRIDGE EQUIPMENT RENTAL	***38860 N SIERRA HWY***	***207-19***
AR AUTOBODY & PAINT	38820 3RD ST EAST	208-19,23
AR AUTO BODY & PAINT	38820 3RD ST EAST	208-19,23
SANDY HARMON/MCAULIFFE MECHANI	38822 THIRD STREET EAST	208-19,23
CITY OF PALMDALE	38647 SIERRA HIGHWAY	209-23
GASCO	***38627 N SIERRA HWY***	***209-23***
INDUSTRIAL RADIATOR & MUFFLER	38755 6TH ST.	210-19,23
HIGH DESERT AUTO ELECTRIC	38744 6TH ST E UNIT E	210-19,23
FRENCYS DENT SHOP	***38744 N 6TH ST EAST UNI***	***210-19,23***
DESERT RADIATOR & WELDING	38744 6TH ST E	210-19,23
AR AUTOBODY & PAINT	38702 6TH ST E	210-19,23
ABLE SPECIALTY CARS	38633 NORTH 6TH STREET	214-19,23
COUNTRY AUTOMOTIVE	38545 6TH ST E	214-23
PRECISION AUTO BODY	***38554 6TH STREET EAST***	***214-23***
VALLEY VOLKSWAGEN AND HONDA	***38525 N 6TH ST E***	***214-23***
PALMDALE COLLISION CENTER	38540 6TH ST E	214-23
RIGHT PERFORMANCE	38545 6TH ST B	214-23
HANKS SERVICE CENTER	***38519 6TH ST***	***214-23***
LARRYS VALUE AUTO CENTER	38475 6TH ST E	214-23
PALMDALE COLLISON CENTER	38475 6TH ST EAST	214-23
PALMDALE RADIATOR	38475 6TH ST E UNIT 1B	214-23
E & H ENTERPRISE	38453 6TH ST EAST UNIT	214-23
CITY OF PALMDALE	38465-69 SIERRA HWY	218-23
MIRACLE CLEANERS	***38456 N SIERRA HWY***	***218-23***
PACC AUTOMOTIVE	***38446 8TH ST E***	***218-23***
MY AUTO SHOP	38446 8TH ST EAST	218-23
J FOSTER WEEMS DDS	829 EAST AVE Q-7	218-23
CITY OF PALMDALE	38443 SERRIA HWY	218-23
HOME SAVINGS OF AMERICA	38434 9TH ST E	218-23
76 PRODUCT FACILITY #1016	***38405 SIERRA HWY N***	***218-23***
DR. MD HOPPER, DC	465 E PALMDALE BLVD,#A	218-23
7-ELEVEN STORE 24483	38400 N SIERRA HWY	218-23
TERRIBLE HERBST GAS STATION	556 E PALMDALE BLVD	218-23
SIGNS & DESIGNS	821 E AVE Q-7	218-23
REGINA ISAAC	470 E PALMDALE BLVD	218-23
PALMDALE PITSTOP	38411 10TH ST EAST	218-23,24
7-ELEVEN #24483	***703 E PALMDALE BLVD***	***218-23***
CSI INC/CARGO SOLUTION INC	470 E PALMDALE BLVD	218-23
ONE HOUR PHOTO MASTERS	***533 E PALMDALE BLVD STE***	***218-23***
DANIEL E WILDES JR DC INC	***509 E PALMDALE BLVD STE***	***218-23***
A PRO CLEANERS	***533 E PALMDALE BLVD UNI***	***218-23***
PACIFIC BELL	***901 PALMDALE BLVD***	***218-23***
AUTOZONE #5460	***1138 E PALMDALE BLVD***	***218-23,24***
KANGAROO OIL AND MARKET	***960 E PALMDALE BLVD***	***218-23,24***
MIDAS MUFFLER SHOP	***926 EAST PALMDALE BLVD***	***218-23***
NOBBYS AUTO PARTS	838 E PALMDALE BLVD	218-23
CITY OF PALMDALE	***38363 NO SIERRA HWY***	***218-23***

EXECUTIVE SUMMARY

Site	Address	Map ID
LOS ANGELES COUNTY FIRE DEPART	38318 E 9TH ST EAST-STA	218-23
WILLIAM PIERCE	932 E AVENUE Q # 10	218-23
CITY OF PALMDALE	904 E AVENUE Q10	218-23
CITY OF PALMDALE	926 E AVENUE Q-11	218-23
PETRO-LOCK	38206 NORTH SIERRA HWY	218-23
SOUTHERN PACIFIC TRANSPORTATIO	38201 SIERRA HIGHWAY	218-23
SHELL SERVICE STATION	***1853 E PALMDALE***	***221-24***
WESTERN MEDICAL GROUP	2151 EAST PALMDALE BLVD	221-24
VALLARTE SUPERMARKETS	1803 PALMDALE BLVD	221-24
SMITH'S FOOD & DRUG CENTERS IN	38360 20TH ST EAST	221-24
ROMEO I STOLL DDS MS INC	38431 20TH ST EAST	221-24
SHELL	1853 E PALMDALE	223-24
GATEWAY CLEANERS	***1813-A PALMDALE BLVD***	***223-24***
FOUR STAR PRINTING	1647 EAST PALMDALE BLVD	223-24
THE CHIROPRACTIC CLINIC	1543 E PALMDALE BLVD,	223-24
COMMUNITY CAR CENTER	***1520 E PALMDALE BLVD***	***223-24***
HAPPY MOON INC DBA PALMDALE CA	1520 E PALMDALE BLVD	223-24
CAMINO WEST COAST SERVICES INC	1540 E PALMDALE BLVD	223-24
PERFORMANCE AUTO CARE	1550 E PALMDALE BL	223-24
PALMDALE FAST LUBE	1560 E PALMDALE BLVD,_#	223-24
JACOBS OIL CO	***1518 PALMDALE BLVD E***	***223-24***
PALMDALE AUTO CENTER	***1540 PALMDALE BLVD***	***223-24***
PALMDALE ARMORY CA ARNG	38315 NO 30TH STREET EA	227-24
A & E AUTOMOTIVE	38304 6TH ST EAST UNIT	228-23
ANTELOPE VALLEY RADIATOR SVC	38304 6TH ST E #B	228-23
CITY OF PALMDALE COURSON SHOP	38233 11TH STREET E	230-23,24
CITY OF PALMDALE	38211 10TH ST E	231-23,24
BDR INC	38244 6TH ST E	232-23
WILSON AMBULANCE SERVICE	***38241 6TH ST E***	***232-23***
PALMDALE UNI-BODY & FRAME	38018 9TH ST E	232-23
PALMDALE UNI-BODY AND FRAME	38018 9TH ST E	232-23
CASSON SONS GOODYEAR	***37957 SIERRA HWY***	***232-23***
JAMES A ANDERSON	***37922 SIERRA HWY***	***232-23***
L.A. PUBLIC WORKS	38126 N. SIERRA HWY	233-23
ROAD ELEMENT MD5	***38126 N SIERRA HWY***	***233-23***
ANTELOPE VALLEY BAPTIST CHURCH	38117 13TH ST EAST	234-24
CITY OF PALMDALE	38115 30TH ST EAST	235-24
CITY OF PALMDALE	38115 30TH ST W	235-24
PALMDALIA APTS	38040 11TH ST	238-23,24
COLOR RITE DISTRIBUTING	1817 E AVE Q UNIT C24	240-24
BRUCE & TINA'S SERVICE CENTER	1817 EAST AVE Q UNIT-	240-24
THE SOUTHLAND CORP SS 15127	***2873 E AVE R***	***241-24***
PALMDALE HIGH SCHOOL	2137 E AVENUE R	242-24
TRI VALLEY AUTO BODY AND FRAME	***524 E AVENUE R***	***243-23***
QUALITY AUTOMOTIVE	37959 6TH ST EAST	245-23
WARP'D PAINT	37925 6TH ST E STE 408	245-23
SIERRA AUTO BODY	***37835 N SIERRA HWY***	***248-23***
SIERRA AUTO BODY	37835 SIERRA HWY	248-23
COLORMASTERS PRINTING	37824 5TH ST EAST	251-23
ARMANDO AUTO BODY SHOP & PAINT	37824 5TH ST EAST UNIT	251-23
RPF PRECISION	37824 5TH ST EAST UNIT	251-23
ARMANDO BODY SHOP	37824 5TH ST EAST UNIT	251-23
SMITH AND THOMPSON PUMPING CO	***2208 GREGORY AVE***	***256-24***
ROBERT SCHACK	37207 47TH ST	258-25
TEXACO REFINING & MARKETING, I	37204 47TH	258-25
LISA KNIBBS	37237 MAHONIA AVE	265-25

EXECUTIVE SUMMARY

Site	Address	Map ID
CHEVRON STATION NO 205671	***37217 47TH ST E***	***266-25***
ALFA CLEANERS	***4626 E AVE S STE A***	***268-25***

Emissions Inventory Data: Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies

A review of the EMI list, as provided by EDR, and dated 12/31/2005 has revealed that there are 103 EMI sites within the searched area.

Site	Address	Map ID
RITE AID	2801 W. AVENUE H	16-11
A.V. COLLISION REPAIRS	***45351 N DIVISION ST***	***20-12***
PETRO LOCK INC	***45315 N TREVOR AVE***	***23-12***
L&M AUTO BODY	***45116 N YUCCA***	***23-12***
A V AUTO BODY & TRUCK	***45231 N TREVOR AVE***	***23-12***
EBY'S BODY SHOP	45240 TREVOR	23-12
GOLDEN EAGLE COLLISION	***45232 TREVOR AVE***	***23-12***
TOMS BODY SHOP	***202 W AVENUE I***	***23-12***
CALIFORNIA COLLISION CENTER	45050 N. TREVOR AVENUE	23-12
CALCOL INC DBA CALIFORNIA COLL	***45050 N TREVOR AVE***	***23-12***
MAGNA COLOR	45024 N. TREVOR AVE	23-12
ANTELOPE VALLEY ROOFING CO.,IN	45253 SPEARMAN AVE	24-12
LACO SHERIFF'S DEPT. -LANCASTE	501 WEST LANCASTER BLVD	28-12
GEORGES CLEANERS, GEORGES PULO	44759 BEECH AVE.	28-12
H. W. HUNTER INC	44733 NO. SIERRA HWY	28-12
FIVE STAR AUTO BODY	44733 NORTH SIERRA HIGH	28-12
EAGLE AUTO BODY	***44624 NO SIERRA HWY***	***28-12***
LANCASTER JEEP EAGLE	***44606 N SIERRA HWY***	***28-12***
EARL SCHEIB AUTO PAINTING	44500 N SIERRA HWY	28-12
DEPT OF PUBLIC WORKS	***419 W AVENUE J***	***28-12***
CASA DE MIGUEL, DBA MIGUEL MON	44245 N. SIERRA HWY.	28-12
CARLS JR. #64	44361 NORTH SIERRA HIGH	28-12
DESERT INN RESTAURANT, ETAL GA	44219 N. SIERRA HWY.	28-12
LEO'S AUTO BODY	45003 N. YUCCA AVE	30-12
MISSION LINEN SUPPLY INC	44926 N. YUCCA AVE	31-12
A. V. CUSTOM PLATING	***44813 N YUCCA AV***	***31-12***
BOWEN ELECTRIC INC	318 W NEWGROVE ST	35-12
INDUSTRIAL RADIATOR & MUFFLER	***44706 YUCCA AVE***	***35-12***
ACTION AUTO BODY AND PAINT'	***312 W NORBERRY***	***35-12***
LANCASTER BODY AND FRAME	44603 TREVOR ST	35-12
LANCASTER BODY & FRAME, DICK M	226 W. NUGENT ST.	35-12
THE CHERRY SHOP,GEOFFREY N LAN	118 NUGENT ST	35-12
US POLE /SUPERIOR POWDER COATI	124 WEST OVINGTON ST.	35-12
SO CAL GAS CO	***44416 DIVISION ST***	***38-12***
SCG - LANCASTER DISTRICT	44416 N. DIVISION ST	38-12
ACME RENTS	***44110 YUCCA AVE***	***46-12***
UNION OIL OF CAL	***44141 N YUCCA AV***	***46-12***
FRESH AIR ENVIRONMENTAL	44063 BEECH AVE, 44900	48-12
LANCASTER COMMUNITY HOSPITAL	43830 10TH STREET WEST	60-12,15
LANCASTER COMMUNITY HOSPITAL	***43830 10TH ST N***	***60-12,15***
BURGER KING	43627 NORTH 15TH STREET	72-15
ANTELOPE VALLEY COLLEGE	***3041 W AVENUE K***	***73-14***
GADSDEN CLEANERS, DBA DONNA HA	43535 GADSDEN AV, #G	79-15

EXECUTIVE SUMMARY

Site	Address	Map ID
MR. KAY'S, ANDREW KAPPAS DBA	235 WEST AVENUE K	80-15
GTE OF CAL	43508 20TH	88-15
VERIZON GC 529	43508 20TH STREET WEST	88-15
VERIZON GC 532	43534 22ND STREET	93-16
TARGET 245	43525 N 10TH ST. WEST	94-15
HBT&F, INC	43451 GADSDEN	96-15
VERIZON GC 644	43334 5TH STREET EAST	101-15
PHOENIX INTERNATIONAL HOTEL	43321 N. SIERRA HWY	104-15
BRUNSWICK SANDS BOWL	43233 SIERRA HIGHWAY	109-15
DELUXE MANUFACTURING OPERATION	42933 BUSINESS CENTER P	117-15
BUILDERS CABINETS, JIM EUDY DB	212 E AVENUE 'L'	124-15
WALKER CASTING & FABRICATION	42525 5TH STREET 'E'	132-15
HARDCAST ENT INC	***42525 5TH ST EAST***	***132-15***
WOODY'S UNFINISHED FURNITURE	42425 5TH STREET EAST	134-15
A V READY MIX INC	***42201 N DIVISION ST***	***140-15***
DALE'S HITCHIN' STATION INC	42209 3RD ST EAST	142-15
LACO (ISD) - 4TH STREET WEST	42011 4TH STREET WEST	152-15
ROCKWELL INTL CORP, NORTH AMER	3000 E AVENUE M,PLANT 4	159-16
NORTHROP CORP, SITE 4	3520 EAST AVENUE M	162-16
NORTHROP GRUMMAN, CORP	3520 EAST AVENUE 'M'	162-16
NORTHROP CORP B2 DIVISION PALM	***3520 E AVENUE M***	***162-16***
ROCKWELL INTERNATIONAL - NAAO	1500 EAST AVENUE 'M'	163-16
BOEING REUSABLE SPACE SYSTEMS	1500 E. AVENUE M	163-16
BOEING SITE 1-TEAM PALMDALE ED	1500 E. AVENUE M	163-16
SHUTTERS BY ANGEL	811 EAST AVENUE M	164-15
A. BIEDERMAN INC	190 SIERRA COURT, UNIT	171-15
THE PICTURE PEOPLE INC	***1233 W AVENUE P UNIT 40***	***176-19***
CARLS JR. #619	1031 W. AVENUE P	178-19
FIBER IMAGES	624 EAST RANCHO VISTA B	179-19
TELESIS COLLISION	636 E. RANCHO VISTA BLV	179-19
SIGNS AND DESIGNS	620 E. RANCHO VISTA BLV	179-19
ANTELOPE VALLEY MALL	1233 RANCHO VISTA BLVD	181-19
TARGET CORPORATION T-685	39440 10TH ST. WEST	190-19
PALMDALE SCHOOL DISTRICT	39149 N. 10TH ST EAST	194-19,20
MURPHY SAFETY SWITCH OF CAL	39210 N. 10TH ST. EAST	194-19,20
ANDRE'S AUTO BODY	39126 3RD STREET EAST	200-19
CITY OF PALMDALE	39110 3RD. ST. EAST	200-19
NORTHRIDGE EQUIPMENT RENTALS/C	***38860 N SIERRA HWY***	***207-19***
THE DENT SHOP, WAYNE ROBERTS D	38744 6TH STREET EAST #	210-19,23
SUPER STRIPES	38565-38567 6TH ST	214-23
PRECISION AUTO BODY	***38554 6TH STREET EAST***	***214-23***
WARMAN IND INC	38554 6TH ST EAST	214-23
PALMDALE COLLISION CENTER, A	38540 6TH EAST, UNIT A	214-23
CAL GAS-PALMDALE INC	38476 NO. 6TH STREET EA	214-23
E & H ENTERPRISE	38453 6TH ST, UNIT E	214-23
MIRACLE CLEANERS, W.B. JERNIGA	38456 N SIERRA HWY	218-23
PACIFIC BELL DBA SBC	901 E. PALMDALE BLVD	218-23
PACIFIC BELL (KC-132)	***901 E PALMDALE BLVD***	***218-23***
LACO SHERIFF'S DEPT-PALMDALE S	1020 EAST PALMDALE BLVD	218-23,24
PALMDALE CITY HALL	38300 SIERRA HWY	218-23
GATEWAY CLEANERS, YOUNG IL KAN	1813-A PALMDALE BL	223-24
ANTELOPE VALLEY MORTUARIES	38141 N. 6TH STREET EA	232-23
PALMDALE UNI-BODY AND FRAME	38018 N. 9TH STREET EAS	232-23
PALMDALE BODY SHOP,RON GUDIM D	38018 N 9TH ST EAST	232-23
LACO DPW-PALMDALE SHOP	38126 SIERRA WAY	233-23
ROAD ELEMENT MD5	***38126 N SIERRA HWY***	***233-23***

EXECUTIVE SUMMARY

Site	Address	Map ID
MCADAM PARK - CITY OF PALMDALE	38115 30TH ST. EAST	235-24
TRI VALLEY AUTO BODY AND FRAME	***524 E AVENUE R***	***243-23***
ARK ANIMAL REMOVAL AND KREMATI	37925 6TH STREET EAST,	245-23
SIERRA AUTO BODY	***37835 N SIERRA HWY***	***248-23***

HAULERS: A listing of registered waste tire haulers.

A review of the HAULERS list, as provided by EDR, and dated 09/17/2007 has revealed that there is 1 HAULERS site within the searched area.

Site	Address	Map ID
THE TIRE STORE	43923 SIERRA HIGHWAY	55-12,15

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 08/28/2007 has revealed that there are 5 ENVIROSTOR sites within the searched area.

Site	Address	Map ID
GREAT LAKES CARBON CORP. Facility Status: Refer: Other Agency	***1050 SIERRA HIGHWAY***	***2-6***
AVENUE A UNAUTHORIZED DISPOSAL Facility Status: Active	***AVENUE A 1-1/2 MILE EAS***	***11-7***
REX PERRIS VALLEY CONTINUATION Facility Status: No Further Action	***AVENUE Q/6TH STREET***	***210-19,23***
GATEWAY CLEANERS Facility Status: Refer: 1248 Local Agency	1813-A E. PALMDALE BLVD	223-24
PONDEROSA ELEMENTARY SCHOOL Facility Status: No Further Action	***PEARBLOSSOM HIGHWAY/37T***	***273-24***

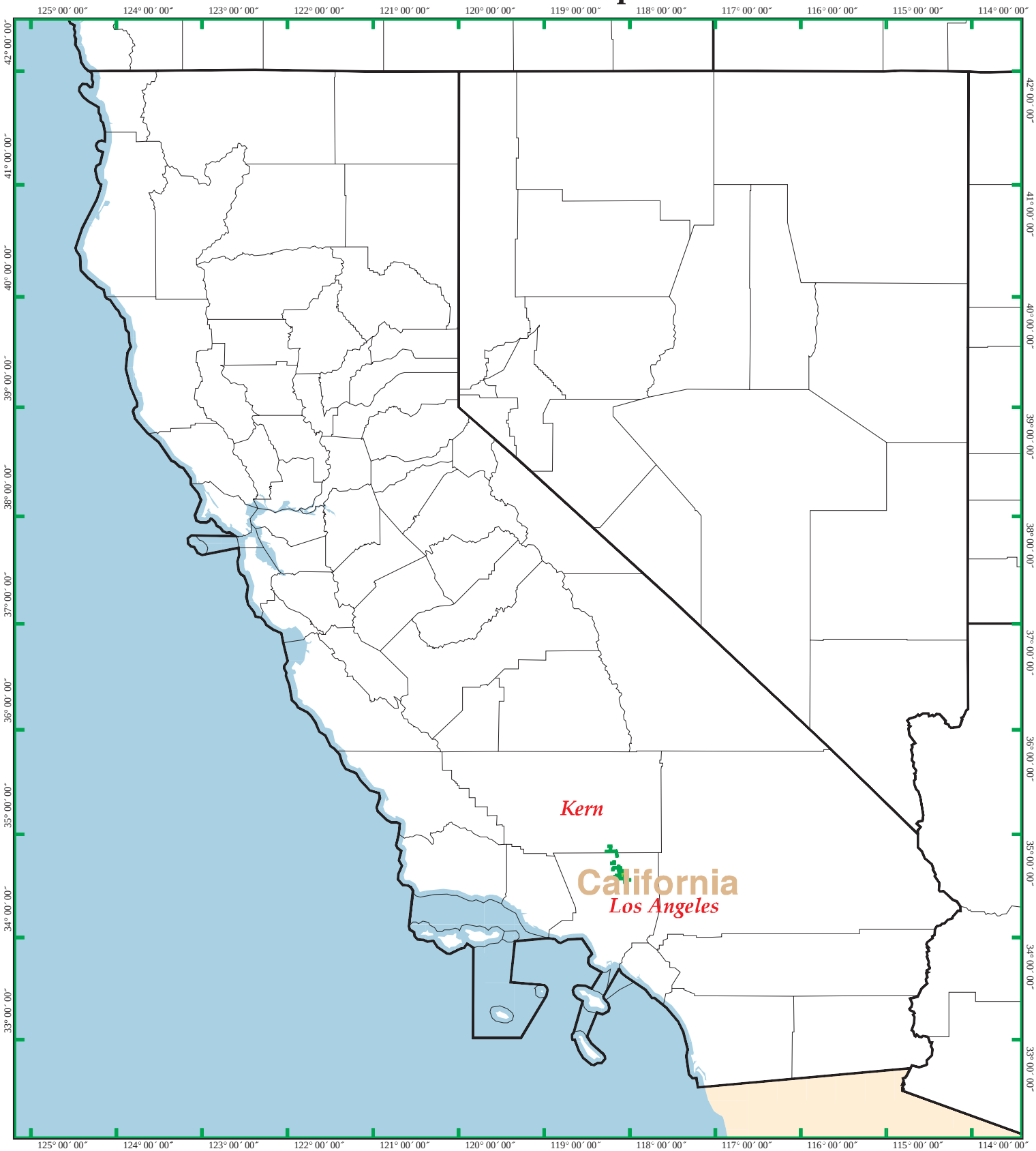
EXECUTIVE SUMMARY

Please refer to the end of the findings report for unmapped orphan sites due to poor or inadequate address information.

Section 1

Overview and Key Map

Overview Map



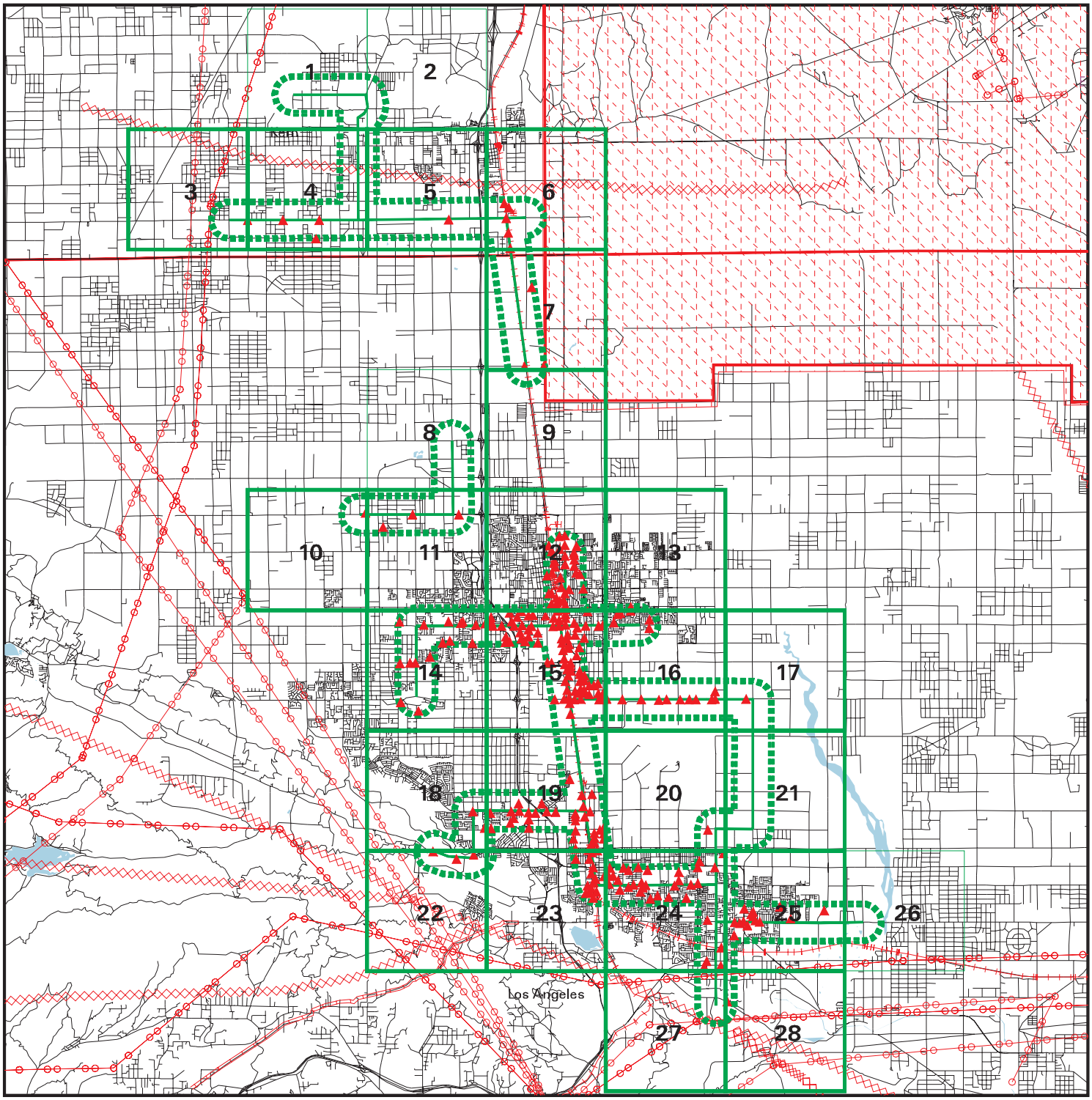
EDR DataMap® - Environmental Atlas

LA/Kern County Recycle Water Facility

EDR Environmental Data Resources Inc

N

Key Map



EDR DataMap® - Environmental Atlas

LA/Kern County Recycle Water Facility

Legend

Roads
Major Roads
Contour Lines
Waterways
Railroads
Study Boundary
Powerlines
Pipelines
Fault Lines
Indian Reservations BIA
Water
Superfund Sites
Federal DOD Sites
Listed Sites

N

0 3 6

Scale in Miles

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APPENDIX G

FLOOD INSURANCE RATE MAPS

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

LOS ANGELES COUNTY, CALIFORNIA
(UNINCORPORATED AREAS)

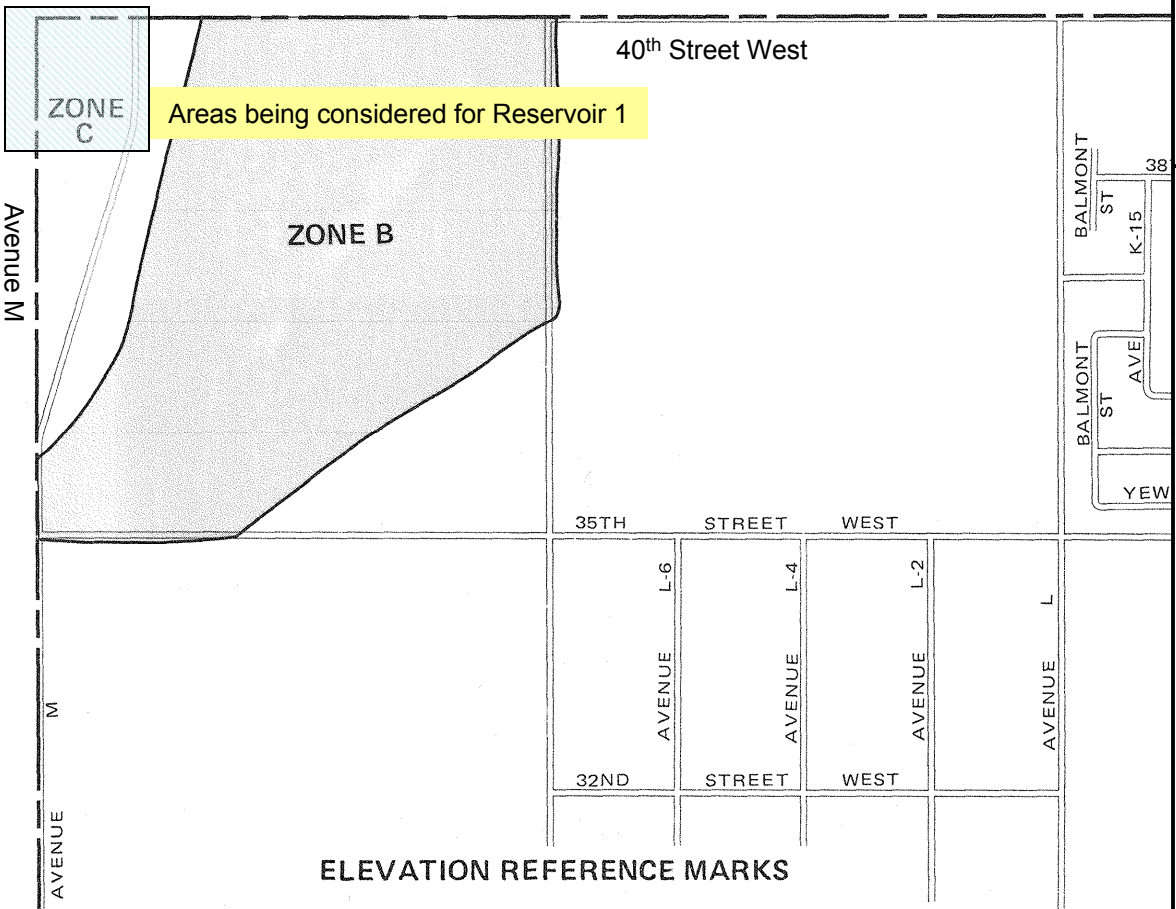
PANEL 230 OF 1275
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
065043 0230 B

EFFECTIVE DATE:
DECEMBER 2, 1980

federal emergency management agency
federal insurance administration

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM1	2318.03	County Surveyors Monument, stamped (¼ Cor 178 R12W T7N), in well, 12 inches down, at centerline of the intersection of Avenue I and 25th Street West. Established by Los Angeles County Engineering Department.
RM2	2314.02	County Surveyors Monument, stamped (Co Sur 5, 6, 7, 8, R12W T7N), in well, 14 inches down, at centerline of the intersection of 30th Street West and Avenue H. Established by Los Angeles County Engineering Department.
RM3	2317.97	Lead and tack at west end of south headwall of bridge No. 53-406, 20 feet south of the centerline of Avenue I and 100 feet east of 30th Street West. Established by the Los Angeles County Engineering Department.

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
LANCASTER, CALIFORNIA
LOS ANGELES COUNTY

PANEL 10 OF 20
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
060672 0010 B

EFFECTIVE DATE:
JANUARY 6, 1982

federal emergency management agency
federal insurance administration

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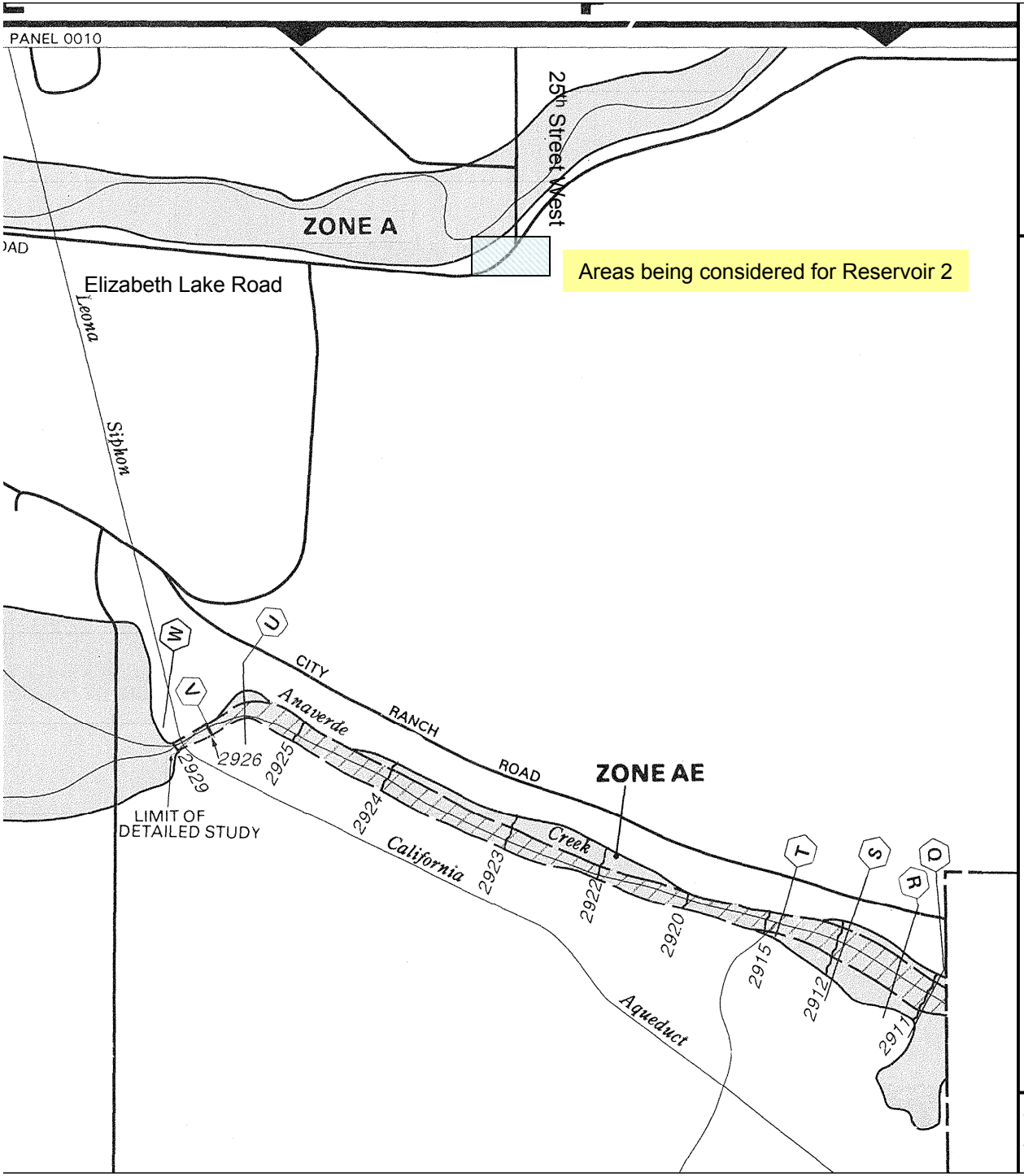

APPROXIMATE SCALE IN FEET

1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

CITY OF
PALMDALE,
CALIFORNIA
LOS ANGELES COUNTY

(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
060144 0020 D

MAP REVISED:
MARCH 30, 1998

Federal Emergency Management Agency

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APPROXIMATE SCALE IN FEET

1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
PALMDALE,
CALIFORNIA
LOS ANGELES COUNTY

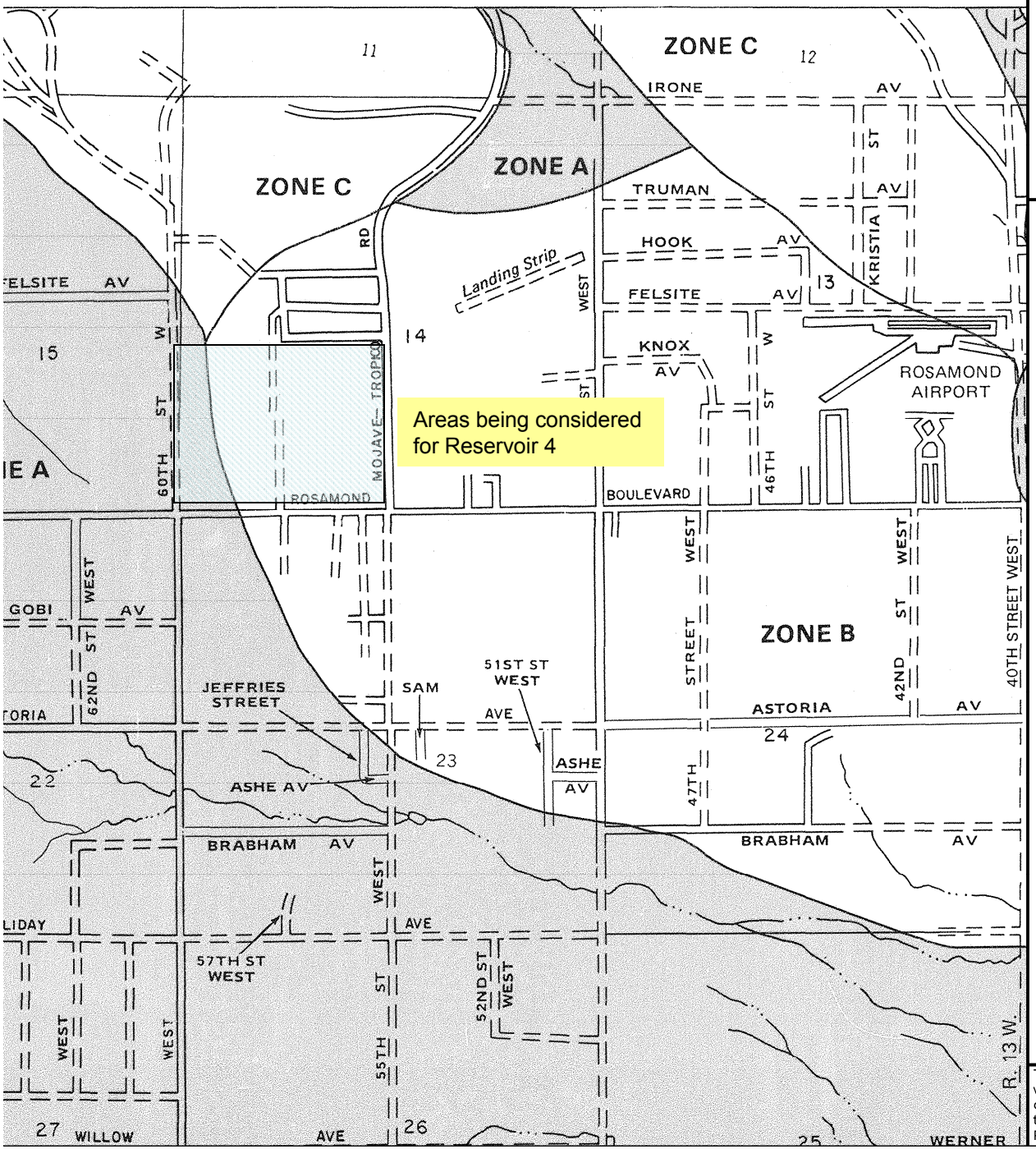
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
060144 0040 D

MAP REVISED:
MARCH 30, 1998

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



APPROXIMATE SCALE IN FEET

2000 0 2000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

KERN COUNTY
CALIFORNIA
(UNINCORPORATED AREAS)

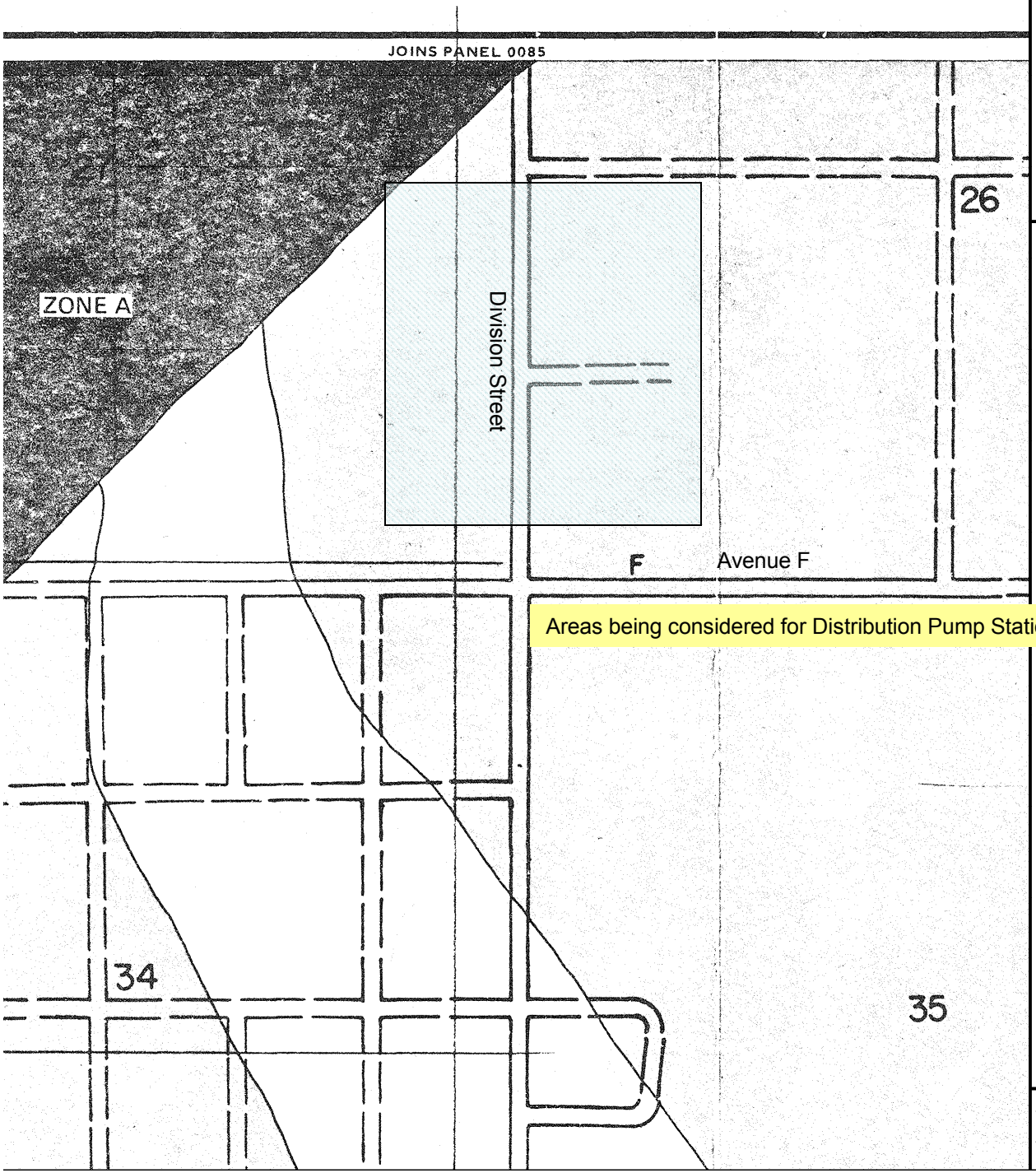
PANEL 2025 OF 2075
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
060075 2025 D

MAP REVISED:
SEPTEMBER 6, 1995

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

LOS ANGELES COUNTY, CALIFORNIA

(UNINCORPORATED AREAS)

PANEL 95 OF 1275

(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
065043 0095 B

EFFECTIVE DATE:
DECEMBER 2, 1980

federal emergency management agency
federal insurance administration

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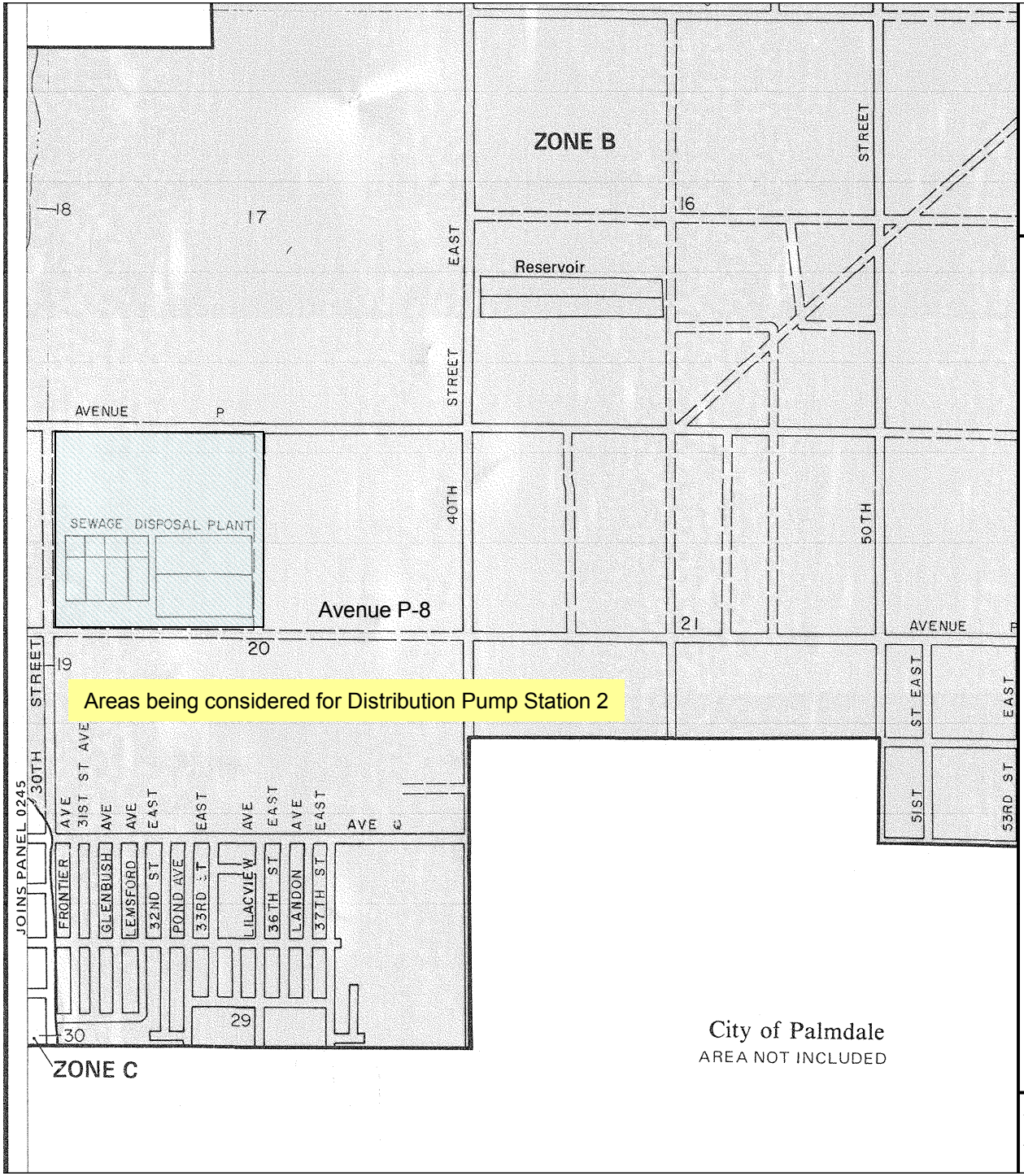


APPROXIMATE SCALE

2000 0 2000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

LOS ANGELES COUNTY, CALIFORNIA
(UNINCORPORATED AREAS)

PANEL 275 OF 1275
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
065043 0275 B

EFFECTIVE DATE:
DECEMBER 2, 1980

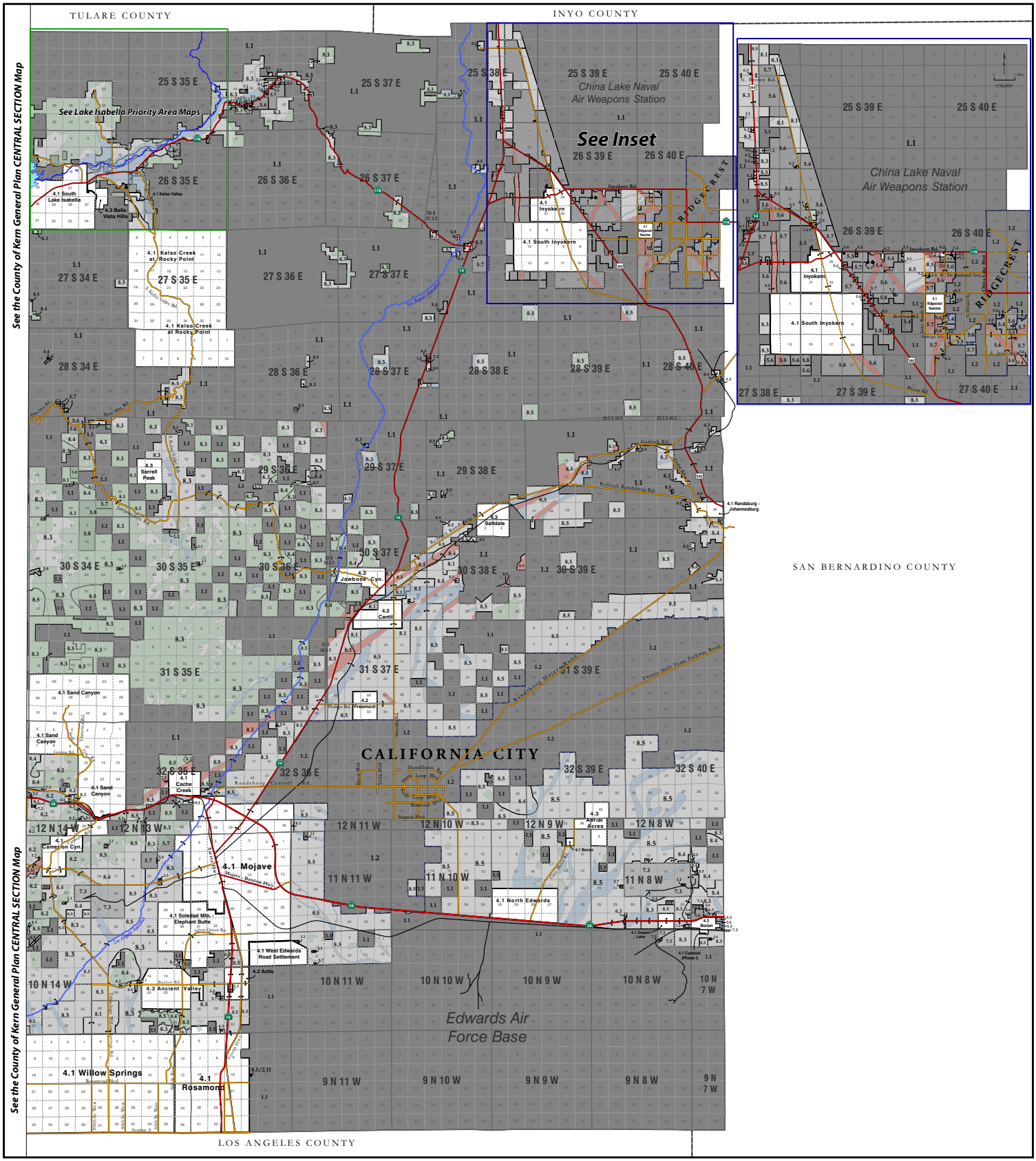
federal emergency management agency
federal insurance administration

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

APPENDIX H

LAND USE MAPS

KERN COUNTY LAND USE MAP



Land Use, Open Space & Conservation Element

Kern County General Plan

Kern County Board of Supervisors
April 15, 1982

Kern County, Eastern Section

1. Non-jurisdictional land
- 1.1 State or federal land
- 1.2 Incorporated cities

2. Environmental constraints overlay
- 2.1 Seismic hazard
- 2.2 Landslide
- 2.3 Shallow ground water
- 2.4 Steep slope
- 2.5 Flood hazard

3. Public facilities
- 3.1 Public or private recreation areas
- 3.2 Educational facilities
- 3.3 Other facilities
- 3.4 Solid waste facilities
- 3.5 Designated area where hazardous waste facility siting criteria might be applicable. See current Kern County & incorporated cities hazardous waste management plan for details.

4. Non-jurisdictional land
- 4.1 Accepted county plan areas
- 4.2 Rural community
- 4.3 Specific plan required

5. Residential
- 5.1 Max. 29 units/net acre (1,502 sq.ft. site area/unit)
- 5.2 Max. 16 units/net acre (2,722 sq.ft. site area/unit)
- 5.3 Max. 10 units/net acre (4,356 sq.ft. site area/unit)
- 5.4 Max. 4 units/net acre (10,890 sq.ft. site area/unit)
- 5.5 Max. 1 unit/net acre (43,560 sq.ft. site area/unit)
- 5.6 Min. 2.5 gross acres/unit
- 5.7 Min. 5 gross acres/unit
- 5.8 Min. 20 gross acres/unit

6. Commercial
- 6.1 Major commercial
- 6.2 General commercial
- 6.3 Highway commercial

7. Industrial
- 7.1 Light industrial
- 7.2 Service industrial
- 7.3 Heavy industrial

8. Resource
- 8.1 Intensive agriculture (min. 20 acre parcel size)
- 8.2 Resource reserve (min. 20 acre parcel size*)
- 8.3 Extensive agriculture (min. 20 acre parcel size*)
- 8.4 Mineral and petroleum (min. 5 acre parcel size)
- 8.5 Resource management (min. 20 acre parcel size*)

*80 acres with Williamson Act contract

By resolution number 820177, dated March 1, 1982, the Kern County Board of Supervisors adopted this map as a part of the Kern County General Plan in accordance with all State and County requirements.

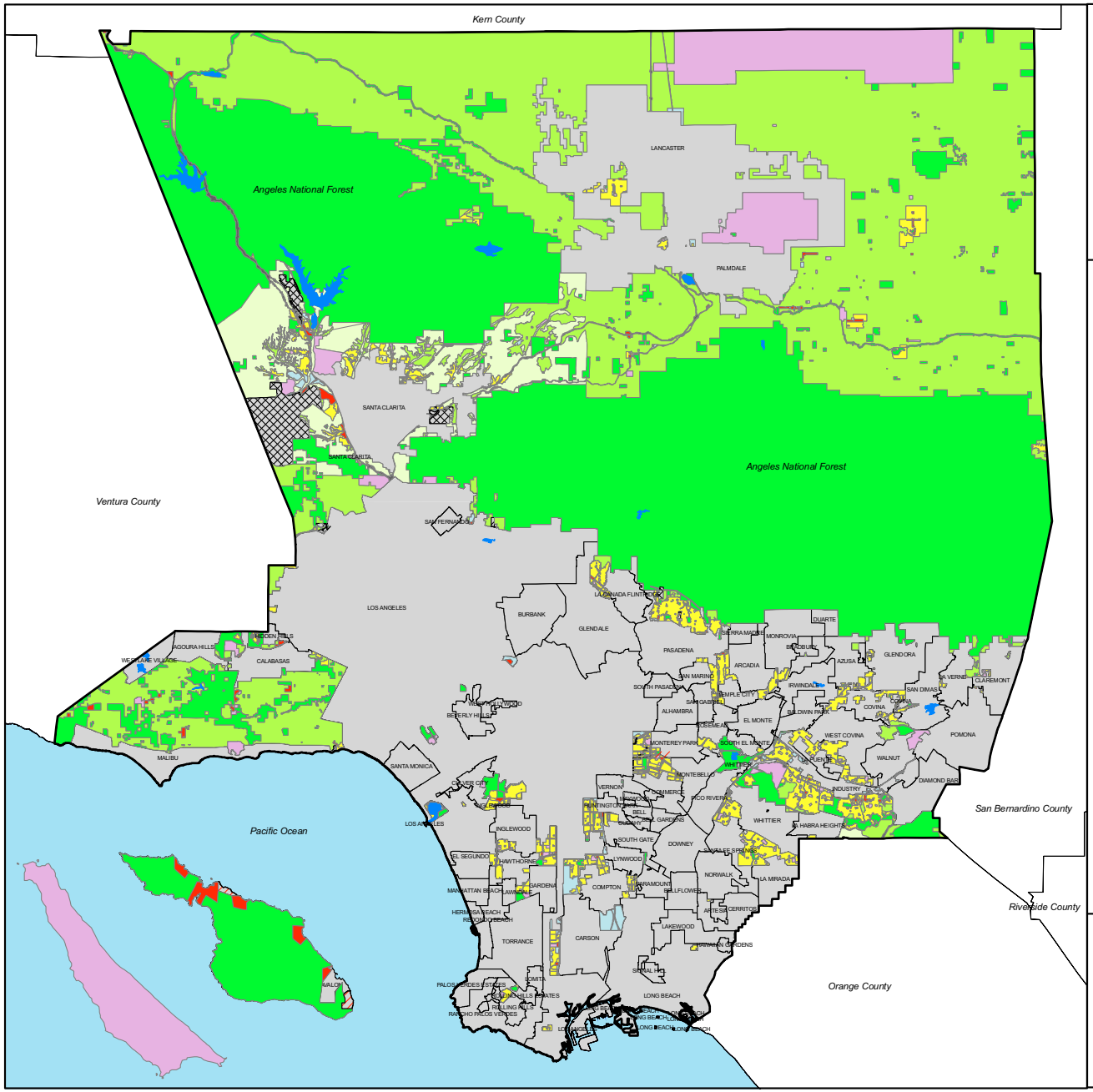
Chairman - Kern County Board of Supervisors

County Clerk

0 5 Miles
0 2.5 5 Kilometers
1:120,000
California State Plane, Zone V, Feet, NAD 1983

Map prepared by the County of Kern Planning Dept., August 1, 2006
Please check with the dept. for the latest information.
http://www.co.kern.ca.us/planning

LOS ANGELES COUNTY LAND USE MAP



Los Angeles County General Plan Update

DRAFT

Generalized Land Use Policy For Unincorporated Los Angeles County

Figure 3.1

Legend

Countywide General Plan

Plan Categories

- RL- Rural Land
- U - Urban
- C - Commercial
- I - Industrial
- P - Public and Semi-Public Facilities
- O - Open Space
- TC - Transportation Corridor
- SPECIFIC PLAN
- OTHER*
- Incorporated Cities

* Some Area, Community, Coastal, and Neighborhood Plans have special categries that are not compatible with adopted General Plan categories (such as Hillside Management, Special Use Sites, Parking Areas, Senior Citizen Density Bonus Area, etc.)

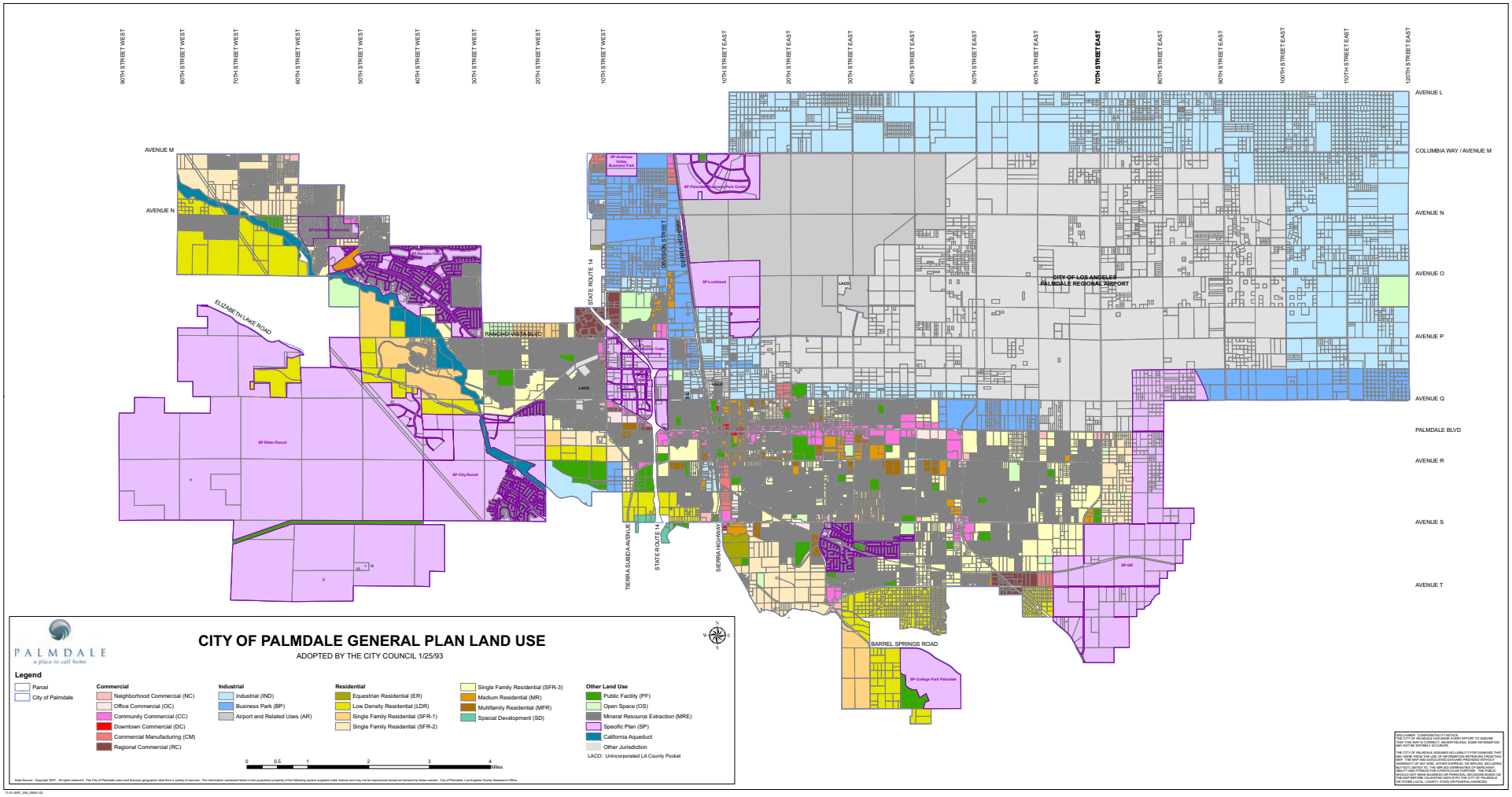
This policy map depicts generalized land use classifications, each of which is intended to describe the dominant use characteristics within the area covered. The location of planning boundaries is as accurate as can be portrayed at this scale. The information on this map represents an interpretation of the adopted Land Use Policy Map from the 1980 General Plan, including subsequent amendments and information updates.

This map is only an overview of generalized land use throughout the unincorporated county and local land use interpretation must be done by consulting local plans and maps.

This map is a component of the Los Angeles County General Plan Update Program. It is a working draft subject to revision. Information within cities is for reference only. All suggestions for modifications to its contents received prior to August 30, 2007 will be considered by County staff when revising the map in preparation for public hearings by the Regional Planning Commission. Written comments and supporting documentation should be submitted to the Department of Regional Planning General Plan Development Section (address: 320 W. Temple St. Los Angeles, CA 90012; fax: 213-626-0434; or email: generalplan@planning.lacounty.gov).

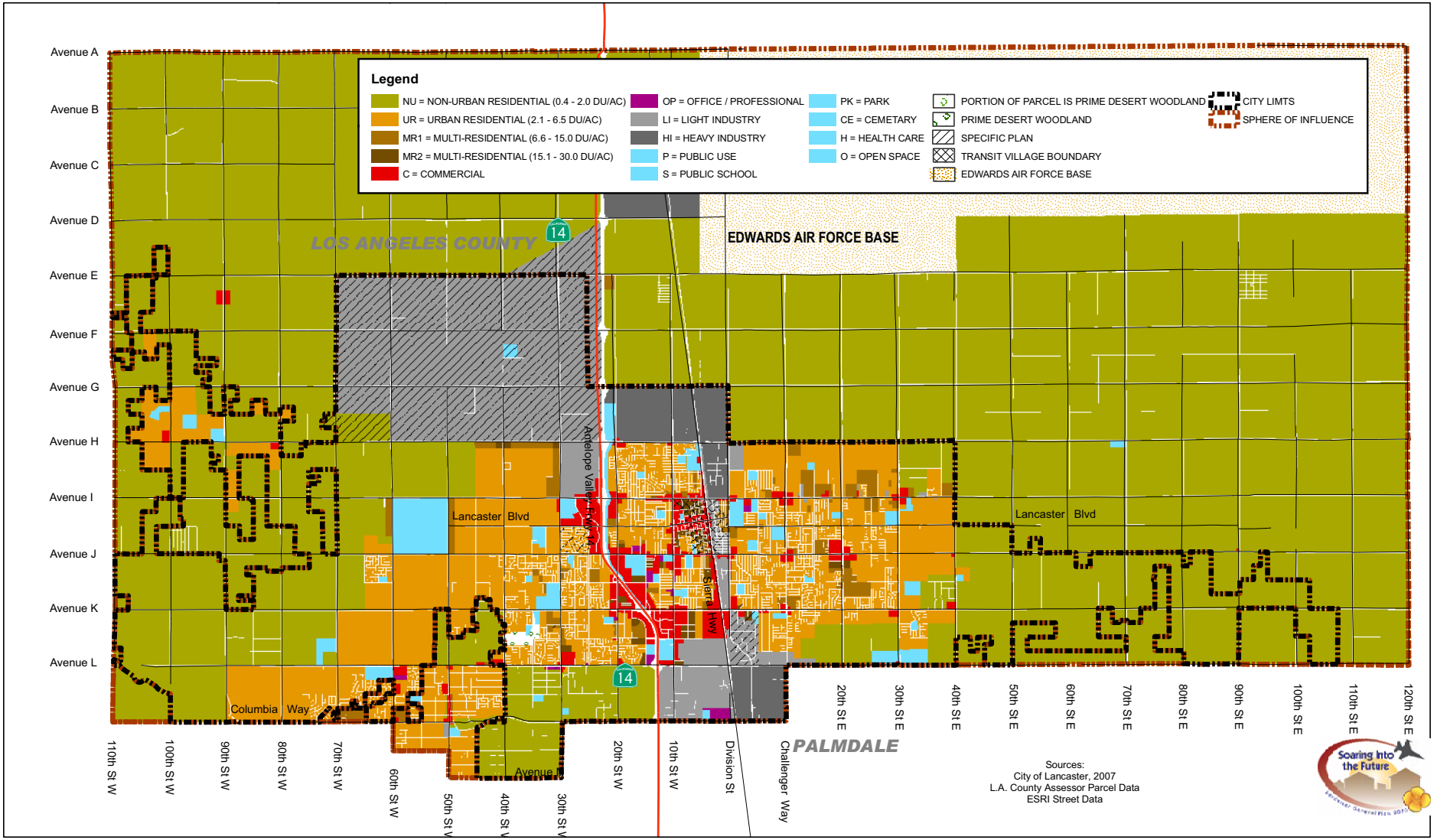
Los Angeles County Dept. of Regional Planning

CITY OF PALMDALE LAND USE MAP



11-01-2007_GIS_00647-02

CITY OF LANCASTER LAND USE MAP



RBF CONSULTING GIS

Miles
0 0.5 1 2

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Adopted General Plan Land Use

EXHIBIT 1

NORTH LOS ANGELES/KERN COUNTY REGIONAL RECYCLED WATER PROJECT

Findings of Fact
Statement of Overriding Considerations
Mitigation Monitoring and Reporting Program
SCH No. 2007101125

Prepared for:
Los Angeles County
Waterworks District 40,
Antelope Valley

November 2008

NORTH LOS ANGELES/KERN COUNTY REGIONAL RECYCLED WATER PROJECT

Findings of Fact
Statement of Overriding Considerations
Mitigation Monitoring and Reporting Program
SCH No. 2007101125

Prepared for:
Los Angeles County
Waterworks District 40,
Antelope Valley

November 2008

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Los Angeles, CA 90017
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www.esassoc.com

Oakland

Petaluma

Portland

Sacramento

San Diego

San Francisco

Seattle

Tampa

Woodland Hills

206359

ESA

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CHAPTER 1
Introduction

The California Environmental Quality Act (CEQA), (PRC §21080) and the CEQA Guidelines (14 CCR §15063) state that if it has been determined that a project may or will have significant impacts on the environment then an Environmental Impact Report (EIR) must be prepared. Accordingly, an EIR has been prepared by the Los Angeles County Waterworks District 40, Antelope Valley to evaluate potential environmental effects that may result from the proposed North Los Angeles/Kern County Regional Recycled Water Project. The EIR has been prepared in accordance with the California Environmental Quality Act of 1970, as amended (PRC, §21000 et seq.), and implementing State CEQA Guidelines (CCR, Title 14, §15000 et seq.).

1.1 Certification

In accordance with CEQA Guidelines Section 15090, the Los Angeles County Waterworks District 40, Antelope Valley (LACWWD40), as Lead Agency for the Project in consultation with the following partner agencies: the City of Lancaster, the City of Palmdale, the Rosamond Community Service 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), certifies that:

(a) The Final PEIR for the Project has been completed and processed in compliance with the requirements of CEQA;

(b) The Final PEIR was presented to the County Board of Supervisors, and the County Board of Supervisors, as the decision making body for LACWWD40, reviewed and considered the information contained in the Final PEIR prior to approving the Project; and

(c) The Final PEIR reflects LACWWD40's independent judgment and analysis.

LACWWD40 has exercised independent judgment in accordance with Public Resources Code Section 21082.1(c) in retaining its own environmental consultant directing the consultant in preparation of the PEIR as well as reviewing, analyzing, and revising material prepared by the consultant.

These Findings of Fact (Findings) and Statement of Overriding Considerations have been prepared in accordance with CEQA and the CEQA Guidelines. The purpose of these Findings is to satisfy the requirements of Public Resources Code Section 21081 and Sections 15090, 15091,

15092, 15093, and 15097 of the CEQA Guidelines, in connection with the approval of the North Los Angeles/Kern County Recycled Water Project.

Before project approval, an EIR must be certified pursuant to Section 15090 of the CEQA Guidelines. Prior to approving a project for which an EIR has been certified, and for which the EIR identifies one or more significant environmental impacts, the approving agency must make one or more of the following findings, accompanied by a brief explanation of the rationale, pursuant to Public Resources Code Section 21081 and Section 15091 of the CEQA Guidelines, for each identified significant impact:

(1) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR.

(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

(3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final PEIR.

LACWWD40 has made one or more of the specific written findings above regarding each significant impact associated with the Project. Those findings are presented here, along with a presentation of facts in support of the findings. Concurrent with the adoption of these findings, the Board of Supervisors adopts the Mitigation Monitoring and Reporting Program as presented in Chapter 9 of these Findings.

Section 15092 of the CEQA Guidelines states that after consideration of an EIR, and in conjunction with the Section 15091 findings identified above, the lead agency may decide whether or how to approve or carry out the project. The lead agency may approve a project with unavoidable adverse environmental effects only when it finds that specific economic, legal, social, technological, or other benefits of the proposed project outweigh those effects. Section 15093 requires the lead agency to document and substantiate any such determination in a "statement of overriding considerations" as a part of the record.

LACWWD40's Statement of Overriding Considerations is presented in Chapter 8 of these Findings. As required by CEQA, the County expressly finds that the Final PEIR for the North Los Angeles/Kern County Recycled Water Project reflects LACWWD40's independent review and judgment. In accordance with the provisions of CEQA and the CEQA Guidelines, LACWWD40 adopts these Findings and Statement of Overriding Considerations as part of its certification of the Final PEIR. A brief explanation of the rationale for each finding is provided in Chapters 4, 5, 6 and 7.

1.2 Organization of CEQA Findings of Fact

The content and format of these CEQA Findings are designed to meet the latest CEQA Statutes and Guidelines. The Findings are organized into the following sections:

Chapter 1, Introduction outlines the organization of this document and identifies the location and custodian of the record of proceedings.

Chapter 2, Project Description describes the location, project overview, project objectives, and the required permits and approvals for the project.

Chapter 3, CEQA Review and Public Outreach describes the steps LACWWD40 has undertaken to comply with the CEQA Guidelines as they relate to public input, review, and participation during the preparation of the Draft and Final PEIRs.

Chapter 4, Impacts Determined to be Less than Significant provides a summary of those environmental issue areas where no reasonably foreseeable impacts would occur and those impacts determined to be below the threshold of significance without the incorporation of mitigation measures.

Chapter 5, Less Than Significant Environmental Impacts with Mitigation provides a summary of significant environmental impacts for which implementation of identified feasible mitigation measures would avoid or substantially reduce the environmental impacts to less than significant levels. This section also provides specific written findings regarding each potentially significant impact associated with the project.

Chapter 6, Significant Environmental Impacts provides a summary of significant environmental impacts for which no feasible mitigation measures are identified or for which implementation of identified feasible mitigation measures would not avoid or substantially reduce the environmental effects to less than significant levels. This section also provides specific written findings regarding each significant impact associated with the project.

Chapter 7, Findings Regarding Project Alternatives provides a summary of the alternatives considered for the project.

Chapter 8, Statement of Overriding Considerations provides a summary of all of the project's significant unavoidable adverse impacts. In addition, this section identifies the project's substantial benefits that outweigh and override the project's significant unavoidable impacts, such that the impacts are considered acceptable.

Chapter 9, Findings on Mitigation Monitoring and Reporting Program provides a brief discussion of the project's compliance with the CEQA Guidelines regarding the adoption of a program for reporting and monitoring.

Chapter 10, Certification of PEIR and Project Approval provides a statement that the Final PEIR fully complies with CEQA and that the Los Angeles County Board of Supervisors has considered the information in the PEIR and that it reflects the County's independent judgment and analysis.

1.3 Record of Proceedings

The documents and other materials that constitute the record of proceedings upon which LACWWD40 project approval is based are located at 900 South Fremont Avenue, Alhambra, CA 91803. The LACWWD40 is the custodian of such documents and other materials that constitute the record of proceedings. The record of proceedings is provided in compliance with Public Resources Code §21081.6(a)(2) and California Code of Regulations Title 14, §15091(e).

1.4 Program and Project Level Analysis

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)).

The Final PEIR for the proposed project provides an analysis of potential impacts of all construction and operational actions reasonably foreseeable with implementation of the proposed project. The Final PEIR provides **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 of the Final PEIR (FEIR p. 1-16).[1]

The Final 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:

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

- 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.

CHAPTER 2
Project Description

2.1 Environmental Setting

2.1.1 Existing Setting

The proposed project would be located in the Antelope Valley, which encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County. The area is bordered on the southwest by the San Gabriel Mountains, on the northwest by the Tehachapi Mountains, and on the east by a series of hills and buttes that generally follow the San Bernardino county line. The proposed project would be located within several cities including the City of Palmdale, the City of Lancaster, the Town of Rosamond, and portions of unincorporated Los Angeles County including Quartz Hill.

2.1.2 Surrounding Land Uses

The majority of the proposed project would be located in the cities of Palmdale and Lancaster, with the exception of the northernmost and southernmost portions, which would be located within unincorporated county regions. Land uses within Los Angeles County include the rural areas north and south of the City of Palmdale and the Palmdale Regional Airport. A small parcel of land located on Sierra Highway between Avenues P and Q is also designated as unincorporated Los Angeles County. Land uses within Kern County are designated as non-jurisdictional land by the County's General Plan.

Land uses within the City of Palmdale include open space, residential, commercial, airport, industrial, public, and other jurisdictional. Palmdale Regional Airport is located within the City of Palmdale on land leased by Los Angeles County (i.e., LAWA) from the U.S. Air Force. Land uses within the City of Lancaster include residential, industrial, public, and commercial.

Components of the proposed project are located within two miles of public airports and within airport influence areas (AIA) designated by Airport Land Use Compatibility Plans (ALUCPs). The Palmdale Regional Airport (PMD) is within 1.0 mile of East Avenue M and 50th Street East and adjacent to Sierra Highway. General William J. Fox Airfield Airport (Fox Airfield) is approximately 1.5 miles north of West Avenue H. Rosamond Skypark Airport is approximately 1.0 mile east of Mojave Tropico Road. Two private aviation facilities, Bohunk's Airpark and

Little Butte's Antique Airfield, are also located within five miles of proposed project components. These private facilities are not regulated by ALUC policies and procedures.

2.2 Project Overview

The proposed project would include the following components: recycled water conveyance pipelines, four storage reservoirs, two distribution pump stations, and two booster pump stations. Figure 1 identifies proposed pipeline routes and facility locations. The proposed project would provide the primary backbone system for distribution of recycled water to end users in the Antelope Valley. The end users would include but would not be limited to the following:

- Municipal and industrial (M&I) applications;
- Agricultural irrigation;[2]
- Cooling water for power plants; and
- Groundwater recharge.

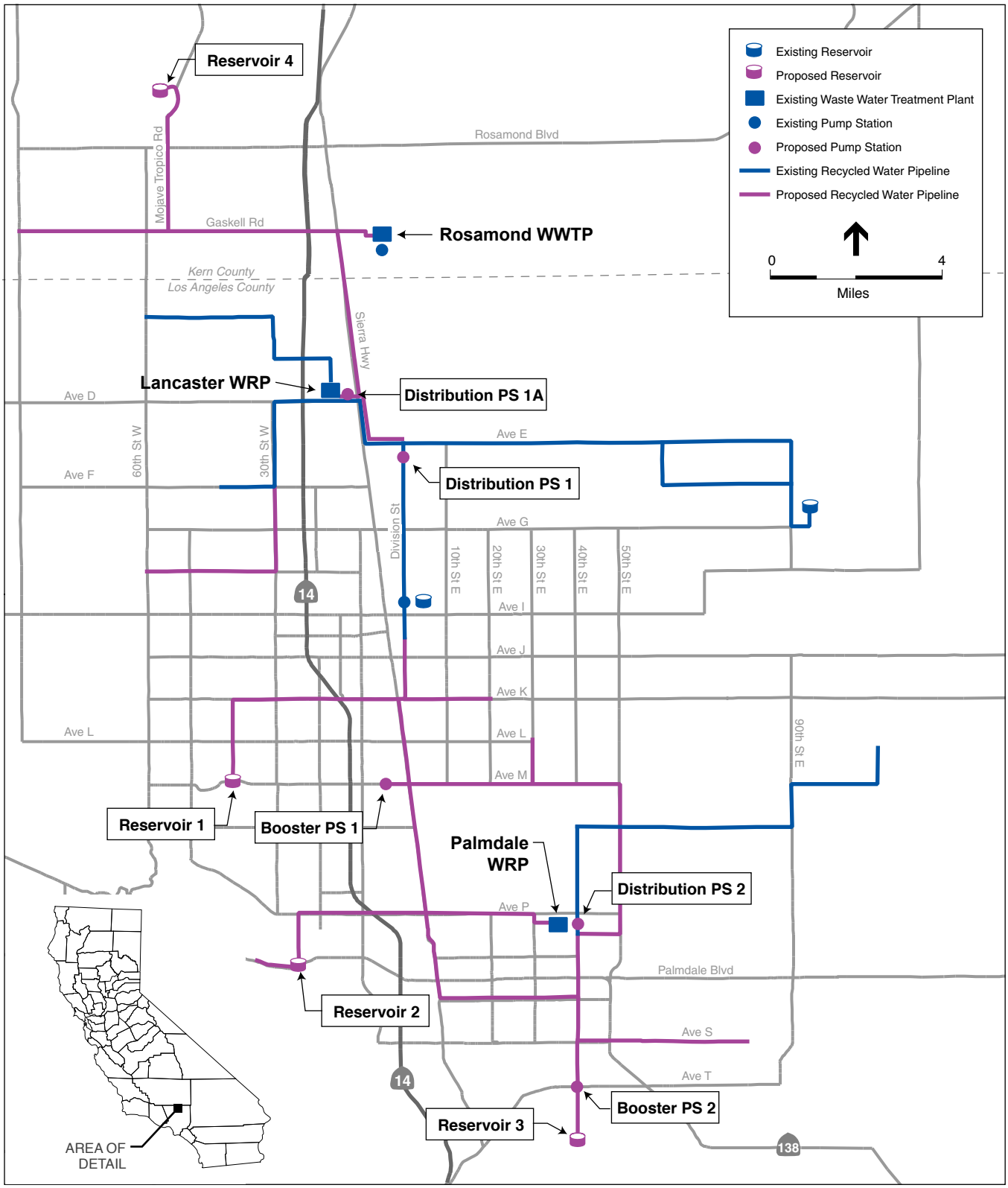
For existing and future end users identified to-date, the annual demand for recycled water in the Antelope Valley is estimated at a minimum of 21,210 afy at buildout. The system capacity of the proposed project would be designed to meet this demand. This demand includes 17,491 afy for M&I end uses in Los Angeles County as estimated in the Final Facilities Planning Report (Kennedy/Jenks, 2006), plus 1,119 afy for M&I end uses in the RCSD service area in Kern County (Seal, 2008), and 2,600 afy for use as cooling water at the planned Palmdale Hybrid Power Plant.

Recycled water use would comply with the California Department of Public Health (CDPH) recycled water regulations contained in Title 22 of the CCR. In addition, the proposed project would be subject to conditions imposed by the Regional Water Quality Control Board (RWQCB) pursuant to Water Recycling Requirements (WRRs). The proposed project would be constructed in phases, subject to funding and the identification of recycled water users. Each component described below would be constructed by LACWWD40 or one of the Responsible Agencies as part of the regional backbone distribution system.

2.2.1 Pipelines

The proposed recycled water pipelines would distribute water from the three water reclamation plants to the surrounding area within the Antelope Valley. The project would consist of approximately 70 miles of 14 to 36-inch pipelines. The pipes would be colored purple or wrapped

[2] The Facilities Plans for the PWRP and LWRP include agricultural effluent management sites for application of recycled water produced at both reclamation plants (LACSD No. 14, 2004; LACSD No. 20, 2005). The environmental effects of using recycled water for agricultural irrigation at these effluent management sites have been evaluated pursuant to CEQA in previous environmental documents (see Chapter 1, Section 1.5.2). This proposed project does not include these agricultural effluent management areas.



SOURCE: Kennedy/Jenks Consultants; ESA

North LA/Kern County Regional Recycled Water Project . 206359

Figure 1
Existing and Proposed Facilities

with purple tape, in accordance with the California Health and Safety Code requirements for recycled water pipelines (Division 104, Part 12, Chapter 5, Article 2, §116815). All pipelines would be aligned within the right-of-way of roadways. Air-relief valves would be installed at peak elevations, pump stations, and as needed between valves to accommodate pipeline dewatering or system charging. The valves would typically be installed within sidewalk right-of-ways. Pipelines larger than 24 inches in diameter require that all valves be housed in vaults. The underground vaults would typically be constructed of concrete, with access hatches at ground surface either within the street or beneath the sidewalk.

2.2.2 Storage Reservoirs

The proposed project involves the construction of four storage reservoirs. The proposed locations and capacities of the storage reservoirs are identified in Table 1. No land acquisition is required for Reservoirs 1, 2, and 4, because all parcels are owned by either LACWWD40 or one of the Responsible Agencies. Private land acquisition may be required for Reservoir 3 at the corner of 40th Street East and Barrel Springs Road. The aboveground steel reservoirs would be between 24–32 feet in height. Fencing and outside lighting would be installed around the reservoirs.

TABLE 1
PROPOSED STORAGE RESERVOIRS

Reservoir	Location	Capacity (MG)	Figure
Reservoir 1	40th Street West and Avenue M	3.0	Figure 2-4
Reservoir 2	25th Street West and Palmdale Blvd Elizabeth Lake Road	4.4	Figure 2-5
Reservoir 3	40th Street East and Barrel Springs Road	2.1	Figure 2-6
Reservoir 4	North of 60th Street West and Mojave-Tropico Road	2.0	Figure 2-7

2.2.3 Pump Stations

The proposed project would include two distribution pump stations and two booster pump stations. The proposed pump stations, together with other existing and planned pump stations, would pump recycled water from the LWRP, PWRP, and RWWTP through the backbone system pipelines to the storage reservoirs. The proposed booster pump stations would maintain sufficient water pressure to transport recycled water through the backbone system pipelines.

The proposed locations and pumping capacities are identified in Table 2. Land acquisition may be required to implement Distribution Pump Station 1 and Booster Pump Station 2 because the proposed parcels are privately owned. An alternative site for Distribution Pump Station 1 is the LWRP (indicated as Distribution Pump Station 1A in Figure 1 and Table 2), which would eliminate the need to acquire property for this pump station. Each distribution pump station structure would have an approximate footprint of 50 feet by 50 feet and be approximately 20 feet tall. Each booster pump station structure would have an approximate footprint of 20 feet by 20 feet and be approximately 20 feet tall. It is anticipated that portable generators, outside lighting,

and fencing would be installed for each pump station. Each pump station must have stand-by capabilities in the event that a pump must be taken off-line.

TABLE 2
PROPOSED PUMP STATIONS

Pump Station	Location	Pumping Capability (gpm)	Figure
Distribution Pump Station 1	Ave E-8 and Division Street	20,833	Figure 2-8
Distribution Pump Station 1A	Avenue D and Sierra Highway (LWRP)	20,833	Figure 2-1
Distribution Pump Station 2	Ave P-8 and 30th St East (PWRP)	15,555	Figure 2-9
Booster Pump Station 1	Avenue M and 7th St West	8,460	Figure 2-10
Booster Pump Station 2	40th Street East and Ave T Pearblossom Highway	1,725	Figure 2-11

2.2.4 Construction Activities

The project would be constructed in phases to accommodate developing demands. Each Responsible Agency would implement the system components in its service area as needed to meet demands. Construction of the first phase could begin in 2009 and the last phase in 2015. The actual construction schedule would be determined as funds become available and as recycled water users are identified. Construction for pipelines would proceed at 50 to 100 feet per day with entire phases taking up to a year to complete. Storage reservoirs and pump stations would require eight to nine months to complete.

2.3 Project Objectives

The objectives of the proposed project are as follows:

- Provide recycled water conveyance backbone infrastructure sufficient to accommodate planned regional recycled water demands;
- Integrate regional recycled water production, distribution, and re-use capabilities in the Antelope Valley;
- Provide conveyance, storage, and pumping capacity sufficient to accommodate peak future demands;
- Reduce the region's dependency on imported water;
- Augment local water supplies;
- Promote the State's policies for beneficial reuse of recycled water to replace potable water where possible.

2.4 Discretionary Actions

An EIR is a public document used by a public agency to analyze the significant environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid environmental damage (CCR, Title 14, §15121). As an informational document, an EIR does not recommend for or against approval of a project. The main purpose of an EIR is to inform governmental decision makers and the public about the potential environmental impacts of a proposed project. As the lead agency under CEQA, this EIR will be used by LACWWD40 and the Responsible Agencies in making decisions with regard to the construction and operation of the proposed project. Responsible Agencies having discretionary approval over components of the project include the City of Lancaster, the City of Palmdale, RCSD, LACSD Nos. 14 and 20, PWD, AVEK, and QHWD. LACWWD40 and the Responsible Agencies would use the analysis contained within this PEIR to support the acquisition of the following regulatory permits or approvals:

- Regional Water Quality Control Board (RWQCB): WDR/WRR/Master Reclamation Permit for water reuse;
- California Department of Public Health (CDPH): Approval to operate recycled water system;
- California Department of Transportation (Caltrans): Roadway Encroachment Permit / Easement;
- Union Pacific Railroad: Encroachment Permit
- California Department of Water Resources (DWR): Encroachment Permit
- County of Los Angeles: Roadway Encroachment Permit / Easement;
- County of Kern: Roadway Encroachment Permit / Easement;
- County of Los Angeles, Department of Public Works, Flood Control District: Easement;
- City of Lancaster: Roadway Encroachment Permit / Easement;
- City of Palmdale: Roadway Encroachment Permit / Easement.

CHAPTER 3
CEQA Review and Public Outreach

LACWWD40 has complied with CEQA and the CEQA Guidelines during the preparation of the PEIR for the project. The Draft PEIR, dated August 2008, was prepared after soliciting input from the public, responsible agencies, and affected agencies through the PEIR scoping process. In accordance with Sections 15063 and 15082 of the CEQA Guidelines, a Notice of Preparation (NOP) was circulated to local, state, and federal agencies, and to other interested parties in October 2007. The NOP was posted in the Los Angeles and Kern County Clerk offices for 30 days. The NOP was also submitted to the State Clearinghouse to officially solicit participation in determining the scope of the PEIR.

In response to the NOP, written comment letters 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 of the Final PEIR. A 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. 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.

The Draft PEIR was circulated for public review and comment on August 4, 2008, initiating a 60-day public review period pursuant to CEQA and its implementing guidelines. The document and Notice of Completion (NOC) was distributed to the California Office of Planning and Research, State Clearinghouse. Relevant agencies also received copies of the document. A Notice of Availability (NOA) was distributed to interested parties and adjacent property owners and residents, which informed them of where they could view the document and how to comment. The purpose of the 60-day review period was to provide interested public agencies, groups and individuals the opportunity to comment on the contents and accuracy of the document. The document was available to the public at the Palmdale City Library, at the Lancaster Regional Library, and on LACWWD40's website. The LACWWD40 and Responsible Agencies hosted an informational public workshop on September 11, 2008 at the City of Lancaster Council Chambers in Lancaster to give interested parties the opportunity to learn about the proposed project and ask questions. The public hearing for the Draft PEIR was held on September 18, 2008 at the City of Lancaster Council Chambers in Lancaster to give interested parties the opportunity to comment on the Draft PEIR.

A Final PEIR has been completed and includes written comments received by mail and electronic mail on the Draft PEIR, verbal comments received at the public hearings, written responses to the written and verbal comments, and changes to the Draft PEIR.

CHAPTER 4
Impacts Determined to be Less than Significant

The following potential environmental impacts of the project are less than significant and therefore do not require the imposition of mitigation measures.

4.1 Air Quality

Operation of the pipelines would result in minimal emissions of criteria air pollutants. Operational impacts would be limited to periodic inspections of the pipeline alignments and would therefore result in a less than significant impact to air quality. (PEIR p. 3.2-16.)

Odor impacts would be less than significant as operation of the pipelines would not create objectionable odors that would affect a substantial number of people. (PEIR p. 3.2-17.)

The proposed project would be inherently energy efficient and would reduce relative future CO_2 emissions for every acre-foot of water provided to end users in the Antelope Valley. In addition, the proposed project would not conflict with AB32 state goals for reducing greenhouse gas emissions. Therefore, impacts to greenhouse gas emissions and global climate change would be less than significant (PEIR pp. 3.2-17-18.)

Operation of the reservoirs and pump stations would result in minimal operational emissions of criteria air pollutants. Impacts would be less than significant. (PEIR p. 3.2-20.)

4.2 Biological Resources

A portion of the proposed recycled water pipeline would be constructed within the boundaries of the proposed Antelope Valley Significant Ecological Area (SEA). In addition, future facilities associated with the proposed project could be located within the proposed or existing Antelope Valley SEA, such as groundwater recharge basins. With issuance of the SEA-Conditional Use Permit, no conflicts with the County Significant Ecological Area land use policies would be anticipated for construction of any project component. Therefore, impacts would be less than significant. (PEIR p. 3.3-19 and p. 3.3-24.)

4.3 Land Use

The proposed pipeline would traverse private property and property owned by other agencies including local cities, the County, and the Department of Water Resources. With the acquisition of easements and encroachment permits, impacts to land uses would be less than significant. (PEIR p. 3.8-23).

4.4 Environmental Justice

Based on census data, the proposed project would not have a disproportionate affect on minority or low income populations. Impacts would be less than significant. (FEIR p. 3.10-6).

4.5 Transportation and Traffic

The increase in parking demand during construction of the proposed pipeline would be planned in advance and would be temporary. Therefore, impacts would be less than significant. (FEIR p. 3.11-8.)

4.6 Utilities and Service Systems

The proposed project's impact to storm water drainage facilities would be less than significant and it would not require the construction or expansion of storm water drainage facilities. (FEIR p. 3.12-6.)

CHAPTER 5

Less than Significant Environmental Impacts with Mitigation

Pursuant to CEQA Guidelines Section 15091, the following are the impacts of the proposed project for which mitigation measures have been identified in the Draft PEIR which will avoid or substantially lessen the following potentially significant environmental impacts to a less than significant level:

5.1 Aesthetics

5.1.1 Project-Level Impacts

Significant Impact 3.1-1: The Final PEIR concludes in Impact 3.1-1 that construction of the proposed pipeline would directly affect scenic vistas as viewed from scenic highways designated by the Palmdale General Plan. (FEIR p. 3.1-5)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.1-1 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.1-1:** Following construction activities, the implementing agencies shall restore disturbed areas by reestablishing pre-existing conditions including topography, repaving roadways, replanting trees, and/or reseeding with a native seed mix typical of the immediate surrounding area. The implementing agencies shall be responsible for monitoring the replanted areas to ensure that revegetation is successful.

Rational/Supporting Explanation: During construction, excavated areas, stockpiled soils, and other materials within the construction easement and staging areas would constitute negative aesthetic elements in the visual landscape which would directly affect scenic vistas. However, construction would be temporary and Mitigation Measure 3.1-1 would require that disturbed areas be restored to preconstruction conditions. Construction impacts would be reduced to less than significant level by this mitigation measure. (FEIR p. 3.1-5)

5.1.2 Program-Level Impacts

Significant Impact 3.1-2: The Final PEIR concludes in Impact 3.1-2 that construction and operation of the proposed storage reservoirs and pump stations would result in impacts to aesthetic resources. (FEIR p. 3.1-6)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.1-2a through 3.1-2c would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.1-2a:** The implementing agencies shall attempt to locate pump stations and reservoirs in areas that are compatible with existing views and vistas.
>
> **Mitigation Measure 3.1-2b:** During project design, the implementing agencies shall prepare a landscape plan for each aboveground project component. The landscape plan shall include measures to restore disturbed areas by reestablishing existing topography, including replanting trees and/or reseeding with a native seed mix typical of the immediately surrounding area. The landscape plan shall include a required seed mix and plant palate. Vegetation screening shall be included in the landscape plan in order to shield proposed aboveground facilities from public view. The landscape plan shall include a monitoring plan to ensure that the site restoration and the establishment of vegetation is successful.
>
> **Mitigation Measure 3.1-2c:** The implementing agencies shall ensure that storage reservoir designs include non-glare exterior coatings that are colored an earth tone to blend in with the surrounding landscape.

Rational/Supporting Explanation: Construction of the proposed storage reservoirs and pump stations would result in short-term impacts to aesthetic resources. However, these impacts would be temporary during project construction and would not significantly impact the long-term visual character of the area. Operation of the storage reservoirs and pump stations would cause permanent long-term impacts to aesthetic resources. The structures would contrast with the surrounding landscape and potentially would be incompatible with the existing views and vistas within the project area. Mitigation Measures 3.1-2a through 3.2-1c would reduce impacts to less than significant levels by requiring implementation of landscaping and design elements to minimize the visual contrast of the reservoirs and pump stations and blend these facilities into the surrounding landscape. Operational impacts would be reduced to less than significant levels by these mitigation measures. (FEIR p. 3.1-6)

Significant Impact 3.1-3: The Final PEIR concludes in Impact 3.1-3 that exterior lighting would be installed at the proposed storage reservoirs and pump stations and would introduce a new source of light and glare. (FEIR p. 3.1-7)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as

identified in the Final PEIR. Specifically, Mitigation Measure 3.1-3 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.1-3:** The exterior lighting installed around the storage reservoirs and pump stations shall be of a minimum standard required to ensure safe visibility. Lighting shall be shielded and directed downward, away from neighboring land uses to minimize impacts of light and glare.

Rational/Supporting Explanation: Mitigation Measure 3.1-3 would ensure that the exterior lighting installed around the storage reservoirs and pump stations is shielded and directed downward, away from neighboring land uses to minimize impacts of light and glare. This impact would be considered less than significant with implementation of Mitigation Measure 3.1-3. (FEIR p. 3.1-7)

Significant Impact 3.1-4: The Final PEIR concludes in Impact 3.1-4 that construction of recharge basins, depending on the locations selected, would introduce a new contrasting element into the landscape. (FEIR p. 3.1-7)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.1-2b would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Construction of recharge basins would involve recontouring of site soils to form earthern berms which could be as tall as six feet above ground level. The constructed berms could degrade the existing visual character or quality of the site and its surroundings. Mitigation Measure 3.1-2b would reduce impacts to visual character by requiring implementing agencies to develop landscape plans during the design phase of future groundwater recharge reuse projects. This impact would be considered less than significant with implementation of Mitigation Measure 3.1-2b. (FEIR p. 3.1-7-8).

5.2 Air Quality

5.2.1 Project-Level Impacts

Significant Impact 3.2-1: The Final PEIR concludes in Impact 3.2-1 that the proposed project would result in temporary emissions from construction that would contribute to air pollution in the basin and could therefore exceed Antelope Valley Air Quality Management District (AVAQMD) or Kern County Air Pollution Control District (KCAPCD) significance thresholds. (FEIR p. 3.2-13)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.2-1a through 3.2-1f would reduce the significant impact to a less than significant level.

Mitigation Measure 3.2-1a: The implementing agencies shall include in contractor specifications the implementation of a fugitive dust control program pursuant to the provisions of AVAQMD Rule 403 or KCAPCD Rule 402.

Mitigation Measure 3.2-1b: All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.

Mitigation Measure 3.2-1c: General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues shall turn their engines off when not in use to reduce vehicle emissions. Construction emissions shall be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.

Mitigation Measure 3.2-1d: Electricity from power poles rather than temporary diesel- or gasoline-powered generators shall be used to the extent feasible.

Mitigation Measure 3.2-1e: All construction vehicles shall be prohibited from idling in excess of five minutes, both on- and off-site.

Mitigation Measure 3.2-1f: The project applicant shall utilize coatings and solvents that are consistent with applicable AVAQMD or KCAPCD rules and regulations**.**

Rational/Supporting Explanation: Construction of the proposed project would result in temporary emissions. Compliance with the rules established by AVAQMD and KCAPCD to reduce construction emissions, including fugitive dust control measures and vehicle maintenance measures, would ensure that project construction would not conflict with the current air quality management plan. Mitigation Measures 3.2-1a through 3.2-1f, which are required by AVAQMD, would reduce construction emissions below significant levels. The proposed project is consistent with the current General Plan and would therefore not conflict with the current air quality attainment plan. This impact would be considered less than significant with implementation of Mitigation Measures 3.2-1a through 3.2-1f. (FEIR p. 3.2-13-14)

Significant Impact 3.2-2: The Final PEIR concludes in Impact 3.2-2 that construction of the proposed pipeline would generate substantial amounts of dust (including PM10) and other criteria pollutant emissions. (FEIR p. 3.2-15)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.2-1a through 3.2-1f would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Construction of the proposed pipeline would generate substantial amounts of dust (including PM10) primarily from fugitive sources and lesser amounts of criteria air pollutants primarily from operation of heavy equipment, construction machinery, and construction worker commute trips. At any one location along the pipeline segments, the duration of air quality impacts would be relatively brief. The emissions analysis based on calculations using URBEMIS 2007 found emissions from pipeline construction to be less than

significant. To avoid unnecessary emissions from construction, the project would comply with local rules related to construction and Mitigation Measures 3.2-1a through 3.2-1f. The proposed project would not result in a long-term substantial source of TAC emissions as construction would be temporary. This impact would be considered less than significant with implementation of Mitigation Measure 3.2-1a through 3.2-1f. (FEIR p. 3.2-15)

5.2.2 Program-Level Impacts

Significant Impact 3.2-6: The Final PEIR concludes in Impact 3.2-6 that construction of the reservoirs and pump stations would generate substantial amounts of dust (including PM10) and other criteria pollutant emissions. (FEIR p. 3.2-18)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.2-1a through 3.2-1f would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Construction of the proposed reservoirs and pump stations would generate substantial amounts of dust (including PM10) primarily from fugitive sources and lesser amounts of criteria air pollutants primarily from operation of heavy equipment, construction machinery, and construction worker commute trips. Construction of the pump stations is expected to take eight months and construction of the reservoirs is expected to take nine months. The emissions analysis based on calculations using URBEMIS 2007 found emissions from reservoir and pump station construction to be less than significant. To avoid unnecessary emissions from construction, the project would comply with local rules related to construction and Mitigation Measures 3.2-1a through 3.2-1f. The proposed project would not result in a long-term substantial source of TAC emissions as construction would be temporary. This impact would be considered less than significant with implementation of Mitigation Measure 3.2-1a through 3.2-1f. (FEIR p. 3.2-18-19)

5.3 Biological Resources

5.3.1 Project-Level Impacts

Significant Impact 3.3-1: The Final PEIR concludes that the proposed project could have a substantial adverse effect on listed, candidate, or special-status ground dwelling wildlife species including the California red-legged frog and Mohave ground squirrel. (FEIR p. 3.3-13)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.3-1a through 3.3-1e would reduce the significant impact to a less than significant level.

Mitigation Measure 3.3-1a: The implementing agencies shall have a qualified biologist conduct a pre-construction field reconnaissance survey for special-status ground-dwelling species within the construction right-of-way. If potential for special-status ground-dwelling species is identified then presence/absence protocol surveys shall be conducted. If protocol surveys identify the presence of special-status ground-dwelling species, the implementing agencies shall consult with CDFG to determine further required mitigation.

Mitigation Measure 3.3-1b: The implementing agencies shall avoid impacts on California red-legged frog by eliminating construction activities within areas where the species may occur. Implementing agencies shall employ tunneling or jack and bore construction methods under drainages that may support California red-legged frog in order to avoid impacting the species.

Mitigation Measure 3.3-1c: The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project near areas that may support California red-legged frogs as determined by a qualified biologist.

Mitigation Measure 3.3-1d: The implementing agencies shall install a silt fence or some other impermeable barrier to exclude small wildlife species from entering the active work areas. Exclusion fencing can be limited to areas of documented occurrences of special-status wildlife as determined during pre-construction surveys by a qualified biologist.

Mitigation Measure 3.3-1e: Prior to project implementation, a habitat assessment shall be conducted by a qualified biologist to determine the potential for the Mohave ground squirrel to occur within construction zones. If the habitat assessment determines that potential habitat for the Mohave ground squirrel is present in the impact zone or within 300 feet of the construction zone, then the implementing agencies have two options: 1) assume the Mohave ground squirrel is present and either take the steps necessary to avoid any potential direct or indirect impacts (i.e., construction noise and dust) that may be incurred by the Mohave ground squirrel or 2) arrange for a qualified biologist with the necessary permits to implement a trapping program in accordance with CDFG's trapping protocol to determine the presence or absence of the Mohave ground squirrel. If Mohave ground squirrel is identified as present or assumed present, implementing agencies shall obtain an incidental take permit from CDFG pursuant to Section 2081 of the California Fish and Game Code and provide compensation at a ratio determined by CDFG.

Mitigation Measure 3.3-1f: Prior to project implementation, a burrowing owl presence/absence survey shall be conducted by a qualified biologist in accordance with CDFG's *1995 Staff Report on Burrowing Owl Mitigation* and the *Burrowing Owl Consortium's 1992 Burrowing Owl Protocol and Mitigation Guidelines* to determine the potential for the burrowing owl to occur within impacted areas and construction zones. If the survey results in discovery of burrowing owl, sign, or potential burrow sites in the impact zone, then additional surveys shall be performed during the breeding season (April 15 to July 15) in accordance with the *1992 Guidelines* to determine use of the site by burrowing owl. Following this survey, the implementing agencies shall consult with CDFG to determine avoidance or mitigation measure to minimize project impacts to burrowing owl.

Rational/Supporting Explanation: U.S. Fish and Wildlife Services Critical Habitat for the California red-legged frog is located at least partially within the proposed project area along Amargosa Creek. There is potential for indirect impacts such as noise and dust during construction of the proposed project components in Amargosa Creek. Implementation of Mitigation Measure 3.3-1a through 3.3-1d would ensure that the California red-legged frog would not be affected by indirect impacts and would reduce impacts to less than significant. The Mohave ground squirrel has potential to occur in the native habitats of the proposed project area. Implementation of Mitigation Measure 3.3-1e would reduce these impacts to less than significant. The burrowing owl also has potential to occur in the project area. Implementation of Mitigation Measure 3.3-1f would reduce these impacts to less than significant levels. (FEIR p. 3.3-13-14)

Significant Impact 3.3-2: The Final PEIR concludes that construction of the pipeline could have a substantial adverse effect on listed, candidate, or special-status bat and avian species including the Swainson's hawk, American peregrine falcon, southwestern willow flycatcher, and least Bell's vireo. The proposed project also could have a substantial adverse effect on the burrowing owl and raptor nests. (FEIR p. 3.3-15)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.3-2a through 3.3-2g would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.3-2a:** Prior to any ground-disturbing activities, the implementing agencies shall have a qualified biologist conduct a pre-construction spring/summer active season reconnaissance survey for nesting/roosting special-status mobile bird and bat species, and other nesting birds within 300 feet (500 feet for raptors) of the construction limits of each project element to determine and map the location and extent of special-status species occurrence(s) that could be affected by the project.
>
> **Mitigation Measure 3.3-2b:** The implementing agencies shall avoid direct impacts on any nesting birds located within the limits of construction. This could be accomplished by establishing the construction right of way and removal of plant material outside of the typical breeding season (February 1 through August 31).
>
> **Mitigation Measure 3.3-2c:** If construction and vegetation removal is proposed for the bird nesting period February 1 through August 31, then preconstruction surveys for nesting/roosting bird and bats species shall begin 30 days prior to construction disturbance with subsequent weekly surveys, the last one being no more than three days prior to work initiation. The surveys shall include habitat within 300 feet (500 feet for raptors) of the construction limits. Active nest sites located during the pre-construction surveys shall be avoided and a non-disturbance buffer zone established dependent on the species and in consultation with the USFWS and CDFG. This buffer zone shall be delineated in the field with flagging, stakes or construction fencing. Nest sites shall be avoided with approved non-disturbance buffer zones until the adults and young are no longer reliant on the nest site for survival as determined by a qualified biologist. For species with high site fidelity, such as Swainson's hawk, if direct take of nests outside of the breeding seasons is required, the implementing agency shall contact CDFG to determine appropriate mitigation measures.

Mitigation Measure 3.3-2d: If a natal bat roost site is located within the limits of construction during pre-construction surveys, it shall be avoided with non-disturbance buffer zone established by a qualified biologist in consultation with the USFWS and CDFG until the site is abandoned.

Mitigation Measure 3.3-2e: The implementing agencies shall minimize impacts on documented locations of special-status species and any nesting birds to the extent feasible and practicable by reducing the construction right-of-way through areas of occurrences to either avoid the occurrence or reduce impacts to the minimum necessary to complete the project.

Mitigation Measure 3.3-2f: The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would avoid and minimize impacts on special-status avian and bat species.

Mitigation Measure 3.3-2g: The implementing agencies shall instruct construction personnel on the importance of buffer zones and sensitivity of the delineated areas.

Rational/Supporting Explanation: Although rare in the project area, there is potential for the Swainson's hawk to nest in the vicinity of the proposed project wherever there are clumps of trees adjacent to open space habitats. Implementation of Mitigation Measure 3.3-2a through 3.3-2c, 3.3-2e, and 3.3-2f would reduce impacts to Swainson's hawk to less than significant levels. The American peregrine falcon is expected to occur as a rare migrant and not expected to nest in the project area. Potential project impacts on this species would not be considered significant and no mitigation would be required. Willow riparian habitats along Amargosa Creek provide potentially suitable habitat for the southwestern willow flycatcher and least Bell's vireo and both species have the potential to occur. Implementation of Mitigation Measure 3.3-2a through 3.3-2c and 3.3-2g would reduce impacts on the southwestern willow flycatcher and least Bell's vireo to less than significant levels. Potential impacts on the burrowing owl would meet the significance criteria in Section 15380 of the CEQA Guidelines. Impacts on the burrowing owl would be reduced by Mitigation Measures 3.3-2a through 3.3-2c, 3.3-2e, and 3.3-2f. Mitigation Measures 3.3-2a through 3.3-2f would ensure that implementing agencies avoid impacts on raptor nests and bat roost sites, resulting in a less than significant impact. (FEIR p. 3.3-15-16)

Significant Impact 3.3-3: The Final PEIR concludes in Impact 3.3-3 that construction of the pipeline could have a substantial adverse effect on special-status plant species and habitat types. (FEIR p. 3.3-17)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.3-3a through 3.3-3e would reduce the significant impact to a less than significant level.

Mitigation Measure 3.3-3a: The implementing agencies shall have a qualified biologist conduct a pre-construction spring/summer floristic inventory and rare plant survey of the proposed project areas in accordance with CDFG's *Guidelines for Assessing the Effects of*

Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities, (revised May 8, 2000) to determine and map the location and extent of special-status plant species populations within the construction right-of-way. The survey shall be conducted during the appropriate flowering time for target plant species.

Mitigation Measure 3.3-3b: If not possible to avoid, the implementing agencies shall minimize impacts on special-status plant species by reducing the construction right-of-way through areas with potential occurrences of special-status plant species. For unavoidable direct impacts to special-status species, consultation with CDFG shall be required to determine the impact area and further mitigation, which could include acquisition of habitat of equal or superior value at a ratio of at least 2:1.

Mitigation Measure 3.3-3c: The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would avoid and minimize impacts on special-status plant species.

Mitigation Measure 3.3-3d: The implementing agencies shall restore all disturbed areas back to pre-construction conditions and a restoration plan shall be developed and implemented that contains the following items: responsibilities and qualifications of the personnel to implement and supervise the plan; site preparation and planting implementation; schedule; maintenance plan/guidelines; and monitoring plan..

Mitigation Measure 3.3-3e: Earth-moving equipment will avoid maneuvering in areas outside the identified limits of construction in order to avoid disturbing open space areas that will remain undeveloped. Prior to construction, the natural open space limits will be marked by the construction supervisor and a qualified biologist. These limits will be identified on the construction drawings. The implementing agencies will submit a letter to the appropriate agencies verifying that construction limits have been flagged and clearly delineated in the field. No earth-moving equipment will be allowed outside demarcated construction zones.

Rational/Supporting Explanation: Most pipeline impacts are expected to occur within areas along existing roadways that do not support native vegetation; however some soil removal would be necessary and the proposed pipeline construction could impact minor amounts of native desert scrub vegetation adjacent to the roadways. Impacts on special status vegetation types would be reduced to less than significant with implementation of Mitigation Measures 3.3-3a through 3.3-3e. (FEIR p. 3.3-17)

Significant Impact 3.3-4: The Final PEIR concludes in Impact 3.3-4 that construction of the pipeline could conflict with the Joshua Tree and Native Desert Vegetation Preservation Ordinance. (FEIR p. 3.3-18)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.3-4a through 3.3-4c would reduce the significant impact to a less than significant level.

Mitigation Measure 3.3-4a: The implementing agencies shall attempt to place all project components in areas exhibiting absence or a low density of Joshua trees and other native desert vegetation.

Mitigation Measure 3.3-4b: Prior to the commencement of grading activities for any component of the proposed project, within the City of Palmdale, a qualified biologist/arborist shall be consulted to determine the biological/aesthetic value of potentially impacted trees under the jurisdiction of the Palmdale Native Desert Vegetation Ordinance. For protected vegetation located within the final impact areas, a proposal application would be necessary, including a desert vegetation preservation plan which depicts the location of each Joshua tree and California juniper, details tree age and health, and describes which can be saved and maintained on the site or relocated. A permit must be obtained from the City of Palmdale's landscape architect prior to removal of protected vegetation in Los Angeles County, which may require mitigation in the form of replacement plantings of all impacted vegetation. Prior to the removal of protected vegetation in Kern County, the Kern County Environmental Health Services shall be contacted.

Mitigation Measure 3.3-4c: If avoidance of Joshua tree woodlands or other special-status vegetative community is not feasible, the implementing agencies shall acquire off-site habitat of equal or superior quality at a no less than a 2:1 ratio within remaining habitat in the Antelope Valley. Location, terms and conditions for habitat acquisition, protection, and maintenance shall be determined through consultation with resource agencies, including CDFG.

Rational/Supporting Explanation: Removal of Joshua trees for construction of the proposed pipeline within the City of Palmdale is subject to provisions of the Palmdale Native Desert Vegetation Ordinance, which prohibits removal of desert vegetation (Joshua and juniper trees). Adherence to, and implementation of, Mitigation Measures 3.3-4a through 3.3-4c would reduce this impact to a less than significant level. (FEIR p. 3.3-18)

Significant Impact 3.3-6: The Final PEIR concludes in Impact 3.3-6 that construction of the pipeline could have a substantial adverse effect on wetlands considered waters of the state. (FEIR p. 3.3-20)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.3-6 would reduce the significant impact to a less than significant level.

Mitigation Measure 3.3-6: Prior to construction, the implementing agencies shall retain a qualified biologist to survey proposed construction zones including staging areas and access roads. If wetlands would be affected by construction, the qualified biologist would prepare a report outlining mitigation and compensation requirements to be implemented prior to construction. The mitigation requirements shall include the following at a minimum:

- Implementing agencies shall avoid impacting previously undisturbed areas where possible. This would include employing tunneling or jack and bore methods under drainages.
- If avoidance is not feasible for engineering or cost reasons, the implementing agencies shall conduct jurisdictional delineation of wetland features.
- Implementing agencies shall obtain WDRs from the RWQCB for impacts to waters of the state including wetland areas.

Rational/Supporting Explanation: The U.S. Army Corps of Engineers has determined that Amargosa Creek is not defined as a water of the United States because it flows to a closed internal dry lake basin (Rosamond Dry Lake), which is wholly within the State of California. For similar reasons, the Lahontan RWQCB has determined that other dry washes in the Antelope Valley (e.g., Big Rock Creek and Little Rock Creek) are not defined as waters of the United States (Lahontan RWQCB, 2004). Implementation of Mitigation Measure 3.3-6 would ensure compliance with state and federal regulations. (FEIR p. 3.3-20)

5.3.2 Program-Level Impacts

Significant Impact 3.3-7: The Final PEIR concludes in Impact 3.3-7 that construction of the pump stations and reservoirs could have a substantial effect on special-status wildlife species including the California red-legged frog and Mohave ground squirrel. (FEIR p. 3.3-21)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.3-1a through 3.3-1e would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: U.S. Fish and Wildlife Services Critical Habitat for the California red-legged frog is located at least partially within the proposed project area along Amargosa Creek. There is potential for indirect impacts such as noise and dust during construction of the proposed project components in Amargosa. Implementation of Mitigation Measure 3.3-1a through 3.3-1d would ensure that the California red-legged frog would not be affected by indirect impacts and would reduce impacts to less than significant. The Mohave ground squirrel has potential to occur in the native habitats of the proposed project area. Implementation of Mitigation Measure 3.3-1e would reduce these impacts to less than significant. The burrowing owl also has potential to occur in the project area. Implementation of Mitigation Measure 3.3-1f would reduce these impacts to less than significant levels. (FEIR p. 3.3-21)

Significant Impact 3.3-8: The Final PEIR concludes in Impact 3.3-8 that construction of the pump stations and reservoirs could have a substantial effect on special-status bat and avian species including the Swainson's hawk, American peregrine falcon, southwestern willow flycatcher, and least Bell's vireo. (FEIR p. 3.3-22)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.3-2a through 3.3-2f would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: There is potential for the Swainson's hawk, American peregrine falcon, southwestern willow flycatcher, and least Bell's vireo to occur within the vicinity of the proposed project. Implementation of Mitigation Measures 3.3-2a through 3.3-2f would reduce such impacts to a less than significant level. Construction of the above ground structures would result in the permanent loss of potential foraging habitat for 13 raptor species. Implementation of Mitigation Measures 3.3-2a through 3.3-2f would reduce these impacts to a less than significant level. (FEIR p. 3.3-22)

Significant Impact 3.3-9: The Final PEIR concludes in Impact 3.3-9 that construction of the pump stations and reservoirs could have a substantial effect on special-status plant species. (FEIR p. 3.3-22)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.3-3a through 3.3-3e would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Based on general information regarding the special-status vegetation occurring in the region and the general location of proposed project components, it is assumed that special-status vegetation types (i.e., Joshua tree woodlands) may be impacted. Impacts on special-status vegetation types would be reduced to less than significant with implementation of Mitigation Measures 3.3-3a through 3.3-3e. The effects of the proposed pump stations and reservoirs on special-status plants has not been determined because the final footprint for these proposed facilities within the identified parcels have not been identified. Based on existing information, many special-status plant species have the potential to be impacted. Impacts to these species would be reduced to less than significant with implementation of Mitigation Measure 3.3-3a through 3.3-3e. (FEIR p. 3.3-22-23)

Significant Impact 3.3-10: The Final PEIR concludes in Impact 3.3-10 that construction of the pump stations and reservoirs could conflict with the Joshua Tree and Native Desert Vegetation Preservation Ordinance. (FEIR p. 3.3-23)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.3-4a through 3.3-4b would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Any Joshua trees and California junipers located within the City of Palmdale which would be impacted by the construction of the proposed pump stations and reservoirs are under the jurisdiction of the Palmdale Native Desert Vegetation Ordinance.

Implementation of Mitigation Measures 3.3-4a and 3.3-4b would reduce impacts to Joshua trees and native vegetation within the City of Palmdale to less than significant. (FEIR p. 3.3-23)

Significant Impact 3.3-12: The Final PEIR concludes in Impact 3.3-12 that construction of the pump stations and reservoirs could have a substantial adverse effect on wetlands considered waters of the state. (FEIR p. 3.3-24)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.3-6 would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: The Corps has determined that Amargosa Creek is not defined as a water of the US because it flows to a closed internal dry lake basin (Rosamond Dry Lake), which is wholly within the State of California. For similar reasons, the Lahontan RWQCB has determined that other dry washes in the Antelope Valley (e.g., Big Rock Creek and Little Rock Creek) are not defined as waters of the United States (Lahontan RWQCB, 2004). Implementation of Mitigation Measure 3.3-6 would ensure compliance with state and federal regulations. (FEIR p. 3.3-24-25)

5.4 Cultural Resources

5.4.1 Project-Level Impacts

Significant Impact 3.4-1: The Final PEIR concludes in Impact 3.4-1 that ground-disturbing activities during pipeline installation could unearth, or disturb archaeological, historical, or Native American resources. (FEIR p. 3.4-25)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.4-1a and 3.4-1b would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.4-1a:** Prior to initial construction of pipelines, the implementing agency shall retain the services of a qualified archaeologist to prepare a Cultural Resources Monitoring and Mitigation Plan (CMMP) and a Treatment Plan (TP) in accordance with CEQA Guidelines Sections 15064.5 and 15126.4. The CMMP shall set forth criteria for evaluating the significance of resources discovered during construction and identify appropriate data recovery methods and procedures to mitigate project impacts on significant resources. At a minimum, the CMMP shall include a summary of available information on known sites and sensitive locations in the project area; a historical context for the evaluation of resources that may be encountered during construction; a research design outlining important historical themes and research questions relevant to the known sites in the study area; data requirements and the appropriate field and laboratory methods to be used to acquire data needed for significance evaluation and impact mitigation. The

CMMP will also identify specific pipeline segments where cultural resources monitors would be required during construction. The TP will identify reporting and curating requirements for artifacts uncovered during construction.

All project activities within or adjacent to the *Historical area of Old Palmdale and Old Lancaster* and *Old Rosamond and Tropico Mine* area shall be monitored by a professional archaeologist as there is a high probability for subsurface feature discovery, which includes (though is not limited to) foundations, cisterns, wells, cesspools, basements, or associated elements of the *Old Palmdale roundhouse spur of the Southern Pacific Railroad.*

Mitigation Measure 3.4-1b: A Phase I cultural resources survey shall be conducted for the segments of pipeline not already assessed in the Phase I Assessment conducted for the proposed project. Following completion of the Phase I cultural resource survey, the CMMP and TP shall be updated to include these segments.

Rational/Supporting Explanation: Some of the recorded historic period sites and the recorded prehistoric period sites are adjacent to the backbone corridor for the pipeline, but appear unaffected by the project given the use of the roadbed as the location for the backbone pipeline construction. With respect to the placement of the backbone pipeline within existing roadbed, it is unknown what lies beneath in terms of prehistoric, historical, or Native American resources. Mitigation Measure 3.4-1a would minimize potential impacts to previously unknown cultural resources. The pipeline segment connecting Booster Pump Station 1 with the proposed pipeline along Sierra Highway was not included in the APE evaluated in the Phase I Assessment by APRMI. Mitigation Measures 3.4-1b would ensure that this segment of pipeline is surveyed and evaluated appropriately for cultural resources prior to construction. (FEIR p. 3.4-25-26)

Significant Impact 3.4-2: The Final PEIR concludes in Impact 3.4-2 that ground-disturbing activities during pipeline installation could unearth, expose, or disturb human remains. (FEIR p. 3.4-26)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.4-2 would reduce the significant impact to a less than significant level.

Mitigation Measure 3.4-2: If human skeletal remains are uncovered during project construction, the implementing agency shall immediately halt work, contact the Kern County or the Los Angeles County coroner, depending upon the location of the find, to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the *CEQA Guidelines*. If the County coroner determines that the remains are Native American, the implementing agency shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Rational/Supporting Explanation: Prehistoric sites and cemeteries are reported west of the Tropico Mine, an area likely utilized by the Kitanemuk. Since the nature of the proposed project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously unknown human remains. With implementation of Mitigation Measure 3.4-2, the proposed project would have less than significant impacts associated with the disturbance of human remains. (FEIR p. 3.4-26-27)

Significant Impact 3.4-3: The Final PEIR concludes in Impact 3.4-3 that installation of the pipeline could potentially unearth, expose, or disturb paleontologic resources including fossil remains, localities, or known fossil-bearing geologic horizons. (FEIR p. 3.4-27)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.4-3 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.4-3:** The implementing agencies shall develop and implement a Paleontological Resource Monitoring and Mitigation Plan (PRMMP) prior to the onset of construction-related earth moving activities in order to either avoid or mitigate to a less-than-significant level the effects on paleontological resources. During earth-moving construction-related activities, additional previously-unknown fossil sites may be uncovered. The PRMMP must include mitigation protocol for discoveries as well. The PRMMP shall include provisions for the following: special consideration shall be made to collect sediment samples for potential fossiliferous locations as per the Society of Vertebrate Paleontology standards; stratigraphic cross-sections shall be recorded, mapping of the geologic units graphed, and fossil remains, cleaned, analyzed, and catalogued to be accepted for curation at a legal repository; all work must be conducted by a qualified Paleontologist and a final Report of Findings must be submitted upon completion of laboratory analysis.

Rational/Supporting Explanation: More than a dozen significant fossil localities are within, or close to, the proposed pipeline and proposed reservoirs and pump station properties. These sites range in size and type from the identification of a single microfaunal remain, to a stratigraphic bed or lens of specimens such as with the Anaverde Formation leaf deposits, to multiple species found together as recorded Rancholabrean megafauna localities. Many of these fossil sites are on, or close to, the San Andreas Rift Zone. With implementation of Mitigation Measure 3.4-3, the proposed project would have less than significant impacts associated with the disturbance of paleontologic resources. (FEIR p. 3.4-27)

5.4.2 Program-Level Impacts

Significant Impact 3.4-4: The Final PEIR concludes in Impact 3.4-4 that the proposed ground-disturbing activities for the storage reservoirs, pump stations and groundwater recharge facilities could unearth, expose, or disturb archaeological, historical, or Native American resources. (FEIR p. 3.4-28)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.4-4a through 3.4-4g would reduce the significant impact to a less than significant level.

Mitigation Measure 3.4-4a: Prior to initial construction of storage reservoirs, pump stations, and recharge facilities, the implementing agency shall retain the services of a qualified archaeologist to prepare a Cultural Resources Monitoring and Mitigation Plan (CMMP) and a Treatment Plan (TP) in accordance with CEQA Guidelines Sections 15064.5 and 15126.4. The CMMP shall set forth criteria for evaluating the significance of resources discovered during construction and identify appropriate data recovery methods and procedures to mitigate project impacts on significant resources. At a minimum, the CMMP shall include a summary of available information on known sites and sensitive locations in the project area; a historical context for the evaluation of resources that may be encountered during construction; a research design outlining important historical themes and research questions relevant to the known sites in the study area; data requirements and the appropriate field and laboratory methods to be used to acquire data needed for significance evaluation and impact mitigation. The CMMP will also identify specific locations where cultural resources monitors would be required during construction. The TP will identify reporting and curating requirements for artifacts uncovered during construction.

Mitigation Measure 3.4-4b: *DPS1-Hist1* and *BPS1-Hist1* would be adversely impacted by the proposed construction activities and, therefore, shall be subjected to Phase II testing and evaluation for significance under CEQA and NHPA (see Section 3.4.2).

Mitigation Measure 3.4-4c: A Phase I cultural resources survey shall be conducted within areas affected by storage reservoir, pump stations, and recharge facilities not already assessed in the Phase I Assessment conducted for the proposed project.

Mitigation Measure 3.4-4d: Following completion of additional Phase I cultural resource surveys for sites not already surveyed, the CMMP and TP shall be updated to include these additional sites.

Mitigation Measure 3.4-4e: All project activities within or adjacent to the *Historical area of Old Palmdale and Old Lancaster* and *Old Rosamond and Tropico Mine area* shall be monitored by a professional archaeologist as there is a high probability for subsurface feature discovery, which includes (though is not limited to) foundations, cisterns, wells, cesspools, basements, or associated elements of the *Old Palmdale roundhouse spur of the Southern Pacific Railroad*. If these elements are identified, mitigation measures shall be employed that include in-field evaluation by a professional archaeologist (per Secretary of the Interior Standards) and possible data recovery, as needed, per a mitigation treatment plan.

Mitigation Measure 3.4-4f: If a prehistoric site is encountered in the vicinity of the concentration of isolated prehistoric artifacts within the northern portion of the western parcel of Proposed Reservoir 3, mitigation measures shall be employed that include in-field evaluation by a professional archaeologist (per Secretary of the Interior Standards) and possible data recovery, as needed, per a mitigation treatment plan.

> **Mitigation Measure 3.4-4g:** If human skeletal remains are uncovered during project construction, the implementing agency shall immediately halt work, contact the Kern County or the Los Angeles coroner, depending upon the location of the find, to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the *CEQA Guidelines*. If the County coroner determines that the remains are Native American, the implementing agency shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Rational/Supporting Explanation: Mitigation Measure 3.4-4c and 3.4-4d would ensure that Distribution Pump Station 1A, Booster Pump Station 1, and Reservoir 4 are surveyed and evaluated appropriately for cultural resources prior to construction as they were not included in the APE evaluated in the Phase I Assessment. Historic period sites are located within the project areas. With implementation of Mitigation Measures 3.4-4a through 3.4-4g, the proposed project would have less than significant impacts regarding the disturbance of archaeological, historical or Native American resources. (FEIR p. 3.4-28)

Significant Impact 3.4-5: The Final PEIR concludes in Impact 3.4-5 that construction of the storage reservoirs, pump stations, and recharge facilities could potentially unearth, expose, or disturb paleontologic resources including fossil remains, localities, or known fossil-bearing geologic horizons. (FEIR p. 3.4-30)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.4-5 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.4-5:** The implementing agencies shall develop and implement a Paleontological Resource Monitoring and Mitigation Plan (PRMMP) prior to the onset of construction-related earth moving activities in order to either avoid or mitigate to a less-than-significant level the effects on paleontological resources. During earth-moving construction-related activities, additional previously-unknown fossil sites may be uncovered. The PRMMP must include mitigation protocol for discoveries as well. The PRMMP shall include provisions for the following: special consideration shall be made to collect sediment samples for potential fossiliferous locations as per the Society of Vertebrate Paleontology standards; stratigraphic cross-sections shall be recorded, mapping of the geologic units graphed, and fossil remains, cleaned, analyzed, and catalogued to be accepted for curation at a legal repository; all work must be conducted by a qualified Paleontologist and a final Report of Findings must be submitted upon completion of laboratory analysis.

Rational/Supporting Explanation: Implementation of the proposed project could result in significant impacts to paleontological resources. More than a dozen significant fossil localities are within, or close to, the proposed pipeline and proposed reservoirs and pump station properties.

These sites range in size and type from the identification of a single microfaunal remain, to a stratigraphic bed or lens of specimens such as with the Anaverde Formation leaf deposits, to multiple species found together as recorded Rancholabrean megafauna localities. Many of these fossil sites are on, or close to, the San Andreas Rift Zone. With implementation of Mitigation Measure 3.4-5, the proposed project would have less than significant impacts associated with the disturbance of paleontologic resources. (FEIR p. 3.4-30)

5.5 Geology and Soils

5.5.1 Project-Level Impacts

Significant Impact 3.5-1: The Final PEIR concludes in Impact 3.5-1 that in the event of a major earthquake in the region, underground pipelines would be subject to seismic hazards including surface rupture, liquefaction, landslide and ground shaking capable of causing localized collapse or damage of engineered fills, structural damage, or pipeline rupture. (FEIR p. 3.5-11)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.5-1would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.5-1:** Prior to the approval of construction plans for the project, a design-level geotechnical investigation, including collection of site specific subsurface data shall be completed by the implementing agency. The geotechnical evaluation shall identify density profiles, approximate maximum shallow groundwater levels, a characterization of the vertical and lateral extent of the saturated sand/silt layers that could undergo liquefaction during strong ground shaking, and development of site-specific design criteria to mitigate potential risks. Recommendations made as a result of these investigations to protect new structures from seismic hazards shall become part of the proposed project.

Rational/Supporting Explanation: Two areas of the project are located in Alquist-Priolo Earthquake Fault Zones and the project is located in potential liquefaction zones in four places. The project is not located in an area that is subject to earthquake-induced landslide. A segment of pipeline traverses an Alquist-Priolo Zone south of Palmdale along the San Andreas Fault Zone. Rupture along the Alquist-Priolo Zone would subject the pipeline to ground motion, and under extreme conditions, could cause material failure or connection failure leading to rupture and release of recycled water, which would be a significant impact. Mitigation Measure 3.5-1 would require a geotechnical investigation for pipeline segments within seismic hazard zones and would reduce impacts to a less than significant level. (FEIR p. 3.5-11-12)

Significant Impact 3.5-2: The Final PEIR concludes in Impact 3.5-2 that construction of the proposed pipeline would result in substantial soil erosion or loss of topsoil. (FEIR p. 3.5-13)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as

identified in the Final PEIR. Specifically, Mitigation Measure 3.5-2 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.5-2:** To control water and wind erosion during construction of the project, the implementing agencies shall ensure that contractors implement Best Management Practices (BMPs) to control wind and water erosion during and shortly after construction of the project and permanent BMPs to control erosion and sedimentation once construction is complete. The BMPs could include, but would not be limited to, sediment barriers and traps, silt basins, and silt fences.

Rational/Supporting Explanation: The proposed project would not contribute to the loss of topsoil, and the impact is considered less than significant. However, soils in the region are highly susceptible to water or wind erosion or both. Therefore, if any construction-related grading activities are required for installation of the recycled water pipelines, short-term losses of topsoil and subsoil due to wind and water erosion could be substantial. Implementation of Mitigation Measure 3.5-2 would ensure water and wind erosion of soils would be minimized to less than significant levels. (FEIR p. 3.5-13)

Significant Impact 3.5-3: The Final PEIR concludes in Impact 3.5-3 that the presence of local expansive soils in the project area would result in structural damage to the recycled water pipelines. (FEIR p. 3.5-13)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.5-3 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.5-3:** The implementing agencies shall require the preparation of site specific geotechnical investigations along the proposed pipeline alignments. These investigations shall identify appropriate engineering considerations, as recommended by a certified engineering geologist or registered geotechnical engineer for planned facilities, including engineering considerations to mitigate the effects of expansive soils. Recommendations made as a result of these investigations to protect new structures from expansive soils shall become part of the proposed project.

Rational/Supporting Explanation: None of the soils in the project area are classified as expansive according to Table 18-1B of the Uniform Building Code. However, if local areas with expansive soils are encountered, engineered project facilities would be designed according to the Uniform Building Code to prevent structural damage from soil expansion and contraction. Implementation of Mitigation Measure 3.5-3 would reduce impacts to project facilities due to expansive soils to less than significant levels. (FEIR p. 3.5-13)

5.5.2 Program-Level Impacts

Significant Impact 3.5-4: The Final PEIR concludes in Impact 3.5-4 that construction of the proposed reservoirs and pump stations would result in substantial erosion or loss of topsoil. (FEIR p. 3.5-14)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.5-2 would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: The proposed project would not contribute to the loss of topsoil, and the impact is considered less than significant. However, soils in the region are highly susceptible to water or wind erosion or both. Therefore, for any construction-related grading activities, short-term losses of topsoil and subsoil due to wind and water erosion could be substantial. Implementation of Mitigation Measure 3.5-2 would ensure water and wind erosion of soils would be minimized to less than significant levels. (FEIR p. 3.5-14)

Significant Impact 3.5-5: The Final PEIR concludes in Impact 3.5-5 that in the event of a major earthquake within the region, storage reservoirs and pump stations could be subject to seismic hazards including surface rupture, liquefaction, landslide, and ground shaking capable of causing localized collapse or damage of engineered fills or structural damage. (FEIR p. 3.5-14)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.5-1 through 3.5-3 would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Storage Reservoir 3 and Pump Station 2 would be located within the San Andreas Alquist-Priolo Zone. Surface rupture and intense ground shaking in this area could significantly affect the proposed structures, resulting in damage to the facilities or structural failure. The project would be designed in accordance with the recommendations of a site-specific geotechnical investigation, in compliance with the CBC and Special Publication 117. With implementation of Mitigation Measures 3.5-1 through 3.5-3, impacts would be reduced to less-than-significant levels. (FEIR p. 3.5-14)

Significant Impact 3.5-6: The Final PEIR concludes in Impact 3.5-6 that ground shaking, expansive soils, liquefaction, settlement, erosion and corrosive soils would damage facilities related to recycled water end uses, including the power plant cooling water system and the groundwater recharge basins and appurtenant facilities. (FEIR p. 3.5-15)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.5-1 through 3.5-3 would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Facilities related to end uses of recycled water for power plant cooling and groundwater recharge could be located in areas subject o seismic and geologic hazards, including ground shaking, expansive soils, liquefaction, settlement, erosion and corrosive soils. Mitigation Measure 3.5-1 and 3.5-2 would require site-specific geotechnical investigation to identify site-specific design criteria to mitigate potential risks. Design criteria will be incorporated into project design. To mitigate erosion due to wind and water, Mitigation Measure 3.5-2 requires BMPs to be implemented during construction. With implementation of Mitigation Measures 3.5-1 through 3.5-3, impacts would be less than significant. (FEIR p. 3.5-15)

5.6 Hazards and Hazardous Materials

5.6.1 Project-Level Impacts

Significant Impact 3.6-1: The Final PEIR concludes in Impact 3.6-1 that during construction of the pipeline, contaminated soils could be encountered during excavation activities, causing a risk of exposure to hazardous materials. (FEIR p. 3.6-7)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.6-1 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.6-1:** In the event that evidence of potential soil contamination, including soil discoloration, noxious odors, debris, or buried storage containers are encountered during construction, the implementing agencies shall require the construction contractor(s) to have a contingency plan for sampling and analysis of potentially hazardous substances and coordination with the appropriate regulatory agencies, if necessary. The required handling, storage, and disposal methods shall depend on the types and concentrations of chemicals identified in the soil. Any site investigations or remedial actions shall comply with applicable laws.

Rational/Supporting Explanation: A total of 21 sites were identified in the EDR database report that are within 0.25 mile of the project and represent potential sources of soil contamination that could be encountered during excavation. If contaminated soils are encountered during excavation activities, implementation of Mitigation Measure 3.6-1 would reduce impacts to a less-than-significant level. (FEIR p. 3.6-8)

Significant Impact 3.6-2: The Final PEIR concludes in Impact 3.6-2 that accidental upset of hazardous materials used during pipeline construction would increase the risk of exposure to the environment, workers, and the public. (FEIR p. 3.6-8)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.6-2a through 3.6-2f would reduce the significant impact to a less than significant level.

Mitigation Measure 3.6-2a: Construction contractor(s) shall be required to implement best management practices (BMPs) for handling hazardous materials during the project. The use of the construction BMPs shall minimize negative effects on groundwater and soils, and will include, without limitation, the following:

- Follow manufacturers' recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction.
- Avoid overtopping construction equipment fuel tanks.
- During routine maintenance of construction equipment, properly contain and remove grease and oils.
- Properly dispose of discarded containers of fuels and other chemicals.

Mitigation Measure 3.6-2b: The implementing agencies shall require the construction contractor(s) to implement safety measures in accordance with General Industry Safety Orders for Spill and Overflow Control (CCR Title 8, §s 5163-5167) to protect the project area from contamination due to accidental release of hazardous materials. The safety measures shall include, but not be limited to, the following:

- Spills and overflows of hazardous materials shall be neutralized and disposed of promptly.
- Hazardous materials shall be stored in containers that are chemically inert to and appropriate for the type and quantity of the hazardous substance.
- Containers shall not be stored where they are exposed to heat sufficient enough to rupture the containers or cause leakage.
- Specific information shall be provided regarding safe procedures and other precautions before cleaning or subsequent use or disposal of hazardous materials containers.

Disposal of all hazardous materials shall be in compliance with applicable California hazardous waste disposal laws. The construction contractor shall contact the local fire agency and the County Department of Public Health, Environmental Health Division, for any site-specific requirements regarding hazardous materials or hazardous waste containment or handling.

Mitigation Measure 3.6-2c: In the event of an accidental release of hazardous materials during construction, containment and clean up shall occur in accordance with applicable regulatory requirements.

Mitigation Measure 3.6-2d: Oil and other solvents used during maintenance of construction equipment shall be recycled or disposed of in accordance with applicable regulatory requirements. All hazardous materials shall be transported, handled, and disposed of in accordance with applicable regulatory requirements.

Mitigation Measure 3.6-2e: The implementing agencies shall require the construction contractor(s) to prepare a Site Safety Plan in accordance with applicable regulatory requirements.

> **Mitigation Measure 3.6-2f:** The implementing agencies shall require the construction contractor(s) to prepare and implement a Safety Program to ensure the health and safety of construction workers and the public during project construction. The Safety Program shall include an injury and illness prevention program, as site-specific safety plan, and information on the appropriate personal protective equipment to be used during construction.

Rational/Supporting Explanation: Construction of the pipeline would require equipment that utilizes hazardous materials such as petroleum fuels and oil. During construction activities, such hazardous materials could accidentally be spilled or otherwise released into the environment exposing construction workers, the public and/or the environment to potentially hazardous conditions. Mitigation Measures 3.6-2a through 3.6-2f would reduce the significant impact to a less than significant level. (FEIR p. 3.6-8)

Significant Impact 3.6-3: The Final PEIR concludes in Impact 3.6-3 that the proposed project would result in a safety hazard for people residing or working in portions of the project area that are in the vicinity of airports. (FEIR p. 3.6-10)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.6-3 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.6-3:** The implementing agencies shall coordinate with appropriate airport agencies (such as LAWA, Caltrans, and FAA) and staff to ensure a safety program is developed and implemented during construction of the proposed project.

Rational/Supporting Explanation: Components of the proposed project are within two miles of airports, including the Palmdale Regional Airport, General William J. Fox Airport, and Rosamond Skypark Airport. The proposed project would not construct any wildlife hazard attractants that would jeopardize the safety of aircraft operations. However, construction of the proposed project along roadways near airport facilities could introduce safety hazards for both workers at the construction sites and at the airports. Mitigation Measure 3.6-3 would require coordination with airport agencies and staff to ensure proper protections measures are integrated into a construction safety program and implemented by the construction contractor. (FEIR p. 3.6-10)

Significant Impact 3.6-4: The Final PEIR concludes in Impact 3.6-4 that the proposed project would interfere with emergency response and evacuation plans. (FEIR p. 3.6-10)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.11-1a would reduce the significant impact to a less-than-significant level.

Rational/Supporting Explanation: Project construction would not result in complete roadway closures but would result in lane closures, which would affect traffic flows. Implementation of a

Traffic Control/Traffic Management Plan, as described in Mitigation Measure 3.11-1a in Chapter 3.11, Transportation and Traffic, of the Final PEIR (see below) would ensure there would be no interference with emergency response and evacuation plans. The Traffic Control/Traffic Management Plan would ensure that all roads remain passable to emergency service vehicles at all times and would reduce impacts to a less-than-significant level. (FEIR p. 3.6-10)

Significant Impact 3.6-5: The Final PEIR concludes in Impact 3.6-5 that construction activities in grassland areas would have the potential to expose people or equipment to risk of loss, injury, or death involving wildland fires. (FEIR p. 3.6-11)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.6-5a and 3.6-5b would reduce the significant impact to a less than significant level.

> **Mitigation Measures 3.6-5a:** The implementing agencies shall coordinate with local fire agencies to develop a fire safety plan, which describes various potential scenarios and action plans in the event of a fire.
>
> **Mitigation Measures 3.6-5b:** During construction, all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the recycled water backbone, contractors shall require all vehicles and crews working at the project site to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.

Rational/Supporting Explanation: Portions of the pipeline are located in areas that may be susceptible to wildland fires as construction of the proposed project requires equipment and activities that use petroleum fuels and oils and could result in accidental spills leading to fire-related hazards. Implementation of Mitigation Measures 3.6-5a and 3.6-5b would reduce impacts to a less than significant level. (FEIR p. 3.6-11)

5.6.2 Program-Level Impacts

Significant Impact 3.6-6: The Final PEIR concludes in Impact 3.6-6 that accidental upset of hazardous materials used during construction of the storage reservoirs and pump stations would increase the risk of exposure to the environment, workers, and the public. (FEIR p. 3.6-11)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.6-2a and 3.6-2f would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Construction of the pump stations and reservoirs would require equipment that utilizes hazardous materials such as petroleum fuels and oil. During construction activities, such hazardous materials could accidentally be spilled or otherwise released into the environment exposing construction workers, the public and/or the environment to potentially hazardous conditions. Mitigation Measures 3.6-2a through 3.6-2f would reduce the significant impact to a less than significant level. (FEIR p. 3.6-11-12)

5.7 Hydrology and Water Quality

5.7.1 Project-Level Impacts

Significant Impact 3.7-1: The Final PEIR concludes in Impact 3.7-1 that operation of the proposed pipelines could result in cross contamination of potable water pipelines, which could result in reduced water quality and potential public health concerns. (FEIR p. 3.7-19)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.7-1a through 3.7-1e would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.7-1a:** Applicable backflow prevention devices, as outlined in Title 17 and the Purple Book, shall be incorporated into pipeline design to avoid potential for cross contamination.
>
> **Mitigation Measure 3.7-1b:** Applicable minimum pipeline separation standards for potable and non-potable water pipelines, as outlined in Title 22, shall be incorporated into pipeline design to avoid potential for cross contamination.
>
> **Mitigation Measure 3.7-1c:** All recycled water pipelines shall be painted purple or marked distinctly with purple tape.
>
> **Mitigation Measure 3.7-1d**: Los Angeles County Department of Public Health (DPH), Cross Connection Control Program for Los Angeles County and the Kern County Department of Public Health in Bakersfield for Kern County shall be advised of each new site where recycled water is to be used prior to placing the site into service.
>
> **Mitigation Measure 3.7-1e:** All recycled water sites shall be inspected and tested for possible cross connections with the potable water system, in accordance with Sections 60314(3) and 60316(a), Title 22, California Code of Regulations.

Rational/Supporting Explanation: To avoid cross-contamination of potable water with recycled water, backflow prevention devices will be required to be incorporated in accordance with Mitigation Measures 3.7-1a through 3.7-1e. In addition, all pipes would be colored purple or wrapped in purple tape and would have at least 10 foot horizontal separation and one foot vertical separation from any parallel potable water mains. Implementation of Mitigation Measures 3.7-1a through 3.7-1e would reduce impacts to a less than significant level. (FEIR p. 3.7-19)

Significant Impact 3.7-2: The Final PEIR concludes in Impact 3.7-2 that construction of the proposed pipelines could result in increased soil erosion or accidental release of fuels and other hazardous materials during construction that could degrade water quality. (FEIR p. 3.7-20)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.7-2 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.7-2:** The implementing agencies shall develop and implement BMPs to minimize erosion and sedimentation. The implementing agencies shall include in contractor specifications that the contractor is responsible for developing and implementing the BMPs. The BMPs shall be maintained at the site for the entire duration of construction.
>
> The objectives of the BMPs are to identify pollutant sources that may affect the quality of storm water discharge and to implement measures to reduce pollutants in storm water discharges. The BMPs for the proposed project shall include, but not be limited to, the implementation of the following elements:
>
> - Identification of all pollutant sources, including sources of sediment that may affect the quality of storm water discharges associated with construction activity from the construction site;
> - Identification of non-storm water discharges;
> - Estimate of the construction area and impervious surface area;
> - Preparation of a site map and maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs);
> - Identification of all applicable erosion and sedimentation control measures, waste management practices, and spill prevention and control measures;
> - Maintenance and training practices; and,
> - A sampling and analysis strategy and sampling schedule for discharges from construction activities.

Rational/Supporting Explanation: Mitigation Measure 3.7-2 would require that the implementing agencies require construction contractors to develop and implement Best Management Practices (BMPs) to ensure pipeline construction activities would not degrade surface or groundwater quality. Implementation of Mitigation Measure 3.7-2 would reduce the impact to a less than significant level. (FEIR p. 3.7-20-21)

Significant Impact 3.7-3: The Final PEIR concludes in Impact 3.7-3 that pipeline construction could result in the dewatering of shallow groundwater resources and contamination of surface water. (FEIR p. 3.7-22)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as

identified in the Final PEIR. Specifically, Mitigation Measure 3.7-3 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.7-3:** The implementing agencies shall obtain and comply with the requirements of dewatering permits issued by the Lahontan RWQCB for dewatering activities. Provisions of the permit may include treatment of flows prior to discharge.

Rational/Supporting Explanation: If shallow groundwater is met, dewatering would be required. Discharge water could potentially degrade surface water quality with materials used during typical construction activities, such as silt, fuel, grease, or other chemicals. Implementation of Mitigation Measure 3.7-3 would reduce impacts to a less than significant level. (FEIR p. 3.7-22)

Significant Impact 3.7-4: The Final PEIR concludes in Impact 3.7-4 that pipeline construction could temporarily alter drainage patterns at the construction site, which could cause localized flooding. (FEIR p. 3.7-23)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.7-4 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.7-4:** The implementing agencies shall include in contractor specifications that all disturbed areas are to be restored back to pre-construction conditions.

Rational/Supporting Explanation: The proposed project would not alter the drainage patterns of any stream or river. However, Mitigation Measure 3.7-4 would ensure that no new permanent impervious surfaces are created that could alter drainage patterns and potentially result in localized flooding impacts. Implementation of Mitigation Measure 3.7-4 would reduce impacts to a less than significant level. (FEIR p. 3.7-23)

Significant Impact 3.7-5: The Final PEIR concludes in Impact 3.7-5 that the use of recycled water for municipal and industrial (M&I) applications could affect surface and groundwater quality. (FEIR p. 3.7-23)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.7-5a and 3.7-5b would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.7-5a:** The implementing agencies shall require the development and implementation of Recycled Water User Agreements with each recycled water end user. The Agreements shall include provisions that prohibit over-application of recycled water and fertilizer, such as requiring irrigation at agronomic rates to reduce the potential for runoff and increased nutrients into the groundwater basin.

> **Mitigation Measure 3.7-5b**: The implementing agencies, in consultation with the Lahontan RWQCB, shall develop and implement a salt management plan, if needed in the future, to reduce the potential for salt and nutrient loading and minimize impacts to water quality in the Antelope Valley groundwater basin.

Rational/Supporting Explanation: To address water quality concerns, the State Water Resources Control Board (SWRCB) is currently developing a statewide general permit for landscape irrigation uses of recycled water, pursuant to AB 1481. In the interim, SWRCB has stated in its latest draft Recycled Water Policy statement that the discharge of salts and nutrients to groundwater can be reasonably controlled by applying water at agronomic rates for recycled water landscape irrigation projects. Mitigation Measures 3.7-5a requires M&I end users to apply water and fertilizer to landscapes at agronomic rates. In addition, the SWRCB is currently developing a Recycled Water Policy that would require Salt Management Plans for all recycled water projects. If needed in the future, Mitigation Measure 3.7-5b requires the implementing agencies to consult with the Lahontan RWQCB to develop and implement a Salt Management Plan to reduce potential salt and nutrient loading to groundwater. Implementation of Mitigation Measure 3.7-5a and 3.7-5b would reduce impacts to a less than significant level. (FEIR p. 3.7-23-24)

Significant Impact 3.7-6: The Final PEIR concludes in Impact 3.7-6 that the use of recycled water by new M&I end users would result in increased runoff during storm events resulting in localized flooding. (FEIR p. 3.7-25)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.7-6 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.7-6:** The implementing agencies shall require recycled water end users to cease all irrigation activities during rain events, thereby minimizing off-site runoff.

Rational/Supporting Explanation: Irrigation activities of recycled water end users must be adjusted to prevent saturation of soils onsite and mitigate the potential for localized flooding. Implementation of Mitigation Measure 3.7-6 would reduce impacts to a less than significant level. (FEIR p. 3.7-25)

5.7.2 Program-Level Impacts

Significant Impact 3.7-7: The Final PEIR concludes in Impact 3.7-7 that construction of the proposed pump stations and reservoirs could result in increased soil erosion or accidental release of fuels and other hazardous materials during construction that could degrade water quality. (FEIR p. 3.7-25)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as

identified in the Final PEIR. Specifically, Mitigation Measure 3.7-2 would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Mitigation Measure 3.7-2 would require that the implementing agencies require construction contractors to develop and implement Best Management Practices (BMPs) to ensure pump station and reservoir construction activities would not degrade surface or groundwater quality. Implementation of Mitigation Measure 3.7-2 would reduce the impact to a less than significant level. (FEIR p. 3.7-26)

Significant Impact 3.7-8: The Final PEIR concludes in Impact 3.7-8 that construction of the proposed storage reservoirs and pump stations would increase the amount of impervious surfaces at each site, altering the drainage patterns at each site and potentially resulting in increased local storm water runoff. (FEIR p. 3.7-26)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.7-7 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.7-7:** The implementing agencies shall ensure adequately sized and located storm water capture facilities are incorporated into the final design for each storage reservoir and pump station facility.

Rational/Supporting Explanation: Estimated run-on and runoff calculations demonstrate a low potential for substantial long-term drainage and localized flooding impacts at each reservoir and pump station site. Implementation of Mitigation Measure 3.7-7 would reduce impacts to a less than significant level. (FEIR p. 3.7-26-27)

Significant Impact 3.7-9: The Final PEIR concludes in Impact 3.7-9 that placement of storage reservoirs and pump stations within a 100-year flood zone could expose people or property to risk related to flooding. (FEIR p. 3.7-28)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.7-8 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.7-8:** The implementing agencies shall require flood diversion facilities to be incorporated into each storage reservoir and pump station site and facility design that would not increase flood risk in other areas.

Rational/Supporting Explanation: Distribution Pump Station 2 is located at the PWRP, an already developed site that is in a designated Flood Zone B. Zone B is a zone between 100-year and 500-year flood zone limits. Implementation of Mitigation Measure 3.7-8 would reduce flood impacts to less than significant levels. (FEIR p. 3.7-28)

Distribution Pump Station 1, Distribution Pump Station 1A, Booster Pump Station 2, Reservoir 2 and Reservoir 4 are located in or near 100-year flood zone areas (Figure 3.7-4, PEIR p. 3.7-10). The pump stations and storage reservoirs would be developed in accordance with the applicable municipal codes[3] regarding construction in flood zones. It is expected that LACWWD 40, or its partner agencies, would be required to obtain a development permit for the above-ground reservoirs prior to construction within any special flood hazard areas. With adherence to the permit requirements, the proposed facilities would not expose people or structures to the risk of loss due to flooding. In addition, implementation of Mitigation Measure 3.7-8 would reduce impacts to people and structures due to flooding to less than significant levels. (FEIR p. 3.7-28)

Significant Impact 3.7-10: The Final PEIR concludes in Impact 3.7-10 that the use of recycled water for agricultural irrigation could potentially affect surface and groundwater quality. (FEIR p. 3.7-28)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.7-5a and 3.7-5b would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Localized and regional water quality impacts could result from the higher levels of TDS, nitrogen, and other nutrients in the recycled water applied at potential agricultural irrigation sites when switching from potable water to recycled water. Implementation of Recycled Water User Agreements as required by Mitigation Measure 3.7-5a would ensure minimal impacts to water quality due to the use of recycled water at agricultural reuse sites. Implementation of Mitigation Measure 3.7-5b would ensure minimal impacts to water quality due to the use of recycled water for all end uses, once the SWRCB adopts its Recycled Water Policy requiring implementation of Salt Management Plans. (FEIR p. 3.7-28-29)

Significant Impact 3.7-11: The Final PEIR concludes in Impact 3.7-11 that the use of recycled water for groundwater recharge could result in significant water quality impacts if the native groundwater is degraded below existing or acceptable conditions. (FEIR p. 3.7-29)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.7-9a through 3.7-9c would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.7-9a:** The implementing agencies shall operate recharge projects in compliance with CDPH Title 22 regulations as well as in coordination with the RWQCB. The recharge water shall be a blend of recycled water and diluent water at a ratio consistent with Title 22 regulations and CDPH criteria.

[3] Applicable Municipal Codes include the City of Lancaster's §15.52.010, the City of Palmdale's §110.1.1 and §110.1.2, the 2008 Los Angeles County Building Code (Title 216), and the Kern County Floodplain Management Building Code (Chapter 17.48).

Mitigation Measure 3.7-9b: The implementing agencies shall develop and implement a monitoring program of the proposed recharge area in compliance with Title 22 regulations and CDPH criteria. As part of this program, some monitoring wells shall be placed between the proposed recharge area and down gradient drinking water supply wells.

Mitigation Measure 3.7-9c: The implementing agencies shall require recharged recycled water via surface spreading to remain in groundwater storage for the minimum time period stipulated by CDPH Title 22 Water Recycling Criteria prior to extraction.

Rational/Supporting Explanation: Any potential groundwater recharge project using recycled water (GRRP) would be subject to strict regulatory reviews and additional, in-depth environmental assessment and documentation in accordance with CEQA prior to initiation of recharge activities. This PEIR generally describes the impacts associated with a GRRP and does not attempt to describe or evaluate any site-specific or known recharge areas. Accordingly, Mitigation Measures 3.7-9a, 3.7-9b and 3.7-9c are the minimum requirements for future potential GRRPs in the project area and would reduce impacts to a less than significant level. (FEIR p. 3.7-29-31)

5.8 Land Use and Agriculture

5.8.1 Project-Level Impacts

Significant Impact 3.8-2: The Final PEIR concludes in Impact 3.8-2 that several project components would be constructed within the airport influence area (AIA) for the Palmdale Regional Airport, General William J. Fox Airfield, and Rosamond Skypark Airport. (FEIR p. 3.8-23)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.8-1a through 3.8-1d would reduce the significant impact to a less than significant level.

Mitigation Measure 3.8-1a: For project components occurring within an AIA, the implementing agencies shall submit their proposed project plans to the Los Angeles County ALUC for review and comment prior to final design.

Mitigation Measure 3.8-1b: Prior to conducting construction activities within an AIA, the implementing agencies shall prepare an airport construction safety plan that would identify best management practices. The plan would include, at a minimum, construction timeframes and hours, lighting and flagging requirements, air traffic control communication requirements, access and egress restrictions, equipment staging area requirements, and personal safety equipment requirements for construction workers, and appropriate notification to aviators. The plan would be reviewed and approved by airport staff and implemented by both the airport and project construction staff and FAA.

Mitigation Measure 3.8-1c: Prior to final design of project components within an AIA, the implementing agencies shall identify the ground elevation associated with each project component and submit their project plans to airport staff for review and comment. Working with airport staff, the implementing agencies shall submit their design plans for airspace analysis (FAA Part 7460 review) to determine whether any of the proposed project components or proposed construction equipment would protrude into protected airspace. If such objects are identified, the implementing agencies, airport staff, and FAA will identify appropriate steps to adjust project plans or include appropriate markings to identify hazards to aviators pursuant to FAA Part 7460.

Mitigation Measure 3.8-1d: To prevent the creation of wildlife attractants, the implementing agency should coordinate with construction contractors to ensure that neither project design nor construction plans create temporary or permanent sources of open water, inappropriate seed mixtures, or inappropriate landscaping designs. Notes should be incorporated on construction plans to warn against the creation of potential wildlife hazards.

Rational/Supporting Explanation: To prevent potential intrusions to navigable airspace, the implementing agency would notify the airport of proposed construction activities in advance and work with the airport to complete project review through the FAA's 7460 airspace review process, which would ensure that construction equipment, such as cranes and flashing lights, would not pose hazards to aviation. In addition to FAA airspace review, ongoing coordination with the airport would be required to ensure that proposed construction activities do not disrupt airport operations and to ensure that appropriate notice is provided to aviators using the airport. Implementation of Mitigation Measures 3.8-1a through 3.8-1d would reduce impacts to a less than significant level. (FEIR p. 3.8-23)

Significant Impact 3.8-3: The Final PEIR concludes in Impact 3.8-3 that the proposed project would occur within the Airport Operations Area of Palmdale Regional Airport, Fox Airfield, and Rosamond Skypark. (FEIR p. 3.8-24)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.8-1c would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: To prevent potential intrusions to navigable airspace within the project vicinity, the implementing agency would notify the airport of proposed construction activities in advance and participate in the FAA's 7460 process to ensure that the proposed construction equipment would not pose hazards to aviation. In addition to FAA airspace review, ongoing coordination with the airport would be required to ensure that proposed construction activities do not disrupt airport operations and to ensure that appropriate notice is issued to aviators. Implementation of Mitigation Measure 3.8-1c will reduce the potential hazards of construction activities within the navigable airspace of an airport to less than significant levels. (FEIR p. 3.8-24-25)

5.8.2 Program-Level Impacts

Significant Impact 3.8-4: The Final PEIR concludes in Impact 3.8-4 that construction and operation of the proposed storage reservoirs and pump stations would result in short-term disturbance to some adjacent land uses and result in long-term effects to existing land uses. (FEIR p. 3.8-25)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.2-1a through 3.2-1f, 3.8-2, and 3.11-1a would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.8-2:** The implementing agencies shall obtain conditional use permits and complete site plan reviews from the appropriate jurisdiction, as necessary, prior to construction of project facilities. The implementing agencies shall also coordinate with FAA regarding the locations and design of proposed reservoirs and pump stations.

Rational/Supporting Explanation: Short-term effects to adjacent land uses resulting from construction emissions and vehicle traffic would be temporary and would be reduced to a less than significant level with implementation of Mitigation Measures 3.2-1a through 3.2-1f, and 3.11-1a. Some facilities may be incompatible with General Plan land use designations and would require either a site plan review or a conditional use permit. Implementation of Mitigation Measure 3.8-2 would reduce the long-term effects to a less than significant level. (FEIR p. 3.8-25-26)

Significant Impact 3.8-5: The Final PEIR concludes in Impact 3.8-5 that construction and operation of the proposed groundwater recharge basins would result in short-term disturbance to some adjacent land uses and result in long-term effects to existing land uses. (FEIR p. 3.8-27)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.2-1a through 3.2-1f, 3.8-3, and 3.11-1a would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.8-3:** The implementing agencies shall obtain a conditional use permit or a general plan amendment if necessary from the appropriate jurisdiction prior to construction of groundwater recharge facilities. The implementing agencies shall also coordinate with FAA regarding the locations and design of future recharge basins.

Rational/Supporting Explanation: Short-term effects to adjacent land uses resulting from construction emissions and vehicle traffic would be temporary and would be reduced to a less than significant level with implementation of Mitigation Measures 3.2-1a through 3.2-1f, and 3.11-1a. Some facilities may be incompatible with land use designations and would require either a site plan review or a conditional use permit. Implementation of Mitigation Measure 3.8-3 would reduce the long-term effects to a less than significant level. (FEIR p. 3.8-27-28)

5.9 Noise

5.9.1 Program-Level Impacts

Significant Impact 3.9-4: The Final PEIR concludes in Impact 3.9-4 that operation of the proposed storage reservoirs and pump stations would result in long-term noise increases in the vicinity of the project facilities. (FEIR p. 3.9-17)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.9-4 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.9-4:** The implementing agencies shall comply with local noise ordinances. In areas where pump and/or stationary equipment operation would cause noise levels to exceed the normally acceptable range for a given land use, the operation of such equipment shall not cause noise levels to increase by 5 dBA CNEL or more. In areas where noise levels already exceed the normally acceptable range for a given land use, the operation of such equipment shall not cause noise levels to increase by 3 dBA CNEL or more. To accomplish these performance standards, the implementing agency shall consider the following:
>
> - Maximize the buffer area or setback distance between pump facilities and noise-sensitive land uses;
> - Design stationary equipment and pump enclosures such that building exhaust fans and louvers are oriented away from noise-sensitive uses. To the extent feasible, configure the facility layout such that noise-generating equipment is setback from noise-sensitive land uses;
> - Incorporate equipment enclosures, fan silencers, mufflers, acoustical treatments at vent openings, acoustical panels, etc.
> - Construct a perimeter wall at the site such that the line of site between the building openings (exhaust fans and louvers) at the pump facilities and nearby sensitive receptors is effectively blocked. Effective shielding can significantly reduce noise.

Rational/Supporting Explanation: Reservoir operations, which are limited to water storage, would not be anticipated to generate substantial noise. Potential operational noise impacts associated with the pump stations would primarily be from the operation of fixed stationary equipment. Implementation of Mitigation Measure 3.9-4 would require the implementing agencies to comply with local noise ordinances and reduce impacts to less than significant levels. (FEIR p. 3.9-17-19)

5.10 Transportation and Traffic

5.10.1 Project-Level Impacts

Significant Impact 3.11-1: The Final PEIR concludes in Impact 3.11-1 that construction of the proposed pipelines would adversely affect traffic and transportation conditions in the project area. (FEIR p. 3.11-4)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.11-1a through 3.11-1f would reduce the significant impact to a less than significant level.

Mitigation Measure 3.11-1a: The implementing agency's construction contractor shall prepare and implement a Traffic Control/Traffic Management Plan subject to approval by the appropriate local jurisdiction prior to construction. The plan shall:

- Identify hours of construction and hours for deliveries;
- Include a discussion of haul routes, limits on the length of open trench, work area delineation, traffic control and flagging;
- Identify all access and parking restrictions, pavement markings and signage requirements (e.g., speed limit, temporary loading zones);
- Maintain access to residence and business driveways at all times to the extent feasible; Minimize access disruptions to businesses and residences;
- Layout a plan for notifications and a process for communication with affected residents and businesses prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access point/driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints;
- Include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times;
- Include a plan to coordinate all construction activities with the Antelope Valley Union High School District and Southern Kern Unified School District at least two months in advance. The Antelope Valley Union High School District and Southern Kern Unified School District shall be notified of the timing, location, and duration of construction activities. The implementing agencies shall require

its contractor to maintain vehicle, pedestrian, and school bus service during construction through inclusion of such provisions in the construction contract. The assignment of temporary crossing guards at designated intersections may be needed to enhance pedestrian safety during project construction. Also the following provisions shall be met:

- Pipeline construction near schools shall occur when school is not in session (i.e., summer or holiday breaks). If this is not feasible, a minimum of two months prior to project construction, the implementing agencies shall coordinate with the Antelope Valley Union High School District and Southern Kern Unified School District to identify peak circulation periods at schools along the alignment(s) (i.e., the arrival and departure of students), and require their contractor to avoid construction and lane closures during those periods;

- A minimum of two months prior to project construction, the implementing agencies shall coordinate with the Antelope Valley Union High School District and Southern Kern Unified School District to identify alternatives to their Safe Routes to School program, alternatives for the school busing routes and stop locations, and other circulation provisions, as part of the Traffic Control/Traffic Management Plan;

- Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access; and

- Specify the street restoration requirements pursuant to agreements with the local jurisdictions.

Mitigation Measure 3.11-1b: The implementing agencies shall identify all roadway locations where special construction techniques (e.g., horizontal boring, directional drilling or night construction) will be used to minimize impacts to traffic flow.

Mitigation Measure 3.11-1c: The implementing agencies shall develop circulation and detour plans to minimize impact to local street circulation, including bikeways. This may include the use of signing and flagging to guide vehicles and cyclists through and/or around the construction zone.

Mitigation Measure 3.11-1d: The implementing agencies shall encourage construction crews to park at staging areas to limit lane closures in the public right-of-way.

Mitigation Measure 3.11-1e: Peak travel periods shall be avoided when considering partial road closures.

Mitigation Measure 3.11-1f: The implementing agencies shall consult with the Antelope Valley Transit Authority and the East Kern Regional Transit Express that connects to Lancaster at least one month prior to construction to coordinate bus stop relocations (if necessary) and to reduce potential interruption of transit service.

Rational/Supporting Explanation: Construction-generated traffic would be temporary and therefore would not result in long-term degradation of operating conditions or levels of service on

any roadways along the pipeline alignment. The primary impacts from the movement of construction trucks would include short-term and intermittent lessening of roadway capacities due to slower movements and larger turning radii of the trucks compared to passenger vehicles. Implementation of Mitigation Measures 3.11-1a through 3.11-1f would reduce impacts to less than significant levels. (FEIR p. 3.11-5)

Significant Impact 3.11-2: The Final PEIR concludes in Impact 3.11-2 that construction of the proposed pipeline would have temporary effects on alternative transportation or alternative transportation facilities. (FEIR p. 3.11-7)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.11-1c through 3.11-1f would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Pipeline construction could disrupt alternate forms of transportation due to partial lane closures. Implementation of Mitigation Measure 3.11-1c would ensure potential impacts associated with temporary disruptions to bikeways would be mitigated to a less than significant level. Implementation of Mitigation Measure 3.11-1f would ensure potential impacts associated with temporary disruptions to transit service would be mitigated to a less than significant level. (FEIR p. 3.11-7)

5.10.2 Program-Level Impacts

Significant Impact 3.11-4: The Final PEIR concludes in Impact 3.11-4 that construction and operation of the proposed pump stations, storage reservoirs, and groundwater recharge basins would adversely affect traffic and transportation conditions in the project area. (FEIR p. 3.11-8)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.11-1a through 3.11-1f would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Potential traffic and transportation effects would be associated with construction of the proposed facilities. Construction-generated traffic would be temporary and therefore would not result in long-term degradation of operating conditions or levels of service on any roadways project vicinity. The primary impacts from the movement of construction trucks would include short-term and intermittent lessening of roadway capacities due to slower movements and larger turning radii of the trucks compared to passenger vehicles. Implementation of Mitigation Measures 3.11-1a through 3.11-1f would reduce the impacts to less than significant levels. (FEIR p. 3.11-8)

5.11 Utilities and Service Systems

5.11.1 Project-Level Impacts

Significant Impact 3.12-1: The Final PEIR concludes in Impact 3.12-1 that construction of the proposed pipeline could result in temporary, planned, or accidental disruption to utility services. (FEIR p. 3.12-4)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.12-1a through 3.12-1c would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.12-1a:** The locations of overhead and underground utility lines, such as natural gas, electricity, sewage, storm drains, telephone, fuel, and water lines, shall be verified by contractors through field surveys and other methods prior to construction. In areas where unanticipated underground utilities are found, plans to minimize service impacts shall be developed and worked out with the affected utilities.
>
> **Mitigation Measure 3.12-1b:** As necessary, detailed specifications shall be prepared as part of the design and engineering plans to include procedures for the excavation, support, and fill of areas around utility cables and pipes. Affected utility services shall be notified of construction plans and schedule. Arrangements shall be made with these entities regarding protection, relocation, or temporary disconnection of services.
>
> **Mitigation Measure 3.12-1c:** Residents and businesses in the project area shall be notified of any planned utility service disruption, in conformance with county and state standards.

Rational/Supporting Explanation: Utility disruptions could potentially occur at areas where project components cross under or over, or are situated adjacent to utility lines. Utility lines subject to disruption during construction would be identified during preliminary design. Implementation of Mitigation Measures 3.12-1a through 3.12-1c would reduce the impact to a less than significant level. (FEIR p. 3.12-5)

Significant Impact 3.12-2: The Final PEIR concludes in Impact 3.12-2 that construction activities associated with the proposed pipeline would generate solid waste that would increase the demand for landfill capacity. (FEIR p. 3.12-5)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.12-2a and 3.12-2b would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.12-2a:** Project facility design and construction methods that produce less waste, or that produce waste that could more readily be recycled or reused shall be encouraged.

> **Mitigation Measure 3.12-2b:** A requirement for the contractor to describe plans for recovering, reusing, and recycling wastes produced through construction, demolition, and excavation activities shall be included in construction specifications.

Rational/Supporting Explanation: Mitigation Measures 3.12-2a and 3.12-2b would reduce the amount of solid waste expected to be generated. With implementation of the mitigation measures, the project construction waste generation would be considered less than significant. (FEIR p. 3.12-6)

5.11.2 Program-Level Impacts

Significant Impact 3.12-4: The Final PEIR concludes in Impact 3.12-4 that operation of the storage reservoirs and pump stations could result in effects to local and regional energy supplies. (FEIR p. 3.12-6)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 3.12-3 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 3.12-3:** During project design, LACWWD40 and the implementing agencies shall require the use of energy efficient equipment, including pumps and lighting. Project facility design and construction methods that produce less waste, or that produce waste that could more readily be recycled or reused shall be encouraged.

Rational/Supporting Explanation: Operation of the pump stations would require new connections to the local electrical transmission system. Mitigation Measure 3.12-3 would require both energy efficient equipment and construction methods that reduce or reuse solid waste. Given the overall reduction in electricity demand resulting from the proposed project relative to energy demand required to import the same amount of raw water, the impact to energy use would be less than significant. (FEIR p. 3.12-7)

5.12 Cumulative Impacts

Significant Impact 4-1: The Final PEIR concludes in Impact 4-1 that concurrent construction of several projects in the Antelope Valley would result in cumulative short-term impacts to air quality and water quality. (FEIR p. 4-6)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.2-1a through 3.2-1f and 3.7-3 would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: LACWWD40 in coordination with its partner agencies would be required to implement Mitigation Measures 3.2-1a through 3.2-1f, in accordance with

the AVAQMD Air Quality Management Plan (AQMP) and Air Quality Attainment Plan (AQAP), to reduce emissions related to construction of pipelines, storage reservoirs, and pump stations to less than significant levels. The LACWWD40 in coordination with its partner agencies would require construction contractors to develop and implement BMPs to minimize sedimentation and erosion during project construction and obtain a construction dewatering permit from the Lahontan RWQCB (see Mitigation Measures 3.7-2 and 3.7-3). The measures included in the BMPs and construction dewatering WDRs would reduce the impact of construction of the proposed project to surface water and groundwater quality to less than significant levels. As such, the contribution of the proposed project to short-term air quality impacts and water quality impacts is not cumulatively considerable. (FEIR p. 4-6)

Significant Impact 4-3: The Final PEIR concludes in Impact 4-3 that the concurrent construction of several projects in the Antelope Valley would result in short-term impacts to traffic. (FEIR p. 4-8)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measure 4-3 would reduce the significant impact to a less than significant level.

> **Mitigation Measure 4-3:** The implementing agencies, shall communicate and coordinate project construction activities with other municipalities (e.g., Palmdale, Lancaster, and Rosamond CSD) and agencies (e.g., Caltrans, LA County DPW) in the Antelope Valley. Phasing of project construction shall be coordinated to minimize cumulative impacts to traffic and circulation.

Rational/Supporting Explanation: The Traffic Control/Traffic Management Plan in Mitigation Measure 3.11-1a will also take into consideration the effects other construction activities occurring simultaneously in the same geographic area. Mitigation Measure 4-3 requires the implementing agencies to coordinate construction of the proposed project with other agencies in the Antelope Valley to ensure cumulative impacts to traffic and circulation are reduced to less than significant levels. (FEIR p. 4-8)

Significant Impact 4-4: The Final PEIR concludes in Impact 4-4 that the concurrent construction of several projects in the Antelope Valley would result in short-term impacts to biological resources. (FEIR p. 4-9)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.3-1a-f, 3.3-2a-f, 3.3-4a-b, and 3.3-6a-b would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Construction of the proposed reservoirs and pump stations would convert vacant land to public facilities. The affected undeveloped parcels primarily are located near the urban centers of the valley and are not located within a County-designated SEA. This conversion of vacant land to public facilities is not considered to be a significant direct

impact with implementation of Mitigation Measures 3.3-1a-f, 3.3-2a-f, 3.3-4a-b, and 3.3-6a-b. Although the project would contribute to a reduction in undeveloped, vacant land, the acreage would not be considerable, and the land use conversion would be consistent with regional plans. Therefore the proposed project would not result in a cumulatively significant impact to biological resources. (FEIR p. 4-9)

Significant Impact 4-5: The Final PEIR concludes in Impact 4-5 that the proposed project and related projects would result in cumulative long-term impacts to groundwater resources. (FEIR p. 4-10)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.7-5a, 3.7-5b, and 3.7-9a through 3.7-9c would reduce the significant impact to a less than significant level.

Rational/Supporting Explanation: Implementation of Mitigation Measure 3.7-5a and 3.7-5b would reduce potential impacts to groundwater quality to less than significant levels by requiring M&I and agricultural end users to apply water and fertilizer to landscapes at agronomic rates, which is compatible with good farming practices on land, and by requiring the implementing agencies to develop and implement a Salt Management Plan if required in the future by the SWRCB. The implementation of proposed Mitigation Measures 3.7-9a through 3.7-9c are the minimum requirements for future potential GRRPs in the project area, including those proposed by the cities of Lancaster and Palmdale and Palmdale Water District. The recycled water would be required to meet the level of treatment determined by CDPH to sufficiently protect public health. Therefore, the long-term cumulative impact of the proposed project on groundwater resources would not be considerable. (FEIR p. 4-10)

CHAPTER 6
Significant Environmental Impacts

Pursuant to CEQA Guidelines Section 15091, the following project impacts are significant environmental effects for which feasible mitigation measures are not available to avoid or substantially lessen the significant environmental effects to below a level of significance. The impacts would remain significant and unavoidable.

6.1 Noise

6.1.1 Project-Level Impacts

Significant Impact 3.9-1: The Final PEIR concludes in Impact 3.9-1 that construction of the recycled water pipeline would temporarily generate noise levels above ambient levels at sensitive receptors in the vicinity of the project. (FEIR p. 3.9-12)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.9-1a and 3.9-1b would implement procedures to reduce noise generation from project construction activities. After implementation of the measures, construction noise would still exceed less-than-significant thresholds, and LACWWD40 finds that specific economic, legal, social, technological, or other considerations make infeasible any additional mitigation measures.

> **Mitigation Measure 3.9-1a:** The implementing agencies shall implement procedures to reduce noise generation from project construction activities. Typical noise control procedures include the following:
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> - Require construction contractors to comply with the construction hours and days limitations established in local noise ordinances. Night-time construction would require approval from local jurisdictions.
> - Require all construction contractors to locate fixed construction equipment (e.g., compressors and generators) as far as possible from noise-sensitive receptors.
> - Equipment used in the construction of individual project components shall be muffled and maintained in good operating condition. Internal combustion engine driven equipment shall be fitted with intake and exhaust mufflers that are in good condition.

- If pile driving is required for facility construction, the contract specifications for those projects shall incorporate the following requirements:
    - Wherever possible, sonic or vibratory pile drivers will be used lieu of impact pile drivers.
    - Wherever feasible, pile holes will be pre-drilled to reduce potential noise and vibration impacts.
- Additional noise attenuating measures include changing the location of stationary construction equipment and/or staging areas; notifying adjacent residences and nearby sensitive receptors in advance of construction work; shutting off idling equipment; rescheduling construction activities; requiring on-going construction noise monitoring to assure adherence to City/County construction equipment standards; and/or installing temporary barriers around stationary construction noise sources.

Mitigation Measure 3.9-1b: To further address the nuisance impact of project construction, construction contractors shall implement the following:

- Signs will be posted at the construction site that include permitted construction days and hours, a day and evening contact number for the job site, and a contact number for the applicable jurisdiction agency in the event of problems.
- An onsite complaint and enforcement manager shall track and respond to noise complaints.

Rational/Supporting Explanation: The proposed project would result in temporary and intermittent noise increases due to construction of project components. Construction-related noise levels throughout the proposed project area would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment associated with individual project components. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. In addition, certain types of construction equipment generate percussive noises (such as pile driving), which can be particularly annoying. The effect of construction noise would depend upon how much noise would be generated by the equipment, the distance between construction activities and the nearest noise-sensitive uses, the existing noise levels at those uses, and the time of day in which construction activities would occur. (FEIR p. 3.9-12)

The new pipeline segments would extend for 70 miles, and could affect noise levels at sensitive receptor locations along the pipeline alignments for the duration of pipeline installation. The anticipated rate of pipeline installation along segments where open trench construction methods are used would be about 50 to 100 feet per day, which is typical for this type of construction in public roadway rights-of-way. At any one location along the pipeline segments, the duration of noise impacts would be relatively brief, approximately three to five days, from the commencement of trenching to the completion of backfilling and paving, if necessary. (FEIR p. 3.9-13)

The noisiest non-percussive construction phase would generate approximately 89 dBA at 50 feet, assuming no noise mitigation features. For pipeline construction occurring within 50 feet of noise-sensitive land uses, the sensitive receptors would potentially be exposed to 102 dBA Leq during excavation. Construction-related noise could exceed the construction equipment noise standards and hourly limits in at least some of the jurisdictions where construction would occur. Daytime construction noise is exempt from maximum noise thresholds identified in local noise ordinances. Therefore, daytime construction noise from pipeline construction would not violate the noise ordinance. Implementation of Mitigation Measures 3.9-1a and 3.9-1b would ensure construction activities are restricted to daytime hours and would minimize the effects of noise due to construction of the proposed project. Nonetheless, even with implementation of mitigation measures, construction noise greater than 100 dBA during the day within 50 feet of residences would be considered a significant impact of the project. (FEIR p. 3.9-14)

Significant Impact 3.9-2: The Final PEIR concludes in Impact 3.9-2 that construction of the proposed recycled water pipeline would expose sensitive receptors to excessive ground-borne vibration. (FEIR p. 3.9-15)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.9-2 would require a pre-construction crack survey for buildings within 25 feet of drilling or boring activities and would require the implementing agencies to be responsible the costs of any damage caused by vibration. After implementation of the measure, construction vibration would still exceed less-than-significant thresholds, and LACWWD40 finds that specific economic, legal, social, technological, or other considerations make infeasible any additional mitigation measures.

> **Mitigation Measure 3.9-2:** When drilling or boring within 25 feet of any building or 50-100 feet of a historical building, a “crack survey” shall be undertaken. The crack survey must be taken before the start of construction with photo, video, or visual inventory of all existing cracks inside and outside buildings with sufficient detail for comparison after construction to determine whether actual vibration damage occurred. The implementing agencies shall be responsible for the costs of any damage caused by construction vibration.

Rational/Supporting Explanation: The use of heavy equipment during construction generates vibration levels of up to 0.089 PPV or 87 RMS (caisson drilling) at a distance of 25 feet. Construction of the proposed project would require horizontal drilling, and jack and bore drilling depending on the local geology and locations. The proposed pipeline could get as close as 15 feet from sensitive receptors and if drilling is needed at those areas, sensitive receptors would potentially be exposed to 0.19 PPV and 94 RMS. Vibration levels at these receptors would essentially be at the potential building damage threshold of 0.2 PPV and would exceed the annoyance threshold of 80 RMS. For such high vibration construction activities, Caltrans advisory documents recommend extreme care within 25 feet of any building and within 50-100 feet of a historical building or building in poor condition. Based on this information, boring or drilling within 15 feet of residences would be a potentially significant impact. Implementation of

Mitigation Measure 3.9-2 would minimize construction vibration impacts by compensating for the cost of any damage that occurs to any buildings within 25 feet, and any historical buildings within 50-100 feet, of the construction site. Nonetheless, even with implementation of this mitigation measure, construction vibration levels could exceed the annoyance threshold at sensitive receptors along the pipeline route. This impact would be considered a significant impact of the project. (FEIR p. 3.9-15)

6.1.2 Program-Level Impacts

Significant Impact 3.9-3: The Final PEIR concludes in Impact 3.9-3 that construction of the proposed storage reservoirs and pump stations would temporarily generate noise levels above ambient levels at sensitive receptors in the vicinity of these project components. (FEIR p. 3.9-16)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.9-1a and 3.9-1b would implement procedures to reduce noise generation from project construction activities. After implementation of the measures, construction noise would still exceed less-than-significant thresholds, and LACWWD40 finds that specific economic, legal, social, technological, or other considerations make infeasible any additional mitigation measures.

Rational/Supporting Explanation: Construction of new above-ground storage tanks would include site preparation and clearing, excavation, grading and reservoir construction. Typical equipment includes bulldozers, excavators, scrapers, cranes, rollers, dump trucks, concrete trucks, pre-stressing equipment and construction delivery tractor-trailers. Construction would take approximately nine months. The noisiest non-percussive construction phase would generate approximately 89 dBA at 50 feet, assuming no noise mitigation features. The exact location of the proposed storage tanks on the identified parcels has not been determined. Therefore, the potential minimum and maximum distances from each reservoir site to neighboring sensitive receptors has been calculated, along with their corresponding construction noise exposure on sensitive receptors. (FEIR p. 3.9-16)

Construction of single story pump stations would involve excavation and structural foundation installation, pump house construction, pump installation, and final site restoration. Construction is estimated to take approximately eight months. The noisiest non-percussive construction phase would generate approximately 89 dBA at 50 feet, assuming no noise mitigation features. The exact location of the proposed pump stations on the identified parcels has not been determined. Therefore, the potential minimum and maximum distances from each reservoir site to neighboring sensitive receptors has been calculated, along with their corresponding construction noise exposure on sensitive receptors. (FEIR p. 3.9-17)

Daytime construction noise is exempt from maximum noise thresholds identified in local noise ordinances. Therefore, daytime construction noise from pump station construction would not violate noise ordinances. Implementation of Mitigation Measures 3.9-1a and 3.9-1b would ensure

construction activities are restricted to daytime hours and would further minimize the effects of noise due to construction of the proposed project. Even with implementation of mitigation measures, construction noise greater than 100 dBA during the day within 50 feet of residences would be considered a significant impact of the project. Construction of Booster Pump Station 2 could generate construction noise of 102 dBA at sensitive receptors within 15 feet of the project site. Construction of Booster Pump Station 2 would result in significant and unavoidable noise impacts. (FEIR p. 3.9-17)

6.2 Cumulative Impacts

Significant Impact 4-2: The Final PEIR concludes in Impact 4-2 that construction of several projects in the Antelope Valley, together with the proposed project, could result in cumulative, short-term impacts to sensitive receptors due to exposure to noise levels above ambient levels and exposure to ground-borne vibration. (FEIR p. 4-7)

Finding: LACWWD40 finds that changes or alterations have been required in, or incorporated into, the proposed project that lessen the significant environmental effect as identified in the Final PEIR. Specifically, Mitigation Measures 3.9-1a and 3.9-1b would implement procedures to reduce noise generation from project construction activities. Mitigation Measures 3.9-2 would require a pre-construction crack survey for buildings within 25 feet of drilling or boring activities and would require the implementing agencies to be responsible the costs of any damage caused by vibration. After implementation of these measures, construction noise and vibration would still exceed less-than-significant thresholds, and LACWWD40 finds that specific economic, legal, social, technological, or other considerations make infeasible any additional mitigation measures.

Rational/Supporting Explanation: Construction of the proposed project, together with the identified related projects in the Antelope Valley (Table 4-1; FEIR p. 4-3), could generate noise and vibration that would affect existing ambient noise conditions in the region. Construction noise and vibration would be localized, affecting areas in the immediate vicinity of the construction sites. Some of the identified related projects could be constructed simultaneously in areas proximate to, or overlapping geographically with, the proposed project. In particular, construction of some capital improvement projects, such as roadway projects or flood control (storm drain) projects, could occur simultaneously and within the same streets as the proposed recycled water pipeline installation. This could result in a cumulative impact to local ambient noise conditions. (FEIR p. 4-7 and 4-8)

As described in the Chapter 3.9, Noise, of the Final PEIR, daytime construction noise is exempt from maximum noise thresholds identified in local noise ordinances. Therefore, noise associated with daytime construction activities would not violate noise ordinances. For the proposed project, implementation of Mitigation Measures 3.9-1a, 3.9-1b and 3.9-2 would ensure construction activities are restricted to daytime hours and would require other measures to reduce the effects of construction noise and vibration on sensitive receptors. Nonetheless, noise associated with construction of the proposed pipelines and pump stations could exceed 100 dBA during the day within 50 feet of residences and is considered a significant and unavoidable impact of the project.

Notably, any project that would individually have a significant noise impact could also have a significant cumulative noise impact when considered together with other related projects in the immediate vicinity. Therefore, simultaneous construction of the proposed project and other proximate capital improvement projects would result in significant cumulative noise impacts. (FEIR p. 4-8)

CHAPTER 7
Findings Regarding Project Alternatives

The Board of Supervisors hereby declares that it has considered and rejected as infeasible the alternatives identified in the Final PEIR and described below. CEQA requires that an EIR evaluate a range of reasonable alternatives to a project, or to the location of the project, which would feasibly obtain most of the basic project objectives but would avoid or substantially lessen any of the significant effects of the project (CEQA Guidelines §15126.6). The No Project alternative must be evaluated, and if it is the environmentally superior alternative, another environmentally superior alternative must be identified among the other alternatives (CEQA Guidelines Section 15126.6(e)).

The PEIR identified the objects for the proposed project as:

- Provide recycled water conveyance backbone infrastructure sufficient to accommodate planned regional recycled water demands;
- Integrate regional recycled water production, distribution, and re-use capabilities in the Antelope Valley;
- Provide conveyance, storage, and pumping capacity sufficient to accommodate peak future demands;
- Reduce the region's dependency on imported water;
- Augment local water supplies;
- Promote the State's policies for beneficial reuse of recycled water to replace potable water where possible.

In addition to the proposed project, the Final PEIR evaluated two other project alternatives. In summary, the No Project Alternative does not meet the project objectives and does not provide the benefits of the proposed project related to water supply reliability in the Antelope Valley. The Non-Integrated System Alternative (Alternative 1) would meet some of the project objectives but would not avoid or substantially lessen some of the significant effects of the proposed project, and would potentially worsen some of the significant impacts associated with project construction. Therefore, the proposed project is considered the environmentally superior project as compared to the No Project Alternative and the Non-Integrated System Alternative.

7.1 No Project Alternative

Description: According to Section 15126.6(e) of the CEQA Guidelines, discussion of the No-Project Alternative must include a description of existing conditions and reasonably-foreseeable future conditions that would exist if the project were not approved. Under the No-Project Alternative, LACWWD40 and the partner agencies would not implement the Regional Recycled Water Project. The LWRP, PWRP, and RWWTP would be upgraded as planned to produce tertiary-treated effluent; however, there would be no integrated system to distribute this recycled water to end users in the Antelope Valley. LACSD Nos. 14 and 20 would manage recycled water with agricultural reuse only. RCSD would need to develop alternative measures for discharge or distribution of the recycled water produced at the RWWTP. Under the No-Project Alternative, future water demand in the Antelope Valley would continue to grow and would be met with increased quantities of groundwater, surface water, and imported water, and/or increased conservation measures. (FEIR p. 6-3)

Finding: The Board of Supervisors finds that the No Project Alternative is infeasible because it fails to meet any Project objectives or provide the benefits of the Project related to water supply reliability.

Rational/Supporting Explanation: Implementation of the No-Project Alternative would result in no regional backbone system to connect the three producers of recycled water in the Antelope Valley and would hinder regional plans, such as the *Antelope Valley Integrated Regional Water Management Plan* (IRWMP), to use recycled water to meet water demands in the region. In the absence of the proposed project, there would no distribution system to convey recycled water to locations where it can be beneficially used. There would be no system to integrate recycled water production, distribution, and use in the Antelope Valley. The demand for imported water and local water (i.e. groundwater and surface water) would increase as population in the region grows and recycled water is not available to replace uses of potable water as appropriate. Therefore, implementation of the No-Project Alternative would not meet any of the stated project objectives. (FEIR p. 6-3)

Under the No-Project Alternative, the impacts identified in Chapter 3 that are associated with construction and operation of the proposed project would be avoided. Short-term construction impacts to aesthetics; air quality; agricultural resources; geology, soils and seismicity; hazardous materials; hydrology and water quality; noise; traffic; and utilities and service systems would be avoided. Potentially-significant long-term project impacts to aesthetics; geology, soils, and seismicity; hydrology and water quality; land use; and noise also would be avoided. (FEIR p. 6-4)

Under the No-Project Alternative, water demand in the Antelope Valley would continue to be met with water imported from the San Joaquin-Sacramento Delta (Delta) through the SWP and with local groundwater and surface water. The reliability of delivery of imported water from the Delta varies each year depending on annual precipitation and is subject to additional supply reductions from environmental constraints within the Delta (DWR, 2008). Although AVEK and PWD have Table A entitlements that exceed actual annual water deliveries, these water wholesalers may

experience restrictions on imported water in the future. The groundwater aquifer that underlies the project region is currently experiencing overdraft conditions and associated groundwater quality issues (RWMG, 2007). In addition, the Antelope Valley groundwater basin is not an adjudicated basin, although the adjudication process is in progress (RWMG, 2007). An increased dependence on local groundwater resources could further exacerbate existing overdraft conditions and further degrade groundwater quality. Surface water flows from Littlerock Creek, which are captured and stored in Littlerock Reservoir, currently are being utilized to their full potential. PWD is in the planning and design stage for a sediment removal project in Littlerock Reservoir to recover lost yield from the Reservoir. (FEIR p. 6-4)

7.2 Alternative 1: Non-Integrated System

Description: Under Alternative 1, instead of implementing the proposed project, LACWWD40, PWD, QHWD, and RCSD would design, construct, and operate their own recycled water systems. Alternative 1 would result in four separate recycled water systems in the Antelope Valley instead of one integrated regional system. LACWWD40 would construct recycled water pipelines, pump stations, and storage reservoirs within its service area. LACWWD40 would contract independently with LACSD No. 14, LACSD No. 20, and RCSD to purchase recycled water for the end users in its service area. (FEIR p. 6-4)

Finding: The Board of Supervisors finds that the Non-Integrated System Alternative (Alternative 1) is infeasible because it fails to meet some of the Project objectives, does not avoid or substantially lessen some of the significant effects of the Project, and potentially worsens some of the significant impacts associated with project construction.

Rational/Supporting Explanation: Implementation of Alternative 1 would result in no regional backbone system to connect the three producers of recycled water in the Antelope Valley and would hinder regional plans, such as the *Antelope Valley Integrated Regional Water Management Plan* (IRWMP), to use recycled water to meet water demands in the region. Instead, under Alternative 1 each water district in the Antelope Valley would act independently to implement its own recycled water project in order to meet future demands for recycled water in its service area. Alternative 1 would augment local water supplies by using recycled water instead of potable water where appropriate and thus would reduce demand for imported water in the Antelope Valley. Therefore, implementation of Alternative 1 would meet some of the stated project objectives. (FEIR p. 6-4)

Under Alternative 1, the impacts identified in Chapter 3 that are associated with construction and operation of the proposed project at least would be similar and could even be worsened. Short-term construction impacts to aesthetics; air quality; agricultural resources; geology, soils and seismicity; hazardous materials; hydrology and water quality; noise; traffic; and utilities and service systems likely would be similar for each district's project. Potentially-significant long-term project impacts to aesthetics; geology, soils, and seismicity; hydrology and water quality; land use; and noise also would be similar for each district's project. However, cumulative impacts to air quality, noise, traffic, and water quality could be greater if all four recycled water projects

are constructed simultaneously (as opposed to the phased approach for the proposed project) and if the four individual projects together affect a greater footprint than the proposed project. (FEIR p. 6-5)

CHAPTER 8
Statement of Overriding Considerations

Pursuant to CEQA Section 21081(b) and the CEQA Guidelines Section 15093, the County has balanced the benefits of the proposed North Los Angeles/Kern County Regional Recycled Water Project Final PEIR against the following unavoidable adverse impacts associated with the proposed project and has adopted all feasible mitigation measures. The LACWWD40 has also examined alternatives to the proposed project, and has determined that adoption and implementation of the proposed project is the most desirable, feasible, and appropriate action. The other alternatives are rejected as infeasible based on consideration of the relevant factors discussed in Chapter 7.

8.1 Significant Unavoidable Impacts

8.1.1 Project-Level Impacts

Based on the information and analysis set forth in the Final PEIR and the record of proceedings, construction of the proposed recycled water pipeline would result in significant impacts related to noise and vibration. In some locations, pipeline construction would occur within 50 feet of residences and would temporarily generate noise levels above 100 dBA during the day exceeding the nuisance threshold for noise impacts (FEIR p. 3.9-14). Implementation of Mitigation Measures 3.9-1a and 3.9-1b would ensure construction activities are restricted to daytime hours and would further minimize the effects of noise due to construction of the proposed project. However, implementation of Mitigation Measures 3.9-1a and 3.9-1b would not reduce construction noise below nuisance thresholds for sensitive receptors closest to the construction zone. Impacts would be significant and unavoidable.

In addition, pipeline construction could get as close as 15 feet from sensitive receptors, resulting in exposure to vibration levels at the potential building damage threshold of 0.2 PPV and exceeding the annoyance threshold of 80 RMS. Implementation of Mitigation Measure 3.9-2 would compensate for the cost of damage that occurs to buildings within 25 feet, and any historical buildings within 50-100 feet, of the construction site. Nonetheless, even with implementation of this mitigation measure, construction vibration levels could exceed the annoyance threshold at sensitive receptors along the pipeline route. This impact would be considered a significant and unavoidable impact. (FEIR p. 3.9-15)

8.1.2 Program-Level Impacts

Based on the information and analysis set forth in the Final PEIR and the record of proceedings, construction of the proposed Booster Pump Station 2 would result in significant impacts related to noise. Construction of Booster Pump Station 2 could generate construction noise of 102 dBA at sensitive receptors within 15 feet of the project site. Implementation of Mitigation Measures 3.9-1a and 3.9-1b would ensure construction activities are restricted to daytime hours and would further minimize the effects of noise due to construction of the proposed project. However, implementation of Mitigation Measures 3.9-1a and 3.9-1b would not reduce construction noise below nuisance thresholds for sensitive receptors closest to the construction zone. Impacts would be significant and unavoidable. (FEIR p. 3.9-17)

8.1.3 Cumulative Impacts

Based on the information and analysis set forth in the Final PEIR and the record of proceedings, construction of the proposed project, together with several projects in the Antelope Valley (Table 4-1; FEIR p. 4-3), could result in cumulative short-term impacts to sensitive receptors due to exposure to noise levels above ambient levels and exposure to ground-borne vibration (FEIR p. 4-7). Construction noise and vibration would be localized, affecting areas in the immediate vicinity of the construction sites. Some of the identified related projects could be constructed simultaneously in areas proximate to, or overlapping geographically with, the proposed project. This could result in a cumulative impact to local ambient noise conditions. (FEIR p. 4-7 and 4-8)

Daytime construction noise is exempt from maximum noise thresholds identified in local noise ordinances and would not violate such ordinances. Implementation of Mitigation Measures 3.9-1a and 3.9-1b would ensure construction activities are restricted to daytime hours and would further minimize the effects of noise due to construction of the proposed project. Implementation of Mitigation Measure 3.9-2 would compensate for the cost of damage that occurs to buildings within 25 feet, and any historical buildings within 50-100 feet, of the construction site. Nonetheless, noise and vibration associated with construction of the proposed project could exceed nuisance and damage thresholds and would be considered a significant and unavoidable impact of the project. Notably, any project that would individually have a significant noise impact could also have a significant cumulative noise impact when considered together with other related projects in the immediate vicinity. Therefore, simultaneous construction of the proposed project and other proximate capital improvement projects would result in significant cumulative noise impacts. (FEIR p. 4-8)

8.2 Project Benefits

The LACWWD40 has (i) independently reviewed the information in the Final PEIR and the record of proceedings; (ii) made a reasonable and good faith effort to eliminate or substantially lessen the impacts resulting from the Project to the extent feasible by adopting the mitigation measures identified in the EIR; and (iii) balanced the Project's benefits against the Project's

significant unavoidable construction-related noise and vibration impacts. The County finds that the project's benefits outweigh the project's temporary significant unavoidable impacts, and chooses to approve the Project, despite its significant and unavoidable effects, because, in its view, those impacts are considered acceptable in light of the Project's benefits. The County finds that each of the following benefits is an overriding consideration, independent of the other benefits, which warrants approval of the Project notwithstanding the Project's significant unavoidable impacts to noise and vibration. Substantial evidence supports the various benefits. Such evidence can be found in the preceding findings, which are incorporated by reference into this section, the Final PEIR, and the documents which make up the Record of Proceedings. Construction of the North Los Angeles/Kern County Regional Recycled Water Project would provide public benefits described below.

8.2.1 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. (FEIR p. 1-8)

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. (FEIR p. 1-8)

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 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 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. (FEIR p. 1-9)

8.2.2 Energy Efficiency and Greenhouse Gas Emissions

The proposed project would provide the primary backbone system for distribution of recycled water to local users in the Antelope Valley, which would use less energy in the long term relative to alternative water sources. A recently published resource book on the significance of greenhouse gas emissions in California from various projects presents an example "Green List" of the types of projects that may have a beneficial effect on greenhouse gas emissions and climate change. The draft Green List includes recycled water projects that reduce energy consumption related to water supplies that service existing development, such as the proposed project (CAPCOA, 2008). For the proposed project, the end uses for the recycled water would otherwise be met with imported potable water if the proposed project were not implemented. The imported water would be delivered through the SWP, which consumes a substantial amount of energy to convey water to southern California from the Sacramento-San Joaquin River Delta in northern California. A recent study by West Basin Municipal Water District has shown that the energy required to import SWP water is over six times the energy requirement for Title 22 recycled water when considering kilowatt-hours per acre-foot (West Basin, 2007). In addition, the same study indicates that Title 22 recycled water produces 338 tons of CO_2 for every 1,000 af of water produced, while the SWP produces 2,250 tons of CO_2 for every 1,000 af of water imported (West Basin, 2007; USEPA, 1995).[4] Based on this analysis, the proposed project would be considered to be inherently energy efficient and and would reduce relative future CO_2 emissions for every acre-foot of water provided to end users in the Antelope Valley. (FEIR p. 3.2-17)

In addition, the proposed project would not conflict with the state goals in Assembly Bill 32 (AB 32) for reducing greenhouse gas emissions. AB 32, the California Global Warming Solutions Act of 2006, requires the California Air Resources Board to design and implement emission limits, regulations, and other measures, such that cost-effective statewide greenhouse gas emissions are reduced to 1990 levels by 2020. (PEIR pp. 3.2-17-18.)

8.3 Statement of Overriding Considerations

After balancing the specific economic, legal, social, technological, and other benefits of the proposed project, the LACWWD40 has determined that the unavoidable adverse environmental impacts identified may be considered "acceptable" due to the specific considerations listed above which outweigh the unavoidable, adverse environmental impacts of the proposed project.

[4] Conversion factor: kWh/1333.333 = tons CO_2. (USEPA, 1995)

The LACWWD40 has considered information contained in the Final EIR as well as the public testimony and record of proceedings in which the project was considered. Recognizing that significant unavoidable noise impacts will result from construction of the project, the LACWWD40 adopts the foregoing Statement of Overriding Considerations. Having adopted all feasible mitigation measures and recognized all unavoidable significant impacts, the LACWWD40 hereby finds that each of the separate benefits of the proposed project, as stated herein, is determined to be unto itself an overriding consideration, independent of other benefits, that warrants approval of the project and outweighs and overrides its unavoidable significant effects, and thereby justifies the approval of the North Los Angeles/Kern County Regional Recycled Water Project.

CHAPTER 9

Findings on Mitigation Monitoring and Reporting Program

Pursuant to Section 15091(a)(1) of the CEQA Guidelines, LACWWD40 finds that implementation of the mitigation measures and project design standards identified in the Final PEIR would substantially lessen the significant environmental impacts resulting from the project. These mitigation measures and project design standards have been required in, or incorporated into the project. In accordance with Section 15091 (d), and Section 15097 of the CEQA Guidelines, which require a public agency to adopt a program for reporting or monitoring required changes or conditions of approval to substantially lessen significant environmental effects, the Mitigation Monitoring and Reporting Program provided in this chapter is hereby adopted as the mitigation monitoring and reporting program for this project.

This Mitigation Monitoring and Reporting Program (MMRP) summarizes impacts and mitigation commitments identified in the North Los Angeles/Kern County Regional Recycled Water Project PEIR. Table 3 provides **project-level impacts**, mitigation measures, corresponding implementation, monitoring, and reporting tasks, responsible agency, and timing of implementation. Table 4 provides **program-level impacts**, mitigation measures, corresponding implementation, monitoring, and reporting tasks, responsible agency, and timing of implementation. Table 5 provides **cumulative impacts**, mitigation measures, corresponding implementation, monitoring, and reporting tasks, responsible agency, and timing of implementation. Impacts and mitigation measures are presented in the same order as they occur in the Final PEIR. The columns in the table provide the following information:

- **Environmental Impact:** A description of the significant or potentially significant impact to the environment as a result of the project, as stated in the Final PEIR.

- **Mitigation Measure(s):** The action(s) that will be taken to reduce the impact to a less-than-significant level.

- **Implementation, Monitoring, and Reporting Tasks:** This column outlines the appropriate steps to implement and verify compliance with the mitigation measures.

- **Responsibility:** This column lists the agency responsible for ensuring implementation of the mitigation measure. LACWWD40 or one of the Responsible Agencies (i.e. implementing agencies) will assume responsibility for all monitoring and reporting actions.

- **Monitoring Schedule:** This column indicates the general schedule for conducting each monitoring task, either prior to construction, during construction, and/or after construction.

TABLE 3
MITIGATION MONITORING AND REPORTING PROGRAM PROJECT LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
Aesthetics						
3.1-1: Construction of the proposed recycled water pipeline could generate short-term impacts to aesthetic resources.	**3.1-1:** Following construction activities, the implementing agencies shall restore disturbed areas by reestablishing pre-existing conditions including topography, repaving roadways, replanting trees, and or reseeding with a native seed mix typical of the immediate surrounding area. The implementing agencies shall be responsible for monitoring the replanted areas to ensure that revegetation is successful.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measure by maintaining a record of construction oversight for the administrative record.	Implementing agencies			X
Air Quality						
3.2-1: The proposed project could conflict with or obstruct implementation of the applicable air quality plan.	**3.2-1a:** The implementing agencies shall include in contractor specifications the implementation of a fugitive dust control program pursuant to the provisions of AVAQMD Rule 403 or KCAPCD Rule 402. **3.2-1b:** All construction equipment shall be properly tuned and maintained in accordance with manufacturer s specifications. **3.2-1c:** General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues shall turn their engines off when not in use to reduce vehicle emissions. Construction emissions shall be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts. **3.2-1d:** Electricity from power poles rather than temporary diesel- or gasoline-powered generators shall be used to the extent feasible. **3.2-1e:** All construction vehicles shall be prohibited from idling in excess of five minutes, both on- and off-site. **3.2-1f:** The project applicant shall utilize coatings and solvents that are consistent with applicable AVAQMD or KCAPCD rules and regulations.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
3.2-2: Construction activities associated with pipeline construction could generate substantial amounts of dust and other criteria pollutant emissions.	Implement Mitigation Measures 3.2-1a through 3.2-1f.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
Biological Resources						
3.3-1: Construction of the pipeline could have a substantial adverse effect on listed, candidate or special-status ground dwelling wildlife species including the California red-legged frog and Mohave ground squirrel.	**3.3-1a:** The implementing agencies shall have a qualified biologist conduct a pre-construction field reconnaissance survey for special-status ground-dwelling species within the construction right-of-way. If potential for special-status ground-dwelling species is identified then presence absence protocol surveys shall be conducted. If protocol surveys identify the presence of special-status ground-dwelling species, the implementing agencies shall consult with CDFG to determine further required mitigation. **3.3-1b:** The implementing agencies shall avoid impacts on California red-legged frog by eliminating construction activities within areas where the species may occur. Implementing agencies shall employ tunneling or jack and bore construction methods under drainages that may support California red-legged frog in order to avoid impacting the species. **3.3-1c:** The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project near areas that may support California red-legged frogs as determined by a qualified biologist. **3.3-1d:** The implementing agencies shall install a silt fence or some other impermeable barrier to exclude small wildlife species from entering the active work areas. Exclusion fencing can be limited to areas of documented occurrences of special-status wildlife as determined during pre-construction surveys by a qualified biologist. **3.3-1e:** Prior to project implementation, a habitat assessment will be conducted by a qualified biologist to determine the potential for the Mohave ground squirrel to occur within construction zones. If the habitat assessment determines that potential habitat for the Mohave ground squirrel is present in the impact zone or within 300 feet of the construction zone, then the implementing agencies have two options: 1) assume the Mohave ground squirrel is present and either take the steps necessary to avoid any potential direct or indirect impacts (i.e., construction noise and dust) that may be incurred by the Mohave ground squirrel or 2) arrange for a qualified biologist with the necessary permits to implement a trapping program to determine the presence or absence of the Mohave ground squirrel. If Mohave	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record. • Ensure appropriate permits are obtained and that permit conditions include these mitigation measures.	Implementing agencies	X	X	X

TABLE 3 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM – PROJECT LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
	ground squirrel is identified as present or assumed present, implementing agencies shall obtain an incidental take permit from CDFG pursuant to Section 2081 of the California Fish and Game Code and provide compensation at a ratio determined by CDFG. **3.3-1f:** Prior to project implementation, a burrowing owl presence/absence survey shall be conducted by a qualified biologist in accordance with CDFG's *1995 Staff Report on Burrowing Owl Mitigation* and the *Burrowing Owl Consortium's 1992 Burrowing Owl Protocol and Mitigation Guidelines* to determine the potential for the burrowing owl to occur within impacted areas and construction zones. If the survey results in discovery of burrowing owl, sign, or potential burrow sites in the impact zone, then additional surveys shall be performed during the breeding season (April 15 to July 15) in accordance with the *1992 Guidelines* to determine use of the site by burrowing owl. Following this survey, the implementing agencies shall consult with CDFG to determine avoidance or mitigation measure to minimize project impacts to burrowing owl.					
3.3-2: Construction of the pipeline could have a substantial adverse effect on listed, candidate or special-status bat and avian species including the Swainson's hawk, American peregrine falcon, southwestern willow flycatcher, and least Bell's vireo.	**3.3-2a:** Prior to any ground-disturbing activities, the implementing agencies shall have a qualified biologist conduct a pre-construction spring/summer active season reconnaissance survey for nesting/roosting special-status mobile bird and bat species, and other nesting birds within 300 feet (500 feet for raptors) of the construction limits of each project element to determine and map the location and extent of special-status species occurrence(s) that could be affected by the project. **3.3-2b:** The implementing agencies shall avoid direct impacts on any nesting birds located within the limits of construction. This could be accomplished by establishing the construction right of way and removal of plant material outside of the typical breeding season (February 1 through August 31). **3.3-2c:** If construction and vegetation removal is proposed for the bird nesting period February 1 through August 31, then preconstruction surveys for nesting/roosting bird and bats species shall begin 30 days prior to construction disturbance with subsequent weekly surveys, the last one being no more than three days prior to work initiation. The surveys shall include habitat within 300 feet (500 feet for raptors) of the construction limits. Active nest sites located during the pre-construction surveys shall be avoided and a non-disturbance buffer zone established dependent on the species and in consultation with the USFWS and CDFG. This buffer zone shall be delineated in the field with flagging, stakes or construction fencing. Nest sites shall be avoided with approved non-disturbance buffer zones until the adults and young are no longer reliant on the nest site for survival as determined by a qualified biologist. For species with high site fidelity, such as Swainson's hawk, if direct take of nests outside of the breeding seasons is required, the implementing agency shall contact CDFG to determine appropriate mitigation measures. **3.3-2d:** If a natal bat roost site is located within the limits of construction during pre-construction surveys, it shall be avoided with non-disturbance buffer zone established by a qualified biologist in consultation with the USFWS and CDFG until the site is abandoned. **3.3-2e:** The implementing agencies shall minimize impacts on documented locations of special-status species and any nesting birds to the extent feasible and practicable by reducing the construction right-of-way through areas of occurrences to either avoid the occurrence or reduce impacts to the minimum necessary to complete the project. **3.3-2f:** The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would avoid and minimize impacts on special-status avian and bat species. **3.3-2g:** The implementing agencies shall instruct construction personnel on the importance of buffer zones and sensitivity of the delineated areas.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	
3.3-3: Construction of the pipeline could have a substantial effect on special-status plant species and habitat types.	**3.3-3a:** The implementing agencies shall have a qualified biologist conduct a pre-construction spring/summer floristic inventory and rare plant survey of the proposed project areas in accordance with CDFG's *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities*, (revised May 8, 2000) to determine and map the location and extent of special-status plant species populations within the construction right-of-way. The survey shall be conducted during the appropriate flowering time for target plant species. **3.3-3b:** If not possible to avoid, the implementing agencies shall minimize impacts on special-status plant species by reducing the construction right-of-way through areas with potential occurrences of special-status plant species. For unavoidable direct impacts to special-status species, consultation with CDFG shall be required to determine the impact area and further mitigation, which could include acquisition of habitat of equal or superior value at a ratio of at least 2:1.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies			

TABLE 3 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM PROJECT LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
	3.3-3c: The implementing agencies shall stake, flag, fence, or otherwise clearly delineate the construction right-of-way that restricts the limits of construction to the minimum necessary to implement the project that also would avoid and minimize impacts on special-status plant species. **3.3-3d:** The implementing agencies shall restore all disturbed areas back to pre-construction conditions and a restoration plan shall be developed and implemented that contains the following items: responsibilities and qualifications of the personnel to implement and supervise the plan; site preparation and planting implementation; schedule; maintenance plan guidelines; and monitoring plan. **3.3-3e:** Earth-moving equipment will avoid maneuvering in areas outside the identified limits of construction in order to avoid disturbing open space areas that will remain undeveloped. Prior to construction, the natural open space limits will be marked by the construction supervisor and a qualified biologist. These limits will be identified on the construction drawings. The implementing agencies will submit a letter to the appropriate agencies verifying that construction limits have been flagged and clearly delineated in the field. No earth-moving equipment will be allowed outside demarcated construction zones.					
3.3-4: Construction of the pipeline could conflict with the Joshua Tree and Native Desert Vegetation Preservation Ordinance.	**3.3-4a:** The implementing agencies shall attempt to place all project components in areas exhibiting absence or a low density of Joshua trees and other native desert vegetation. **3.3-4b:** Prior to the commencement of grading activities for any component of the proposed project, within the City of Palmdale, a qualified biologist arborist shall be consulted to determine the biological aesthetic value of potentially impacted trees under the jurisdiction of the Palmdale Native Desert Vegetation Ordinance. For protected vegetation located within the final impact areas, a proposal application would be necessary, including a desert vegetation preservation plan which depicts the location of each Joshua tree and California juniper, details tree age and health, and describes which can be saved and maintained on the site or relocated. A permit must be obtained from the City of Palmdale s landscape architect prior to removal of protected vegetation in Los Angeles County, which may require mitigation in the form of replacement plantings of all impacted vegetation. Prior to the removal of protected vegetation in Kern County, the Kern County Environmental Health Services shall be contacted. **3.3-4c:** If avoidance of Joshua tree woodlands or other special-status vegetative community is not feasible, the implementing agencies shall acquire off-site habitat of equal or superior quality at a no less than a 2:1 ratio within remaining habitat in the Antelope Valley. Location, terms and conditions for habitat acquisition, protection, and maintenance shall be determined through consultation with resource agencies, including CDFG.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record. • Ensure appropriate permits are obtained and that permit conditions include these mitigation measures.	Implementing agencies	X	X	X
3.3-6: Construction of the pipeline could have a substantial adverse effect on wetlands considered waters of the state.	**3.3-6:** Prior to construction, the implementing agencies shall retain a qualified biologist to survey proposed construction zones including staging areas and access roads. If wetlands would be affected by construction, the qualified biologist would prepare a report outlining mitigation and compensation requirements to be implemented prior to construction. The mitigation requirements shall include the following at a minimum: • Implementing agencies shall avoid impacting previously undisturbed areas where possible. This would include employing tunneling or jack and bore methods under drainages. • If avoidance is not feasible for engineering or cost reasons, the implementing agencies shall conduct jurisdictional delineation of wetland features. • Implementing agencies shall obtain WDRs from the RWQCB for impacts to waters of the state including wetland areas.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	
Cultural Resources						
3.4-1: Ground-disturbing activities during pipeline installation could unearth, expose, or disturb archaeological, historical, or Native American resources.	**3.4-1a:** Prior to initial construction of pipelines, the implementing agency shall retain the services of a qualified archaeologist to prepare a Cultural Resources Monitoring and Mitigation Plan (CMMP) and a Treatment Plan (TP) in accordance with CEQA Guidelines Sections 15064.5 and 15126.4. The CMMP shall set forth criteria for evaluating the significance of resources discovered during construction and identify appropriate data recovery methods and procedures to mitigate project impacts on significant resources. At a minimum, the CMMP shall include a summary of available information on known sites and sensitive locations in the project area; a historical context for the evaluation of resources that may be encountered during construction; a research design outlining important historical themes and research questions relevant to the known sites in the study area; data requirements and the appropriate	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	

TABLE 3 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM PROJECT LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
	field and laboratory methods to be used to acquire data needed for significance evaluation and impact mitigation. The CMMP will also identify specific pipeline segments where cultural resources monitors would be required during construction. The TP will identify reporting and curating requirements for artifacts uncovered during construction. All project activities within or adjacent to the *Historical area of Old Palmdale and Old Lancaster* and *Old Rosamond and Tropico Mine* area shall be monitored by a professional archaeologist as there is a high probability for subsurface feature discovery, which includes (though is not limited to) foundations, cisterns, wells, cesspools, basements, or associated elements of the *Old Palmdale roundhouse spur of the Southern Pacific Railroad*. **3.4-1b:** A Phase I cultural resources survey shall be conducted for the segments of pipeline not already assessed in the Phase I Assessment conducted for the proposed project. Following completion of the Phase I cultural resource survey, the CMMP and TP shall be updated to include these segments.					
3.4-2: Ground-disturbing activities during pipeline installation could unearth, expose, or disturb human remains.	**3.4-2:** If human skeletal remains are uncovered during project construction, the implementing agency shall immediately halt work, contact the Kern County or the Los Angeles County coroner, depending upon the location of the find, to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the *CEQA Guidelines*. If the County coroner determines that the remains are Native American, the implementing agency shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.	• Include mitigation measures in the construction contract specifications.	Implementing agencies		X	
3.4-3: Installation of pipelines could potentially unearth, expose, or disturb paleontologic resources including fossil remains, localities, or known fossil-bearing geologic horizons.	**3.4-3:** The implementing agencies shall develop and implement a Paleontological Resource Monitoring and Mitigation Plan (PRMMP) prior to the onset of construction-related earth moving activities in order to either avoid or mitigate to a less-than-significant level the effects on paleontological resources. During earth-moving construction-related activities, additional previously-unknown fossil sites may be uncovered. The PRMMP must include mitigation protocol for discoveries as well. The PRMMP shall include provisions for the following: special consideration shall be made to collect sediment samples for potential fossiliferous locations as per the Society of Vertebrate Paleontology standards; stratigraphic cross-sections shall be recorded, mapping of the geologic units graphed, and fossil remains, cleaned, analyzed, and catalogued to be accepted for curation at a legal repository; all work must be conducted by a qualified Paleontologist and a final Report of Findings must be submitted upon completion of laboratory analysis.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	
Geology, Soils and Mineral Resources						
3.5-1: In the event of a major earthquake within the region, underground pipelines could be subject to seismic hazards including surface rupture, liquefaction, landslide, and ground shaking capable of causing localized collapse or damage of engineered fills, structural damage, or pipeline rupture.	**3.5-1:** Prior to the approval of construction plans for the project, a design-level geotechnical investigation, including collection of site specific subsurface data shall be completed by the implementing agency. The geotechnical evaluation shall identify density profiles, approximate maximum shallow groundwater levels, a characterization of the vertical and lateral extent of the saturated sand silt layers that could undergo liquefaction during strong ground shaking, and development of site-specific design criteria to mitigate potential risks. Recommendations made as a result of these investigations to protect new structures from seismic hazards shall become part of the proposed project.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X		
3.5-2: Construction of the proposed recycled water pipelines could result in substantial soil erosion or loss of topsoil, which would result in a significant impact.	**3.5-2:** To control water and wind erosion during construction of the project, the implementing agencies, shall ensure that contractors implement Best Management Practices (BMPs) to control wind and water erosion during and shortly after construction of the project and permanent BMPs to control erosion and sedimentation once construction is complete. The BMPs could include, but would not be limited to, sediment barriers and traps, silt basins, and silt fences.	• Include mitigation measures in the construction contract specifications.	Implementing agencies		X	X
3.5-3: The presence of yet undetermined local expansive soils in the project area could result in structural damage to the recycled water pipelines.	**3.5-3:** The implementing agencies shall require the preparation of site specific geotechnical investigations along the proposed pipeline alignments. These investigations shall identify appropriate engineering considerations, as recommended by a certified engineering geologist or registered geotechnical engineer for planned facilities, including engineering considerations to mitigate the effects of expansive soils. Recommendations made as a result of these investigations to protect new structures from expansive soils shall become part of the proposed project.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X		

TABLE 3 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM PROJECT LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
Hazards & Hazardous Materials						
3.6-1: During construction of the proposed project, contaminated soils could be encountered during excavation activities, causing a risk of exposure to hazardous materials.	**3.6-1:** In the event that evidence of potential soil contamination, including soil discoloration, noxious odors, debris, or buried storage containers are encountered during construction, the implementing agencies shall require the construction contractor(s) to have a contingency plan for sampling and analysis of potentially hazardous substances and coordination with the appropriate regulatory agencies, if necessary. The required handling, storage, and disposal methods shall depend on the types and concentrations of chemicals identified in the soil. Any site investigations or remedial actions shall comply with applicable laws.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
3.6-2: Accidental upset of hazardous materials used during project construction may increase the risk of exposure to the environment, workers, and the public.	**3.6-2a:** Construction contractor(s) shall be required to implement best management practices (BMPs) for handling hazardous materials during the project. The use of the construction BMPs shall minimize negative effects on groundwater and soils, and will include, without limitation, the following: • Follow manufacturers recommendations and regulatory requirements for use, storage, and disposal of chemical products and hazardous materials used in construction. • Avoid overtopping construction equipment fuel tanks. • During routine maintenance of construction equipment, properly contain and remove grease and oils. • Properly dispose of discarded containers of fuels and other chemicals. **3.6-2b:** The implementing agencies shall require the construction contractor(s) to implement safety measures in accordance with General Industry Safety Orders for Spill and Overflow Control (CCR Title 8, Sections 5163-5167) to protect the project area from contamination due to accidental release of hazardous materials. The safety measures shall include, but not be limited to, the following: • Spills and overflows of hazardous materials shall be neutralized and disposed of promptly. • Hazardous materials shall be stored in containers that are chemically inert to and appropriate for the type and quantity of the hazardous substance. • Containers shall not be stored where they are exposed to heat sufficient enough to rupture the containers or cause leakage. • Specific information shall be provided regarding safe procedures and other precautions before cleaning or subsequent use or disposal of hazardous materials containers. Disposal of all hazardous materials shall be in compliance with applicable California hazardous waste disposal laws. The construction contractor shall contact the local fire agency and the County Department of Public Health, Environmental Health Division, for any site-specific requirements regarding hazardous materials or hazardous waste containment or handling. **3.6-2c:** In the event of an accidental release of hazardous materials during construction, containment and clean up shall occur in accordance with applicable regulatory requirements. **3.6-2d:** Oil and other solvents used during maintenance of construction equipment shall be recycled or disposed of in accordance with applicable regulatory requirements. All hazardous materials shall be transported, handled, and disposed of in accordance with applicable regulatory requirements. **3.6-2e:** The implementing agencies shall require the construction contractor(s) to prepare a Site Safety Plan in accordance with applicable regulatory requirements. **3.6-2f:** The implementing agencies shall require the construction contractor(s) to prepare and implement a Safety Program to ensure the health and safety of construction workers and the public during project construction. The Safety Program shall include an injury and illness prevention program, as site-specific safety plan, and information on the appropriate personal protective equipment to be used during construction.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	X
3.6-3: The proposed project could result in a safety hazard for people residing or working in the project area in the vicinity of airports.	**3.6-3:** The implementing agencies shall coordinate with appropriate airport agencies (such as LAWA, Caltrans, and FAA) and staff to ensure a safety program is developed and implemented during construction of the proposed project.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	

TABLE 3 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM PROJECT LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
3.6-4: The proposed project could interfere with emergency response and evacuation plans during project construction.	Implement Mitigation Measure 3.11-1a.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
3.6-5: Construction activities in grassland areas would have the potential to expose people or equipment to risk of loss, injury, or death involving wildland fires.	**3.6-5a:** The implementing agencies shall coordinate with local fire agencies to develop a fire safety plan, which describes various potential scenarios and action plans in the event of a fire. **3.6-5b:** During construction, all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the recycled water backbone, contractors shall require all vehicles and crews working at the project site to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
Hydrology, Groundwater Resources and Water Quality						
3.7-1: Operation of the proposed recycled water pipelines could result in cross contamination of potable water pipelines, which could result in reduced water quality and potential public health concerns.	**3.7-1a:** Applicable backflow prevention devices, as outlined in Title 17 and the Purple Book, shall be incorporated into pipeline design to avoid potential for cross contamination. **3.7-1b:** Applicable minimum pipeline separation standards for potable and non-potable water pipelines, as outlined in Title 22, shall be incorporated into pipeline design to avoid potential for cross contamination. **3.7-1c:** All recycled water pipelines shall be painted purple or marked distinctly with purple tape. **3.7-1d**: Los Angeles County Department of Public Health (DPH), Cross Connection Control Program for Los Angeles County and the Kern County Department of Public Health in Bakersfield for Kern County shall be advised of each new site where recycled water is to be used prior to placing the site into service. **3.7-1e:** All recycled water sites shall be inspected and tested for possible cross connections with the potable water system, in accordance with Sections 60314(3) and 60316(a), Title 22, California Code of Regulations.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for administrative record.	Implementing agencies	X	X	X
3.7-2: Construction of the proposed recycled water pipelines could result in increased soil erosion and transport of subsequent contaminants and sedimentation, with impacts to water quality. Additionally, accidental release of fuels and other hazardous materials during construction could degrade water quality.	**3.7-2:** The implementing agencies shall develop and implement BMPs to minimize erosion and sedimentation. The implementing agencies shall include in contractor specifications that the contractor is responsible for developing and implementing the BMPs. The BMPs shall be maintained at the site for the entire duration of construction. The objectives of the BMPs are to identify pollutant sources that may affect the quality of storm water discharge and to implement measures to reduce pollutants in storm water discharges. The BMPs for the proposed project shall include, but not be limited to, the implementation of the following elements: • Identification of all pollutant sources, including sources of sediment that may affect the quality of storm water discharges associated with construction activity from the construction site; • Identification of non-storm water discharges; • Estimate of the construction area and impervious surface area; • Preparation of a site map and maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs); • Identification of all applicable erosion and sedimentation control measures, waste management practices, and spill prevention and control measures; • Maintenance and training practices; and, • A sampling and analysis strategy and sampling schedule for discharges from construction activities.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
3.7-3: Construction activities associated with the recycled water pipelines could result in the dewatering of shallow groundwater resources and	**3.7-3:** The implementing agencies shall obtain and comply with the requirements of dewatering permits issued by the Lahontan RWQCB for dewatering activities. Provisions of the permit may include treatment of flows prior to discharge.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	

TABLE 3 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM □PROJECT LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
contamination of surface water.						
3.7-4: Construction of the recycled water pipelines could temporarily alter drainage patterns at the construction sites, which could cause localized flooding.	**3.7-4:** The implementing agencies shall include in contractor specifications that all disturbed areas are to be restored back to pre-construction conditions.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X		X
3.7-5: Operation of the pipelines would result in the use of recycled water for municipal and industrial (M□I) applications, which could affect surface and groundwater quality. This could be a potential public health impact.	**3.7-5a:** The implementing agencies shall require the development and implementation of Recycled Water User Agreements with each recycled water end user. The Agreements shall include provisions that prohibit over-application of recycled water and fertilizer, such as requiring irrigation at agronomic rates to reduce the potential for runoff and increased nutrients into the groundwater basin. **3.7-5b**: The implementing agencies, in consultation with the Lahontan RWQCB, shall develop and implement a salt management plan, if needed in the future, to reduce the potential for salt and nutrient loading and minimize impacts to water quality in the Antelope Valley groundwater basin.	• Monitor compliance with the Recycled Water User Agreements.	Implementing agencies	X		X
3.7-6: The use of recycled water for M□I applications could alter drainage patterns or increase local storm water runoff during storm events resulting in localized flooding.	**3.7-6:** The implementing agencies shall require recycled water end users to cease all irrigation activities during rain events, thereby minimizing off-site runoff.	• Monitor compliance with the Recycled Water User Agreements.	Implementing agencies			X
Land Use, Planning and Recreation						
3.8-2: The proposed pipeline would be constructed within the AIA for Palmdale Regional Airport, General William J. Fox Airfield, and Rosamond Skypark Airport.	**3.8-1a:** For project components occurring within an AIA, the implementing agencies shall submit their proposed project plans to the Los Angeles County ALUC for review and comment prior to final design. **3.8-1b:** Prior to conducting construction activities within an AIA, the implementing agencies shall prepare an airport construction safety plan that would identify best management practices. The plan would include, at a minimum, construction timeframes and hours, lighting and flagging requirements, air traffic control communication requirements, access and egress restrictions, equipment staging area requirements, and personal safety equipment requirements for construction workers, and appropriate notification to aviators. The plan would be reviewed and approved by airport staff and implemented by both the airport and project construction staff and FAA. **3.8-1c:** Prior to final design of project components within an AIA, the implementing agencies shall identify the ground elevation associated with each project component and submit their project plans to airport staff for review and comment. Working with airport staff, the implementing agencies shall submit their design plans for airspace analysis (FAA Part 7460 review) to determine whether any of the proposed project components or proposed construction equipment would protrude into protected airspace. If such objects are identified, the implementing agencies, airport staff, and FAA will identify appropriate steps to adjust project plans or include appropriate markings to identify hazards to aviators pursuant to FAA Part 7460. **3.8-1d:** To prevent the creation of wildlife attractants, the implementing agency should coordinate with construction contractors to ensure that neither project design nor construction plans create temporary or permanent sources of open water, inappropriate seed mixtures, or inappropriate landscaping designs. Notes should be incorporated on construction plans to warn against the creation of potential wildlife hazards.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
3.8-3: The proposed pipeline would be constructed in the vicinity of three public use airports and potentially affect navigable airspace as defined by FAR Part 77.	Implement Mitigation Measure 3.8-1c.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X		
Noise						
3.9-1: Construction of the proposed recycled water pipeline would intermittently and temporarily generate noise levels above existing ambient levels in the vicinity of those project elements.	**3.9-1a:** The implementing agencies shall implement procedures to reduce noise generation from project construction activities. Typical noise control procedures include the following: • Require construction contractors to comply with the construction hours and days limitations established in local noise ordinances. Night-time construction would require approval from local jurisdictions. • Require all construction contractors to locate fixed construction equipment (e.g., compressors and generators) as far as possible from noise-sensitive receptors.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	

TABLE 3 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM PROJECT LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
	• Equipment used in the construction of individual project components shall be muffled and maintained in good operating condition. Internal combustion engine-driven equipment shall be fitted with intake and exhaust mufflers that are in good condition. • If pile driving is required for facility construction, the contract specifications for those projects shall incorporate the following requirements: Wherever possible, sonic or vibratory pile drivers will be used lieu of impact pile drivers. Wherever feasible, pile holes will be pre-drilled to reduce potential noise and vibration impacts. • Additional noise attenuating measures include changing the location of stationary construction equipment and or staging areas; notifying adjacent residences and nearby sensitive receptors in advance of construction work; shutting off idling equipment; rescheduling construction activities; requiring on-going construction noise monitoring to assure adherence to City County construction equipment standards; and or installing temporary barriers around stationary construction noise sources. **3.9-1b:** To further address the nuisance impact of project construction, construction contractors shall implement the following: • Signs will be posted at the construction site that include permitted construction days and hours, a day and evening contact number for the job site, and a contact number for the applicable jurisdiction agency in the event of problems. • An onsite complaint and enforcement manager shall track and respond to noise complaints.					
3.9-2: Construction of the proposed recycled water pipeline would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.	**3.9-2**: When drilling or boring within 25 feet of any building or 50-100 feet of a historical building, a crack survey shall be undertaken. The crack survey must be taken before the start of construction with photo, video, or visual inventory of all existing cracks inside and outside buildings with sufficient detail for comparison after construction to determine whether actual vibration damage occurred. The implementing agencies shall be responsible for the costs of any damage caused by construction vibration.	• Include mitigation measures in the construction contract specifications.	Implementing agencies		X	
Traffic and Transportation						
Impact 3.11-1: Construction of the proposed pipelines could adversely affect traffic and transportation conditions in the project area.	**3.11-1a:** The implementing agency s construction contractor shall prepare and implement a Traffic Control Traffic Management Plan subject to approval by the appropriate local jurisdiction prior to construction. The plan shall: • Identify hours of construction and hours for deliveries; • Include a discussion of haul routes, limits on the length of open trench, work area delineation, traffic control and flagging; • Identify all access and parking restrictions, pavement markings and signage requirements (e.g., speed limit, temporary loading zones); • Maintain access to residence and business driveways at all times to the extent feasible; Minimize access disruptions to businesses and residences; • Layout a plan for notifications and a process for communication with affected residents and businesses prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access point driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints; • Include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times; • Include a plan to coordinate all construction activities with the Antelope Valley Union High School District and Southern Kern Unified School District at least two months in advance. The Antelope	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	

TABLE 3 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM PROJECT LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
	Valley Union High School District and Southern Kern Unified School District shall be notified of the timing, location, and duration of construction activities. The implementing agencies shall require its contractor to maintain vehicle, pedestrian, and school bus service during construction through inclusion of such provisions in the construction contract. The assignment of temporary crossing guards at designated intersections may be needed to enhance pedestrian safety during project construction. Also the following provisions shall be met: Pipeline construction near schools shall occur when school is not in session (i.e., summer or holiday breaks). If this is not feasible, a minimum of two months prior to project construction, the implementing agencies shall coordinate with the Antelope Valley Union High School District and Southern Kern Unified School District to identify peak circulation periods at schools along the alignment(s) (i.e., the arrival and departure of students), and require their contractor to avoid construction and lane closures during those periods; A minimum of two months prior to project construction, the implementing agencies shall coordinate with the Antelope Valley Union High School District and Southern Kern Unified School District to identify alternatives to their Safe Routes to School program, alternatives for the school busing routes and stop locations, and other circulation provisions, as part of the Traffic Control Traffic Management Plan; • Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access; and • Specify the street restoration requirements pursuant to agreements with the local jurisdictions. **3.11-1b:** The implementing agencies shall identify all roadway locations where special construction techniques (e.g., horizontal boring, directional drilling or night construction) will be used to minimize impacts to traffic flow. **3.11-1c:** The implementing agencies shall develop circulation and detour plans to minimize impact to local street circulation, including bikeways. This may include the use of signing and flagging to guide vehicles and cyclists through and or around the construction zone. **3.11-1d:** The implementing agencies shall encourage construction crews to park at staging areas to limit lane closures in the public right-of-way. **3.11-1e:** Peak travel periods shall be avoided when considering partial road closures. **3.11-1f:** The implementing agencies shall consult with the Antelope Valley Transit Authority and the East Kern Regional Transit Express that connects to Lancaster at least one month prior to construction to coordinate bus stop relocations (if necessary) and to reduce potential interruption of transit service.					
3.11-2: Construction of the proposed pipeline would have temporary effects on alternative transportation or alternative transportation facilities.	Implement Mitigation Measures 3.11-1c and 3.11-1f.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
Utilities and Service Systems						
3.12-1: Construction of the proposed pipeline could result in temporarily, planned or accidental disruption to utility services.	**3.12-1a:** The locations of overhead and underground utility lines, such as natural gas, electricity, sewage, storm drains, telephone, fuel, and water lines, shall be verified by contractors through field surveys and other methods prior to construction. In areas where unanticipated underground utilities are found, plans to minimize service impacts shall be developed and worked out with the affected utilities. **3.12-1b:** As necessary, detailed specifications shall be prepared as part of the design and engineering plans to include procedures for the excavation, support, and fill of areas around utility cables and pipes. Affected utility services shall be notified of construction plans and schedule. Arrangements shall be made with these entities regarding protection, relocation, or temporary disconnection of services. **3.12-1c:** Residents and businesses in the project area shall be notified of any planned utility service disruption, in conformance with county and state standards.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
3.12-2: Construction activities associated with the proposed pipeline would generate solid waste that would increase the demand for landfill capacity.	**3.12-2a:** Project facility design and construction methods that produce less waste, or that produce waste that could more readily be recycled or reused shall be encouraged. **3.12-2b:** A requirement for the contractor to describe plans for recovering, reusing, and recycling wastes produced through construction, demolition, and excavation activities shall be included in construction specifications.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	

TABLE 4
MITIGATION MONITORING AND REPORTING PROGRAM PROGRAM LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
Aesthetics						
3.1-2: Construction and operation of the proposed storage reservoirs and pump stations could result in significant impacts to aesthetic resources.	**3.1-2a:** The implementing agencies shall attempt to locate pump stations and reservoirs in areas that are compatible with existing views and vistas. **3.1-2b:** During project design, the implementing agencies shall prepare a landscape plan for each aboveground project component. The landscape plan shall include measures to restore disturbed areas by reestablishing existing topography, including replanting trees and or reseeding with a native seed mix typical of the immediately surrounding area. The landscape plan shall include a required seed mix and plant palate. Vegetation screening shall be included in the landscape plan in order to shield proposed aboveground facilities from public view. The landscape plan shall include a monitoring plan to ensure that the site restoration and the establishment of vegetation is successful. **3.1-2c:** The implementing agencies shall ensure that storage reservoir designs include non-glare exterior coatings that are colored an earth tone to blend in with the surrounding landscape.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measure by maintaining a record of construction oversight for the administrative record.	Implementing agencies	X		X
3.1-3: Operation of the proposed storage reservoirs and pump stations could result in additional light and glare impacts due to nighttime security lighting.	**3.1-3:** The exterior lighting installed around the storage reservoirs and pump stations shall be of a minimum standard required to ensure safe visibility. Lighting shall be shielded and directed downward, away from neighboring land uses to minimize impacts of light and glare.	• Include mitigation measures in the construction contract specifications.	Implementing agencies		X	
3.1-4: Application of recycled water for groundwater recharge could result in significant impacts to aesthetic resources.	Implement Mitigation Measure 3.1-2b.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measure by maintaining a record of construction oversight for the administrative record.	Implementing agencies	X		X
Air Quality						
3.2-6: Construction activities associated with reservoirs and pump stations could generate substantial amounts of dust and other criteria pollutant emissions.	Implement Mitigation Measures 3.2-1a through 3.2-1f.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
Biological Resources						
3.3-7: Construction of the pump stations and reservoirs could have a substantial effect on special-status wildlife species including the California red-legged frog and Mohave ground squirrel.	Implement Mitigation Measures 3.3-1a through 3.3-1f.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record. • Ensure appropriate permits are obtained and that permit conditions include these mitigation measures.	Implementing agencies	X	X	X
3.3-8: Construction of the pump stations and reservoirs could have a substantial effect on special-status bat and avian species including the Swainson s hawk, American peregrine falcon, southwestern willow flycatcher, and least Bell s vireo.	Implement Mitigation Measures 3.3-2a through 3.3-2g.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	
3.3-9: Construction of the pump stations and reservoirs could have a substantial effect on special-status plant species.	Implement Mitigation Measures 3.3-3a through 3.3-3e.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	
3.3-10: Construction of the pump stations and reservoirs could conflict with the Joshua Tree and Native Desert Vegetation Preservation Ordinance.	Implement Mitigation Measures 3.3-4a through 3.3-4c.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	X

TABLE 4 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM PROGRAM LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
		• Ensure appropriate permits are obtained and that permit conditions include these mitigation measures.				
3.3-12: Construction of the pump stations and reservoirs could have a substantial adverse effect on wetlands considered waters of the state.	Implement Mitigation Measure 3.3-6.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	
Cultural Resources						
3.4-4: Proposed ground-disturbing activities for storage reservoirs, pump stations and groundwater recharge facilities could unearth, expose, or disturb archaeological, historical, or Native American resources.	**3.4-4a:** Prior to initial construction of storage reservoirs, pump stations, and recharge facilities, the implementing agency shall retain the services of a qualified archaeologist to prepare a Cultural Resources Monitoring and Mitigation Plan (CMMP) and a Treatment Plan (TP) in accordance with CEQA Guidelines Sections 15064.5 and 15126.4. The CMMP shall set forth criteria for evaluating the significance of resources discovered during construction and identify appropriate data recovery methods and procedures to mitigate project impacts on significant resources. At a minimum, the CMMP shall include a summary of available information on known sites and sensitive locations in the project area; a historical context for the evaluation of resources that may be encountered during construction; a research design outlining important historical themes and research questions relevant to the known sites in the study area; data requirements and the appropriate field and laboratory methods to be used to acquire data needed for significance evaluation and impact mitigation. The CMMP will also identify specific locations where cultural resources monitors would be required during construction. The TP will identify reporting and curating requirements for artifacts uncovered during construction. **3.4-4b:** *DPS1-Hist1* and *BPS1-Hist1* would be adversely impacted by the proposed construction activities and, therefore, shall be subjected to Phase II testing and evaluation for significance under CEQA and NHPA (see Section 3.4.2). **3.4-4c:** A Phase I cultural resources survey shall be conducted within areas affected by storage reservoir, pump stations, and recharge facilities not already assessed in the Phase I Assessment conducted for the proposed project. **3.4-4d:** Following completion of additional Phase I cultural resource surveys for sites not already surveyed, the CMMP and TP shall be updated to include these additional sites. **3.4-4e:** All project activities within or adjacent to the *Historical area of Old Palmdale and Old Lancaster* and *Old Rosamond and Tropico Mine area* shall be monitored by a professional archaeologist as there is a high probability for subsurface feature discovery, which includes (though is not limited to) foundations, cisterns, wells, cesspools, basements, or associated elements of the *Old Palmdale roundhouse spur of the Southern Pacific Railroad*. If these elements are identified, mitigation measures shall be employed that include in-field evaluation by a professional archaeologist (per Secretary of the Interior Standards) and possible data recovery, as needed, per a mitigation treatment plan. **3.4-4f:** If a prehistoric site is encountered in the vicinity of the concentration of isolated prehistoric artifacts within the northern portion of the western parcel of Proposed Reservoir 3, mitigation measures shall be employed that include in-field evaluation by a professional archaeologist (per Secretary of the Interior Standards) and possible data recovery, as needed, per a mitigation treatment plan. **3.4-4g:** If human skeletal remains are uncovered during project construction, the implementing agency shall immediately halt work, contact the Kern County or the Los Angeles coroner, depending upon the location of the find, to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the *CEQA Guidelines*. If the County coroner determines that the remains are Native American, the implementing agency shall contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	
3.4-5: Construction of storage reservoirs, pump stations, and recharge facilities could potentially	**3.4-5:** The implementing agencies shall develop and implement a Paleontological Resource Monitoring and Mitigation Plan (PRMMP) prior to the onset of construction-related earth moving activities in order	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	

TABLE 4 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM PROGRAM LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
unearth, expose, or disturb paleontologic resources including fossil remains, localities, or known fossil-bearing geologic horizons.	to either avoid or mitigate to a less-than-significant level the effects on paleontological resources. During earth-moving construction-related activities, additional previously-unknown fossil sites may be uncovered. The PRMMP must include mitigation protocol for discoveries as well. The PRMMP shall include provisions for the following: special consideration shall be made to collect sediment samples for potential fossiliferous locations as per the Society of Vertebrate Paleontology standards; stratigraphic cross-sections shall be recorded, mapping of the geologic units graphed, and fossil remains, cleaned, analyzed, and catalogued to be accepted for curation at a legal repository; all work must be conducted by a qualified Paleontologist and a final Report of Findings must be submitted upon completion of laboratory analysis.	• Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.				
Geology, Soils and Mineral Resources						
3.5-4: Construction of the proposed storage reservoirs and pump stations could result in substantial soil erosion or loss of topsoil, which would result in a significant impact.	Implement Mitigation Measure 3.5-2.	• Include mitigation measures in the construction contract specifications.	Implementing agencies		X	X
3.5-5: In the event of a major earthquake within the region, storage reservoirs and pump stations could be subject to seismic hazards including surface rupture, liquefaction, landslide, and ground shaking capable of causing localized collapse or damage of engineered fills or structural damage.	Implement Mitigation Measure 3.5-1 through 3.5-3.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	X
3.5-6: Ground shaking, expansive soils, liquefaction, settlement, erosion and corrosive soils could damage recycled water end uses including the power plant cooling water system and the groundwater recharge basins and appurtenant facilities.	Implement Mitigation Measure 3.5-1 through 3.5-3.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	X
Hazards & Hazardous Materials						
3.6-6: Accidental upset of hazardous materials used during construction of the storage reservoirs and pump stations may increase the risk of exposure to the environment, workers, and the public, resulting in a significant impact.	Implement Mitigation Measures 3.6-2a through 3.6-2f.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	X
Hydrology, Groundwater Resources and Water Quality						
3.7-7: Construction of the proposed storage reservoirs and pump stations could result in increased soil erosion and transport of contaminants, with impacts to water quality. Additionally, release of fuels or other hazardous materials associated with construction activities could degrade water quality.	Implement Mitigation Measure 3.7-2.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
3.7-8: Construction and operation of the proposed storage reservoirs and pump stations would increase the amount of impervious surfaces at each site, altering the drainage patterns at each site and resulting in increased local storm water runoff. This could cause localized flooding or contribute to a cumulative flooding impact.	**3.7-7:** The implementing agencies shall ensure adequately sized and located storm water capture facilities are incorporated into the final design for each storage reservoir and pump station facility.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
3.7-9: Placement of storage reservoirs and pump stations within a 100-year flood zone could expose people or property to risks related to flooding.	**3.7-8:** The implementing agencies shall require flood diversion facilities to be incorporated into each storage reservoir and pump station site and facility design that would not increase flood risk in other areas.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	

TABLE 4 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM PROGRAM LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
3.7-10: Use of recycled water for agricultural irrigation could potentially affect surface and groundwater quality.	Implement Mitigation Measures 3.7-5a and 3.7-5b.	• Monitor compliance with Recycled Water User Agreements.	Implementing agencies	X	X	
3.7-11: The use of recycled water for groundwater recharge could result in significant water quality impacts if the native groundwater is degraded below existing or acceptable conditions.	**3.7-9a:** The implementing agencies shall operate recharge projects in compliance with CDPH Title 22 regulations as well as in coordination with the RWQCB. The recharge water shall be a blend of recycled water and diluent water at a ratio consistent with Title 22 regulations and CDPH criteria. **3.7-9b:** The implementing agencies shall develop and implement a monitoring program of the proposed recharge area in compliance with Title 22 regulations and CDPH criteria. As part of this program, some monitoring wells shall be placed between the proposed recharge area and down gradient drinking water supply wells. **3.7-9c:** The implementing agencies shall require recharged recycled water via surface spreading to remain in groundwater storage for the minimum time period stipulated by CDPH Title 22 Water Recycling Criteria prior to extraction.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record.	Implementing agencies	X	X	X
Land Use, Planning and Recreation						
3.8-4: Construction and operation of the proposed storage reservoirs and pump stations could result in short-term disturbance to some adjacent land uses or result in long-term effects to existing land uses.	**3.8-2:** The implementing agencies shall obtain conditional use permits and complete site plan reviews from the appropriate jurisdiction, as necessary, prior to construction of project facilities. The implementing agencies shall also coordinate with FAA regarding the locations and design of proposed reservoirs and pump stations. Implement Mitigation Measures 3.2-1a through 3.2-1f and 3.11-1a.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
3.8-5: Construction and operation of the proposed groundwater recharge basins could result in short-term disturbance to some adjacent land uses or result in long-term effects to existing land uses.	**3.8-3:** The implementing agencies shall obtain a conditional use permit or a general plan amendment if necessary from the appropriate jurisdiction prior to construction of groundwater recharge facilities. The implementing agencies shall also coordinate with FAA regarding the locations and design of future recharge basins. Implement of Mitigation Measure 3.2-1a through 3.2-1f and Mitigation Measure 3.11-1a.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
Noise						
3.9-3: Construction of the proposed storage reservoirs and pump stations would intermittently and temporarily generate noise levels above existing ambient levels in the vicinity of those project elements.	Implement Mitigation Measure 3.9-1a and 3.9-1b.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
3.9-4: Operation of the proposed storage reservoirs and pump stations could result in substantial noise increases in the vicinity of project facilities.	**3.9-4:** The implementing agencies shall comply with local noise ordinances. In areas where pump and/or stationary equipment operation would cause noise levels to exceed the normally acceptable range for a given land use, the operation of such equipment shall not cause noise levels to increase by 5 dBA CNEL or more. In areas where noise levels already exceed the normally acceptable range for a given land use, the operation of such equipment shall not cause noise levels to increase by 3 dBA CNEL or more. To accomplish these performance standards, the implementing agency shall consider the following: • Maximize the buffer area or setback distance between pump facilities and noise-sensitive land uses; • Design stationary equipment and pump enclosures such that building exhaust fans and louvers are oriented away from noise-sensitive uses. To the extent feasible, configure the facility layout such that noise-generating equipment is setback from noise-sensitive land uses; • Incorporate equipment enclosures, fan silencers, mufflers, acoustical treatments at vent openings, acoustical panels, etc. • Construct a perimeter wall at the site such that the line of site between the building openings (exhaust fans and louvers) at the pump facilities and nearby sensitive receptors is effectively blocked. Effective shielding can significantly reduce noise.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	

TABLE 4 (CONT.)
MITIGATION MONITORING AND REPORTING PROGRAM PROGRAM LEVEL

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
Traffic and Transportation						
3.11-4: Construction and operation of the proposed pump stations, storage reservoirs, and groundwater recharge basins could adversely affect traffic and transportation conditions in the project area.	Implement Mitigation Measures 3.11-1a through 3.11-1f.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
Utilities and Service Systems						
3.12-4: Operation of the storage reservoirs and pump stations could result in effects to local and regional energy supplies.	**3.12-3:** During project design, LACWWD40 and the implementing agencies shall require the use of energy efficient equipment, including pumps and lighting. Project facility design and construction methods that produce less waste, or that produce waste that could more readily be recycled or reused shall be encouraged.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	

TABLE 5
MITIGATION MONITORING AND REPORTING PROGRAM CUMULATIVE IMPACTS

Environmental Impact	Mitigation Measures	Implementation, Monitoring, and Reporting Tasks	Responsibility	Monitoring Schedule		
				Before Construction	During Construction	After Construction
Cumulative Impacts						
4-1: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to air quality and water quality.	Implement Mitigation Measures 3.2-1a through 3.2-1f, 3.7-2, and 3.7-3.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
4-2: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to noise.	Implement Mitigation Measures 3.9-1a, 3.9-1b, and 3.9-2.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
4-3: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to traffic.	**4-3:** The implementing agencies, shall communicate and coordinate project construction activities with other municipalities (e.g., Palmdale, Lancaster, and Rosamond CSD) and agencies (e.g., Caltrans, LA County DPW) in the Antelope Valley. Phasing of project construction shall be coordinated to minimize cumulative impacts to traffic and circulation.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	
4-4: Concurrent construction of several projects in the Antelope Valley could result in cumulative short-term impacts to biological resources.	Implement Mitigation Measures 3.3-1a-f, 3.3-2a-g, 3.3-3a-e, 3.3-4a-c and 3.3-6.	• Include mitigation measures in the construction contract specifications. • Monitor compliance with mitigation measures and maintain a record of construction oversight for the administrative record. • Ensure appropriate permits are obtained and that permit conditions include these mitigation measures.	Implementing agencies	X	X	X
4-5: The proposed project and related projects could result in cumulative long-term impacts to groundwater resources.	Implement Mitigation Measures 3.7-5a, 3.7-5b, and 3.7-9a through 3.7-9c.	• Include mitigation measures in the construction contract specifications.	Implementing agencies	X	X	

CHAPTER 10
CERTIFICATION OF PEIR AND PROJECT APPROVAL

10.1 CERTIFICATION OF PEIR

Pursuant to Public Resources Code Section 21081 and CEQA Guidelines Section 15090, the LACWWD40 certifies that:

1. The PEIR, State Clearinghouse No. 2007101125, is an accurate and objective statement that fully complies with CEQA, the CEQA Guidelines, and the County Environmental Guidelines;

2. The PEIR was presented to the Board of Supervisors, which is the decision making body for the County of Los Angeles and LACWWD40, and the Board reviewed and considered the information in the PEIR prior to approving the Project; and

3. The PEIR reflects the County of Los Angeles' independent judgment and analysis.

The County of Los Angeles Board of Supervisors further finds that no comments or responses to comments made during the review period for the PEIR, or any other public hearing on the Project, rise to the level of significant new information requiring recirculation or additional environmental review pursuant to CEQA Guidelines Section 15088.5.

As required by Public Resources Code Section 21081.6, the Board, in adopting these Findings, also adopts a Mitigation Monitoring and Reporting Program, designated to ensure that, during Project implementation, the LACWWD40 and other responsible parties (implementing agencies) will comply with the mitigation measures adopted in these Findings.

The Board hereby finds that the Mitigation Monitoring and Reporting Program, which is attached hereto as Chapter 9, meets the requirements of Public Resources Code Section 21081.6.

10.2 PROJECT APPROVAL

Based on the entire record before the Board of Supervisors, including the above Findings and all written evidence presented to the County of Los Angeles, the County of Los Angeles hereby approves the North Los Angeles/Kern County Regional Recycled Water Project.

A Notice of Determination shall be filed with the County of Los Angeles within five (5) working days of final Project approval.