INTEGRATED MASTER PLAN FOR WASTEWATER COLLECTION AND TREATMENT FACILITIES

Draft Program Environmental Impact Report
State Clearinghouse No. 2009041054

Prepared for
City of Riverside/Public Works

June 2010

ESA

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626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300
www.esassoc.com

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TABLE OF CONTENTS

City of Riverside
Integrated Master Plan for Wastewater Collection and Treatment Facilities Program EIR

Page

Executive Summary ES-1

1. Introduction 1-1
- 1.1 Purpose of the EIR 1-1
- 1.2 Project Background 1-2
- 1.3 CEQA EIR Process 1-2
- 1.4 Draft EIR Organization 1-4

2. Project Description 2-1
- 2.1 Introduction 2-1
- 2.2 Project Need and Objectives 2-1
- 2.3 Project Location 2-4
- 2.4 Existing Facilities 2-4
- 2.5 Existing Facilities Operation 2-4
- 2.6 Description of Proposed Project 2-13
- 2.7 Site Layout 2-17
- 2.8 Project Construction 2-18
- 2.9 Project Operation 2-20
- 2.10 Maximum Buildout Scenario 2-21
- 2.11 Maximum with PRD Buildout Scenario 2-21
- 2.12 Project Approvals 2-22
- 2.13 Cumulative Projects 2-22

3. Environmental Setting, Impacts, and Mitigation Measures 3-1
- 3.1 Aesthetics 3.1-1
- 3.2 Air Quality 3.2-1
- 3.3 Biological Resources 3.3-1
- 3.4 Cultural Resources 3.4-1
- 3.5 Geology and Soils 3.5-1
- 3.6 Hazards and Hazardous Materials 3.6-1
- 3.7 Hydrology and Water Quality 3.7-1
- 3.8 Land Use and Planning 3.8-1
- 3.9 Noise 3.9-1
- 3.10 Transportation and Traffic 3.10-1
- 3.11 Utilities and Service Systems 3.11-1

4. Other CEQA Considerations 4-1
4.1 Less Than Significant Impacts 4-1
4.2 Significant Unavoidable Impacts 4-3
4.3 Significant Irreversible Environmental Changes 4-3
4.4 Growth Inducing Impacts 4-4

5. Alternatives 5-1
5.1 Introduction and Overview 5-1
5.2 Project Objectives 5-1
5.3 Factors Considered in the Selection of Alternatives 5-2
5.4 Selection of Alternatives 5-2
5.5 Alternatives Eliminated from Further Consideration 5-3
5.6 Alternatives Analysis 5-4

6. Preparers and Organization Consulted 6-1

Appendices

A. Notice of Preparation of Environmental Impact Report/ Initial Study
B. Air Quality Data Sheets
C. California Natural Diversity Database (CNDDB) Records Search
D. Cultural Resources Record Search

List of Figures

2-1 Total Projected Average Daily Flows For RWQCP 2-3
2-2 Regional Location 2-5
2-3 Existing Facilities 2-7
2-4 Existing RWQCP Flow Schematic 2-8
2-5 Proposed Layout for New Facilities 2-14
2-6 RWQCP Build Out Flow Schematic 2-15
2-7 Additional Construction Areas for Maximum with PRD Buildout Scenario 2-23
2-8 Cumulative Projects Map 2-25
3.1-1 Scenic and Special Boulevards and Parkways 3.1-4
3.1-2 Key Vantage Point (KVP) Locations 3.1-5
3.1-3 Key Vantage Points 1 and 2 ..... 3.1-6
3.1-4 Key Vantage Points 3 and 4 ..... 3.1-7
3.1-5 Key Vantage Points 5 and 6 ..... 3.1-8
3.1-6 Key Vantage Points 7 and 8 ..... 3.1-9
3.1-7 Key Vantage Points 9 and 10 ..... 3.1-10
3.3-1 Aerial View of Project Site 3.3-3
3.5-1 Areas Underlain by Steep Slope 3.5-2
3.5-2 Regional Fault Map 3.5-4
3.5-3 Generalized Liquefaction Zones 3.5-6
3.6-1 Airport Safety and Compatibility Zones 3.6-6
3.7-1 Arroyo Locations 3.7-2
3.7-2 Flood Hazard Areas 3.7-4
3.9-1 Effects of Noise on People 3.9-2
3.10-1 Existing Network of Roadways 3.10-2
3.10-2 Bike Trails 3.10-7

List of Tables

ES-1 Cumulative Project List ES-3
ES-2 Summary of Impacts and Mitigation Measures for the City of Riverside RWQCP Master Plan Project ES-5
2-1 Population and Sewer Generation Rates for Development Scenarios 2-2
2-2 Existing On-site Facilities 2-6
2-3 Construction Schedule 2-18
2-4 Construction Equipment and Crew 2-19
2-5 Future Energy Uses of Upgraded Facilities 2-21
2-6 Cumulative Project List 2-24
3-1 Geographic Scope of Cumulative Impact Analyses 3-5
3.2-1 Project Area Air Pollutant Summary, 2006–2008 ..... 3.2-2
3.2-2 State and National Criteria Air Pollutant Standards, Effects, and Sources 3.2-7
3.2-3 Ambient Air Quality Standards and Riverside County Attainment Status 3.2-8
3.2-4 List of Recommended Actions by Sector 3.2-12
3.2-5 SCAQMD Air Quality Significance Thresholds 3.2-21
3.2-6 Unmitigated Construction Emissions 3.2-26
3.2-7 Existing Permits to Operate 3.2-28
3.2-8 Change in Operational Emissions of Criteria Pollutants 3.2-29
3.3-1 Special-Status Plant Species Potentially Occurring in the Project Vicinity 3.3-8
3.3-2 Special-Status Wildlife Species Potentially Occurring in the Project Vicinity 3.3-9
3.5-1 General Liquefaction Zones 3.5-5
3.5-2 Soil Type Characteristics 3.5-8
3.6-1 Basic Land Use Compatibility Criteria 3.6-17
3.7-1 Impaired Water Bodies in the Project Area 3.7-3
3.7-2 Beneficial Use Designations for Water Bodies in the Project Area 3.7-7
3.7-3 Definitions of Beneficial Uses of Surface Waters 3.7-8
3.7-4 Current Riverside NPDES Tertiary Treated Effluent Discharge Requirements for RWQCB 3.7-9
3.9-1 City of Riverside Exterior Noise Standards 3.9-7
3.9-2 City of Riverside Interior Noise Standards 3.9-7
3.9-3 Typical Construction Noise Levels 3.9-9
3.9-4 Typical Noise Levels from Construction Equipment 3.9-9
3.9-5 Vibration Velocities for Construction Equipment 3.9-12
3.10-1 Intersection Level of Service Definitions 3.10-4
3.10-2 2003 Intersection LOS 3.10-5
3.10-3 Construction Equipment 3.10-11
3.11-1 Current Capacity and Lifespan of Existing Landfills Located in Riverside County 3.11-4
3.11-2 Proposed Energy Requirement 3.11-11
5-1 Alternatives – Summary Comparison of Impacts 5-4

EXECUTIVE SUMMARY

A. Introduction

This Draft PEIR is prepared in accordance with California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the construction of the proposed expansion of the Regional Water Quality Control Plant (RWQCP) (State Clearinghouse No. 2009041054). This document is prepared in conformance with CEQA (California Public Resources Code, § 21000 et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, § 5000 et seq.), and City rules and regulations. This Draft PEIR is intended to serve as an informational document for the public agency decision-makers and the public regarding the City of Riverside RWQCP Master Plan Project..

B. Project Summary

The City's updated General Plan (the "General Plan 2025" program) was adopted in November 2007. The General Plan update considers three development scenarios for the planning area and their respective population forecasts. The planning area includes the City of Riverside and its Sphere of Influence. The three development scenarios are as follows: 1) Typical; 2) Maximum; and 3) Maximum plus Planned Residential Development (PRD). In accordance with the forecasted population growth in the City of Riverside (City of Riverside's General Plan 2025), the anticipated growth in the region by year 2025 would require the Regional Water Quality Control Plant (RWQCP) to treat up to approximately 45.5 mgd of wastewater based on the population projections. This volume is above the existing RWQCP capacity of 40 mgd. However, during the RWQCP planning process the daily flows from the past six years were analyzed and a 90-percent confidence interval was calculated for the future flows for the year 2025. (A 90-percent confidence interval means that based on the historical flow data, there is a 90-percent chance of the future flows falling within a specific range in the year 2025). The calculation resulted in future flows approximately ranging between 47.3 and 52.2 mgd by the year 2025. As a result, the Program Environment Impact Report (PEIR) will analyze the conservative maximum flow projection of 52.2 mgd. It is anticipated that this scenario would increase plant staffing from 107 to 109 employees.

There are several factors that could impact the actual RWQCP flows including: economic conditions, actual growth rates, water conservation, widespread use of septic systems, and construction of supplemental wastewater treatment facilities at alternate locations. However, the PEIR will conduct a project-level analysis for the construction and operation of a 52.2 mgd capacity RWQCP under the Typical development scenario and would provide a programmatic-

level analysis for the construction and operation of a 55.2 mgd capacity RWQCP under the Maximum development scenario and a 63.9 mgd capacity RWQCP under the PRD scenario. Please see Chapter 2.0, Project Description, for a full description of the proposed project.

C. Project Objectives

The project objectives relevant to this EIR and the proposed expansion include the following:

- Produce a higher quality of treated water;
- Upgrade the RWQCP to meet the goals and forecasted growth of the General Plan 2025;
- Provide tertiary treatment to projected wastewater flows to meet RWQCB discharge permit requirements; and
- Modernize the RWQCP to meet current safety and water quality standards.

D. Approvals and Intended Uses of the EIR

The following discretionary actions are required to implement the project:

- Regional Water Quality Control Board: Updated NPDES permit and Waste Discharge Requirements
- South Coast Air Quality Management District: Permits to Operate treatment facilities

E. Cumulative Projects

Cumulative impacts refer to the combined effect of the proposed project impacts with the impacts of other past, present and reasonably foreseeable future projects. Both CEQA and the CEQA Guidelines require that cumulative impacts be analyzed in an EIR. As set forth in the CEQA Guidelines Section 15130(b), “the discussion of cumulative impacts shall reflect the severity of the impacts, and their likelihood of occurrence, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone.”

Cumulative projects identified by the City for analysis in the EIR are provided in **Table ES-1** below.

F. CEQA Process

- Notice of Preparation- A Notice of Preparation (NOP) for the proposed project was issued on April 9, 2009. The NOP described the development concept for the proposed project and the range of issues to be addressed in the EIR. The NOP was distributed to the State

TABLE ES-1
CUMULATIVE PROJECT LIST

#	Case Number	Description
1	P07-1194 P07-0751 (CUP, DR)	Auto Auction Lot/Inspection Building – 27,267 square feet
2	P07-0522 (DR)	Industrial Building (warehouse) – 90,000 square feet
3	P06-1530 (DR)	Industrial Building (warehouse) – 57,969 square feet
4	P06-1102 (DR)	Empire Market Center, LLC. – 5 Industrial Buildings-totaling 61,600 square feet
5	P07-0664 P07-0665 (DR, PM)	5 Industrial Buildings totaling 89,000 square feet
6	DEIR No.505 GPA No.779 CZ No.7276 Tent. TM No.34112 Tent. TM No.34263 PP No. 23214	Riverside County – De Anza Active Adult-Living Development • 271 Residential Lots – 79 Single-Family Residential Units – 85 Detached Cluster Units – 107 Detached Alley-Loaded Units • Light Industrial Building totaling 105,000 square feet (on approximately 8 acres)

SOURCE: City of Riverside, 2009

Clearinghouse, responsible agencies, and other interested parties for a 30-day public review period. The NOP indentified the need to evaluate the following environmental issues: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology/Soils, Hazards & Hazardous Materials, Hydrology/Water Quality, Land Use/Planning, Noise, Transportation/Traffic, and Utilities.

- Significant Impacts-The potential environmental impacts of the proposed project are summarized in **Table ES-2** at the end of this chapter. This table summarizes the impacts associated with the proposed project and the mitigation measures required to reduce the impacts to below significant levels. For this project, no impacts were found to be significant after the implementation of mitigation measures. For each significant impact, the table includes a summary of the mitigation measure(s) and an indication of whether the impact would be mitigated to a less than significant level. Please refer to Chapter 3, Environmental Setting, Impacts, and Mitigation, for a complete discussion of each impact and associated mitigation measures.

- Alternatives-CEQA requires that a reasonable range of project alternatives be discussed in an Environmental Impact Report. This EIR identifies and analyzes such a reasonable range of alternatives; identifies the environmental effects of each alternative; and compares the environmental effects of each alternative with the environmental setting with the effects of each other alternative, and with the project. The alternatives consist of the following:

Alternative 1: No Project

The *CEQA Guidelines* (Section 16126.6(e) provides the following guidance on the No Project Alternative, "for …a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved."

Under this alternative, no increase in impacts would occur, and all significant impacts of the project would be avoided (i.e. biological resources, cultural, hazards etc.). However, the No Project Alternative would not meet any of the project objectives. This alternative would not comply with the forecasted growth of the City by the year 2025.

Alternative 2: Increased Mixed Use Alternative

The Increased Mixed Use Alternative would increase the allowable density of mixed uses along the "L" Corridor (along Magnolia Avenue and University Avenue) by 25 percent over the proposed project under the Typical Development Scenario. The Increased Mixed Use Alternative would result in population increases of 12,066 from the proposed project and 13.7 million square feet of additional development. This additional development would require addition treatment capacity of 1.17 mgd more than the proposed project capacity of 52.2, for a total capacity of 53.37 mgd.

Environmentally Superior Alternative

An EIR must identify the environmentally superior alternative. In addition, the *CEQA Guidelines* (Section 15126.6(e)(2)) require that, if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. The No Project Alternative would result in the least environmental impacts. Next to the No Project Alternative, the proposed project would have the fewest impacts and would be the environmentally superior alternative. A summary comparison of the potential impacts associated with the alternatives and the proposed project is provided in Table 5-1 above.

TABLE ES-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CITY OF RIVERSIDE INTEGRATED WASTEWATER MASTER PLAN PROPOSED PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
3.1: Aesthetics		
Implementation of the proposed project would not result in significant impacts to Aesthetics. No mitigation measures are required		
3.2: Air Quality		
Implementation of the proposed project would not result in significant impacts to Air Quality. No mitigation measures are required		
3.3 Biological Resources		
Impact 3.3-1: Construction of the project could indirectly affect neighboring habitats that support species identified as a candidate, sensitive, or special-status species. (Less than Significant with Mitigation)	**Mitigation Measure Bio-1:** To avoid impacts to native nesting birds including the least Bell's vireo during the typical nesting season (March through August), the City shall retain a qualified biologist to survey potential nesting habitat located within 500 feet of the project site prior to construction or site preparation activities. Specifically, within 30 days of ground disturbance activities associated with construction or grading within the typical nesting season, a qualified biologist shall conduct weekly surveys to determine if active nests of bird species protected by the Migratory Bird Treaty Act (MBTA) or the California Fish and Game Code are present in the construction zone or within a distance determined by CDFG. The surveys shall continue on a weekly basis, with the last survey being conducted no more than three days prior to initiation of clearance or construction work. If ground disturbance activities are delayed, additional pre-construction surveys will be conducted such that no more than five days will have elapsed between the last survey and the commencement of ground disturbance activities. No nesting surveys are necessary during the months of September through February. If active nests are found, construction activities within a buffer distance determined by CDFG, shall be postponed or halted 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 during the same year. The results of the survey, and any avoidance measures taken, shall be submitted to the CDFG within 30 days of completion of the pre-construction surveys to document compliance with applicable state and federal laws pertaining to the protection of native birds.	Less than Significant

TABLE ES-2 (CONT.)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CITY OF RIVERSIDE INTEGRATED WASTEWATER MASTER PLAN PROPOSED PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
3.4: Cultural Resources		
Impact 3.4-1: The project may cause a substantial adverse change in the significance of an archaeological resource. (Less than Significant with Mitigation)	**Mitigation Measure Cult-1:** Site RIV-679/33-13531 shall be avoided during implementation of the proposed project. Prior to any ground-disturbing activities, a qualified archaeologist (defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology [Appendix A of 36 CFR Part 61]) shall mark exclusion zones around the known archaeological site to ensure that it is not impacted by construction. **Mitigation Measure Cult-2:** An archaeologist meeting the Secretary of the Interior's Standards for professional archaeology shall monitor initial ground-disturbing activities in native soils, including but not limited to trenching, boring, grading, removal of retired facilities, and use of staging areas and access roads. Any ground disturbing or vehicular activity within 100 feet of site RIV-679/33-13531 shall also be subject to archaeological monitoring. The duration and timing of monitoring shall be determined by the qualified archaeologist in consultation with the City. In the event that cultural resources are unearthed during ground-disturbing activities, the archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the find so that the find can be evaluated. The monitor shall prepare and submit brief weekly monitoring reports as well as one final monitoring report summarizing the results of the monitoring activity and describing any cultural resources recovered in the duration of monitoring. Due to the sensitivity of the project area for Native American resources, if requested by a local Native American group or individual, a Native American monitor shall also monitor ground-disturbing activities in the project area. Selection of monitors shall be made by agreement of the Native American groups identified by the Native American Heritage Commission as having affiliation with the project area. **Mitigation Measure Cult-3:** If previously undiscovered cultural resources are encountered, all activity in the vicinity of the find shall cease or redirect away from the vicinity until it can be evaluated by the archaeological monitor. If the archaeological monitor determines that the resources may be significant, the qualified archaeologist will notify the lead agency and will develop an appropriate treatment plan for the resources. The archaeologist shall consult with Native American monitors or other appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature.	Less than Significant

TABLE ES-2 (CONT.)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CITY OF RIVERSIDE INTEGRATED WASTEWATER MASTER PLAN PROPOSED PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Impact 3.4-3: The project may disturb human remains, including those interred outside or formal cemeteries. (Less than Significant with Mitigation)	**Implement Mitigation Measure Cult-2 and Cult-3** **Mitigation Measure Cult-4**: If human skeletal remains are uncovered during project construction, the project proponent (depending upon the project component) will immediately halt work, contact the County coroner 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 project proponent will 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). The NAHC will then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American, who will then help determine what course of action should be taken in dealing with the remains. Per Public Resources Code 5097.98, the City shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the City 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
Impact 3.4-4: The project may disturb or destroy a unique paleontological resource or site or unique geologic feature. (Less than Significant with Mitigation)	**Mitigation Measure Cult-5:** A qualified paleontologist shall be retained and approved by the lead agency to establish and implement procedures for paleontological resource monitoring during grading, and procedures for temporarily halting or redirecting work to permit the sampling, identification and evaluation of the fossils as appropriate. The paleontologist shall monitor, at a minimum, all ground-disturbing activity, such as excavation or grading, within the paleontologically sensitive Pleistocene alluvial fan deposits. If a potential fossil is found, the paleontologist shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation and, if necessary, salvage. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the NHM of Los Angeles County or the San Bernardino County Museum. Accompanying notes, maps, and photographs shall also be filed at the repository. Following the completion of the above tasks, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on-site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to the County and to the Natural History Museum of Los Angeles County and the San Bernardino	Less than Significant

TABLE ES-2 (CONT.)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CITY OF RIVERSIDE INTEGRATED WASTEWATER MASTER PLAN PROPOSED PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	County Museum. The County shall submit a copy of the report to the developer, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and the required mitigation measures.	
3.5: Geology and Soils		
Implementation of the proposed project would not result in significant impacts to Geology and Soils. No mitigation measures are required.		
3.6: Hazards and Hazardous Materials		
Impact 3.6-1: The project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or would the project 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. (Less than Significant with Mitigation)	**Mitigation Measure Haz-1:** Construction contractor(s) shall be required to implement best management practices (BMPs) for handling hazardous materials during the project. Use of the construction BMPs will 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. • On-site fueling of construction equipment shall be conducted only in designated re-fueling areas equipped with proper containment. • During routing maintenance of construction equipment, properly contain and remove grease and oils. • Properly dispose of discarded containers of fuels and other chemicals. **Mitigation Measure Haz-2:** The City 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: • Absorbent materials shall be maintained at locations where hazardous materials are used or stored, in order to capture spilled materials in the event of an accidental release. • 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	Less than Significant

TABLE ES-2 (CONT.)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CITY OF RIVERSIDE INTEGRATED WASTEWATER MASTER PLAN PROPOSED PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	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(s) shall contact the local fire agency and the Environmental Health Services Division of the City of Riverside, for any site-specific requirements regarding hazardous materials or hazardous waste containment or handling. **Mitigation Measure Haz-3:** The City 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.	
3.7 Hydrology and Water Quality		
Implementation of the proposed project would not result in significant impacts to Hydrology and Water Quality. No mitigation measures are required.		
3.8: Land Use		
Implementation of the proposed project would not result in significant impacts to Land Use. No mitigation measures are required.		
3.9: Noise		
Impact 3.9-1: Project construction could expose persons to or generate noise levels in excess of standards. (Less than Significant with Mitigation)	**Mitigation Measure Noise-1:** During construction, the contractor shall outfit all equipment, fixed or mobile, with properly operating and maintained exhaust and intake mufflers, consistent with manufacturers' standards. **Mitigation Measure Noise-2:** Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. External jackets on the tools themselves shall be used where feasible. Quieter procedures, such as use of drills rather than impact tools, shall be used whenever feasible.	Less than Significant

TABLE ES-2 (CONT.)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CITY OF RIVERSIDE INTEGRATED WASTEWATER MASTER PLAN PROPOSED PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
3.10: Transportation/Circulation		
Impact 3.10-1: The project may cause an increase in traffic which is substantial in relation to the existing traffic load and capability 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).(Less than Significant with Mitigation)	**Mitigation Measure Trans-1:** The City shall require the construction contractor to prepare and implement a Traffic Control/Traffic Management Plan to minimize impacts during project construction. The Traffic Control/Traffic Management Plan shall include, but not be limited to, the following measures: • The City of Riverside shall maintain access for local land uses including public properties, recreational properties, beachfront access, and commercial properties during construction activities.. • Emergency services access to local land uses will be maintained at all times for the duration of construction activities. Local emergency service providers will be informed of lanes closures and detours.. • The City of Riverside shall post advanced warning of construction activities to allow motorists to select alternative routes in advance. • The City of Riverside shall arrange for a telephone resource to address public questions and complaints during project construction. • The City of Riverside shall comply with roadside safety protocols, so as to reduce the risk of accident. • Haul trucks to and from the plant will follow City-approved haul routes whenever feasible	Less than Significant
Impact 3.10-2: The project may exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways. (Less than Significant with Mitigation)	**Implement Mitigation Measure Trans-1**	Less than Significant
3.11: Utilities and Service Systems		
Implementation of the proposed project would not result in significant impacts to Utilities and Service Systems. No mitigation measures are required.		

CHAPTER 1
Introduction

1.1 Purpose of the EIR

This Draft Program Environmental Impact Report (PEIR) has been prepared by the City of Riverside Public Works Department for the City of Riverside Integrated Master Plan for Wastewater Collection and Treatment Facilities. This document has been prepared pursuant to the California Environmental Quality Act (CEQA) of 1970 (as amended), codified at California Public Resources Code (PRC) Sections 21000 et. seq., and the State *CEQA Guidelines* in the Code of Regulations, Title 14, Division 6, Chapter 3. The City of Riverside is the lead agency for this PEIR, which examines potential physical impacts to the environment as a result of the expansion of the Regional Water Quality Control Plant (RWQCP), which would increase the plant's current capacity from 40 million gallons per day (mgd) to approximately 52 mgd by year 2025 to accommodate the forecasted growth projections in the General Plan 2025 for the City of Riverside (City).

This PEIR is intended to inform responsible agencies and the public of the proposed project's environmental effects. As the Lead Agency, the City of Riverside has the "principal responsibility for carrying out or approving a project which may have a significant effect upon the environment" (CEQA Section 21067). The PEIR is therefore intended to publicly disclose those impacts that may be significant and adverse, describe possible measures that would mitigate or eliminate such impacts, and describe a range of alternatives to the proposed project. The impact analyses are based on a variety of sources, including agency consultation, technical studies, and field surveys.

This PEIR provides a program level evaluation of the development scenarios that have been proposed to meet the project objectives. The CEQA *Guidelines* Section 15168 provides that a Program EIR may be prepared on a series of actions that can be characterized as one large project and are related either:

- Geographically;
- As logical parts in the chain of contemplated actions;
- In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or
- As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

In this manner, a PEIR can provide several advantages, including but not limited to, providing for more exhaustive consideration of effects and alternatives than would be practical for a Project-level EIR; ensure proper and full consideration of cumulative impacts; avoid duplicative reconsideration of basic policy considerations; allow the lead agency to consider broad policy and program alternatives, as well as program-wide mitigation measures early in that agency's planning phase; facilitate a reduction in paperwork and allow subsequent tiering of CEQA documentation at the Project level.

This PEIR provides project-level analysis for the first phase of the treatment plant expansion. Subsequent phases as well as the collection system improvements receive program-level assessment as described in Chapter 2.

1.2 Project Background

The RWQCP began operation as a regional facility in 1978. The RWQCP provides preliminary, primary, secondary, and tertiary wastewater treatment and currently treats approximately 33 million gallons per day (mgd). The RWQCP has a rated capacity of 40 mgd. The City Sewerage System Division is responsible for collection and treatment of wastewater flows generated within the City and the communities of Jurupa, Rubidoux, Edgemont, and Highgrove. The City's collection system consists of over 1,100 miles of gravity sewers pipelines ranging from six to 48 inches in diameter and 18 wastewater pump stations. The wastewater pump stations range in size from 100 gallons per minute (gpm) up to 2,000 gpm.

1.3 CEQA EIR Process

This Draft EIR has been prepared to meet all of the substantive and procedural requirements of CEQA (California PRC Section 21000 et seq.), the *CEQA Guidelines* (California Code of Regulations (CCR), Title 14, Section 15000 et seq.), and the City of Riverside's policies. As the Lead Agency for the proposed project, the City of Riverside has primary responsibility for conducting the environmental review and approving or denying the project.

1.3.1 Notice of Preparation

On April 9, 2009, in accordance with Sections 15063 and 15082 of *CEQA Guidelines*, the City published a Notice of Preparation (NOP) of a Draft EIR, and circulated it to governmental agencies, organizations, and persons that may be interested in this project, including nearby landowners, homeowners, and tenants. The NOP requested comments on the scope of the PEIR, and asked that those agencies with regulatory authority over any aspect of the project describe that authority. The NOP comment period extended through May 8, 2009. The NOP provided a general description of the proposed project, a description of sites for proposed facilities and upgrades, construction methods, and a preliminary list of potential environmental impacts. An Initial Study prepared on the project pursuant to *CEQA Guidelines* section 15063 accompanied the NOP. The Initial Study identified which environmental resources could potentially be

significantly affected by the project and which resources would not be affected. The NOP, the Initial Study, and comments received on the NOP are included in this EIR in **Appendix A**.

1.3.2 Draft PEIR

Based on the analysis contained in the Initial Study prepared for the proposed project (April 2009) and from the comments received on the NOP, the proposed project was determined to have a potentially significant effect on the following environmental issues areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils and Seismicity
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise
- Transportation/Traffic
- Utilities and Service Systems

This PEIR evaluates these environmental resources in greater depth. The PEIR is being circulated for review by the public agencies, organizations and other interested parties for a 45-day public comment period. During the public comment period, copies of the Draft PEIR and technical appendices will be available for review at the City of Riverside Public Works Department on Monday through Friday during normal business hours. The City of Riverside Public Works Department is located at 3900 Main Street, Riverside, CA 92522, and the phone number is (951) 826-5340. A copy will also be available at the Riverside County Library located at 3581 Mission Inn Avenue, Riverside, CA 92501.

Comments on the Draft PEIR may be made in writing before the end of the public comment period. Written comments on the Draft PEIR should be addressed to the following:

City of Riverside, Public Works Department,
Attn: Mr. Warren Huang
5950 Acorn Avenue, Riverside, CA 92504
Phone: (951) 351-6140
E-mail: Whuang@riversideca.gov

After the close of the PEIR public comment period, responses to written comments on the environmental effects of the proposed project will be prepared and published. A Final EIR (FEIR) (comprised of this Draft PEIR, comments received on the Draft EIR, and written responses to those comments) and the Mitigation Monitoring and Reporting Program (MMRP), which describes the timing and process to ensure implementation of mitigation measures or project requirements, will be considered for certification by the City in a public hearing.

According to PRC Section 21081, the Lead Agency must make specific Findings of Fact (Findings) before approving the FEIR when the FEIR identifies significant environmental impacts that may result from a project. The purpose of the Findings is to establish the connection between the contents of the FEIR and the action of the Lead Agency with regard to approval or rejection of the proposed project.

Prior to approval of a project, one of three findings must be made, as required by Section 15091 of the CEQA Guidelines:

- Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effects as identified in the EIR.
- 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.
- 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 FEIR.

Additionally, according to PRC Section 21081.6, for projects in which significant impacts will be avoided or lessened by mitigation measures, the Lead Agency must include a MMRP. The purpose of the MMRP is to ensure compliance with required mitigation during implementation of the proposed project.

If a public agency approves a project that has significant and unavoidable impacts, the agency shall state in writing the specific reasons for approving the project based on the FEIR and any other information in the public record. This is termed a “Statement of Overriding Considerations” and is used to explain the specific reasons why the benefits of a proposed project make its unavoidable environmental effects acceptable.

1.4 Draft EIR Organization

This EIR has been organized as outlined below. To help the reader locate information of particular interest, a brief summary of the contents of each chapter of the EIR is provided. The following chapters are contained within the EIR:

Executive Summary: This section contains an overview of the scope of the EIR, as well as a summary of the proposed project, environmental impacts, proposed mitigation, level of significance after mitigation, and unavoidable impacts. Also contained within this section is a summary description of project alternatives.

Chapter 1: Introduction: This chapter provides an overview of the purpose and use of the EIR, the scope of this EIR, the environmental review process for the EIR and the proposed project, and the general format of the document.

Chapter 2: Project Description: This chapter defines the project location, summarizes the proposed project, and outlines the project objectives and the need for the proposed project. Surrounding land uses, as well as cumulative (related) projects are also presented in this chapter.

Chapter 3: Environmental Setting, Impacts and Mitigation Measures: This chapter describes and evaluates the environmental issue areas, including the existing environmental setting and background, applicable environmental thresholds, environmental impacts (both short-term and

long-term), policy considerations related to the particular environmental issue area under analysis, mitigation measures capable of minimizing environmental harm, and a discussion of cumulative impacts. Where additional actions must be taken to ensure consistency with environmental polices, recommendations are made, as appropriate. By consolidating environmental impact assessment and site specific policy directives within each impact area, clear linkages between impact assessment and related policy consistency can be established.

Chapter 4: Other CEQA Considerations: This chapter provides a summary of the proposed project's potential growth-inducing impacts; provides a list of proposed project impacts that are significant and unavoidable by issue area; discusses the environmental effects of the proposed project found not to be significant; and identifies any irreversible changes to the natural environment resulting from the proposed project.

Chapter 5: Alternatives Analysis: This chapter analyzes feasible alternatives to the proposed project, including the No Project Alternative and a Reduced Project Alternative. Other alternatives that were considered but eliminated from further analysis based on failing to meet most of the project objectives, infeasibility, or inability to avoid significant environmental effects.

Chapter 6: Preparers, Organizations and Persons Consulted, References: This chapter identifies the public and private agencies and individuals contacted during the preparation of this report, and all individuals responsible for the preparation of this report. This chapter also identifies all references used and cited in the preparation of this report.

Appendices: Data supporting the analysis or content of the EIR are provided in the appendices to the document. These include the NOP and responses to the NOP, air quality calculations, California Natural Diversity Database (CNDDB) records search and other reports prepared for the proposed project.

CHAPTER 2
Project Description

2.1 Introduction

The City of Riverside proposes to upgrade its Riverside Regional Water Quality Control Plant (RWQCP) from a current capacity of 40 million gallons per day (mgd) to approximately 52.2 mgd by year 2025 to accommodate the forecasted growth projections for the City of Riverside. The proposed Integrated Wastewater Master Plan (IWWMP) (proposed project) would construct new facilities and upgrade some existing facilities within the existing plant site located at 5950 Acorn Street in the City of Riverside.

Sections 3.1 through 3.11 of this document will analyze the construction of the proposed RWQCP expansion project on a project-level. The proposed RWQCP expansion consists of three main components: the Plant 1 Primary Treatment Expansion, the Plant 1 Membrane Bioreactor (MBR) Facility, and the Plant 1 Digesters. The remaining components of the proposed project such as the headworks expansion, chlorine basin expansion, waste activated sludge thickener upgrade, plant support facilities, and the collection system will be analyzed on a program-level, requiring additional subsequent CEQA documentation prior to implementation. Subsection 2.6-1 below describes each component in further detail.

2.2 Project Need and Objectives

The City of Riverside's Sewage System Division is responsible for collection and treatment of wastewater flows generated within the City of Riverside and the adjacent communities of Jurupa, Rubidoux, Edgemont, and Highgrove, which make up the community service districts (CSD). The City of Riverside's RWQCP provides primary through tertiary treatment at a rated capacity of 40 mgd. Based on the master plan flow projections, it is anticipated that the available capacity of the existing Plant 1 would be exceeded by 2012 [1].

The City's current General Plan 2025 adopted in November 2007 considers three population and development scenarios for the planning area. The planning area includes the City of Riverside and its Sphere of Influence. The three development scenarios are as follows: 1) Typical; 2) Maximum; and 3) Maximum plus Planned Residential Development (PRD). Under the Typical Development Scenario as described in the City of Riverside General Plan, the RWQCP would need capacity to treat approximately 45.5 mgd of wastewater by the year 2025[2]. The Maximum and Maximum plus

[1] City of Riverside Wastewater Collection and Treatment Facilities Integrated Master Plan, 2007
[2] City of Riverside General Plan 2025, 2007

PRD Development Scenarios would require treatment capacities of 55.2 and 63.9 mgd respectively by the year 2025. **Table 2-1** summarizes the City's General Plan 2025 population projections and associated wastewater generation volumes.

TABLE 2-1
POPULATION AND SEWER GENERATION RATES FOR DEVELOPMENT SCENARIOS, 2025

	General Plan Development Scenario: Approximate Population			General Plan Development Scenario: Approximate Wastewater Generation (mgd)		
Development Area	**Typical**	**Maximum**	**Maximum + PRD**	**Typical**	**Maximum**	**Maximum + PRD**
City of Riverside	358,612	458,900	548,957	34.6	44.3	53.0
Community Service Districts (CSDs)				10.9	10.9	10.9
Total (City + CSDs)				**45.5**	**55.2**	**63.9**

mgd = millions of gallons per day

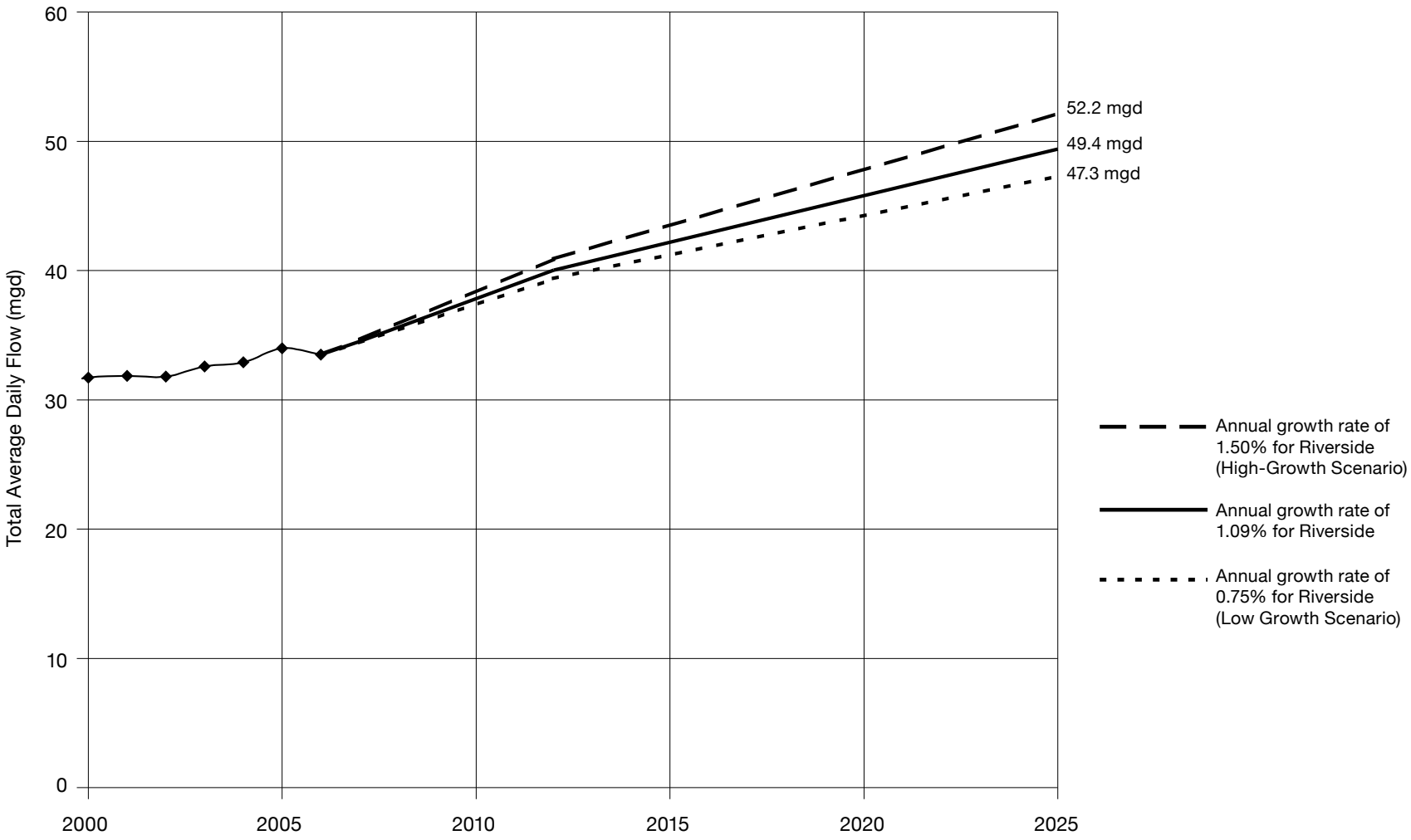
SOURCE: City of Riverside General Plan 2025, November 2007

During the RWQCP planning process a 90 percent confidence interval was calculated for the future flows for the year 2025 based on past flow rate increases (**Figure 2-1**). A 90-percent confidence interval means that based on the historical flow data, there is a 90-percent chance of the future flows falling within a specific range in the year 2025. The analysis resulted in future flows ranging between approximately 47.3 and 52.2 mgd by the year 2025. This PEIR analyzes the conservative maximum flow projection of 52.2 mgd. This volume is greater than the wastewater generation estimate assumed in the City of Riverside Typical Development Scenario but less than the estimated amount for the Maximum Growth Scenario.

Several factors will affect the actual RWQCP flows including local economic conditions, fluctuations in population growth rate, decreased development, and water conservation. This document includes a project-level analysis for the construction and operation of a 52.2 mgd capacity RWQCP under the Typical Development scenario. This PEIR also analyzes the construction and operation of a 55.2 mgd capacity RWQCP under the Maximum Development Scenario and a 63.9 mgd capacity RWQCP under the Maximum plus PRD Scenario. It is assumed that all three development scenarios could be accomplished by installing new facilities entirely within the existing footprint of the RWQCP property boundary.

The objectives for implementing the proposed project are as follows:

- Produce a higher quality of treated water;
- Divert more treated water to the Recycled Water Program;
- Upgrade the RWQCP to meet the goals and forecasted growth of the General Plan 2025;
- Provide tertiary treatment to projected wastewater flows to meet RWQCB discharge permit requirements; and
- Modernize the RWQCP to meet current safety and water quality standards.



SOURCE: Carollo Engineers, 2009.

City of Riverside . 206047

Figure 2-1
Total Projected Average
Daily Flows For RWQCP

2.3 Project Location

The City of Riverside RWQCP is located at 5950 Acorn Street in the City of Riverside in Riverside County, California (**Figure 2-2**). The RWQCP is located along the Santa Ana River and is within the Riverside Municipal Airport's Airport Influence Area. The proposed sewage collection system would be located throughout the City and some surrounding unincorporated areas. All other appurtenant facilities would be located on the existing RWQCP site.

2.4 Existing Facilities

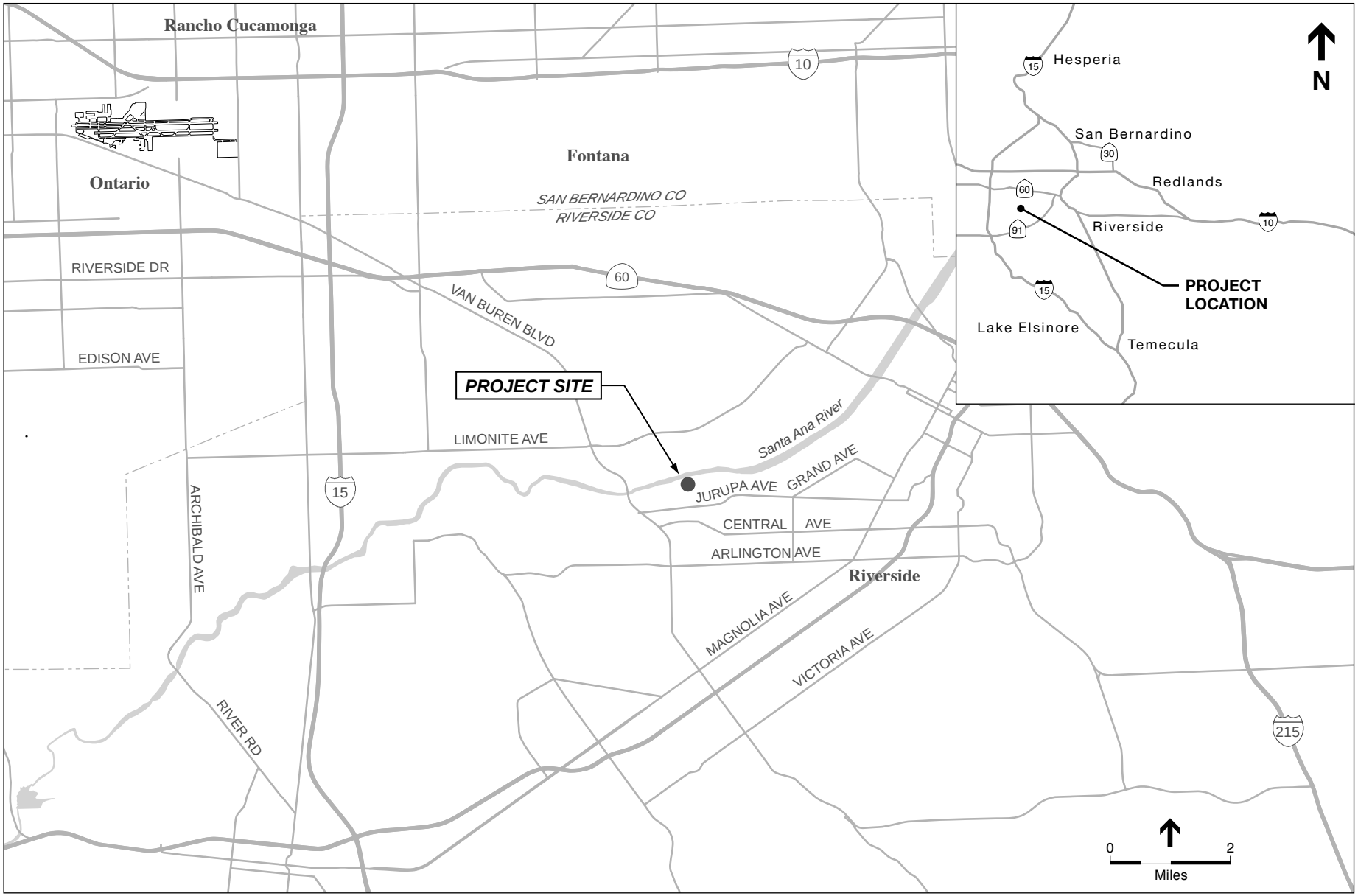
The plant consists of approximately 106 acres of land, which includes the additional 25 acres on the east end acquired in 1990 (**Figure 2-3**). The main entrance to the plant is on Acorn Street. To the right of the entrance is the employee and visitor parking lot. To the left of the entrance is the Lab/Administration building. The Laboratory Services Program provides technical support for the Sewerage Systems Service Program and for Jurupa, Rubidoux, and Edgemont Community Services Districts. Analytical services provided include chemical, biological, and microbiological analyses.

In addition to the facilities listed in **Table 2-2**, there are three outdoor storage areas. Two of these areas are used to store miscellaneous parts and equipment that are used throughout the plant. One of these two areas is located adjacent to Van Buren Boulevard in the southwest corner of the site (approximately 40,000 square feet). This storage area is visible from Van Buren Boulevard. The second storage area is southwest of the chemical building shown in Figure 2-3 (approximately 1,000 square feet). This area is screened from public view. The third storage area is located in the open area northwest of the existing Plant 1 sedimentation basin (approximately 50,000 square feet). This storage area is screened from the public and is used for storage of green waste and materials for plant improvements (asphalt, gravel etc.). This storage facility is located at the site of the proposed Plant 1 Primary Treatment expansion, and it will be relocated to the northeast of its existing location during construction. Existing access to the proposed project site is through Acorn Street. There is also a second access point off of Van Buren Boulevard, but access through this location is controlled by a locked gate. These access points are not expected to change.

The existing site generally slopes down from the south and east to the north and west, with about 70 percent of the site gently sloping. Portions of the site consist of some fairly steep slopes, with the overall elevation change on the site of about 60 feet from high point to low point. The total site area is approximately 106 acres, of which approximately 70 percent is currently developed.

2.5 Existing Facilities Operation

The RWQCP consists of two separate plants (Plant 1 and Plant 2). **Figure 2-4** shows a flow schematic for the plant based on current operation. The sewerage comes into the RWQCP at the headworks, where it is then sent to Plant 1 and Plant 2 for independent treatment to a primary and secondary level. The flow is split 40 percent to Plant 1 and 60 percent to Plant 2.



SOURCE: ESA, 2008.

City of Riverside . 206047

Figure 2-2
Regional Location

TABLE 2-2
EXISTING ON-SITE FACILITIES

List of Existing Facilities	Approximate Total Square Footage of Existing Facilities
Headworks	8,200
Power Building	800
Plant 1 Primary Clarifiers	30,200
Maintenance Buildings	18,400
Warehouse	5,152
Administration	19,300
Digester Total	28,214
Boiler Building	1,400
Cogeneration	22,900
Solids Handling Facilities	17,281
Chemical Building	13,700
Misc. Building	860
Plant 2 Primary Clarifiers	31,416
Plant 2 Aeration Basins	75,100
Plant 2 Secondary Clarifiers	42,254
Plant 1 Aeration Basins	40,000
Plant 1 Secondary Clarifiers	40,100
Tertiary Filter Building	46,400
Chlorine Contact Basin #2	16,600
Chlorine Contact Basin #3	27,800
Old Sulfur Dichloride Building	2,000
Backwash ponds	10,000
Backwash Storage Tanks	5,655
Equalization Basins	210,800
Storage Building	4,400
Sludge Beds	443,800
Existing Unused Structures	42,724
Existing Employee and Visitor Parking	109 Spaces

SOURCE: Carollo Engineers, 2008

Plant 1 has a total of six rectangular primary clarifiers, four rectangular aeration basins and four secondary clarifiers. Plant 2 has four circular primary clarifiers, six rectangular aeration basins, and four circular secondary clarifiers. The secondary effluents from both plants combine and go into four equalization ponds, which are then sent to tertiary treatment.

The equalized secondary effluent feeds into the two tertiary filters, where it gets further treatment. Currently, the tertiary effluent passes through Chlorine Contact Basins No. 1 (CCB1) and Chlorine Contact Basin No. 3 (CCB3) for disinfection and the final effluent is discharged either to the Santa Ana River directly or to the Hidden Valley Wetlands for further nitrogen treatment before discharge to the Santa Ana River.

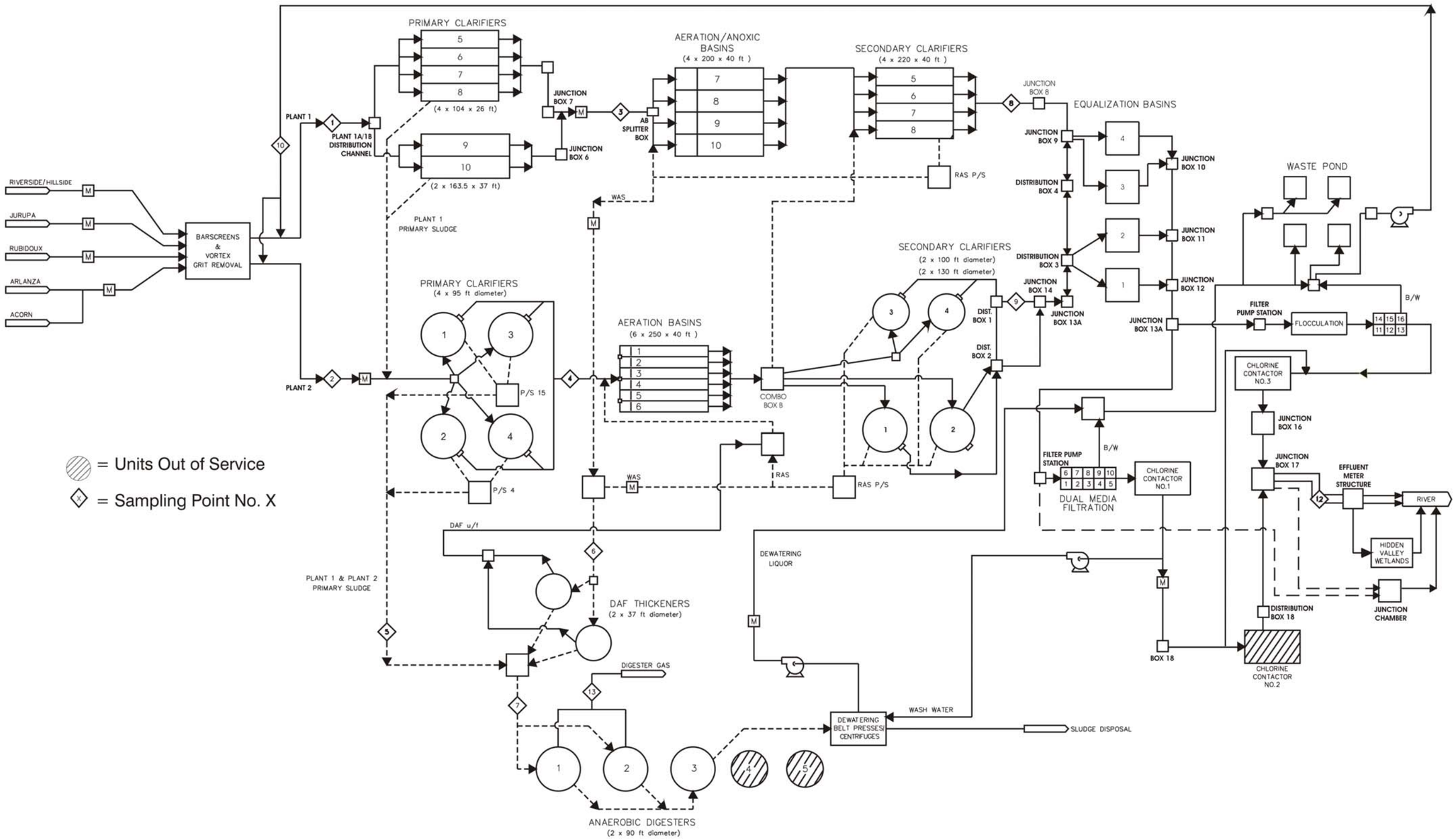
KEY

1. Headworks
2. Biofilter
3. Primary Sedimentation Basins for Plant 1
4. Primary Sedimentation Basins for Plant 2
5. Secondary Sedimentation Basins - Plant 1 (Abandoned)
6. Secondary Sedimentation Basins - Plant 2
7. Chlorine Contact Basins
8. Chlorine Injection Structure (Abandoned)
9. Waste Backwash Lagoons
10. Tertiary Filters
11. Dissolved Air Flotation Thickeners
12. Digesters
13. Sludge Hopper Building
14. Caustic Soda Feed Pump Station (Abandoned)
15. Combined Aeration Basin Distribution Structure
16. Maintenance/Storage Building
17. Pump Station
18. RAS Distribution Structure
19. Primary Effluent Distribution Structure
20. Equalization Distribution Structure
21. Distribution Structure
22. Trickling Filter Effluent Metering Structure
23. Solids Metering Structure
24. Final Effluent Metering Structure
25. Dewatering Flow Metering and Sampling Structure
26. Distribution Box 2 (Abandoned)
27. Junction Box
28. Grit Storage (Abandoned)
29. Junction Structure
30. Parshall Flume
31. Transformer
32. Electrical Pad
33. Motor Control Center, Operations Lab and Pump Station
34. Boiler 1 and Pump Station 9
35. Dechlorination Building
36. Digester Control Building and Pump Station
37. Digester Control Building
38. New Blower Building
39. Sewer Line Maintenance Building
40. Bioassay Studies Building
41. Office Maintenance Building
42. Landscape Maintenance Storage Building
43. Indian Rocks Reserve Area
44. Storage
45. Sampling Station
46. Equalization Ponds
47. Aeration Basins Plant 2
48. Aeration Basins Plant 1
49. Secondary Sedimentation Basin, Plant 1
50. Cogeneration
51. Belt Press Building
52. Storage/Electrical Shop
53. Maintenance Building
54. Chemical Building
55. Backwash Storage Tank
56. Lab/Administration Building
57. Old Administration Building

SOURCE: Carollo Engineers, 2008.

City of Riverside . 206047

Figure 2-3
Existing Facilities



SOURCE: Carollo Engineers, 2009.

City of Riverside . 206047

Figure 2-4

Existing RWQCP Flow Schematic

Influent Sewers

The RWQCP receives influent from six lines: the Arlanza trunk, the Riverside trunk, the Hillside trunk, the Acorn trunk, and the Jurupa and Rubidoux force mains. Each trunk line is metered and sampled for 5-day Biological Oxygen Demand (BOD_5), suspended solids, ammonia nitrogen, and other parameters.

Headworks Facilities

Headworks facilities are installed for protection of the plant's equipment. The headworks facilities prevent any large debris from entering the plant. These processes include screening and grit removal. Both screenings and grit are washed, dewatered, and sent to a sanitary landfill. In 1999, the City upgraded the headworks facility. This facility combines the flow from the incoming sewers, including the Community Service Districts of Jurupa and Rubidoux. The combined flow is passed through four parallel screens and two vortex grit removal basins. Once the wastewater has been screened and degritted, it is divided between Plants 1 and 2 for additional treatment.

Primary Clarifiers

The purpose of the primary clarifiers is to remove settleable organic materials from the wastewater. Primary clarifiers typically remove about 50 percent of the incoming total suspended solids (TSS) and about 30 percent of the biochemical oxygen demand (BOD). The primary effluent from the primaries flows by gravity to the aeration basins of each plant.

The primary sedimentation facilities at Plant 1 were originally designed to pump the settled solids into gravity thickeners. The gravity thickeners have since been taken out of service and the settled solids from the Plant 1 primaries are pumped into the primary influent splitter box for Plant 2. There, they are resettled with the Plant 2 influent solids. The Plant 2 primary clarifier solids are thickened in the primaries and are pumped directly to the anaerobic digesters. Ferric Sulfate is added to the primary clarifiers at Plant 1 to keep the hydrogen sulfide levels within the South Coast Air Quality Management District (SCAQMD) limits.

Aeration Basins

The aeration basins provide biological treatment. In these units, the wastewater is actively mixed with a large concentration of microorganisms that break down the soluble organic matter and convert it into carbon dioxide. In addition, ammonia nitrogen is converted to nitrate. The RWQCP includes modifications to the aeration basins for denitrification. Plant 1 and Plant 2 aeration basins have been modified to include a section with low dissolved oxygen known as an anoxic zone. These zones are where nitrate is converted to nitrogen gas. The anoxic zones in both plants occupy approximately 20 to 25 percent of the total volume of the aeration basins. The aeration basins include high volume mixed liquor recycle pumps that allow for a more effective use of the anoxic zones by recycling the nitrates formed in the aerobic zone to this section. Additional nitrogen removal occurs in the portion of the effluent that passes through the Hidden Valley Wetlands.

Two blowers, Blower Nos. 4 and 5, are used for supplying variable volumes of air to the aeration basins for Plant 1 and two blowers, Blower Nos. 1 and 2, are used for supplying variable volumes of air to the aeration basins for Plant 2. One blower, Blower No. 3, serves as a “swing”/standby blower. All five blowers are motor driven, single-stage centrifugal, vertical split type.

Secondary Clarifiers

Secondary clarifiers settle out the microorganisms following the aeration basins. The majority of the solids removed from the wastewater stream, referred to as return activated sludge (RAS), are returned to the aeration basins to maintain the mixed liquor concentration. The remaining solids, known as waste activated sludge (WAS), are thickened in the dissolved air flotation (DAF) thickeners before being sent to the digesters. The secondary clarifiers in Plant 1 have the capability of accepting mixed liquor from Plant 2, if a Plant 2 clarifier is out of service.

Flow Equalization

Flow equalization precedes tertiary filtration. These units are constructed basins that dampen daily variations in flow. The flow equalization basins are fed by the two plants. Flow into the equalization basins is by gravity. The secondary effluent is pumped from the basins to the tertiary filters.

Tertiary Treatment

Tertiary treatment is achieved by filtration through a bed of media. Filtration removes suspended solids that are not eliminated by settling, which reduces the chlorine demand of the water and improves the disinfection process. The current installation includes two banks of filters with a total of 16 filter cells: Filter cells 1 to 10 and Filter cells 11 to 16. Each of the cells has a 24-inch layer of anthracite and a 15-inch layer of silica sand. Filters 11 to 16 are preceded by a chemical flocculation step that aggregates very small particles so that they can be efficiently removed in the filters. The plant uses alum ew-401 as a coagulant to aid in the filtration process.

Disinfection

Disinfection of the wastewater stream destroys any remaining pathogens in the treated effluent. This is accomplished by adding sodium hypochlorite and providing adequate contact time. Dechlorination, removal of the excess chlorine through the addition of sodium bisulfite, protects aquatic life after discharge to the Santa Ana River or the Hidden Valley Wetlands. This is done at the end of the chlorine contact basins before the water is discharged. The RWQCP has three chlorine contact basins. CCB1 discharges into Chlorine Contact Basin No. 2 (CCB2) or CCB3. Currently, CCB1 discharges into CCB3 and CCB2 is out of service

Biosolids Handling Facilities

The solids handling facilities that are part of the plant consist of Dissolved Air Flotation Thickening (DAFT) of waste activated sludge (WAS), Mesophilic anaerobic digestion of primary and secondary solids, and belt press and centrifuge dewatering of digested sludge. The plant

originally had 29 sludge drying beds (total area of 8 acres) as part of its sludge disposal practice, but they have been abandoned and demolished in part due to the odor complaints from neighboring businesses and due to their land requirement. Currently, solids are being disposed off-site and used as soil amendment.

Dissolved Air Flotation Thickening

DAFT is used to thicken the WAS from the secondary clarifiers. This process reduces the overall volume of the solids and concentrates them into a stream that can be more economically treated. Settled solids from the secondary clarifiers from Plant 1 and Plant 2 are combined and thickened in the DAFTs to a solids concentration of about two percent. RWQCP has three DAFTs, but only DAFT No. 2 is in service. RWQCP is in the process of rebuilding DAFT No. 1 and No. 3 has been decommissioned.

Anaerobic Digesters

In anaerobic digestion, the solids from primary treatment and the DAF thickeners are processed in the absence of air. This reduces the solids volume, stabilizes the sludge, and produces methane gas as a byproduct that can be burned for energy.

The existing anaerobic digestion process includes five digesters ranging in size from 0.603 to 1.8 million gallons. The RWQCP currently operates with only the two 90-foot diameter tanks as active digesters. Thickened primary and secondary sludge and primary scum are fed separately directly to the digesters. Currently, RWQCP is adding restaurant grease to Digester No. 2 to increase gas production. After digestion, the stabilized solids are transferred into Digester No. 4, which serves as a holding tank for the dewatering belt presses. The two smallest of the five digesters are no longer in service.

Cogeneration facilities

The existing treatment plant has co-generation facilities fueled by methane generated in the treatment process. The facilities have a 3.2 MW capacity, reliant on the availability of gas from the treatment plant. These facilities currently meet most of the plant’s energy demand.

Sludge Dewatering Facilities

Sludge dewatering is the operation used to reduce the moisture content of sludge. The RWQCP currently uses two belt presses and one centrifuge for the sludge dewatering process.

Dewatering belt filter presses are used to reduce the volume of material that requires off-site disposal. Polymer is first added to the sludge, and then it is introduced on a gravity drainage section, where it is allowed to thicken. Then low pressure is applied to the digested solids in between two wide belts where the solids are pressed with rollers to mechanically expel the excess water. The belts are arranged to perform the conveying pressing, and dewatering functions. The final dewatered sludge cake is removed from the belts by scraper blades. The RWQCP produces a cake of about 16 percent solids. Drying beds were previously used to further reduce the volume of sludge to a solids-content greater than 60 percent, before disposal off-site, but due to odor

problems, they are no longer in service. Currently, the dewatered solids are discharged to a truck loading facility for off-site disposal. Centrifuge thickening and dewatering is a high-speed process that uses the force from rapid rotation of a cylindrical bowl to separate wastewater solids from liquid. A high-speed centrifuge creating "G" forces in the range of 2,500 to 2,800 is producing a sludge cake of approximately 25 percent. Solids capture is better for operating centrifuge systems than belt press operations. Electrical power load per machine is substantially higher with centrifuges, but this is largely offset by the following advantages: fewer number of operating machines required with centrifuges, less foul air ventilation horsepower required since centrifuge room air does not usually need foul air treatment, and cheaper hauling costs due to a higher percentage of solids. The City currently uses one centrifuge. The City is in the process of installing two additional centrifuges that will relegate the existing belt presses to standby status.

Solids Disposal

RWQCP currently recycles biosolids at a treatment facility in Rialto. RWQCP avoids on-site solids storage to reduce odors. Fleet transportation services sends trucks to the plant daily to pick up the dewatered sludge and haul it to alfalfa and cotton farms in Arizona as soil amendment. Typically the RWQCP fills about five trailers a day, averaging about 73,000 pounds each (City of Riverside Wastewater Collection and Treatment Integrated Master Plan, 2006). In an emergency, solids are stored on the ground in the old sludge drying beds.

Solids Handling

The future solids handling would not change with the proposed project. The current method of processing the biosolids would be utilized as the project expands.

RWQCP Outfall

The RWQCP currently discharges most of the treated effluent to the Santa Ana River through an existing 60-inch outfall pipe located to the north of the plant. The proposed project does not require any upgrades or upsizing of the existing outfall as a result of the addition forecasted flows.

Hidden Valley Wetland

Constructed wetlands are a treatment process that uses natural wetland species to control nitrogen. The Hidden Valley Wetland was constructed by the City to reduce the total inorganic nitrogen (TIN) in the plant effluent prior to discharging into the Santa Ana River. Approximately 10 mgd of flow is diverted through the wetland. A total of 70 acres of wetland has been developed.

2.6 Description of Proposed Project

Implementation of the proposed project would expand the RWQCP from a current capacity of 40 mgd to 52 mgd. The main components of the proposed project shown in **Figure 2-5** would be constructed within the plant's existing footprint and would be upgraded to accommodate the future wastewater demands. The existing outfall to the Santa Ana River has the capacity to accommodate the rated capacity of 52.2 mgd under dry and wet weather conditions. **Figure 2-6** shows the proposed project buildout flow schematic. These components are analyzed herein at a project-level.

2.6.1 Phase 1 Treatment Facilities Expansion

The RWQCP expansion consists of three main components: the Plant 1 Primary Treatment Expansion, the Plant 1 Membrane Bioreactor (MBR) Facility, and the two new digesters.

The Plant 1 Primary Treatment Expansion would include construction of four new circular primaries to treat 32 mgd (approximately 75,000 square feet with supporting structures), primary effluent equalization basins for a total volume of up to 12.1 million gallons (MG) (approximately 160,000 square feet), a primary equalization pump station (approximately 10,000 square feet), a primary sludge pump station (approximately 10,000 square feet), primary sludge thickening facilities (gravity belt thickeners - approximately 10,000 square feet), and a biofilter for odor scrubbing (approximately 40,000 square feet).

The Plant 1 MBR facility would consist of a 32 mgd MBR that would be constructed around and within the existing Plant 1 secondary treatment facilities. This facility would be constructed in two phases. The first phase would treat 26 mgd and the second phase would increase capacity to treat 32 mgd. The first phase of the Plant 1 MBR facility includes installation of MBR modules and appurtenances (approximately 40,000 square feet), and installation of fine screens (approximately 10,000 square feet), the retrofit of the existing components would include the aeration basins and secondary clarifiers, upsizing the blowers (if necessary), and upsizing the waste activated sludge (WAS) pumps. The second phase would require an additional aeration basin (approximately 20 square feet). The available capacity of the existing Plant 1 secondary treatment facility, based on the master plan flow projections, is anticipated to be exceeded by 2013 for the first phase and 2020 for the second phase.

Two new digesters would be constructed (approximately 20,000 square feet) within the existing plant site as shown on Figure 2-5. The digesters would be similar in function and appearance to the existing digesters. The new structures would be approximately 35 – 40 feet tall. In addition, other support facilities including digester gas handling, storage and disposal facilities would be retrofitted and expanded. Based on the master plan flow projections, the available capacity of the existing digestion facilities is expected to be exceeded by 2012.

SOURCE: Carollo Engineers, 2008.

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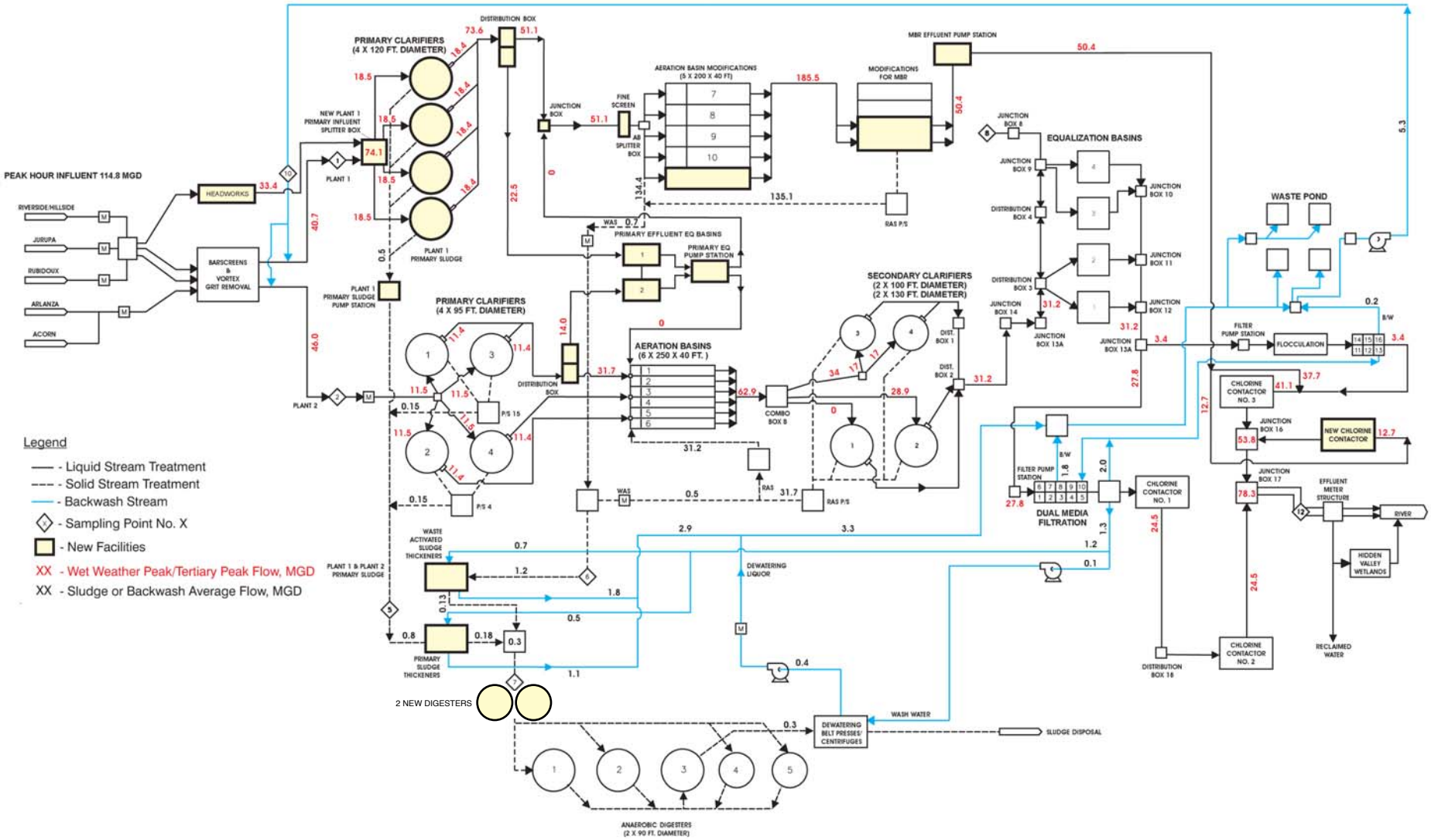
Figure 2-5
Proposed Layout for New Facilities



SOURCE: Carollo Engineers, 2009.

City of Riverside . 206047

Figure 2-6

RWQCP Buildout Flow Schematic

2.6.2 New Headworks

As part of the plant expansion, a new 15 mgd headworks facility would be constructed in the northeast portion of the RWQCP property (approximately 15,000 square feet). The available capacity of the existing headworks facility is expected to be exceeded by 2023. As a result, the upgrade to the existing headworks facility would start in the summer of 2019 and would not be completed until the middle of 2022 to meet the capacity needs. Once completed the new headworks capacity would be 52.2 mgd. Alternatively the existing headworks could be retrofited to accept the higher flow.

2.6.3 New Chlorine Contact Basin

A new chlorine contact basin (CCB) with a capacity of 8 mgd would be constructed in the southwest corner of the property (approximately 10,000 square feet). It is anticipated that the available capacity of the existing CCB would be exceeded in 2020. As a result, the upgrade to the new CCB would start in the summer of 2016 and would be completed by late 2019 to meet the capacity needs. CCB No. 2 may be expanded during Phase 1 instead of constructing a new CCB. This will allow high-quality effluent from the Plant 1 MBR to remain segregated from the lower quality Plant 2 effluent and be the priority supply for reuse customers.

2.6.4 New Waste Activated Sludge Thickening Facility

The new WAS thickening facilities would be located near the existing sludge dewatering facilities on the south end of the site (approximately 12,000 square feet). The facility would be sized to accommodate the proposed 52.2 mgd RWQCP capacity. It would replace the existing WAS thickening capacity that is supplied by Dissolved Air Flotation Thickeners (DAFTs). It is anticipated that the available capacity of the existing DAFs would be exceeded by 2027. As a result, the new WAS facility project would start in 2023 and be completed in late 2026.

2.6.5 New Plant Utilities and Support Facilities

The proposed project would include the construction of a new maintenance building (approximately 10,000 square feet) and the expansion of the existing parking lot located in the eastern portion of the project site (approximately 120 parking spaces). In addition, the proposed project would include the replacement/upgrade of the existing public address system.

As an interim measure, the existing operations building will be expanded with new office space and bathroom facilities. The old chemical building will be converted to an office space and bathroom facilities. The old chemical building will be converted to a storage warehouse temporarily until the WAS thickeners are required in 2026.

2.6.6 Collection System

The proposed project would include the rehabilitation and expansion of the City's existing collection infrastructure. The improvements would be implemented to repair aging sewers as well as provide expanded capacity in certain areas of the sewershed. Expansion and rehabilitation of the collection system would occur throughout the City over the next 20 years. Due to the uncertainty of the location, size and length of the future upgrades to the collection system the following analysis in Chapter 3.0 will only address the collection system in a programmatic fashion.

2.6.7 Other Related Projects

The Master Plan includes the addition of a 1.2 megawatt cogeneration facility to supplement the existing cogeneration and the fuel cell facilities. In addition, there may be several other projects to support the ongoing operation of the RWQCP, including: influent metering upgrades, digester gas storage and disposal upgrades, upgrades to improve RWQCP hydraulics, seismic upgrades to various structures, operation and maintenance upgrades for various plant appurtenances and upgrades to the RWQCP electrical and instrumentation systems.

2.7 Site Layout

The new Plant 1 primaries and primary sludge pumping and thickening facilities will be located in the area of abandoned Plant 1 sludge beds and the demolished trickling filters. Primary effluent equalization basins will be installed where the abandoned Plant 1 secondary clarifiers and the abandoned chlorine contactor are located. The new headworks facility will be at the location of the existing Plant 1B primaries. A biofilter for the Plant 1 and Plant 2 primaries and the new headworks will be located at the site of existing Plant 1A primaries. MBR modules will be installed in the retrofitted Plant 1 secondary clarifiers. An additional basin will be added to the Plant 1 aeration basins. A new CCB will be located on the west side of CCB3 or CCB2 will be extended for additional capacity.

New pipes and connections will be needed for the new facilities. A primary influent splitter box for the new Plant 1 primaries will be needed. Distribution boxes will be needed to divert primary effluent to the primary effluent equalization basins for both Plant 1 and Plant 2. Primary effluent equalization pumps will be used to pump the equalized stream to either Plant 1 or Plant 2 during off-peak hours. Fine screens will be installed upstream of the Plant 1 aeration basins for the MBR. A new pipe will be provided between the aeration basins and the MBR units that will be located in the retrofitted Plant 1 secondary clarifiers. The new pipe will be installed to accommodate the increased return activated sludge (RAS) flow that the MBR facility requires.

2.8 Project Construction

2.8.1 Construction Schedule

Construction of Phase I of the proposed project would occur over approximately 15 years as shown in Table 2-3. Follow-on projects and facility expansions would be constructed within an additional 10-year period. For Phase 1 Expansion, demolition, site grading, and site preparation would take approximately four months; fine grading would take approximately three months; facility construction would take approximately 26 months; and preparing the upgraded facilities for operation would take approximately three months.

The RWQCP Phase 1 expansion would begin in 2011 and would be completed in 2016. Construction of the new headworks facility would begin in the summer of 2019 and would be completed in the middle of 2022. Construction of the new CCB would begin in the summer of 2016 and would be completed in late 2019. The expansion of CCB2 would be part of the Phase 1 expansion. Construction of the new WAS thickening facilities would begin in 2023 and be completed in late 2026 (**Table 2-3**). Expansion and rehabilitation of the collection system would be required throughout the next 20 years.

TABLE 2-3
CONSTRCUTION SCHEDULE

Project Component	Project Duration in Years	Start Date	Completion Date
RWQCP Phase 1 Expansion Project Plant 1 Primary Expansion MBR - 26 mgd New digestion	5.5	Jan-11	Jul-16
24-inch Meter Control Valve	1.5	Jul-11	Dec-12
Biofilter Nos. 1 and 2 Media (Phase 1)	1.5	Jul-14	Dec-15
New Chlorine Contact Basin (Phase 1. Expansion Phase 2)	3.5	Jul-16	Dec-20
Digester Gas Storage (Phase 1)	3	Jan-11	Dec-13
42-inch Pipe Upgrade (54-inch dia. from Connecting Plant 2 Splitter Box to Aeration Basins) (Phase 1)	1.5	Jul-11	Dec-12
1.2-MW Fuel Cell (Phase 2)	4	Jan-11	Dec-12
New Boilers	1	Jan-14	Dec-14
O&M Building	1.5	Jul-14	Dec-15
Power System Projects	2	Jan-16	Dec-17
New Headworks (Phase 2)	3.5	Jan-19	Jul-22
Additional MBR Equipment – 6 mgd (Phase 2)	4	Aug-19	Jul-23
WAS Thickening Facility	3.5	Jul-23	Dec-26
Building-Headquarters for Sewer Line Maintenance	1.5	Jul-14	Dec-15

SOURCE: Carollo Engineers, 2009

2.8.2 Construction Phases and Methods

The construction of new project facilities would involve the following sequential phases.

Demolition and Site Clearing

Site clearing would require approximately 30 workers per day. Potential equipment needed for site clearing activities are shown in Table 2-4. Material cleared could include asphalt, concrete, sand, soils, and piping (e.g., PVC). Some offsite disposal of material likely would be required. The demolition debris would be hauled offsite to an appropriate landfill that accepts construction waste.

During excavation activities the proposed project may have the potential to encounter groundwater. As a result, the project would be required to obtain and comply with a construction dewatering permit from the Regional Water Quality Control Board (RWQCB). Water that is encountered during excavation activities would be treated to the standards of the RWQCB and discharged back into the RWQCP for additional processing before discharged into the Santa Ana River.

Facility Construction

The proposed project would result in construction of approximately 442,000 square feet (sq.ft.) of new facilities. This footprint for new facilities includes 305,000 sq.ft. for the Plant 1 Primary Treatment Expansion, 70,000 sq.ft. for the Plant 1 MBR facility, 20,000 sq.ft. for the new digester facilities, 15,000 sq.ft. for the new headworks facility, 10,000 sq.ft. for the CCB, 12,000 sq.ft. for the WAS thickening facilities, and 10,000 sq.ft. for the new maintenance building.

Fine Grading

Fine grading would consist of final grading, paving and landscape installation.

Start-up

Start-up would consist of making all project facilities operational, testing them, and transferring the facilities from the contractor to the City. Once the transfer of the facilities is completed then final tuning is required before the facilities will go into operation.

Collection System Construction

The collection system upgrades would be required for three different scenarios 1) installation of new sewer pipeline, 2) removal and replacement of aging sewer pipelines, and 3) rehabilitation of existing sewer pipelines. Construction methods associated with the above scenarios would require but would not be limited to excavation, trenching, jack and boring and/or directional drilling. Each method would produce excess soil and would require exportation of the fill to an approved located. In addition, each future sewer pipeline would require stock piling/ staging area to store the new pipe. The quantity of fill and the location of the stock piling and staging area will be determined on a project by project basis.

2.9 Project Operation

2.9.1 Hazardous Material

There are 40 chemicals presently used and or stored on-site. These chemicals have different hazardous classes. Of the 39 chemicals presently used on-site, two are classified as Carcinogen (CARC) (2- Propanol Reagent A.C.S, Sulfuric Acid A.C.S.), one of which is also designated in the Water-Reactive Class 1; six are classified as Corrosive (CORR), one of which is also an Oxidizer Class 1 and a Toxic; five are classified as a Compressed Gas (CGas) or Flammable Gas, and the remaining chemical used and or stored on-site do not have a classification (BEP Summary Report, 2009). Existing chemicals used on-site include sodium hypochlorite (NaOCl) and sodium bisulfite ($NaHSO_3$) among others which are considered hazardous materials by the State of California (City of Riverside Wastewater Collection and Treatment Integrated Master Plan, 2006). The following is a summary of those two chemicals used and/or stored on-site.

- **Sodium Hypochlorite** (NaOCl) is a liquid form of chlorine. NaOCl is used for disinfection purposes. NaOCl solutions are used in place of gaseous chloride, an acutely toxic chemical. NaOCl solutions are unstable and some chlorine vapor may be released in the event of a spill. Chlorine vapor production from using NaOCl is minimal and poses minimum public health risks in comparison to using pressurized gaseous chlorine. Because NaOCl degrades with time, the volume in storage must be balanced by the amount used.
- **Sodium Bisulfite** ($NaHSO_3$) is used for dechlorination prior to discharge. It is a noncombustible, corrosive liquid that is harmful if swallowed or inhaled. It may cause allergic respiratory reactions and act as an irritant to skin, eyes, and the respiratory tract. $NaHSO_3$ is moderately reactive and releases toxic sulfur dioxide gas if it comes in contact with acids or water. $NaHSO_3$ strength diminishes somewhat with age and will gradually decompose in air to sulfate, generating sulfurous acid gas.

Hazardous waste generated on-site also includes a minimal amount of volatile organic chemicals from cleaners and paints. Disposal of all hazardous materials requires compliance with applicable California hazardous waste disposal laws. The current facility maintains a Hazardous Materials Business Emergency Plan/ Emergency Procedures in the event of an injury and/or accidental release of hazardous materials (BEP Summary Report, 2009)

2.9.2 Energy Consumption

Operation of the proposed project would result in an increase in energy consumption at the RWQCP. The difference between existing and future proposed energy use is determined largely by the construction of the new facilities. Energy consumption at the existing RWQCP is approximately 2,456 kilowatts (kW). The additional energy uses for the upgraded facilities are shown in **Table 2-5**. Total energy consumption would range from 5.2 to 5.9 MW (2.5 MW existing and 3.4 MW additional). The existing cogeneration facilities including the fuel cell would generate up to approximately 3.2 MW.

TABLE 2-5
FUTURE ENERGY USES OF UPGRADED FACILITIES

Facility	Additional Energy (kW)	Year of Energy Increase
Primary Headworks	186	2023
Primary Clarifier, Primary EQ, MBR, and Sludge Thickening	1,955 3,047[a]	2013 2025
New Digesters	186	2013
Disinfection	8	2020
WAS Thickeners	34	2027
TOTAL	3,431	2027

[a] Includes the 1955 KW shown for the year 2013

SOURCE: Carollo Engineers, 2008

The proposed project would increase energy production from the existing cogeneration facilities as additional gas is produced. However, the increased treatment processes will require more power than can be generated by the gas produced at the plant. As a result, up to 2.7 MW of the additional power needed beyond what the cogeneration facilities can produce would be supplied from the grid.

2.10 Maximum Buildout Scenario

This EIR also evaluates potential impacts associated with the Maximum Buildout Scenario identified in the City of Riverside General Plan. Under the Maximum Buildout Scenario, similar treatment facilities would be constructed but with a larger capacity of 55.2 mgd. Construction methods and durations would be similar to the proposed project. The additional 3 mgd capacity provided by the Maximum Buildout Scenario would not increase the footprint size of the proposed facilities substantially. Facilities would be designed within the existing footprint of the plant, with minor increases in square feet.

Operations of the RWQCP under the Maximum Buildout Scenario would be similar to the proposed project. The quantities of chemicals delivered and stored on site would be similar initially until the inflows increased beyond 52.2 mgd. The additional capacity provided by the 55.2 mgd facilities would slightly increase chemical use once the 52.2 mgd inflow was exceeded. Similarly, energy usage would be slightly greater once the 52.2 mgd capacity was exceeded.

2.11 Maximum with PRD Buildout Scenario

This EIR also evaluates potential impacts associated with the Maximum with PRD Buildout Scenario identified in the City of Riverside General Plan. Under the Maximum with PRD Buildout Scenario, similar treatment facilities would be constructed but with a larger capacity of

63.9 mgd, 22 percent larger than the proposed project. Construction methods would be similar to the proposed project. Due to the increased capacity requirements, additional space would be needed to accommodate the facilities. The new facilities would be located within the existing RWQCP property within areas of the property currently used for treatment facilities and drying beds. There is sufficient space within the existing footprint to construct treatment facilities needed to accommodate 63.9 mgd.[3] **Figure 2-7** identifies areas within the existing footprint that could be developed with additional treatment facilities if needed.

Operations of the new facilities would be similar to the proposed project. The quantities of chemicals delivered and stored on site would be similar initially until the inflows increased beyond 52.2 mgd. The additional capacity provided by the 63.9 mgd facilities would increase chemical use by up to 22 percent. Similarly, energy usage would be greater once the 52.2 mgd capacity was exceeded.

2.12 Project Approvals

The City of Riverside intends to use this PEIR to consider implementation of the proposed project. As Lead Agency, the City may also use this PEIR to approve the proposed project, make Findings regarding identified impacts, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts. If the proposed project is approved on the basis of this analysis, the City would use the analysis contained within this PEIR to support the acquisition of the following regulatory permits or approvals:

- Environmental Protection Agency: National Pollutant Discharge Elimination System Permit.
- Regional Water Quality Control Board: Waste Discharge Requirements.
- Regional Water Quality Control Board: Storm Water Pollution Prevention Plan.
- Regional Water Quality Control Board: Dewatering Permit.
- South Coast Air Quality Management District: Title V Permit.

2.13 Cumulative Projects

Cumulative impacts refer to the combined effect of project impacts with the impacts of other past, present and reasonably foreseeable future projects. Both CEQA and the *CEQA Guidelines* require that cumulative impacts be analyzed in an EIR. As set forth in the *CEQA Guidelines* Section 15130(b), *"the discussion of cumulative impacts shall reflect the severity of the impacts, and their likelihood of occurrence, but the discussion need not be provided as great detailed as is provided for effects attributable to the project alone."*

[3] The RWQCP property is approximately 100 acres. The Orange County Sanitation District Treatment Plant No. 2 is located on approximately 100 acres and has a capacity of over 100 mgd. The Hyperion Plant operated by the City of Los Angeles is approximately 170 acres with a capacity of 450 mgd.

SOURCE: Carollo Engineers, 2010.

City of Riverside . 206047

Figure 2-7
Additional Construction Areas for
Maximum with PRD Buildout Scenario

According to Section 15355 of the *CEQA Guidelines*:

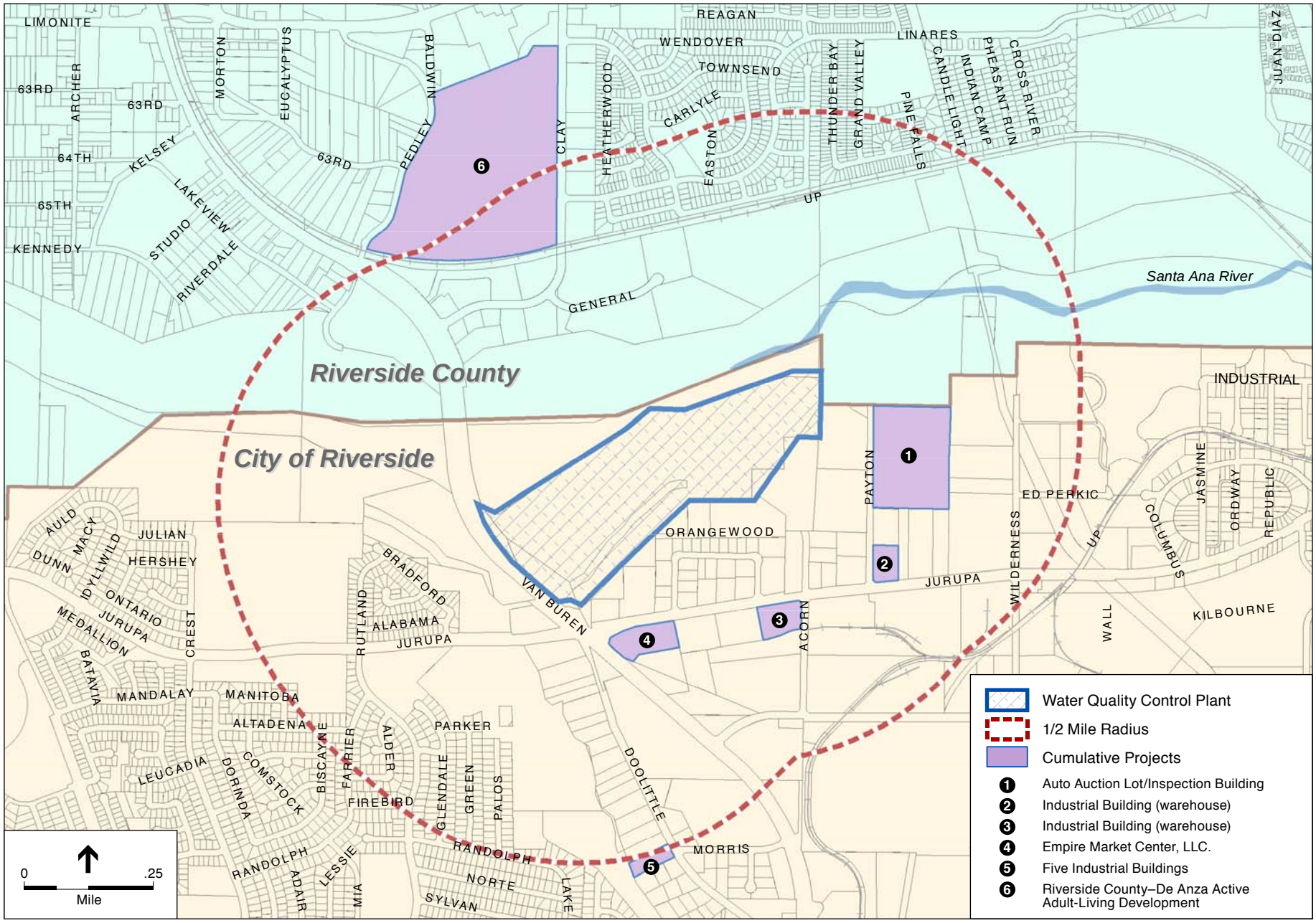
> *"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*
>
> *a) The individual effects may be changes resulting from a single project or a number of separate projects.*
>
> *b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

Therefore, the cumulative discussion in this PEIR focuses on whether the impacts of the proposed project are cumulatively considerable within the context of impacts caused by other past, present, or reasonably foreseeable future projects. Cumulative impact discussions for each issue area are provided in the technical analysis contained within Chapter 3, Sections3.1 through 3.11. **Table 2-6** provides a list of the related projects that are considered in this cumulative environmental analysis, and is comprised of development projects that are planned or reasonably foreseeable in the proposed project area, which also may be in various stages of the application and approval process, but are not yet operational. The locations of the cumulative projects are provided in **Figure 2-8.**

TABLE 2-6
CUMULATIVE PROJECT LIST

#	Case Number	Description
1	P07-1194	Auto Auction Lot/Inspection Building – 27,267 square feet
	P07-0751 (CUP, DR)	
2	P07-0522 (DR)	Industrial Building (warehouse) – 90,000 square feet
3	P06-1530 (DR)	Industrial Building (warehouse) – 57,969 square feet
4	P06-1102 (DR)	Empire Market Center, LLC. – 5 Industrial Buildings-totaling 61,600 square feet
5	P07-0664	5 Industrial Buildings totaling 89,000 square feet
	P07-0665 (DR, PM)	
6	DEIR No.505	Riverside County – De Anza Active Adult-Living Development
	GPA No.779	• 271 Residential Lots
	CZ No.7276	– 79 Single-Family Residential Units
	Tent. TM No.34112	– 85 Detached Cluster Units
	Tent. TM No.34263	– 107 Detached Alley-Loaded Units
	PP No. 23214	• Light Industrial Building totaling 105,000 square feet (on approximately 8 acres)

SOURCE: City of Riverside, 2009



SOURCE: City of Riverside, 2009.

City of Riverside . 206047

Figure 2-8
Cumulative Projects Map

References – Project Description

Albert A. Webb Associates. *City of Riverside General Plan and Supporting Documents EIR*, November 2007.

BEP Summary Report for the Riverside Sewage Treatment Facility, given to ESA in a response to a Data Request, February, 2009.

Carollo Engineers. *City of Riverside Wastewater Collection and Treatment Facilities Integrated Master Plan*, February 2008.

City of Riverside, *General Plan 2025*, 2007.

CHAPTER 3

Environmental Setting, Impacts, and Mitigation Measures

This Draft PEIR is prepared in accordance with CEQA to evaluate the potential environmental impacts associated with the construction of the proposed expansion of the Regional Water Quality Control Plant (RWQCP) (State Clearinghouse No. 2009041054). This document is prepared in conformance with CEQA (California Public Resources Code, § 21000 et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, § 5000 et seq.), and City rules and regulations. This Draft PEIR is intended to serve as an informational document for the public agency decision-makers and the public regarding the City of Riverside RWQCP Master Plan Project.

Scope of the Environmental Impacts Analysis

The potential environmental effects from the proposed project are analyzed in accordance with Appendix G of the CEQA Guidelines. Based on the analysis contained in the Initial Study prepared for the proposed project (April 2009) and from the comments received on the Notice of Preparation (NOP), the proposed project was determined to have a potentially significant effect on the following environmental issues areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils and Seismicity
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise
- Transportation/Traffic
- Utilities

Format of the Environmental Analysis

Environmental Setting

According to Section 15125 of the *CEQA Guidelines*, an EIR must include a description of the existing physical environmental conditions in the vicinity of the proposed project to provide the "baseline condition" against which project-related impacts are compared. Normally, the baseline

condition is the physical condition that exists when the NOP is published. The NOP for the proposed project was published in April 2009 (Appendix A).

Regulatory Framework

The Regulatory Framework provides a summary of regulations, plans, policies, and laws that are relevant to each issue area at the federal, state, and local levels.

Impacts and Mitigation

The "Project Impacts and Mitigation" subsection describes the potential environmental impacts of the proposed project and, based upon the thresholds of significance, concludes whether the environmental impacts would be considered significant, potentially significant, or less than significant. Each resource that is analyzed is divided into issues, based on potential impacts. Each issue is addressed in its own subsection. For each issue, applicable thresholds of significance are identified and potential impacts are discussed in the impact analysis section for the proposed project, the Maximum Buildout Scenario, the Maximum with PRD Buildout Scenario, and for the collection system upgrade. Mitigation measures are also included and discussed when applicable.

Methodology

The methodology subsection provides a thought process or plan on how the analyses for the specific environmental impacts are determined.

Significance Criteria

Significance criteria are used to determine whether potential environmental effects are significant. The criteria used in this analysis were primarily based upon Appendix G of the *CEQA Guidelines*. However, in some cases, thresholds were developed specifically for this analysis and certain thresholds are established in the City's General Plan. This subsection defines the type, amount, and/or extent of impact that would be considered a significant adverse change in the environment. Some criteria, such as air quality, traffic, and noise, are quantitative, while others, such as aesthetics, are qualitative. The thresholds of significance are intended to assist the reader in understanding how and why the EIR reaches a conclusion that an impact is significant, potentially significant, or less than significant.

Impact Assessment

The analysis of environmental impacts considers both the construction and operational phases associated with implementation of the proposed project. As required by Section 15126.2(a) of the *CEQA Guidelines*, direct, indirect, short-term, and long-term impacts are addressed, as appropriate, for the environmental issue area being analyzed.

The EIR utilizes the following terms to describe the level of significance of impacts identified during the course of the environmental analysis:

- **Less than Significant**: "Less than significant" is used for referring to two conditions: 1) This term is used to refer to impacts resulting from implementation of the proposed project that are not likely to exceed the defined thresholds of significance; and 2) This term is also used in considering potentially significant impacts after implementation of mitigation measures. If implementation of the specified mitigation measures will reduce the potentially significant impact to a level that does not exceed the defined thresholds of significance, the impact is considered less than significant.

- **Potentially Significant**: Impacts resulting from implementation of the proposed project that may exceed defined thresholds of significance before mitigation is considered are referred to as potentially significant.

- **Significant and Unavoidable**: Significant impacts resulting from implementation of the proposed project that cannot be eliminated or reduced to below thresholds of significance and a less than significant level through implementation of feasible mitigation measures are referred to as significant and unavoidable.

A "significant effect" is defined by Section 15382 of the *CEQA Guidelines* as "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. An economic or social change by itself shall not be considered a significant effect on the environment…[but] may be considered in determining whether the physical change is significant."

Mitigation Measures

Section 15126.4 of the *CEQA Guidelines* requires an EIR to "describe feasible measures which could minimize significant adverse impacts." The CEQA guidelines define feasibility as capable of being accomplished in a successful manner within a reasonable period of time taking into account economic, legal, social, technological, or other considerations. The Mitigation Measures subsection discusses mitigation measures that could reduce the severity of impacts identified in the Impact Analysis section.

Cumulative Impacts

CEQA requires that EIRs discuss cumulative impacts, in addition to project impacts. In accordance with CEQA, the discussion of cumulative impacts must reflect the severity of the impacts and the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. Further, the discussion is guided by the standards of practicality and reasonableness. According to Section 15355 of the CEQA Guidelines:

> "Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

(a) The individual effects may be changed resulting from a single project or a number of separate projects.

(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Section 15130(a) of the CEQA Guidelines further states that a "cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts."

Section 15130(a) of the CEQA Guidelines requires that EIRs discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Therefore, the discussion of cumulative impacts in an EIR evaluates whether the impacts of the project will be significant when considered in combination with past, present and future reasonably foreseeable projects, and whether the project would make a cumulatively considerable contribution to those impacts. CEQA recognizes that the analysis of cumulative impacts need not be as detailed as the analysis of project-related impacts, but instead should "be guided by the standards of practicality and reasonableness." CEQA Guidelines indicate that where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, it need not consider the effect significant but shall briefly describe the basis for its conclusion. As further clarified by Section 15065 of the CEQA Guidelines, "cumulative considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. The CEQA guidelines allow for the project's contribution to be rendered less than cumulatively considerable with implementation of mitigation.

The geographic scope of the cumulative impact analysis varies depending upon the specific environmental issue area being analyzed. **Table 3-1** summarizes the geographic scope of the analyses for the major cumulative issues analyzed in the following sections. The geographic scope defines the geographic area within which projects may contribute to a specific cumulative impact. Therefore, past, present, and future reasonably foreseeable projects within the defined geographic area for a given cumulative issue must be considered.

CEQA Guidelines Section 15130(b) presents two possible approaches for considering past, present, and future reasonably foreseeable projects. It indicates that either of the following could be used:

- A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

TABLE 3-1
GEOGRAPHIC SCOPE OF CUMULATIVE IMPACT ANALYSES

Environmental Issue	Geographic Scope of Cumulative Impact Analyses
Aesthetic	Immediate vicinity of view corridors or viewsheds.
Air Quality	Riverside region or the airshed for reactive air pollutants and surrounding vicinity for non-reactive or less reactive pollutants.
Biological Resources	Varies depending on species or habitat. Geographic scope can be the entire area that the species or habitat is known to occur or the Riverside region.
Cultural Resources/ Paleontological Resources	Varies depending on type of resource with potential to be impacted. Geographic scope can be the entire area within which the resource has potential to occur.
Geology and Soils	Limited to the immediate area of the geologic constraint with the exception of some geologic impacts that are regional, such as earthquake risk.
Hazards/Hazardous Materials	RWQCP, surrounding communities, and affected roadways from haul routes.
Hydrology/Water Quality	Drainage basin, watershed, or water body, depending on where the potential impact is located and its tributary area.
Land Use	Adjacent communities and applicable land use planning areas.
Noise	RWQCP, adjacent communities, and affected roadways.
Transportation/Traffic	RWQCP, surrounding communities, and affected roadways.
Utilities and Services	Extent of area served by public services affected, e.g., the City of Riverside.

References

This section identifies sources relied upon for each environmental topic area analyzed in this document (Sections 3.1 through 3.11). A complete list of references is available in Chapter 6.

3.1 Aesthetics

This section analyzes potential impacts to aesthetics that would result from implementing the proposed project. This section includes a description of the visual setting of the project site and evaluates the potential for changes in the visual character with implementation of the proposed project. This analysis provides information on the character of the existing visual landscape, the locations and types of public views that include the project site, and the potential visibility of the project from these public viewing locations. This section incorporates information and analyses from the City of Riverside General Plan 2025 (City of Riverside, 2007), and the Final Environmental Impact Report for the City of Riverside General Plan 2025 (Albert A. Webb Associates, 2007).

This section also includes a program-level analysis of potential impacts to aesthetics that would result from implementing the General Plan 2025 Maximum Buildout Scenario (Maximum) and Maximum with Planned Residential Development Buildout Scenario (Maximum with PRD). It is anticipated that these scenarios would be constructed within the existing Regional Water Quality Control Plant's (RWQCP) property site and that no new property would be required. In addition, this EIR will analyze the future collection system upgrade which would include new sewer lines, replacement sewer lines due to age and/or potential failure, and rehabilitation of existing sewer lines that would be required to accommodate the anticipated increase in sewer volume flow.

3.1.1 Environmental Setting

Scenic Vistas and Roadways, Visual Resources, and Visual Character

Although the majority of the City is urbanized, the hills and ridgelines that surround the City provide scenic vistas to residents from where they can experience long distance views of natural terrain. Vista points can be found throughout the City, both as viewed from urban areas toward the hills and from wilderness areas toward Riverside. The most notable scenic vistas in the City include the La Sierra/Norco Hills, Sycamore Canyon Wilderness Park, and Box Springs Mountain Regional Park. The peaks of Box Springs Mountain, Mt. Rubidoux, Arlington Mountain, Alessandro Heights and the La Sierra/Norco Hills provide scenic views of the City and the region.

A prominent scenic resource in the City is the Santa Ana River watercourse and riverbed, extending along the City's northern edge and adjacent to the project site. The Santa Ana River is a place of significant natural habitat for many species of birds and other animals, as well as being a prominent visual landmark for visitors and residents.

The City's General Plan has designated several streets as scenic parkways in the General Plan. These streets include: Arlington Avenue, Canyon Crest Drive, Van Buren Boulevard, Overlook Parkway, La Sierra Avenue, Central Avenue, Riverwalk Parkway, Ransom Avenue, Magnolia Avenue, Mission Grove Parkway, Alessandro Boulevard, Victoria Avenue, Trautwein Road, Mission Inn Avenue, Mt. Vernon Avenue, Palmyrita Avenue, Columbia Avenue, Marlborough

Avenue, Canyon Crest Drive, Magnolia Avenue, Ransom Road, Victoria Avenue, and University Avenue. **Figure 3.1-1** shows the locations of the City's scenic parkways. There are no state scenic highways in the vicinity of the project site (City of Riverside, 2007).

The project site is located in the north-western portion of the City (see Figure 2-1) The project site is bound to the north by the Santa Ana River, to west by Van Buren Avenue, to the south by the Airport Business Park, and on the east side by Acorn Street.

Views of the Project Site

Visual sensitivity can be described as viewer awareness of visual changes in the environment and is based on viewers' activities from public areas near a particular site, in this case, the project site. Sensitivity is based on the overall visual character and visibility of the existing project site. To define the visual quality of the project site, important views that include the project site have been identified as key vantage points (KVP). These KVPs are typically public viewing areas, and include a variety of locations in the project vicinity including public roadways.

In order to depict representative existing views and the aesthetic character of the project site, photographs were taken of the project site from several KVPs within the City. The representative KVPs include foreground views (0 to 500 meters), midground views (500 to 2,000 meters), and background views (greater than 2,000 meters) views from several locations. **Figure 3.1-2** is a photograph location map showing the location of the KVPs. Each KVP is discussed below with a narrative description of the view. **Figure 3.1-3** through **Figure 3.1-7** shows the KVPs:

> **KVP #1:** This KVP provides a view towards the project site from a southbound moving vehicle on Van Buren Boulevard. The site is obscured by riparian vegetation that is growing within the Santa Ana River Channel.
>
> **KVP#2:** This KVP provides a view to the southeast towards the project site from the corner of Van Buren Boulevard and Clay Street. The topography at this KVP blocks direct views of the site.
>
> **KVP#3:** This KVP provides a view to the south towards the project site from Clay Street. The foreground and midground view is of an undeveloped lot across the Street from a U-Haul rental yard on Clay Street. In the background the tops of the backwash storage tanks can be seen in this KVP.
>
> **KVP#4:** This KVP provides a view to the southwest towards the project site from General Drive. The foreground is an undeveloped lot adjacent to General Drive, the midground contains dense Santa Ana River riparian vegetation and in the background the existing tertiary filters, backwash storage tanks and a chemical building can be seen.
>
> **KVP #5:** This KVP provides a southwest view across the undeveloped lot adjacent to General Drive. In the foreground is an undeveloped lot and in the midground is the riparian corridor of the Santa Ana River. In the background the eastern boundary of the RWQCP and the outdoor storage area adjacent to Van Buren Boulevard can be seen.

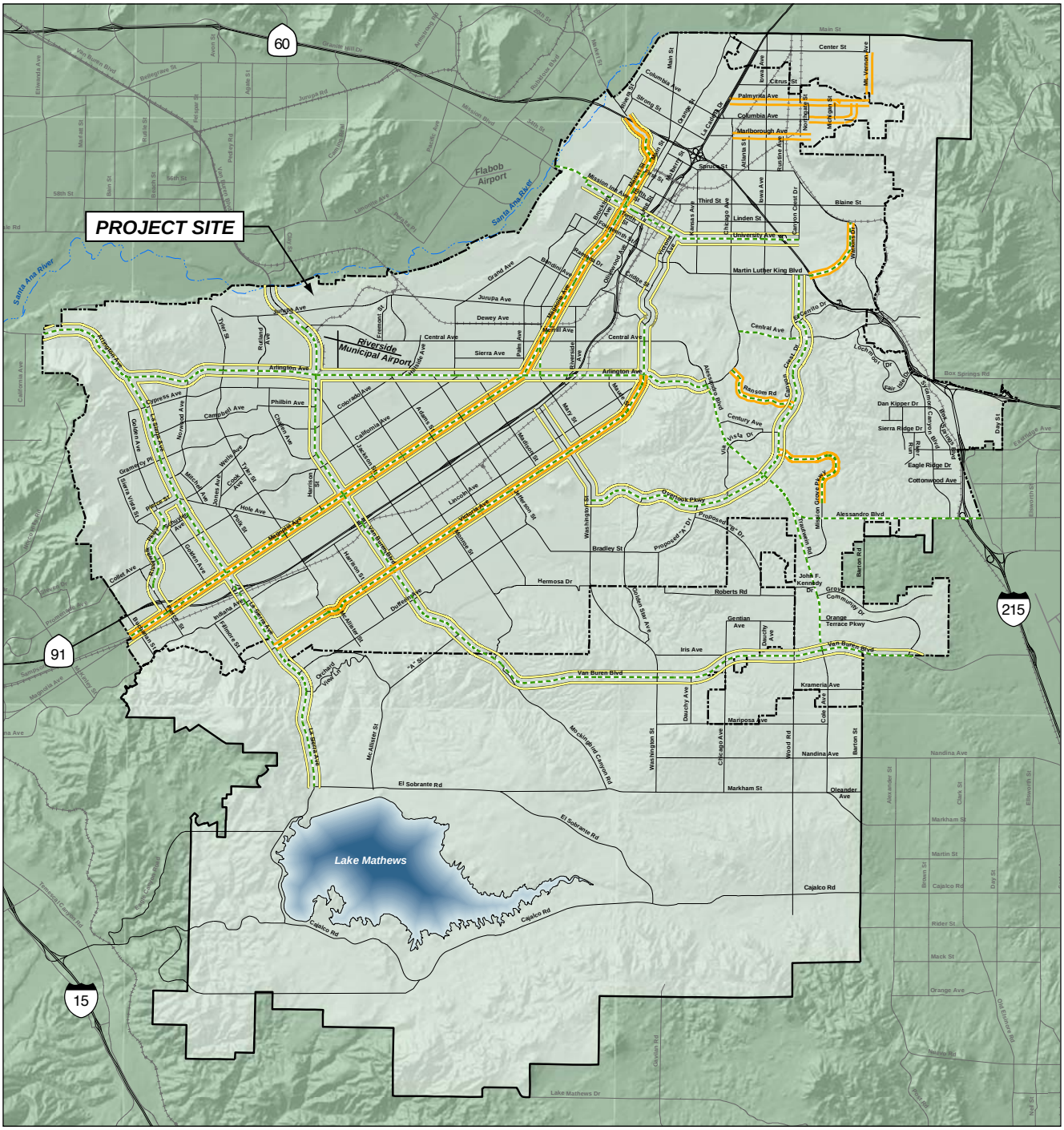
KVP#6: This KVP provides a view towards the project site from the publicly accessible Santa Ana River Trail that is on the north side of the river. Views of the site are visible but obscured by riparian vegetation and topography.

KVP#7: This KVP provides a view towards the project site from the Santa Ana River Trail. In the foreground is the floodplain of the Santa Ana River. Existing structures at the project site can be seen through the vegetation.

KVP#8: This KVP provides a view looking north along Acorn Street from the corner of Acorn Street and Jurupa Avenue. A new commercial building that fronts Jurupa Avenue is visible on the left side of the picture. No RWQCP structures are visible from this KVP due to the topography.

KVP#9: This KVP provides a view looking west from Payton Avenue. In the foreground and midground view is the City's Public Utilities Acorn Street Facility. In the background is the RWQCP Administration Building and biofilter and headwork facility can be seen.

KVP#10: This KVP provides a view looking north onto the west end of the RWQCP's abandoned sludge drying beds. The fence indicates the property boundary.



Scenic Boulevard

Special Boulevard

Parkways

Riverside City Boundary

Riverside Sphere of Influence

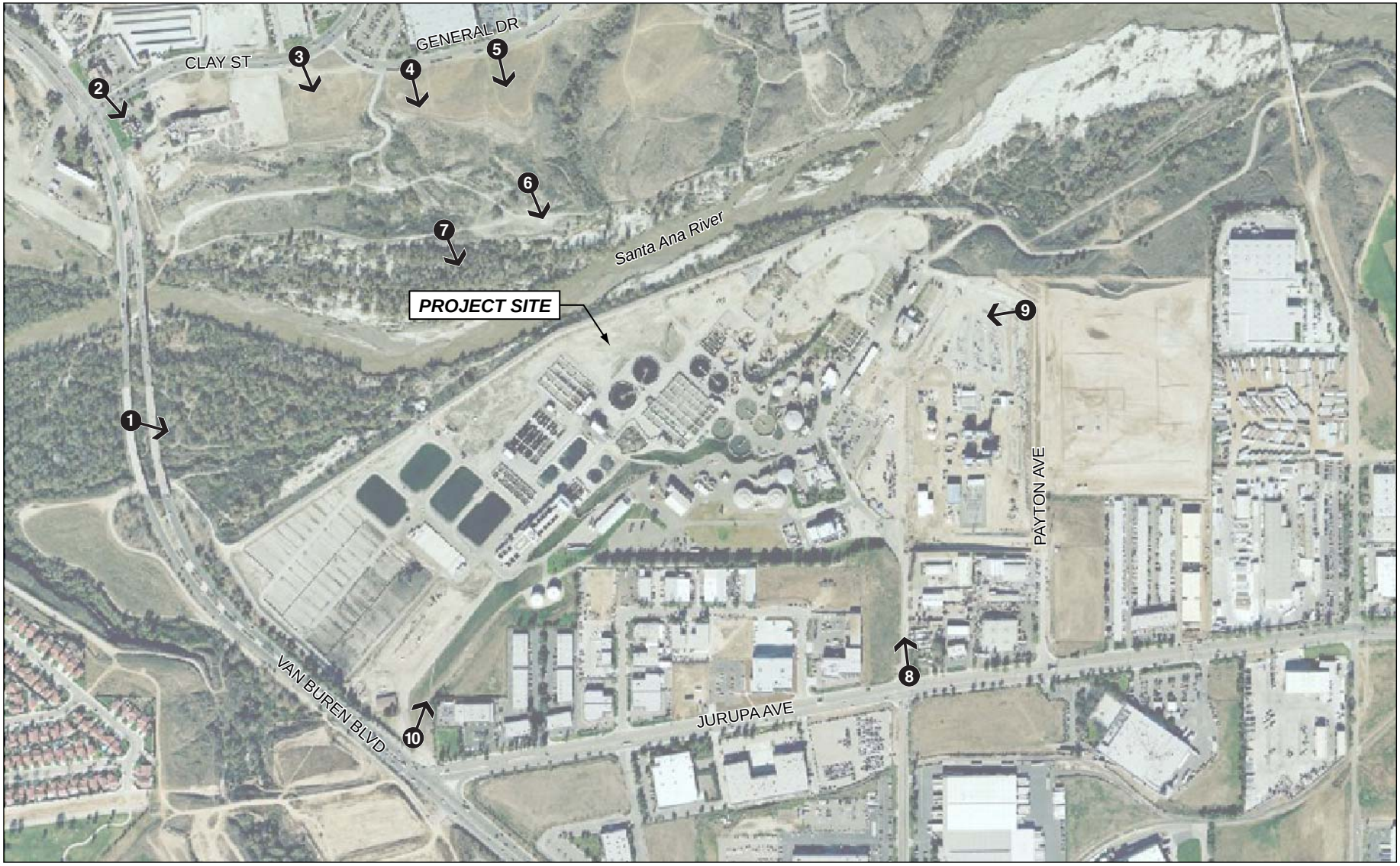
0 2 Miles

SOURCE: *City of Riverside General Plan 2025*, 2008

City of Riverside . 206047

Figure 3.1-1

Scenic and Special Boulevards And Parkways



0 500 Feet

Key Vantage Point Location

SOURCE: ESA, 2008

City of Riverside . 206047

Figure 3.1-2

Key Vantage Point (KVP) Locations

KVP 1: View looking east towards the project site from southbound lane of Van Buren Boulevard as it crosses the Santa Ana River.

KVP 2: View looking southeast towards the project site from the corner of Van Buren Boulevard and Clay Street.

City of Riverside . 206047

SOURCE: ESA, 2008

Figure 3.1-3
Key Vantage Points 1 and 2

KVP 3: View looking south towards the project site across an empty lot on Clay Street.

KVP 4: View looking southeast towards the project site across an undeveloped lot on General Drive.

SOURCE: ESA, 2008

City of Riverside . 206047

Figure 3.1-4

Key Vantage Points 3 and 4

KVP 5: View looking southeast towards the project site across an undeveloped lot on General Drive.

KVP 6: View looking southeast towards the project site looking over the floodplain of the Santa Ana River Channel.

SOURCE: ESA, 2008

City of Riverside . 206047

Figure 3.1-5

Key Vantage Points 5 and 6

KVP 7: View looking south towards the project site across the north side of the Santa Ana River from the Santa Ana River Trail.

KVP 8: View looking north towards the entrance of the RWQCP from the center of Acorn Street and Jurupa Avenue.

SOURCE: ESA, 2008

City of Riverside . 206047

Figure 3.1-6

Key Vantage Points 7 and 8

KVP 9: View looking west at the end of Payton Avenue, across the City of Riverside Public Utilities Acorn Facility.

KVP 10: View looking north onto the project site from the property corner near Van Buren Boulevard and Jurupa Avenue.

SOURCE: ESA, 2008

City of Riverside . 206047

Figure 3.1-7

Key Vantage Points 9 and 10

3.1.2 Regulatory Framework

State Regulations

State Scenic Highway Program

The State Scenic Highway Program, created by the California Legislature in 1963, was established to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. A highway is designated as scenic under this program when a local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation (Caltrans) for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a scenic highway. When a city or county nominates an eligible scenic highway for official designation, it defines the scenic corridor, which is land generally adjacent to and visible to a motorist on the highway

Local Regulations

City of Riverside General Plan 2025

The Open Space and Conservation Element contains goals, recommendations, objectives, guidelines, and standards for the management of visual resources. The following objectives pertaining to the protection of scenic resources may be relevant to the proposed project.

Open Space and Conservation Element – Overarching Objectives

Policy OS-2.2: Limit the extent and intensity of uses and development in areas of unstable terrain, steep terrain, scenic vistas, arroyos and other critical environmental areas.

Policy OS-2.3: Control the grading of land, pursuant to the City's Grading Code, to minimize the potential for erosion, landsliding, and other forms of land failure, as well as to limit the potential negative aesthetic impact of excessive modification of natural landforms.

Policy OS-2.5: Review the feasibility of creating a “night-time sky” ordinance to reduce light pollution.

County of Riverside Ordinance Number 655: Regulating Light Pollution

In 1988, the County of Riverside adopted Ordinance No. 655 for the purpose of regulating light pollution. Ordinance No. 655 establishes standards to limit light leakage in order to reduce interference with nighttime astronomical observation and research conducted at the Mount Palomar Observatory. Ordinance No. 655 established two zones based on radial distance from the Mount Palomar Observatory, which is located in northern San Diego County. Zone A is defined as a circular area within a 15-mile radius of the observatory. Zone B includes a circular ring area defined by two circles, one 45 miles in radius centered on Palomar Observatory, and the other the perimeter of Zone A. The project site is not located within the Mount Palomar Observation Night Lighting Policy Area and as such, is not subject to Riverside County Ordinance No. 655.

County of Riverside Multiple Species Habitat Conservation Plan

Section 6.1.4 of the Multiple Species Habitat Conservation Plan (MSHCP), *Guidelines Pertaining to the Urban/Wildlife Interface*, states that "Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated in project designs to ensure that ambient lighting in the MSHCP Conservation Area is not increased." The proposed project site is located within the Western Riverside County MSHCP Conservation Area.

3.1.3 Thresholds of Significance

For the purposes of this EIR, and taking guidance from Appendix G of the CEQA Guidelines, significant impacts to visual quality or character may occur if the proposed project or build out scenarios would:

- have a substantial adverse effect on a scenic vista;
- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Methodology

Aesthetic resources are generally defined as both natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Aesthetic impacts are determined through a comparison to existing characteristics of an area. This section addresses the visual condition of the project site and its vicinity and the potential for the project to adversely affect those conditions. The analysis focuses on the visual character of the project site and selected views from the surrounding areas. Depending on the extent to which a project's presence would significantly alter the perceived visual character and quality of the environment, aesthetic impacts may occur. The following analysis is based upon a field assessment by ESA staff on January 23, 2008, research of the City's documents and records, review of project applicant materials, and analysis of the site photo documentation.

3.1.4 Environmental Impact Assessment

Scenic Vistas

Impact 3.1-1: The project may have a substantial adverse effect on a scenic vista. (Less than Significant)

Proposed Project

The proposed project would result in the construction of new facilities within the existing RWQCP site. Currently, there are no designated scenic vistas located within the vicinity of the proposed project (General Plan 2025). All new and upgraded treatment facilities would be located within the existing RWQCP site. The new facilities would either replace existing outdated

components and/or be constructed in close proximity to the existing plant components. The two new digesters would be 35 – 40 feet in height, similar to the existing digesters. Once constructed, the proposed project would have a very similar visual makeup as the existing plant. However, the proposed new facilities as well as construction equipment would be visible from Van Buren Boulevard, which is a City-designated scenic roadway (Figures 3.1-1 and 3.1-3). Viewing the proposed project from the northbound lane requires motorists to turn their heads 90 degrees from the driving direction in order to view the project site. Furthermore, the line of sight is obstructed by existing vegetation and topography. Similar to the northbound views, the southbound view also requires motorists to turn their heads approximately 90 degrees from the driving direction. The view from the southbound lane is partially screened by existing vegetation growing up between the lanes of the bridge as shown in KVP# 1 (see Figure 3.1-3). The project site is visible for several seconds before a combination of the existing vegetation, topography and the direction of travel and speed of vehicles traveling across the bridge obscures the view.

Demolition, construction and staging activities would occur intermittently (as described in the construction schedule in Chapter 2.0, Project Description). Various components on the site would be constructed through 2026, as needed. However, construction and staging activities on the project site would be obscured from view by motorists on Van Buren Boulevard in the same manner as the project facilities, as described above. Visual impacts associated with construction and operation of the proposed project would result in a less than significant impact to scenic vistas.

Significance: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario, the projected population would generate approximately 55.2 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario the new facilities would require a larger operational footprint and would likely be larger in size, in general, than the proposed project. The Maximum project would be larger than the proposed project. However, as with the proposed project, all components associated with the main RWQCP would be constructed within the existing RWQCP site. As described for the proposed project, above, the line of sight from the closest city-designated scenic roadway, Van Buren Boulevard, is obstructed and/or is visible for a brief moment while driving. It is expected that the larger facility that would be constructed under this scenario would not be substantially more visible from the roadway as compared to the proposed project. In addition, views of the site would continue to be the same type of use and, therefore, of similar facilities. As a result, the Maximum scenario would result in a less than significant impact.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, the projected population would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the project would require a larger operational footprint than both the proposed project and the Maximum scenario most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility. As described in the two scenarios above, the line of sight from the closest designated scenic roadway, Van Buren Boulevard, is obstructed and/or would be visible for a brief moment while driving. As a result, the Maximum with PRD Buildout Scenario would result in a less than significant impact.

Significance: Less than significant

Collection System

Construction activities associated with future upgrades to the existing sewer collection system could occur throughout the RWQCP's service area. At this time, not all of the pipelines and/or pump stations that require upgrades are known. Specific locations for construction activities and staging areas are not known at this time. The collection system could occur in any portion of the City and surrounding sphere-of-influence, including in or within the viewshed of areas that have been designated as scenic vistas. However, pipeline and or pump station construction activities could involve establishing construction staging areas; storing excavated material and debris; installing temporary fences, sanitary facilities, and possibly other appurtenant structures; grading; and other activities. Pipes and other materials may be temporarily stored along the construction routes. These activities would involve a temporary reduction in visual resource values in construction areas and could also result in increased dust and visible particulate matter in the air, and increased light and glare from lighting for security and evening construction work. Upon completion of construction, equipment and materials would be removed, storage and construction areas would be returned to their preconstruction condition, and construction related dust, lights, and glare would no longer occur. Therefore, construction impacts would be temporary in nature and once constructed, the underground sewers would result in a less than significant impact.

Visual Character

Impact 3.1-2: The project may substantially degrade the existing visual character or quality of the site and its surroundings. (Less than Significant)

Proposed Project

The proposed project would occur on the existing RWQCP site, which contains a wastewater treatment facility and associated structures. The new facilities would either replace existing components and/or would be built in close proximity to the existing components. Views of the

RWQCP site from Clay Street to the North and Jurupa Avenue to the south are shielded by existing development and by the elevation difference. The new facilities would be similar in aesthetic appearance and height to the existing facility and therefore would not substantially degrade the existing visual character or quality of the site.

Furthermore, land to the south of the RWQCP is designated as Industrial by the City's General Plan and currently contains the Airport Business Park commercial properties. Land to the north, across the Santa Ana River and atop the historic river terrace is designated as Heavy Industrial by the County of Riverside General Plan and currently contains warehouses. Land immediately to the east of the proposed project site is designated as Public Facility by the City's General Plan and currently contains the City's Public Utility Acorn Street Facility. Land to the west of the RWQCP site, across Van Buren Boulevard and north of Jurupa Avenue is designated as Open Space by the City's General Plan and currently contains the Santa Ana River. The expansion of the RWQCP would be completely consistent with the General Plan 2025 land use designations of the area. New facilities constructed within the RWQCP would be consistent and compatible with the existing land uses on the site and would not degrade the visual character of surroundings areas. Therefore, impacts would be less than significant.

Significance: Less than significant

Maximum Buildout Scenario

Expansion of the RWQCP to accommodate the estimated 55.2 mgd of wastewater would occur on the same property as the proposed project. New facilities constructed under this scenario would require a larger operational footprint and would likely be larger in size, in general, than the proposed project, resulting in an increased density of the project site and modification of the site's existing visual character. However, the site currently contains treatment facilities and the surrounding land uses are zoned for industrial and commercial uses and would be consistent with the General Plan 2025. Furthermore, the new facilities would be similar in aesthetic appearance to the existing facility and therefore would not substantially degrade the existing visual character or quality of the site. Therefore, impacts would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Expansion of the RWQCP to accommodate the estimated 63.9 mgd of wastewater would occur on the same piece of property as the proposed project. This expansion scenario would require larger additional facilities to accommodate the 63.9 mgd capacity, most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility. The project would be consistent with the current industrial use designated for the RWQCP site, which currently contains a treatment facility. Furthermore, the surrounding land uses are designated for industrial and commercial uses and the expansion of the project under this scenario would be consistent with the General Plan 2025. Therefore, the 63.9 mgd expansion

would be consistent with the surrounding uses and as a result would not adversely affect the visual character of the area. Impacts would be less than significant.

Significance: Less than significant

Collection System

Construction activities associated with the future collection system could be located in areas of the City that have varied visual characteristics. The construction of collection system has the potential to result in a temporary aesthetic impact on the visual character of the affected areas. At this time, not all of the specific locations where the future collection system would occur are known. However, the temporary disturbances to topography during construction would be restored upon completion of the construction activities to preconstruction conditions. Therefore, impacts would be less than significant.

Light and Glare

Impact 3.1-3: The project may create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. (Less than Significant)

Proposed Project

Implementation of the proposed project would result in the development of new structures that would have the potential to increase sources of light and/or glare. New facilities constructed under the proposed project would not include large uninterrupted expanses of glass or any other highly-reflective material. Therefore, the potential for new sources of glare would be not be substantial.

Potential new sources of light would include nighttime exterior building illumination, security lighting and parking lot lighting. It is not expected that any new sources of lighting would be installed along new or existing pipeline routes. Pump stations would not require permanent nighttime lighting. Views of the night sky could be affected by new sources of lighting installed on the RWQCP site. Light spillage could also occur on the Santa Ana River sensitive biological area located adjacent to the RWQCP site. Shielding light fixtures from spilling onto the neighboring habitat areas would avoid this impact. The new facilities would be equipped with lighting similar to the existing condition. Bright lights required for emergency situations would not be used routinely and would not result in permanent impacts to neighboring land uses.

The proposed project would comply with Municipal Code Section 19.590.070 (Light and Glare) and Section 19.559 (lighting) which require that all light be shielded and directed downward, maximum light pole heights would meet zone height standards. Flickering or flashing is prohibited. The candle power of the light would be the minimum required to meet or accomplish the purpose of the lighting, and a lighting plan shall be submitted to the City for review. Furthermore, the proposed project site is not located within the Mount Palomar Observation

Night Lighting Policy Area and as such, is not subject to Riverside County Ordinance No. 655. Therefore, the proposed project would have a less than significant impact associated with a new source of light or glare which would adversely affect day or nighttime views in the area.

In addition, the RWQCP site is located within Compatibility Zones C and D of the Riverside County Airport Land Use Compatibility Plan. The proposed project is a compatible land use within this safety zone. The proposed project does not include structures of a height that would result in a safety risk or flight hazard due to light and glare impacts to aircrafts nor would it result in the presence of a substantial number of new employees on the site (two new employees). The proposed project's lighting will comply with lighting standards identified by the Airport Land Use Compatibility Plan. Therefore, impacts would less than significant.

Significance: Less than significant

Maximum Buildout Scenario

Under this development scenario, there would be increased development of the site as opposed to the proposed project. With the additional machinery and buildings, there would be an increased opportunity for light and glare impacts. However, the proposed project's lighting would be required to comply with lighting standards identified by the Riverside County Airport Land Use Compatibility Plan, Municipal Code Section 19.590.070 and Section 19.559. Therefore, impacts would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under this development scenario, there would be increased development and densification of structures on the site which have the potential to have light and glare issues. However, similar to the proposed project the Maximum with PRD Buildout Scenario would be required to comply with all of the City's current light ordinances and policies. Therefore, because of compliance with the light ordinance and City policies the potential impacts associated with this scenario would be reduced to below a level of significance.

Significance: Less than significant

Collection System

It is anticipated that all of the collection system would be subsurface improvements. However, if the upgrade required the construction of a pump station with security lighting then the project would be required to comply with the Riverside Municipal Code Sections 19.590.070 and 19.556 related to lighting. As a result, the future collection systems upgrades would be required to comply with all of the City's current light standards and policies and therefore, are not anticipated

to contribute to light or glare impacts. Therefore, the proposed project would result in a less than significant impact.

Cumulative Impacts

Impact 3.1-4: The proposed project and buildout scenarios may result in an adverse cumulative aesthetic impact. (Less than Significant)

Project implementation of the proposed project and buildout scenarios would occur on City owned land on the existing RWQCP site, which has already been altered by the existing industrial uses. Intensification at the site would be considered aesthetically consistent with the character and uses in the surrounding area. With compliance with the City Municipal Code Sections 19.590.070 and 19.556, the proposed project would not result in significant impacts associated with light or glare. The proposed project and buildout scenario would not result in any individually significant impacts. A design review approval is not required for the project as the provisions of Title 19 (Zoning) of the Municipal Code do not apply to any building, improvements, lots or premise, owned, leased, operated or controlled by the City or any City Project for public purposes by the City of Riverside (Section 19.040.110). While the proposed project is not subject to the provisions of Title 19, the project will be designed in conformance with the development standards of Title 19 and will conform with the Citywide Design and Sign Guidelines which will ensure a less than significant aesthetic impact. Therefore, the proposed project and build out scenarios would not result in a cumulatively considerable contribution to visual impacts.

Significance: Less than significant.

3.2 Air Quality and Climate Change

3.2.1 Introduction

This section addresses the impacts of the proposed project on ambient air quality and the exposure of people, especially sensitive individuals, to unhealthful pollutant concentrations, including the type and quantity of emissions that would be generated by construction and operation. The analysis of emissions focuses on whether the project would cause an exceedance of a state or national ambient air quality standard or an exceedance of a threshold recommended by the South Coast Air Quality Management District (SCAQMD) and whether it would conflict with regulatory goals associated with greenhouse gas emissions.

3.2.2 Environmental Setting

Climate and Meteorology

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. The project site is located in the City of Riverside and is within the boundaries of the South Coast Air Basin. The Basin, which is a subregion of the SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. The topography and climate of southern California combine to make the Basin an area of high air pollution potential. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. In addition, light winds during the summer further limit ventilation. Furthermore, sunlight triggers the photochemical reactions which produce ozone. The region experiences more days of sunlight than any other major urban area in the nation (SCAQMD, 1997).

Wind measurements taken in Riverside, California indicate that the predominant wind flow is out of the northwest. Winds from the northwest occur approximately 60 percent of the time. Occasional high velocity Santa Ana winds can occur out of the east dispersing gaseous air pollutants but also generating windblown particulate matter. The average wind speed for Riverside is 7.8 miles per hour (mph).[1]

Existing Air Quality

The SCAQMD maintains two air quality monitoring stations near the project site. The closest is located at 7002 Magnolia Avenue in Riverside. The Riverside-Rubidoux Station is located at 5888 Mission Boulevard in Riverside County. A three-year summary (2006 to 2008) of data collected at these stations is shown in **Table 3.2-1** and is compared with the corresponding state ambient air quality standards.

[1] CARB, Wind Rose Plot, Riverside Station #23119, accessed online, http://www.arb.ca.gov/toxics/harp/metfiles.htm

TABLE 3.2-1
PROJECT AREA AIR POLLUTANT SUMMARY, 2006–2008[a,b]

Pollutant	Standard[c]	2005	2006	2007	2008
Ozone (O_3)					
Highest 1-hr average, ppm[c]	0.09	**0.144**	**0.151**	**0.131**	**0.146**
Number of State Exceedance Days		46	45	31	54
Highest 8-hr average, ppm	0.08[e]	**0.129**	**0.117**	**0.111**	**0.116**
Number of State Exceedance Days		56	57	46	64
Carbon Monoxide (CO)					
Highest 8-hr average, ppm[c]	9.0	2.50	2.29	2.93	1.86
Number of State Exceedance Days		0	0	0	0
Nitrogen Dioxide (NO2)					
Highest 1-hr average, ppm[c]	0.18	0.077	0.076	0.072	0.092
Number of State Exceedance Days		0	0	0	0
Particulate Matter-10 Micron (PM_{10})					
Highest 24 Hour State Average, µg/m^3	50	**119**	**106**	**540**	**70**
Estimated State Exceedance Days [d]		198	214	204	ND
Highest 24 Hour National Average, µg/m^3	150	123	109	559	82
Estimated National Exceedance Days [d]		0	0	1	ND
State Annual Average, µg/m^3	20	50.4	52.7	57.1	ND
Particulate Matter-2.5 Micron ($PM_{2.5}$)					
Highest 24 Hour Average, µg/m^3	35	**98.7**	**68.4**	**75.6**	**53.3**
Number of State Exceedance Days[d]		36	32	33	7
State Annual Average, µg/m^3	12	21	ND	19.8	ND

NOTE: Bolded values indicate an excess of applicable standard.

a. Data for ozone, carbon monoxide, nitrogen dioxide, PM10 and PM2.5 is from the Rubidoux monitoring station.
b. ppm = parts per million; µg/m^3 = micrograms per cubic meter.
c. The term, "state exceedance days," refers to the number of days in a given year during which concentrations were higher than the state standard. The term, "national exceedance days" refers to the number of days in a given year during which concentrations were higher than the corresponding national standard.

d. PM10 and PM2.5 are not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.

ND = No Data

SOURCE: California Air Resources Board, 2009a. Air Quality Data Summaries, 2005–2008; www.arb.ca.gov/adam. Site accessed April 7, 2009.

Criteria Air Pollutants

These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria set forth in the Federal Clean Air Act (FCAA). California has adopted more stringent ambient air quality standards for the criteria air pollutants (referred to as State Ambient Air Quality Standards, or state standards) and has adopted air quality standards for some pollutants for which there is no corresponding national standard.

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 is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NO_x). ROG and NO_x are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NO_x under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

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 and most areas of the state including the project region have no problem meeting the carbon monoxide state and federal standards. CO measurements and modeling were important in the early 1980's when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, less emissions from new vehicles and improvements in fuels. The clear success in reducing CO levels is evident in the first paragraph of the executive summary of the California Air Resources Board *2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas* (CARB, 2004), shown below:

> "The dramatic reduction in carbon monoxide (CO) levels across California is one of the biggest success stories in air pollution control. Air Resources Board (CARB or Board) requirements for cleaner vehicles, equipment and fuels have cut peak CO levels in half since 1980, despite growth. All areas of the State designated as non-attainment for the federal 8-hour CO standard in 1991 now attain the standard, including the Los Angeles urbanized area. Even the Calexico area of Imperial County on the congested Mexican border had no violations of the federal CO standard in 2003. Only the South Coast and Calexico continue to violate the more protective State 8-hour CO standard, with declining levels beginning to approach that standard."

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. Some sources of particulate matter, such as wood burning in fireplaces, demolition, and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility. Large dust particles (diameter greater than 10 microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance rather than a health hazard. The remaining fraction, PM10 and PM2.5, are a health concern particularly at levels above the federal and state ambient air quality standards. PM2.5 (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus, are able to penetrate to the deepest parts of the lungs. Scientific studies have suggested links between fine particulate matter and numerous health problems including asthma, bronchitis, acute and chronic respiratory symptoms such as shortness of breath and painful breathing. Recent studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Children are more susceptible to the health risks of PM10 and PM2.5 because their immune and respiratory systems are still developing.

Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health (Dockery and Pope 2006). The California Air Resource Board (CARB) has estimated that achieving the ambient air quality standards for PM10 could reduce premature mortality rates by 6,500 cases per year (CARB, 2002).

Nitrogen Dioxide (NO_2)

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.

Sulfur dioxide (SO_2)

SO_2 is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO_2 is also a precursor to the formation of atmospheric sulfate, particulate matter and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain. The maximum SO_2 concentrations recorded in the project area are well below federal and state standards. Accordingly, the region is in attainment status with both federal and state SO_2 standards.

Lead

Ambient lead concentrations meet both the federal and state standards in the project area. Lead has a range of adverse neurotoxin health effects, and was formerly released into the atmosphere primarily via leaded gasoline products. The phase-out of leaded gasoline in California resulted in decreasing levels of atmospheric lead. The proposed project would not introduce any new sources of lead emissions; consequently, lead emissions are not required to be quantified and are not further evaluated in this analysis.

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.

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. Generally, increasing the distance between the receptor and the source will mitigate odor impacts.

Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, similar to a greenhouse. The accumulation of GHGs has been implicated as a driving force for Global Climate Change. Definitions of climate change vary between and across regulatory authorities and the scientific community, but in general can be described as the changing of the earth's climate caused by natural fluctuations and the impact of human activities that alter the composition of the global atmosphere. Both natural processes and human activities emit GHGs.

The major concern is that increases in GHGs 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 disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, the vast majority of the scientific community now agrees that there is a direct link between increased emission of GHGs and long term global temperature. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CARB, 2006). Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

The accumulation of GHGs 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 GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the earth's atmosphere and contributed to Global Climate Change. GHGs include but are not limited to carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride (NF_3), and sulfur hexafluoride (California Health and Safety Code section 38505(g)). Carbon dioxide is the reference gas for climate change because it gets the most attention and is considered the most important greenhouse gas. To account for the warming potential of different GHGs, GHG emissions are quantified and reported as CO_2 equivalents (CO_2e). The effects of GHG emission sources (i.e., individual projects) are reported in metric tons/year of CO_2e.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to certain types of population groups or activities. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present.

Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time.

The nearest sensitive receptors are residences on Bradford Street located over 1,500 feet east of the proposed construction boundary.

3.2.3 Regulatory Setting

Federal

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 Federal Clean Air Act Amendments (FCAAA), the USEPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutants, based on whether or not the NAAQS had been achieved. **Table 3.2-3** shows the current attainment status of the project vicinity.

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 0.07 ppm[a]	--- 0.075 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 (NOx) 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	--- 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 NOx, sulfur oxides, and organics.
Lead	Monthly Ave. 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, 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, 2008b. *Ambient Air Quality Standards,* available at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf Standards last updated November 17, 2008. California Air Resources Board, 2001. *CARB 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
AMBIENT AIR QUALITY STANDARDS AND RIVERSIDE COUNTY ATTAINMENT STATUS

Pollutant	Averaging Time	State Standard	Riverside County Attainment Status for California Standard	Federal Primary Standard	Riverside County Attainment Status for Federal Standard
Ozone	8 hour	0.07 ppm	Non-Attainment	0.08 ppm	Severe Non-Attainment
	1 hour	0.09 ppm	Extreme Non-Attainment	---	---
Carbon Monoxide	8 hour	9.0 ppm	Attainment	9 ppm	Attainment
	1 Hour	20 ppm	Attainment	35 ppm	Attainment
Nitrogen Dioxide	Annual Average	0.030 ppm	Attainment	0.053 ppm	Attainment
	1 Hour	0.18 ppm	Attainment	---	---
Sulfur Dioxide	Annual Average	---	---	0.03 ppm	Attainment
	24 Hour	0.04 ppm	Attainment	0.14 ppm	Attainment
	1 Hour	0.25 ppm	Attainment	---	---
Particulate Matter (PM10)	Annual Arithmetic Mean	20 μg/m3	Non-Attainment	---	---
	24 hour	50 μg/m3	Non-Attainment	150 μg/m3	Serious Non- Attainment
Particulate Matter (PM2.5)	Annual Arithmetic Mean	12 μg/m3	Non-Attainment	15 μg/m3	Non-Attainment
	24 hour	---	---	35 μg/m3	Non-Attainment
Lead	Calendar Quarter	---	---	1.5 μg/m3	Attainment
	30 Day Average	1.5 μg/m3	Attainment	---	---

ppm = parts per million; and μg/m3=micrograms per cubic meter

SOURCE: CARB, 2009c.

Federal New Source Review

The New Source Review permitting program was an amendment passed by Congress in 1977 for the Clean Air Act. The Federal New Source Review is divided into two permitting programs: the Nonattainment Area (federal New Source Review) and Prevention of Significant Deterioration or air quality. New and modified major stationary sources of criteria pollutants are permitted by districts, as required by Section 110 of the Federal Clean Air Act. The New Source Review program ensures that ambient air quality does not deteriorate any further in nonattainment areas, while Prevention of Significant Deterioration ensures that areas with good air quality will continue to maintain good air quality. The program ensures that air quality is not significantly degraded from the addition of new and modified industrial sources and assures that new emissions do not slow progress toward cleaner air nor worsens air quality. Publically owned treatment plants treating greater than 1 mgd are considered major sources requiring permits under the NSR program.

State Implementation Plan

The FCAA requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAAA 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 FCAAA 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.

Toxic Air Contaminants

Regulation of Toxic Air Contaminants (TACs), termed Hazardous Air Pollutants (HAPs) under federal regulations, is achieved through federal, State and local controls on individual sources. The 1977 Clean Air Act Amendments required the U.S. EPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare. These substances include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. There is uncertainty in the precise degree of hazard.

State

The 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, above. Under the California Clean Air Act (CCAA) patterned after the FCAA, areas have been designated as attainment or nonattainment with respect to the state standards. Table 3.2-3, above, summarizes the attainment status with California standards in the project vicinity.

California New Source Review

The California New Source Review programs are derived from the California Clean Air Act and regulate the construction of, and/or modifications to, industrial sources which emit, or will emit air pollutants. These regulations incorporate both the California and federal regulations on air quality and depending on the quantity of emissions of air pollutants that will be emitted and the area designation for that particular pollutant(s), the new or modified source may be required to install Best Available Control Technology (BACT). BACT is synonymous with the federal term Lowest Achievable Emission Rate (LAER) for nonattainment area permit requirements, and this ultimately is the air pollution control technology to be used on specific pollutants to a specified limit. Proposed projects within the jurisdiction of SCAQMD must follow SCAQMD’s BACT regulations or other applicable emissions offset programs for any increases to air pollutants in the area.

Toxic Air Contaminants

California State law defines toxic air contaminants (TACs) as air pollutants having carcinogenic effects. The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). A total of 243 substances have been designated TACs under California law; they include the 189 (federal) hazardous air pollutants (HAPs) adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. Toxic air contaminant emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment and, if specific thresholds are violated, are required to communicate the results to the public in the form of notices and public meetings.

In August of 1998, CARB identified particulate emissions from diesel-fueled engines (diesel particulate matter, or DPM) as TACs. CARB subsequently developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB, 2000). The document represents proposals to reduce diesel particulate emissions, with the goal of reducing emissions and associated health risks 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 (i.e., distribution centers, rail yards, chrome platers, etc.). 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.

Climate Change and 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.

Assembly Bill 32 (AB 32)

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 statewide greenhouse gas emissions will be reduced to 1990 levels by 2020.

In December 2007, CARB approved the 2020 emission limit of 427 million metric tons of CO_2 equivalents of greenhouse gases. The 2020 target of 427 million metric tons of CO_2e requires the reduction of 169 million metric tons of CO_2e, or approximately 30 percent, from the state's projected 2020 emissions of 596 million metric tons of CO_2e (business-as-usual).

Also in December 2007, CARB adopted mandatory reporting and verification regulations pursuant to AB 32. The regulations became effective January 1, 2009, with the first reports covering 2008 emissions. The mandatory reporting regulations 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/year of CO_2. Cement plants, oil refineries, electric-generating facilities/providers, cogeneration facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 metric tons/year CO_2, make up 94 percent of the point source CO_2 emissions in California (CARB, 2007).

In June, 2008, CARB published its *Climate Change Draft Scoping Plan* (CARB, 2008e). The *Climate Change Draft Scoping Plan* reported that CARB met the first milestones set by AB 32 in 2007: developing a list of early actions to begin sharply reducing greenhouse gas emissions; assembling an inventory of historic emissions; and establishing the 2020 emissions limit. After consideration of public comment and further analysis, CARB released the *Climate Change Proposed Scoping Plan* in October, 2008 (CARB, 2008e). The Proposed Scoping Plan proposes a comprehensive set of actions designed to reduce overall carbon emissions in California. Key elements of the Proposed Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation. (CARB, 2008e).

The *Climate Change Proposed Scoping Plan* notes that "[a]fter Board approval of this plan, the measures in it will be developed and adopted through the normal rulemaking process, with public input" (CARB, 2008e).

The *Climate Change Proposed Scoping Plan* states that local governments are "essential partners" in the effort to reduce greenhouse gas emissions, and that they have "broad influence and, in some cases, exclusive jurisdiction" over activities that contribute to greenhouse gas emissions. The plan acknowledges that local governments have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect greenhouse gas emissions through

their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Many of the proposed measures to reduce greenhouse gas emissions rely on local government actions. The plan encourages local governments to reduce greenhouse gas emissions by approximately 15 percent from current levels by 2020 (CARB, 2008e).

The *Climate Change Proposed Scoping Plan* also includes recommended measures that were developed to reduce greenhouse gas emissions from key sources and activities while improving public health, promoting a cleaner environment, preserving our natural resources, and ensuring that the impacts of the reductions are equitable and do not disproportionately impact low-income and minority communities. These measures, shown below in **Table 3.2-4** by sector, also put the state on a path to meet the long-term 2050 goal of reducing California's greenhouse gas emissions to 80 percent below 1990 levels. These measures were presented to and approved by the California Air Resources Board on December 11, 2008.

The total reduction for the recommended measures is 174 million metric tons/year of CO_2E, slightly exceeding the 169 million metric tons/year of CO_2E of reductions estimated to be needed in the *Draft Scoping Plan*. The measures in the Scoping Plan approved by the Board will be developed over the next two years and be in place by 2012.

Senate Bill 97

The provisions of Senate Bill 97, enacted in August 2007 as part of the State Budget negotiations, direct the Office of Planning and Research (OPR) to propose CEQA Guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions." SB 97 directs OPR to develop such guidelines by July 2009, and directs the State Resources Agency, the agency charged with adopting the CEQA Guidelines, to certify and adopt such guidelines by January 2010.

TABLE 3.2-4
LIST OF RECOMMENDED ACTIONS BY SECTOR

Measure No.	Measure Description	GHG Reductions (Annual Million Metric Tons CO2E)
Transportation		
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15
T-3[1]	Regional Transportation-Related Greenhouse Gas Targets	5
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2
T-6	Goods Movement Efficiency Measures. • Ship Electrification at Ports • System-Wide Efficiency Improvements	3.5
T-7	Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	0.93
T-8	Medium- and Heavy-Duty Vehicle Hybridization	0.5
T-9	High Speed Rail	1
Electricity and Natural Gas		

TABLE 3.2-4
LIST OF RECOMMENDED ACTIONS BY SECTOR

Measure No.	Measure Description	GHG Reductions (Annual Million Metric Tons CO2E)
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) • Increased Utility Energy Efficiency Programs • More Stringent Building & Appliance Standards Additional Efficiency and Conservation Programs	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewables Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) • Target of 3000 MW Total Installation by 2020	2.1
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) • Utility Energy Efficiency Programs • Building and Appliance Standards • Additional Efficiency and Conservation Programs	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
Green Buildings		
GB-1	Green Buildings	26
Water		
W-1	Water Use Efficiency	1.4†
W-2	Water Recycling	0.3†
W-3	Water System Energy Efficiency	2.0†
W-4	Reuse Urban Runoff	0.2†
W-5	Increase Renewable Energy Production	0.9†
W-6	Public Goods Charge (Water)	TBD†
Industry		
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	TBD
I-2	Oil and Gas Extraction GHG Emission Reduction	0.2
I-3	GHG Leak Reduction from Oil and Gas Transmission	0.9
I-4	Refinery Flare Recovery Process Improvements	0.3
I-5	Removal of Methane Exemption from Existing Refinery Regulations	0.01
Recycling and Water Management		
RW-1	Landfill Methane Control (Discrete Early Action)	1
RW-2	Additional Reductions in Landfill Methane • Increase the Efficiency of Landfill Methane Capture	TBD†
RW-3	High Recycling/Zero Water • Commercial Recycling • Increase Production and Markets for Compost • Anaerobic Digestion • Extended Producer Responsibility • Environmentally Preferable Purchasing	9†
Forests		
F-1	Sustainable Forest Target	5
High Global Warming Potential (GWP) Gases		
H-1	Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Services (Discrete Early Action)	0.26
H-2	SF_6 Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)	0.3
H-3	Reduction of Perfuorocarbons in Semiconductor Manufacturing (Discrete Early	0.15

TABLE 3.2-4
LIST OF RECOMMENDED ACTIONS BY SECTOR

Measure No.	Measure Description	GHG Reductions (Annual Million Metric Tons CO2E)
	Action)	
H-4	Limit High GWP Use in Consumer Products Discrete Early Action (Adopted June 2008)	0.25
H-5	High GWP Reductions from Mobile Sources • Low GWP Refrigerants for New Motor Vehicle Air Conditioning Systems • Air Conditioner Refrigerant Leak Test During Vehicle Smog Check • Refrigerant Recovery from Decommissioned Refrigerated Shipping Containers • Enforcement of Federal Ban on Refrigerant Release during Servicing or Dismantling of Motor Vehicle Air Conditioning Systems	3.3
H-6	High GWP Reductions from Stationary Sources • High GWP Stationary Equipment Refrigerant Management Program: o Refrigerant Tracking/Reporting/Repair Deposit Program o Specifications for Commercial and Industrial Refrigeration Systems • Foam Recovery and Destruction Program • SF Leak Reduction and Recycling in Electrical Applications • Alternative Suppressants in Fire Protection Systems • Residential Refrigeration Early Retirement Program	10.9
H-7	Mitigation Fee on High GWP Gases	5
Agriculture		
A-1	Methane Capture at Large Dairies	1.0†

[1] This is not the SB 375 regional target. CARB will establish regional targets for each MPO region following the input of the regional targets advisory committee and a consultation process with MPO's and other stakeholders per SB 375
† GHG emission reduction estimates are not included in calculating the total reductions needed to meet the 2020 target

Governor's Office of Planning and Research (OPR)

On June 19, 2008, OPR published a technical advisory on CEQA and Climate Change. The advisory provides OPR's perspective on the emerging role of CEQA in addressing climate change and greenhouse gas emissions, while recognizing that approaches and methodologies for calculating greenhouse gas emissions and addressing environmental impacts through CEQA review are rapidly evolving. The advisory recognizes that OPR will develop, and the Resources Agency will adopt amendments to the CEQA Guidelines pursuant to SB 97. In the interim, the technical advisory "offers informal guidance regarding the steps lead agencies should take to address climate change in their CEQA documents." (OPR, 2008)

The technical advisory points out that neither CEQA nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for performing an impact analysis. "This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable" (OPR, 2008). OPR recommends that "the global nature of climate change warrants investigation of a statewide threshold of significance for GHG emissions" (OPR, 2008). Until such a standard is established, OPR advises that each lead agency should develop its own approach to performing an analysis for projects that generate greenhouse gas emissions (OPR, 2008).

Agencies should then assess whether the emissions are "cumulatively considerable" even though a project's greenhouse gas emissions may be individually limited. OPR states: "Although climate

change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment" (OPR, 2008). Individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice (OPR, 2008).

Finally, if the lead agency determines emissions are a cumulatively considerable contribution to a significant cumulative impact, the lead agency must investigate and implement ways to mitigate the emissions (OPR, 2008). OPR states: "Mitigation measures will vary with the type of project being contemplated, but may include alternative project designs or locations that conserve energy and water, measures that reduce vehicle miles traveled (VMT) by fossil-fueled vehicles, measures that contribute to established regional or programmatic mitigation strategies, and measures that sequester carbon to offset the emissions from the project" (OPR, 2008). OPR concludes that "A lead agency is not responsible for wholly eliminating all GHG emissions from a project; the CEQA standard is to mitigate to a level that is "less than significant" (OPR, 2008). The technical advisory includes a list of mitigation measures that can be applied on a project-by-project basis.

OPR Proposed Amendments to the CEQA Guidelines

On April 13, 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the state CEQA Guidelines for GHG emissions, as required by Public Resources Code section 21083.05 (Senate Bill 97) (OPR, 2009). These proposed CEQA Guideline amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The Natural Resources Agency adopted the CEQA Guidelines Amendments with minor, non-substantial changes on December 31, 2009 and transmitted the Adopted Amendments and the entire rulemaking file to the Office of Administrative Law (OAL). On February 16, 2010 the OAL approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments will become effective on March 18, 2010.

The amendments are relatively modest changes to various portions of the existing CEQA Guidelines. Modifications address those issues where analysis of GHG emissions may differ in some respects from more traditional CEQA analysis.

Amendments include a new section (15064.4) to assist lead agencies in determining the significance of the GHG impacts. This section urges lead agencies to quantify, where possible, the GHG emissions of proposed projects. In addition to quantification, this section recommends consideration of several other qualitative factors that may be used in determination of significance including: (1) the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the GHG emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

The proposed amendments include a new subdivision 15064.7(c) to clarify that in developing thresholds of significance, a lead agency may appropriately review thresholds developed by other

public agencies, or recommended by other experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.

In addition, the proposed amendments add a new set of environmental checklist questions (VII. Greenhouse Gas Emissions) to the CEQA Guidelines Appendix G. The new set includes the following two questions:

Would the project:

a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

California Air Pollution Control Officers Association (CAPCOA)

In January 2008, the California Air Pollution Control Officers Association (CAPCOA) issued a "white paper" on evaluating and addressing GHGs under CEQA (CAPCOA, 2008). This resource guide was prepared to support local governments as they develop their programs and policies around climate change issues. The paper is not a guidance document. It is not intended to dictate or direct how any agency chooses to address GHG emissions. Rather, it is intended to provide a common platform of information about key elements of CEQA as they pertain to GHG, including an analysis of different approaches to setting significance thresholds.

The paper notes that for a variety of reasons local agencies may decide not to have a CEQA threshold. Local agencies may also decide to assess projects on a case-by-case basis when the projects come forward. The paper also discussed a range of GHG emission thresholds that could be used. The range of thresholds discusses includes a GHG threshold of zero and several non-zero thresholds. Non-zero thresholds include percentage reductions for new projects that would allow the state to meet its goals for GHG emissions reductions by 2020 and perhaps 2050. These would be determined by a comparison of new emissions versus business as usual emissions and the reductions required would be approximately 30 percent to achieve 2020 goals and 90 percent (effectively immediately) to achieve the more aggressive 2050 goals. These goals could be varied to apply differently to new project, by economic sector, or by region in the state.

Other non-zero thresholds are discussed in the paper include:

- 900 metric tons/year CO_2e (a market capture approach);
- 10,000 metric tons/year CO_2e (potential CARB mandatory reporting level with Cap and Trade);
- 25,000 metric tons/year CO_2e (the CARB mandatory reporting level for the statewide emissions inventory of CO_2);
- 40,000 to 50,000 metric tons/year CO_2e (regulated emissions inventory capture – using percentages equivalent to those used in air districts for criteria air pollutants),

- Projects of statewide importance (9,000 metric tons/year CO_2e for residential, 13,000 metric tons/year CO_2e for office project, and 41,000 metric tons/year CO_2e for retail projects), and
- Unit-based thresholds and efficiency-based thresholds that were not quantified in the report.

CARB Mandatory Reporting of Greenhouse Gas Emissions: Instructional Guidance for Operators

On December 2, 2008 the Office of Administrative Law approved California's Greenhouse Gas (GHG) Mandatory Reporting Regulations, adopted pursuant to the California Global Warming Solutions Act of 2006, and requiring the reporting of emissions for certain industries starting in 2009. At the same time, CARB also released an instructional guidance document, which provides practical information to operators who are required to begin reporting their emissions under the Regulations. The industrial sectors that are required to report their emissions to CARB are as follows:

- Cement plants; petroleum refineries with >25,000 $MTCO_2$ in a calendar year;
- Hydrogen plants with >25,000 MT CO2 in a calendar year;
- Electricity generating facilities and cogeneration facilities with > 1 MW and >2,500 MT CO_2 in a calendar year;
- Electricity retail providers and marketers; and other industrial facilities referred to as "general stationary combustion facilities" (>25,000 MT CO_2 in a calendar year).

SCAQMD Draft GHG Significance Threshold

On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. The interim threshold consists of five tiers of standards that could result in a finding of less than significant impact. The tiers include CEQA exemptions, consistency with regional GHG budgets, less than significant screening levels for industrial projects (10,000 metric tons/year CO_2e) and commercial/residential projects (3,000 metric tons/year CO_2e), performance standards (i.e., 30 percent less than Business As Usual [BAU]), and carbon offsets (SCAQMD, 2008).

Local Regulations

South Coast Air Quality Management District Air Quality Management Plan

The SCAQMD and the Southern California Association of Governments (SCAG) are responsible for preparing the Air Quality Management Plan (AQMP), which addresses federal and state CAA requirements[2]. The AQMP details goals, policies, and programs for improving air quality and establishes thresholds for daily operation emissions. Environmental review of individual projects within the region must demonstrate whether daily construction and operation emissions thresholds established by the SCAQMD would be exceeded, and whether the proposed project would increase the number or severity of existing air quality violations.

2 SCAQMD, *2007 Air Quality Management Plan*, adopted June 1, 2007.

The most recent AQMP (2007) addresses California CAA requirement that are intended to bring the SCAQMD into compliance with state air quality standards[3]. The AQMP focuses on the reduction of O_3, PM_{10} and $PM_{2.5}$ emissions through public education, vehicle and fuels management, transportation controls, indirect source controls, and stationary source control programs[4].

CARB will designate an area as non-attainment for a pollutant if air quality data show that a state standard for a pollutant was violated at least once during the previous three calendar years[5]. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as non-attainment. Based on regional monitoring to date, the Riverside County portion of the Basin is currently designated as a non-attainment area with regard to O_3 and PM_{10}[6]. The Basin is currently designated as an attainment area for CO, SO_2 and NO_2[7].

The State Implementation Plan for the newly adopted federal 8-hour ozone and $PM_{2.5}$ standards is still in development at the time of this analysis. While certain elements of Phase 1 of the 8-hour implementation rule are still undergoing legal challenge, US EPA signed Phase 2 of the 8-hour implementation rule on November 9, 2005. It is not currently anticipated that marginal areas will be required to prepare attainment demonstrations for the 8-hour standard. Other planning elements may be required. SCAQMD plans to address all requirements of the federal 8-hour standard in subsequent documents.

SCAQMD Rules and Regulations

The SCAQMD is the regional agency responsible for rulemaking, permitting, and enforcement activities affecting stationary sources in the Riverside Area. Specific rules and regulations adopted by the SCAQMD limit the emissions that can be generated by various uses and/or activities, and identify specific pollution reduction measures that must be implemented in association with various uses and activities. These rules regulate not only emissions of the six criteria air pollutants, but also toxic emissions and acutely hazardous non-radioactive materials emissions.

It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for fugitive dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the proposed project site, and maintaining effective cover over exposed areas.[8]

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3 *Ibid*.
4 *Ibid*.
5 CARB, *California Clean Air Act*, 1988.
6 SCAQMD, *2003 Air Quality Management Plan*, June 1, 2007.
7 *Ibid.*
8 SCAQMD, *Rule 403 – Fugitive Dust*, June 3, 2005.

City of Riverside General Plan 2025

The Air Quality Element of the City of Riverside General Plan 2025 contains the following policies which could be considered to apply to the proposed project:

Policy AQ-1.3	Separate, buffer and protect sensitive receptors from significant sources of pollution to the greatest extent possible.
Policy AQ-1.4	Facilitate communication between residents and businesses on nuisance issues related to air quality.
Policy AQ-3.4	Require projects to mitigate, to the extent feasible, anticipated emissions, which exceed AQMP Guidelines.
Policy AQ-3.7	Require use of pollution control measures for stationary and area sources through the use of best available control technologies, fuel/material substitution, cleaner fuel alternatives, product reformulation, change in work practices, and of control measures identified in the latest AQMP.
Policy AQ-4.3	Support the reduction of all particulates potential sources.
Policy AQ-4.4	Support programs that reduce emissions from building materials and methods that generate excessive pollutants through incentives and/or regulations.
Policy AQ-4.5	Require the suspension of all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hours).
Policy AQ-4.6	Cooperate with local, regional, state and federal jurisdictions to better control particulate matter.
Policy AQ-5.1	Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

3.2.4 Thresholds of Significance

Methodology

The following analysis is based on the URBEMIS2007 Version 9.2.4 emissions inventory model developed by the CARB. In addition, indirect emissions of CO_2e from electricity generation were based on emission factors contained in the California Climate Action Registry *General Reporting Protocol* (California Climate Action Registry, 2009). Additional information and model results are presented in Appendix B.

Significance Criteria

The criteria used to determine the significance of an impact are based on Appendix G of the *CEQA Guidelines*. For this analysis, implementation of the proposed project would result in significant impacts 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;
- Create objectionable odors affecting a substantial number of people; or
- 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. A project could conflict with the state reduction goal if it would:
  - Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance.
  - Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases (OPR, 2009).

The criteria used to determine the significance of an impact related to air quality are based on the *CEQA Guidelines* and SCAQMD standards which are presented in **Table 3.2-5**.[9,10] CEQA allows for the significance criteria established by the applicable air quality management or air pollution control district to be used to assess the impact of a project on air quality. SCAQMD has established the air pollution emissions criteria shown in Table 3.2-5 for determining significance of air quality impacts during project construction and operation. These thresholds are applicable to regional emissions and include mobile source emissions generated by a project throughout the air basin.

Regarding local CO emissions from roadway traffic, the proposed project would result in a significant air quality impact if it would cause or contribute to exceeding the California 1-hour CO standard of 20 parts per million (ppm), or the 8-hour CO standard of 9 ppm, at an intersection or roadway near a sensitive receptor. For intersections that exceed the standards before implementation of the proposed project, the proposed project would result in a significant impact if it would create an incremental increase in CO levels equal to or greater than 1.0 ppm for the one-hour standard, or 0.45 ppm for the eight-hour standard, at an intersection or roadway near a sensitive receptor.

9 *CEQA Guidelines*, CCR, Title 14, Division 6, Chapter 3, Appendix G, 2006.
10 SCAQMD, *CEQA Air Quality Handbook*, April 1993.

TABLE 3.2-5
SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
NO_X	100 lbs/day	55 lbs/day
VOC[a]	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs, including:	Maximum Incremental Cancer Risk ≥ 10 in 1 million	
carcinogens	Hazard Index ≥ 1.0 (project increment)	
non-carcinogens	Hazard Index ≥ 3.0 (facility-wide)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants[b]		
NO_2	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:	
1-hour average	0.25 ppm (state)	
annual average	0.053 ppm (federal)	
PM10		
24-hour average	10.4 $\mu g/m^3$ (recommended for construction)[c] 2.5 $\mu g/m^3$ (operation)	
annual geometric average	1.0 $\mu g/m^3$	
annual arithmetic mean	20 $\mu g/m^3$	
Sulfate		
24-hour average	1 ug/m^3	
CO	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:	
1-hour average	20 ppm (state)	
8-hour average	9.0 ppm (state/federal)	

lbs/day = pounds per day
ppm = parts per million
ug/m^3 = mircrograms per cubic meter
≥ greater than or equal to

[a] For purposes of this analysis, VOC is equivalent to ROC.
[b] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[c] Ambient air quality threshold based SCAQMD Rule 403.

Source: SCAQMD, *CEQA Air Quality Handbook*, 1993; SCAQMD, Localized Significance Methodology, June 2003 and October 2006.

In June of 2003, SCAQMD finalized its Localized Significance Threshold (LST) Methodology for the purposes of analyzing localized air quality impacts associated with construction activities and non-mobile sources for sites less than five acres. The LST methodology involves the use of geographically specific look-up tables for NO_2, CO, PM10 and PM2.5, to determine pollutant significance thresholds based on a projects size and distance from sensitive receptors located within 500 meters. Because the nearest sensitive receptors to the proposed project construction area are located over 1,500 feet away, LST analysis is not warranted. The LST analysis does not assess pollutant concentrations beyond 1,500 feet from the pollution source. At this distance, it is unlikely that sensitive receptors would be affected by localized construction emissions. Thus, the impact of construction emissions is assessed on the basis of regional emission thresholds and consistency with Rule 403 of the SCAQMD.

Significance Criteria for Greenhouse Gas Emissions

Senate Bill 97 ("SB 97") is in affect as of March 18, 2010 which amends and adds to the CEQA Guidelines requirements of local agencies to analyze the impact of GHGs using a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project, and consider whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project. For this project, the project would be considered to have a significant impact if the project would be in conflict with the AB 32 State goals for reducing greenhouse gas emissions. We assume that AB 32 will be successful in reducing GHG emissions and reducing the cumulative GHG emissions statewide by 2020. It is important that the state has taken these measures, because no project individually could have a major impact (either positively or negatively) on the global concentration of GHG. The project will be reviewed to make sure it does not conflict with the goals of AB 32.

Four types of analyses are used to determine whether the project could be in conflict with the state goals for reducing greenhouse gas emissions. The analyses are as follows:

A. Any potential conflicts with the CARB's thirty-nine (39) recommended actions in California's AB 32 Climate Change Scoping Plan.

B. The relative size of the project. The project's greenhouse gas emissions will be compared to the size of major facilities that are required to report greenhouse gas emissions (25,000 metric tons/year of CO_2e) to the state. As noted above, the 25,000 metric ton CO_2 annual limit identifies the large stationary point sources in California that make up approximately 94 percent of the stationary emissions. If the project's total emissions are below this limit, its total emissions are equivalent in size to the smaller projects in California that as a group only make up 6 percent of all stationary emissions. It is assumed that the activities of these smaller projects generally would not conflict with the State's ability to reach AB 32 overall goals. The project size will also be compared to the estimated greenhouse reduction state goal of 169 million metric tons per year of CO_2e emissions by 2020. In reaching its goals the CARB will focus upon the largest emitters of greenhouse gas emissions.

C. The basic energy efficiency parameters of a project to determine whether its design is inherently energy efficient.

D. Any potential conflicts with applicable Riverside County plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases.

3.2.5 Environmental Impact Assessment

Conflict with Air Quality Plan

Impact 3.2-1: The project would not conflict with or obstruct the implementation of the applicable air quality plan. (Less than Significant)

Proposed Project

The 2007 AQMP, discussed previously, was prepared to provide a framework and plan for reducing high levels of pollutants currently in non-attainment of air quality standards within the areas under the jurisdiction of SCAQMD. Projects that are considered to be consistent with the AQMP would not interfere with attainment because this emissions is included in the projections used in the formulation of the AQMP, which included the growth forecasted in the General Plan 2025. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed SCAQMD's recommended daily emissions thresholds.

SCAQMD's *CEQA Handbook* suggests an evaluation of the following two criteria to determine whether a project involving a legislative land use action (such as the proposed project) would be consistent or in conflict with the AQMP:

(1) The project will not generate population and employment growth that would be inconsistent with SCAG's growth forecasts.

(2) The project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Consistency Criterion No. 1 refers to SCAG's growth forecasts and associated assumptions included in the 2007 AQMP (or based on the applicable AQMP during project build-out phase). The future air quality levels projected in the 2007 AQMP are based on several assumptions. For example, SCAQMD assumes that new development within the Basin will occur in accordance with population growth and transportation projections identified by SCAG in its most current version of the RCPG. SCAG derives its assumptions, in part, from the general plans of cities located within the SCAG region. Therefore, if a project is consistent with the growth projections in the General Plan, it is considered consistent with the growth assumptions in the AQMP.

The proposed project is consistent with the existing City of Riverside General Plan 2025 and Zoning designations. The growth projections included in the General Plan are consistent with the SCAG growth projections. As a result, the proposed project would not construct capacity for growth beyond that projected by SCAG and the AQMP. Impacts would be less than significant.

With respect to Consistency Criterion 3.2-2, the proposed project would not emit substantial pollutant concentrations. As discussed below, the URBEMIS model results show the proposed

project's emissions would be insignificant during construction, operations, and in the cumulative projects scenario. Furthermore, although the plant's treatment capacity would expand, the installation of new equipment will improve emission controls and may result in reduced emissions of some pollutants. Any increment of increased emissions resulting from the increased capacity would be subject to SCAQMD permitting requirements. The proposed project is consistent with Consistency Criterion 3.2-2.

As a result, the proposed project development would be consistent with applicable air quality management plans and policies, such as the growth projections and assumptions of the AQMP. Therefore, impacts would be less than significant.

Significance: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario the plant expansion would emit slightly larger quantities of pollutants during construction and operations. Similar to the proposed project, operational emissions would be subject to SCAQMD permit requirements including installation of emission control equipment. However, since the expansion would accommodate growth greater than projected by SCAG, the scenario would not be consistent with the AQMP, resulting in a significant impact of the project.

Significance: Significant and Unavoidable

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario the plant expansion would emit larger quantities of pollutants during construction and operations. Similar to the proposed project, operational emissions would be subject to SCAQMD permit requirements including installation of emission control equipment. However, since the expansion would accommodate growth greater than projected by SCAG, the scenario would not be consistent with the AQMP, resulting in a significant impact of the project.

Significance: Significant and Unavoidable

Collection System

Construction activities associated with the future collection system upgrades could occur throughout the City of Riverside. Construction of the collection system would require additional CEQA compliance assessments. Implementing projects to maintain and expand the collection system consistent with SCAG growth projections would ensure consistency with the AQMP.

Significance: Less than significant

Exceed Emissions Thresholds in a Non-Attainment Area during Construction

Impact 3.2-2: Construction of the proposed project would result in emissions of criteria pollutants and their precursors for which the South Coast Air Basin is designated as a non-attainment area. (Less than Significant)

Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the proposed project site. In addition, fugitive dust emissions would result from site preparation and grading activities. Mobile source emissions, primarily NOx, would result from the use of construction equipment such as excavators, bulldozers, wheeled loaders, and cranes. During the finishing phase, paving operations and the application of architectural coatings (i.e., paints) and other building materials would release ROG. The assessment of construction air quality impacts considers each of these potential sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for controlling fugitive dust. As such, the project applicant will require its contractors to comply with Rule 403. Incorporating Rule 403 compliance into the proposed project would reduce regional PM10 emissions from construction activities.

Construction emissions were estimated using the URBEMIS2007 Version 9.2.4 emissions inventory model developed by the CARB. The URBEMIS2007 model separates the construction process into seven stages: demolition, mass grading, fine grading, trenching, asphalt work, structural building, and architectural coating. The grading phases are separated into emissions from fugitive dust, emissions from off-road equipment, emissions from on-road trucks off-hauling demolition debris or soil and worker vehicle trips. The trenching phase consists of worker vehicle trips and off-road equipment emissions. The asphalt application phase estimates emissions from off-road equipment, on-road trucks worker vehicle trips as well as off-gassing of ROG emissions from asphalt (primarily parking garage surfaces). Emissions from structural building consist of off-road equipment emissions, worker vehicle trips and vendor vehicle trips. URBEMIS2007 relies on the estimated duration of each phase of construction. For the RWQCP Expansion Project, demolition and site preparation would take approximately four months; facility construction would take approximately 26 months; fine grading would take approximately three months; and architectural coating is assumed to take 6 months. Other projects would have shorter durations.

As noted in the Project Description (Section 2.0), proposed project construction would be phased over 15 years, and project facilities would be implemented one at a time, with potential overlap of construction phases. Since the SCAQMD's thresholds are in units of pounds per day, it is

important to determine which of the proposed facilities would result in the greatest amount of soil excavation and construction of the greatest square footage over the shortest period of time. This would assure that the project's daily emissions are analyzed for the worst case scenario. As shown in the Project Description, the RWQCP Expansion would result in the construction of the most square footage (395,000 sq. ft.) and soil excavation over the shortest period of time. Therefore, this phase was analyzed using URBEMIS2007 to estimate maximum project emissions.

Daily construction-related emissions for the proposed project are presented in **Table 3.2-6**. As shown, maximum emissions would not exceed the SCAQMD daily significance thresholds for ROC, NO_X, CO, PM2.5 or PM10. Therefore, the regional construction impacts would be less than significant. The emissions estimates were conducted using the URBEMIS model developed in part by SCAQMD to assist in estimating future emissions. URBEMIS worksheets are included in Appendix B. The model assumed a total of 13.54 acres to be graded, with a maximum of 3.38 acres per day. Equipment list assumptions are provided in Appendix B.

TABLE 3.2-6
UNMITIGATED CONSTRUCTION EMISSIONS

	Estimated Emissions (lbs/day)[a]					
Construction Phase	**ROG**	**NOX**	**CO**	**SOX**	**PM10**	**$PM_{2.5}$**
Demolition	1	9	6	0	1	1
Grading/Excavation	4	33	17	<1	92	20
Trenching	2	18	9	0	1	1
Paving	3	19	13	0	2	1
Building Construction	5	21	39	<1	2	1
Architectural Coating	66	<1	1	0	<1	0
Maximum Regional Daily Emissions	53	73	63	<1	72	18
SCAQMD Regional Significance Threshold	75	100	550	NA	150	55
Significant Impact?	No	No	No	No	No	No

[a] Emissions estimates were developed using the URBEMIS2007 model based on square-footage of construction areas. See Appendix B for additional information.

SOURCE: ESA, 2009.

Significance: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario, daily construction activities would be similar to the proposed project, assuming a similar maximum 3.38 acres pre day graded. Emissions associated with construction would be lower than the SCAQMD thresholds based on the same assumptions

estimated in the URBEMIS model. Construction emissions of the Maximum Buildout Scenario would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, daily construction activities would be similar to the proposed project, assuming a similar maximum 3.38 acres pre day graded. Emissions associated with construction would be lower than the SCAQMD thresholds based on the same assumptions estimated in the URBEMIS model. Construction emissions of the Maximum with PRD Buildout Scenario would be less than significant.

Significance: Less than significant

Collection System

Construction activities associated with the future collection system upgrades could occur throughout the City of Riverside. Construction of individual projects would require mitigation to minimize dust emissions and vehicle exhaust. Implementation of mitigation would likely reduce emissions below SCAQMD thresholds of significance. However, each project would be subject to additional air emissions estimates and CEQA compliance analysis.

Significance: Less than significant

Exceed Emissions Thresholds in a Non-Attainment Area during Operation

Impact 3.2-3: Operation of the proposed project would result in emissions of criteria pollutants and their precursors for which the South Coast Air Basin is designated as a non-attainment area. (Less than Significant)

Operational emissions for the proposed project would be generated from mobile and stationary sources. Mobile sources would include small increases from worker commute and biosolids haul trips. Mobile source emissions would not increase significantly. Stationary sources would include treatment facilities, boiler, flare, emergency generator, and the cogeneration facilities. These facilities currently operate under permits issued by the SCAQMD. **Table 3.2-7** lists many of the existing permits to operate issued by SCAQMD for the existing facility, including the facility NOx emissions limit as noted on the permits. New equipment installed as part of the project including new boilers, flares, and emergency generators would require new permits from SCAQMD. The permits would require best available control technologies to minimize emissions. The existing overall Sewage Treatment emissions permit is issued for 40 mgd and would need to

be reissued to accommodate 52.2 mgd. Emissions limits for the new permits would be established by SCAQMD consistent with SCAQMD Rules.

TABLE 3.2-7
EXISTING PERMITS TO OPERATE

Equipment Description	Design Size	Permitted Emission Limits for NOx (lbs/day)
SEWAGE TREATMENT - ANEROBIC	40 MGD	In accordance data provided with permit application
COMBUSTION ENGINE (Cogen 1)	1.1 MW generator	Less than or equal to 1,667 lbs/month (=60 lbs/day) for all combustion equipment combined
COMBUSTION ENGINE (Cogen 2)	1.1 MW generator	
COMBUSTION ENGINE (Cogen 3)	1.1 MW generator	
BOILER DIGESTER GAS (Boiler #1)	4.184 MMBtu/hr	
BOILER DIGESTER GAS (Boiler #2)	4.184 MMBtu/hr	
FLARE, ENCLOSED LANDFILL/DIGESTER GAS	667 cfm	
ACTIVATED CARBON ADSORBER	NA	NA
BIOFILTER	Two 13,800 scfm blowers	NA

NA = Not Assigned

SOURCE: SCAQMD, *Facility Information Detail (FIND) - Facility ID: 9961,* June 8, 2010.

Table 3.2-8 summarizes actual emissions of criteria pollutants from the treatment plant facilities as reported to SCAQMD for the year 2009 when the plant experienced flows of 33.5 mgd. The Table also estimates emissions for a projected flow of 52.2 mgd based on a linear progression. The difference between existing emissions and future projected emissions is less than the SCAQMD emissions thresholds for operations listed in Table 3.2-5. Implementation of the proposed project will upgrade equipment to increase control efficiency and minimize air

emissions. Therefore, future emissions from the plant will likely be considerably less than the linear projections shown in Table 3.2-8 due to upgraded equipment and the planned covering of facilities. In any case, future emissions with the project will be less than under the No Project Alternative which would experience greater flow but not upgrade the plant. That is to say, implementation of the project would result in lower operational emissions than if the upgrades were not implemented.

TABLE 3.2-8
CHANGE IN OPERATIONAL EMISSIONS OF CRITERIA POLLUTANTS*

		ACTUAL 2009 Annual Emissions (33.5 MGD flow rate)		ESTIMATED Future Emissions (52 MGD flow rate)		
Pollutant ID	**Pollutant Description**	**Tons per year (Tons/year)**	**Pounds per day (lbs/day)**	**Tons per year (Tons/year)**	**Pounds per day (lbs/day)**	**Difference in Estimated Future and Annual Emissions (lbs/day)**
CO	Carbon Monoxide	35.592	195	55.168	302	107
NOx	Nitrogen Oxides	8.03	44	12.447	68	24
ROG	Reactive Organic Compounds	6.582	36	10.202	56	20
SOx	Sulfur Oxides	0.553	3	0.857	5	2
TSP	Total Suspended Particulates	0.997	5	1.545	8	3

* Linear projections of emissions based on flow projections do not account for upgraded emissions control equipment.

SOURCE: SCAQMD, *Facility Information Detail (FIND) - Facility ID: 9961,* June 8, 2010.

The treatment plant currently operates cogeneration facilities that generate up to 3.2 MW of power. The proposed project would not increase the capacity of these facilities. As gas production increases, the cogeneration facilities would increase energy production. However, the new treatment facilities would require more power than the gas produced on site can generate. As a result, the proposed project would meet up to 2.7 MW of the plant's entire energy demand from the grid supplied by the City of Riverside Utilities Department. The City of Riverside has committed to providing 50 percent of its energy supply from renewable sources.[11] The RWQCP currently has emissions permits to operate the existing cogeneration facilities.

As inflow to the plant increases in the future, air emissions generated by the wastewater will increase with or without the project. The proposed project will install upgraded equipment to better control emissions, minimizing increases and potentially reducing emissions of some pollutants. The plant emissions will be subject to permit conditions designed to manage the air basin's overall emissions inventory. The proposed project would upgrade treatment facilities to minimize emissions from wastewater generated from the increased population in the service area.

[11] http://www.riversideca.gov/utilities/elec-rerc-faqs.asp

Without the proposed project, these emissions would be greater. For instance, the currently open-air primary treatment facilities would be covered, reducing the overall VOC emissions from the treatment plant. In addition, replacement of the boilers will reduce emissions due to upgraded emissions controls. Compliance with air emissions permit limits imposed by SCAQMD for this vital public facility will ensure that the proposed project would comply with the federal Clean Air Act and would not result in a significant impact to regional air quality.

Significance: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario the plant expansion would emit similar emissions as the proposed project until the inflow exceeded 52.2 mgd. Slightly larger quantities of pollutants during operations would be emitted once the 52.2 mgd inflow was exceeded. Similar to the proposed project, operational emissions would be subject to SCAQMD permit requirements including installation of emission control equipment. Best available control technology would be installed to maintain consistency with the federal Clean Air Act. If future flows exceed 52.2 mgd, the increased treatment capacity and air emissions control equipment would be able to capture and treat emissions more efficiently than the proposed project, since the system designed for Maximum Buildout Scenario would have the capacity to treat the inflow. Compliance with SCAQMD emissions permit limitations would ensure that the project was consistent with the federal Clean Air Act and AQMP.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario the plant expansion would emit similar emissions as the proposed project until the inflow exceeded 52.2 mgd. Larger quantities of pollutants during operations would be emitted once the 52.2 mgd inflow was exceeded. Similar to the proposed project, operational emissions would be subject to SCAQMD permit requirements including installation of emission control equipment. Best available control technology would be installed to maintain consistency with the federal Clean Air Act. If future flows exceed 52.2 mgd, the increased treatment capacity and air emissions control equipment would be able to capture and treat emissions more efficiently than the proposed project, since the system designed for Maximum with PRD Buildout Scenario would have the capacity to treat the inflow. Compliance with SCAQMD emissions permit limitations would ensure that the project was consistent with the federal Clean Air Act and AQMP.

Significance: Less than significant

Collection System

Future collection system upgrades could occur throughout the City of Riverside. Once constructed, the new collection systems would not result in significant operational emissions. The

new collection system would be subject to air emission and odor controls. Future CEQA compliance assessments would be required for new collection system projects.

Significance: Less than significant

Impact Sensitive Receptors

Impact 3.2.4: Project Operations would not expose sensitive receptors to substantial pollutant concentrations. (Less than Significant)

Sensitive receptors are considered highly sensitive to air pollution and include children, the elderly, acutely and chronically ill persons, residential development, hospitals, and schools. As discussed earlier, the nearest sensitive receptors are located over 1,500 feet west of the proposed construction areas. Due to this distance, a localized significance threshold (LST) analysis is not warranted. Therefore, localized construction impacts would be considered less than significant.

Carbon Monoxide

The proposed project vehicle trips would affect CO concentrations along the roadway network. As previously mentioned, the proposed project would increase the number of additional employees by two. Therefore, the project would only generate approximately 3 to 4 additional vehicle trips per day to and from the project site. Consequently, the proposed project's contribution to local CO concentrations is considered to be less than significant and no mitigation is required.

Toxic Air Contaminants

Some population groups, such as children, the elderly, and acutely and chronically ill persons, especially those with cardio-respiratory diseases, are considered more sensitive to air pollution than others. For construction, there is the possibility of release of DPM associated with heavy equipment operations during grading and excavation activities. In addition, incidental amounts of substances such as oils, solvents, and paints would be used. These substances would comply with all applicable SCAQMD rules for their manufacture and use.

CARB has declared that DPM from diesel engine exhaust is a toxic air contaminant (TAC). Additionally, OEHHA has determined that chronic exposure to DPM can cause carcinogenic and non-carcinogenic health effects. 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. Given the short-term construction schedule of each project facility, the proposed project would not result in a long-term substantial source of TAC emissions. The short-term increase in diesel exhaust emissions associated with construction of the proposed project would be less than significant over the 70-year health risk assessment period, and therefore would not contribute significantly to individual cancer risk.

For the proposed project, the RWQCP capacity would increase from 40 million gallons per day (mgd) to approximately 52.2 mgd (a 12.2 mgd increase), with the majority of influent coming from residential land uses. A toxic emissions inventory prepared for the existing RWQCP pursuant to the Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) found that the plant does not pose an unacceptable health risk to surrounding residential areas. The proposed project would not significantly increase toxic emissions from the plant. The upgrade would likely reduce emissions of some pollutants including VOCs due to the proposed covering of facilities. A toxics inventory was not prepared for the new facilities since the operational emissions have not yet been determined. The RWQCP will be required to prepare a new toxics inventory to quantify TAC emissions and to notify the SCAQMD and local residents regarding the results. Compliance with regulations governing TAC emissions would ensure that the increased treatment would result in a less than significant impact.

Significance: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario the plant expansion would emit similar quantities of TACs. Installation of emissions control equipment would minimize emissions. The impact would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario the plant expansion may emit slightly greater quantities of TACs. However, installation of emissions control equipment would minimize emissions. The impact would be less than significant.

Significance: Less than significant

Collection System

Construction activities associated with the future collection system upgrades could occur throughout the City of Riverside. Construction of the collection system would require additional CEQA compliance assessments. Individual projects may be located near sensitive receptors. Emissions control mitigation measures may be required to ensure that construction and operational emissions do not present significant impacts to local sensitive receptors.

Significance: Less than significant

Create Objectionable Odors

Impact 3.2-5: Project operations would not create objectionable odors affecting a substantial number of people. (Less than Significant)

The proposed project would construct biofilters, enclosed primary sludge thickeners, and other enclosed solids handling facilities for dewatering that would reduce the amount of odor associated with the treatment process. Furthermore an Odor Impact Minimization Plan (OIMP) has been put in place at the RWQCP in accordance with Title 14, California Code of Regulations Section 17863.4. The OIMP provides guidance on the storage, removal, and handling of materials at the site in accordance with the state requirements dealing with meteorological conditions, complaint response protocol, operating procedures, and etcetera. Included in the OIMP is a daily on-site odor evaluation to find, assess, and resolve questionable or objectionable odors on site and to determine if the odor travels off-site. A complaint response protocol is also in place to receive complaints, investigate the source, and implement changes to minimize the odors. The plant has received few odor complaints in its existing condition. New odor control equipment will be installed as part of the proposed project, reducing odor emissions. Therefore, odor related emissions would be less than significant without mitigation.

Significance: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario, odor control equipment would be installed similar to the proposed project. Odor emissions would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, odor control equipment would be installed similar to the proposed project. Odor emissions would be less than significant.

Significance: Less than significant

Collection System

Future collection system upgrades could occur throughout the City of Riverside. Once constructed, the new collection systems would not result in significant operational emissions. The new collection system would be subject to air emission and odor controls. Future CEQA compliance assessments would be required for new collection system projects.

Significance: Less than significant

Cumulative Impacts

Impact 3.2-6: The project would not conflict with implementation of state goals for reducing greenhouse gas emissions or have a negative effect on global climate change. (Less than Significant)

The California Energy Commission (CEC) estimated that in 2004 California produced 500 million gross metric tons (about 550 million U.S. tons) of carbon dioxide-equivalent GHG emissions.[12] The CEC found that transportation is the source of 38 percent of the State's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent and industrial sources at 13 percent (CEC, 2006).

As with other individual and 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/year of CO_2), the specific emissions from this project would not be expected to individually have an impact on Global Climate Change (AEP, 2007). Furthermore, greenhouse gas impacts are considered to be exclusively cumulative impacts; there are no non-cumulative greenhouse gas emission impacts from a climate change perspective (CAPCOA, 2008).

As identified in the significance thresholds, four types of analyses are used to determine whether the project could be in conflict with the state goals for reducing greenhouse gas emissions (see Items A-D above).

With regard to Item A, the project does not pose any apparent conflict with the CARB's thirty-nine recommended actions (see Table 3.2-4).

With regard to Item B, project construction GHG emissions would be approximately 9,104 metric tons/year of CO_2e (worst case year) and project operations would be approximately 9,057 metric tons/year of CO_2e (indirect emissions from the use of electricity). The construction emissions were calculated using the URBEMIS emissions model as shown in Appendix B. Operational emissions were calculated for energy usage. The treatment plant currently requires 2.4 MW to operate. Much of this power is supplied by the existing cogeneration facilities. The operational emissions estimate assumed an increase in energy use of 3.5 MW (30,660 MWh/year). Approximately 0.8 MW of this increase would be accommodated by the existing cogeneration facilities. The remaining 2.7 MW would be supplied from the Riverside Utilities Department. Appendix B includes a summary of the estimated GHG emissions. Operational emissions would be about 21 percent of the lower reporting limit of 25,000 metric tons/year of CO_2. The project would not be classified as a major source of greenhouse gas emissions.

When compared to the overall State reduction goal of approximately 169 million metric tons/year of CO_2e, the maximum incremental increase in greenhouse gas emissions for the project (5,175 metric tons/year of CO_2e or 0.003 percent of the State goal) are quite small and

[12] Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

should not conflict with the State's ability to meet the AB 32 goals. Furthermore, the plant will maximize the use of methane generated by the plant to generate energy used by the plant, minimizing the plant's energy requirement from the grid. Use of this renewable resource is consistent with the State reduction goals.

The worst-case annual GHG emissions associated with project construction (47 metric tons per year CO_2e after amortization over 30 years per SCAQMD methodology) and operations (5,175 metric tons per year CO2e) would be approximately 5,222 metric tons CO_2e per year.

With regard to Item C, the proposed project objectives include upgrading the facility with the latest technology so that it functions more efficiently in regards to the cost of treating wastewater. The proposed project would also lessen demand of electricity provided by the grid by creating a portion of its own energy (from the cogeneration unit) that will be used on-site. The plant will maximize the use of gas produced on site as a source of renewable energy to generate electricity that will minimize the plant's overall demand on the electric grid. The remaining increase in energy use will come from the City of Riverside Utilities Department. The City of Riverside has committed to providing 50 percent of its energy supply from renewable sources.[13]

With regard to Item D, the City of Riverside has not established GHG reduction plans or policies. Therefore, the project would not conflict with any local regulations pertaining to greenhouse gases.

Significance: Less than significant

Impact 3.2-7: The proposed project would not 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). (Less than Significant)

SCAQMD has set forth both a methodological framework as well as significance thresholds for the assessment of a project's cumulative operational air quality impacts. The SCAQMD approach for assessing cumulative impacts is based on the SCAQMD's AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and state Clean Air Acts. This forecast also takes into account SCAG's forecasted future regional growth. As such, the analysis of cumulative impacts focuses on determining whether the proposed project is consistent with forecasted future regional growth. Therefore, if all cumulative projects are individually consistent with the growth assumptions upon which the SCAQMD's AQMP is based, then future development would not impede the attainment of ambient air quality standards and a significant cumulative air quality impact would not occur.

Based on the SCAQMD's methodology (presented in Chapter 9 of the CEQA Air Quality Handbook), a project would have a significant cumulative air quality impact if the ratio of daily project-related vehicle miles traveled (VMT) to daily countywide vehicle miles traveled exceeds

[13] http://www.riversideca.gov/utilities/elec-rerc-faqs.asp

the ratio of daily project-related population growth to daily countywide population growth. As discussed previously, full build out of the proposed project would result in only two additional employees. Thus, the project would only generate approximately 3 to 4 additional vehicle trips per day. Therefore, the amount of VMT generated by the proposed project would be less than significant. As inflow to the plant increases in the future, plant emissions may increase with or without the project. The proposed project would implement upgraded equipment to control emissions, resulting in a beneficial impact to air quality. New equipment would be required to obtain permits from the SCAQMD. Compliance with permit conditions would ensure that any increased emissions at the plant resulting from the proposed project would not be cumulatively considerable.

Significance: Less than significant

References – Air Quality

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Governor's Office of Planning and Research (OPR), 2008. *Technical Advisory – CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review*, June 19, 2008.

Governor's Office of Planning and Research (OPR), 2009. *Preliminary Draft CEQA Guideline Amendments for Greenhouse Gas Emissions*, January 8, 2009.

South Coast Air Quality Management District (SCAQMD), December 2008. *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans.*

3.3 Biological Resources

This section assesses the potential for the project to result in significant adverse environmental impacts to biological resources. The analysis defines the range of biological resources at or near the project site, identifies the proposed project elements that may have measurable impacts on these resources, and analyzes if such impacts can be mitigated to less-than-significant levels.

Literature Review and Field Reconnaissance

The determination of biological resources present at the Regional Water Quality Control Plant (RWQCP) was made from a reconnaissance-level site survey, previously prepared reports, and data sources that include:

- A reconnaissance-level site survey conducted by ESA biologists on January 23, 2008. The purpose of the survey was to characterize onsite plant communities and assess habitat quality to determine the potential for the project site (and adjacent lands) to support sensitive biological resources, which includes species covered under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP*)*. The survey consisted of walking the project site, including the adjacent undeveloped areas within approximately 200 feet from the project site, to assess the potential for the sensitive species to be present. Portions of the Santa Ana River that were visible from the project site were assessed as well. Presence of potentially-occurring sensitive species was determined based on visual observation.
- California Native Plant Society's[1] (CNPS's) Inventory of Rare and Endangered Plants of California (Online edition: www.cnps.org ; accessed January 11, 2008). Records search included the Riverside West U.S. Geological Survey 7.5-minute quadrangle and eight adjacent quadrangles (Riverside East, Steele Peak, Lake Matthews, Corona South, Corona North, Guasti, Fontana, and San Bernardino South;
- California Natural Diversity Database[2] (CNDDB) records search for the Riverside West U.S. Geological Survey 7.5-minute quadrangle and eight adjacent quadrangles (Riverside East, Steele Peak, Lake Matthews, Corona South, Corona North, Guasti, Fontana, and San Bernardino South) (CDFG 2008);
- List of federal endangered and threatened species that may be affected by projects in Riverside County (USFWS, 2008);
- City of Riverside General Plan 2025 Final Program EIR (State Clearinghouse No. 2004021108);
- County of Riverside, *Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)* and *Conservation Summary Report Generator;* accessed online January 11, 2008 at http://www.rcip.org/conservation.htm .

The potential for special-status species to occur on the project site is based on the proximity of the proposed project to previously recorded occurrences identified in the aforementioned sources, on-site vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences and geographic ranges of special-status plant and wildlife species known to occur in the region. A list of special-status plant and animal species recorded in the vicinity of the

1 The CNPS database lists historical and recent occurrences of special-status plant species
2 The CNDDB lists historical and recently recorded occurrences of both special-status plant and wildlife species.

proposed project, based on the reconnaissance-level site survey, previously prepared reports, and data sources, is provided in Tables 3.3-1 (pg. 3.3-6) and 3.3-2 (pg. 3.3-7) , respectively.

3.3.1 Environmental Setting

The proposed project site is located in the western portion of the City of Riverside. The project site is bounded to the north by the Santa Ana River, beyond which is the Hidden Valley Wildlife Area; to the northwest by Van Buren Boulevard, beyond which is the Santa Ana River and the Hidden Valley Wildlife Area; to the west and southwest by Van Buren Boulevard, beyond which is residential development; to the south, southwest, and east by industrial facilities and parking lots; and to the northeast by the Santa Ana River, beyond which is the Hidden Valley Wildlife Area (**Figure 3.3-1**). The proposed project site is located within the Pacific Flyway[3].

The City of Riverside is located within the Santa Ana River watershed and is designated as part of the Santa Ana Region (Region 8) of the California Regional Water Quality Control Board (RWQCB). The proposed project site is located within the RWQCB Middle Santa Ana River Watershed Management Area.

The Santa Ana River flows from the San Bernardino Mountains to the Pacific Ocean for over 100 miles and is the "receiving water" for over 2,700 square miles covering portions of San Bernardino, Riverside, and Orange Counties. The river is located along the northern boundary of the city and is an important recreational, habitat and visual resource. The river serves important flood control and water quality management functions; it is a natural corridor for the migration of wildlife to and from different parts of the city and region. Wetlands located in the Santa Ana River Corridor link the water and the land, and act as natural filters that enhance overall river water quality. Wetlands provide habitat value for a wide variety of plants, invertebrates, fish and larger animals, including many rare, threatened and endangered species. The Santa Ana River also supports important riparian habitats (e.g., plant communities supporting woody vegetation found along rivers, creeks, and streams) and acts as a migration corridor for wildlife. Riparian habitats are of special value for wildlife as they can provide unique foraging and nesting opportunities for terrestrial, aquatic and avian species. The Santa Ana River also serves various ecosystem functions including providing riverbank protection, erosion control and improved water quality.

Habitats and Plant Communities

The following assessment of habitats and plant communities found within or adjacent to the proposed project site are based on the literature review and field reconnaissance. Plant communities are assemblages of plant species that occur together in the same area forming habitat types. Plant communities and habitat descriptions nomenclature used in this report are based in part on the California Wildlife-Habitat Relationships (WHR) System as described in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer, 1998). Plant names follow the *Jepson Manual* (Hickman, 1993).

[3] The Pacific Flyway is an established air route of waterfowl and other birds migrating between wintering grounds in Central and South America and nesting grounds along the Pacific Coast and in provinces of North America.

0 500
Feet

SOURCE: ESA, 2008

City of Riverside . 206047

Figure 3.3-1
Aerial View of Project Site

The proposed project site and adjacent areas supports three dominant plant communities and associated habitats as determined by the composition and structure of the dominant vegetation observed at the time of the field surveys. These habitat types are found within and/or adjacent to the project site and include Urban, Valley Foothill Riparian, and Fresh Emergent Wetland.

Urban

Urban is developed land that is comprised of areas of intensive use with much of the land covered by structures and paved (impermeable) surfaces. Included in this category are cities, transportation facilities, power and communications facilities, residences, shopping centers, roads, industrial and commercial complexes, and institutions that may, in some instances, be isolated from urban areas. Agricultural land, wetland, or water areas on the fringe of urban or built-up areas are not included in this category except where they are surrounded and dominated by urban development.

The city is predominantly urban/developed with peripheral areas of open space characterized by agriculture (Arlington Heights Greenbelt) and native vegetation (e.g., La Sierra/Norco Hills, Sycamore Canyon Park, Santa Ana River, and arroyos). The proposed project site is composed primarily of urban habitats that include equalization ponds, sedimentation basins, distribution structures, management buildings, parking lots, and paved roads. Small patches of weedy annuals and grasses such as mustards (*Brassica spp.*), filaree (*Erodium spp.*) and cheeseweed (*Malva spp.*) dominate the vegetation cover within this habitat type. The only vegetated area on the project site include a vegetated and fenced area containing a Native American burial ground occurs within the treatment plant, as well as ornamental palm trees.

Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forest (Holland, 1986) is located adjacent to the project's northern property boundary, within the Santa Ana River corridor. This plant community is dominated by tall, open, broadleaved winter-deciduous trees such as the Fremont cottonwood (*Populus fremontii*), black cottonwood (*Populus trichocarpa*) and several tree willows (*Salix sp*.), with an understory dominated with California mugwort (*Artemisia douglasiana*), mulefat (*Baccharis salicifolia*), wild cucumber (*Marah macrocarpus*), and sandbar willow (*S. hindsiana*) and stinging nettle (*Urtica holosericea*). Other species observed within this plant community include western sycamore (*Platanus racemosa*), Goodding's black willow (*Salix gooddingii*), pacific willow (*S. lasiandra*) and arroyo willow (*S. lasiolepis*). Portions of the Southern cottonwood-willow riparian forest are dominates by giant reed (*Arundo donax*), an invasive plant. Giant reed dominated portions of valley foothill riparian habitats along the Santa Ana River near Van Buren Boulevard at the project site's northern boundary.

Vegetation within the bed of the Santa Ana River is generally limited to water moss and algae, and emergent vegetation and floating water plants, such as duckweed occur along the river's banks. Source water of the Santa Ana River originates from seasonal rains in the winter and snow and rainstorm runoff from the mountains in the spring. However, a portion of the water comes from wastewater treatment plant discharge from a number of cities along the Santa Ana River, including Corona, Colton, Rialto, and San Bernardino. Reclamation water is particularly evident during the summer months when it is the primary source of water for the Santa Ana River.

Fresh Emergent Wetland

Fresh emergent wetlands are characterized by erect, usually perennial monocots, which are found in areas with frequent flooding. Vegetation in this habitat type can include common cattail, tule bulrush, river bulrush, and arrowhead.

A man-made, fresh emergent wetland is located immediately downstream of the RWQCP's discharge pipe. The wetland was constructed to absorb and filter discharged water prior to converging with the Santa Ana River. The discharged waters are conveyed through a side channel, separated from the Santa Ana River by a berm through the wetland before reaching the Santa Ana River.

Wildlife

The city's unique landscape supports a diversity of biological resources, including a number of special-status[4] species. Natural habitat such as riparian areas provides food, cover, and shelter for birds, mammals, reptiles, amphibians and fishes, and insects. Increasing levels of development have affected the amount of biodiversity within the city, primarily through the loss and fragmentation of habitat. Biological resources in the city are primarily limited to large, connected open spaces within and adjacent to the city limits, such as the Santa Ana River Regional Park, Box Springs Mountain, Regional Park, Box Springs Canyon, Alessandro Hills, Mockingbird Canyon, the La Sierra/Norco Hills, Lake Mathews Preserve, and several arroyos.

Common Wildlife Species

Wildlife species found within the proposed project vicinity tend to be mostly species adapted to urban environments, with a greater diversity of wildlife in open space areas and areas of natural habitat. Few wildlife species are anticipated to occur within the proposed project's footprint. Primarily, wildlife habitat is present within the Santa Ana River Corridor, where a number of birds, fish and other aquatic species are expected to occur. Common animals adapted to urban environments are expected to be present within the disturbed, ruderal habitat located adjacent to the proposed project site. Such species may include California western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), California ground squirrel (*Spermophilus beecheyi*), and numerous commonly occurring passerines such as mourning dove (*Zenaida macroura)*, house finch (*Carpodacus mexicanus)* and California towhee (*Pipilo crissalis*). The following are some common species that are expected to occur within the Santa Ana River corridor: coyote (*Canis latrans*), bobcat (*Lynx rufus*), desert cottontail (*Sylvilagus auduboni*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), striped skunk (*Mephitis*

[4] Special status species are defined as listed plant and animal species that receive specific protection defined in federal or state legislation (Endangered Species Act), and are formally designated as endangered, threatened or rare under state or federal legislation. Also included in this definition are species that have no formal listing status as threatened or endangered, but are regarded as locally "rare," "sensitive," or "species of concern" on the basis of adopted policies and expertise of federal, state or local resource agencies, or local organizations with acknowledged expertise, such as the California Native Plant Society. Species that meet the criteria of Section 15380 of the California Environmental Quality Act or the California Native Plant Protection Act are defined as special status species. In general, plants constituting CNPS List 1A, 1B or 2 meet the definitions of California Department Fish and Game Code Section 1901 (Native Plant Protection Act) and/or Sections 2062 and 2067 (California Endangered Species Act), and are protected as such.

mephitis), western harvest mouse (*Reithrodontomys megalotis*), deer mouse (*Peromyscus maniculatus*), dusky-footed woodrat (*Neotoma fuscipes*), California mouse (*Peromyscus californicus*), California pocket mouse (*Chaetodipus californicus*), California vole (*Microtus californicus*) and Pacific kangaroo rat (*Dipodomys agilis*), as well as several raptor species and song birds.

Within the area of the proposed RWQCP expansion, a large number of wintering and/or migratory waterfowl and shorebirds were observed on-site in the equalization ponds during the site visit. Species observed included the cinnamon teal *Anas cyanoptera*, blue-winged teal (*Anas discors*), green-winged teal (*Anas crecca)*, northern shoveler (*Anas clypeata)*, American wigeon (*Anas americana)*, American coot (*Fulica americana)*, black-necked stilt (*Himantopus mexicanus)*, unknown sandpiper species *(Scolopacidae)* , Bonaparte's gull (*Larus Philadelphia)*, and ring-billed gull (*Larus delawarensis)*. Other bird species observed included the black phoebe (*Sayornis nigricans)*, Say's phoebe (*Sayornis saya)*, red-winged blackbird (*Agelaius phoeniceus*), red-tailed hawk (*Buteo jamaicensis*), and turkey vulture (*Cathartes aura)*.

Cores and Linkages

The MSHCP Conservation Area is comprised of a variety of existing and proposed Cores, Extensions of Existing Cores, Linkages, Constrained Linkages and Non-contiguous Habitat Blocks. These features are generally referenced as Cores and Linkages in the MSHCP (Volume 1 – The Plan). The Hidden Valley Wildlife Area and the Santa Ana River are the nearest cores and linkages in the vicinity of the project site. Provided below are the MSHCP definitions of cores and linkages:

- Core- a block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species.
- Extension of Existing Core -a block of Habitat contiguous with an existing Core Area which serves to provide additional Habitat for species in the adjacent existing Core and to reduce exposed edge.
- Non-contiguous Habitat Bloc- a block of habitat not connected to other Habitat areas via a Linkage or Constrained Linkage.
- Constrained Linkage - a constricted connection expected to provide for movement of identified Planning Species between Core Areas, where options for assembly of the connection are limited due to existing patterns of use.
- Linkage - a connection between Core Areas with adequate size, configuration and vegetation characteristics to generally provide for "Live-In" Habitat and/or provide for genetic flow for identified Planning Species. Areas identified as Linkages in MSHCP may provide movement Habitat but not Live-In Habitat for some species, thereby functioning more as movement corridors.

Additionally, the Santa Ana River is a protected linkage preferred by native wildlife, permanently set aside as open space by the County of Riverside Parks Department.

Special-Status Species and Sensitive Plant Communities

Special Status Plant Species

Due to the urbanized and disturbed nature of the habitats within the proposed RWQCP expansion area, no special-status plant species are likely to occur within project site boundaries. **Table 3.3-1** summarizes special-status plant species that have been previously recorded in the region. Potential for occurrence is typically dependent on or affected by factors such as geographical location, soil types, precipitation rates, angle, and direction of slopes, elevations, microclimates, and successional considerations.

Sensitive Plant Communities

The CNDDB tracks the occurrence of Terrestrial Natural Communities that are considered rare and worthy of consideration by CNDDB (CDFG, 2002a)." These natural communities and habitats are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. Several sensitive plant communities and habitats can be found within the Santa Ana River corridor. Near the proposed project site, such plant communities include Southern Cottonwood-Willow Riparian Forest and the Southern California Arroyo Willow.

Special Status Wildlife Species

Due to the urbanized and disturbed nature of the habitats within the proposed RWQCP expansion site, no special-status wildlife species occur within project site boundaries. However, several special-status species have been previously recorded within the region. These species are presented below in **Table 3.3-2**.

TABLE 3.3-1
SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Status Designation	Distribution Notes	Potential for Occurrence
San Diego ambrosia	*Ambrosia pumila*	Federal:FE State: None CNPS: 1B	Chaparral, coastal scrub, valley and foothill grassland, vernal pools. In the U.S., known only from San Diego and Riverside Co. Sandy loam or clay soil. In valleys; persists where disturbance has been superficial. 20-415m elevation.	None. Suitable habitat is not present within the project site. High level of disturbance on project site precludes this species from occurring.
Parry's spineflower	*Chorizanthe parryi var. parryi*	Federal: None State: None CNPS: 3	Coastal scrub, chaparral. Dry slopes and flats; sometimes at interface of 2 vegetation such as chaparral and oak woodland; dry, sandy soils. 40-1,705m elevation.	None. High level of disturbance on project site precludes this species from occurring.
Smooth tarplant	*Centromadia pungens ssp. laevis*	Federal: None State: None CNPS: 1B	Valley and foothill grassland, chenopod scrub, meadows, playas, riparian woodland. Alkali meadow, alkali scrub; also in moderately disturbed places. 0-480m elevation.	None. High level of disturbance on project site precludes this species from occurring.
Santa Ana River woolystar	*Eriastrum densifolium* ssp. *sanctorum*	Federal: FE State: SE CNPS: 1B	Associated with coastal scrub and chaparral habitats; found in sandy soils on river floodplains or terraced fluvial deposits. 150-610m.	None. High level of disturbance on project site precludes this species from occurring.
Mesa horkelia	*Horkelia cuneata* ssp. *puberula*	Federal: None State: None CNPS: 1B	Found in chaparral, cismontane woodland and coastal scrub habitats; found in gravelly or sandy sites.	None. High level of disturbance on project site precludes this species from occurring.
Robinson's pepper grass	*Lepidium virginicum var. robinsonii*	Federal: None State: None CNPS: 1B	Chaparral, coastal scrub. Dry soils, shrubland. 1-945m elevation.	None. High level of disturbance on project site precludes this species from occurring.
*Brand's star phacelia	*Phacelia stellaris*	Federal: Candidate State: None CNPS: 1B.1	Coastal scrub and coastal dunes; open areas, 5-1515 meters.	None. Suitable habitat is not present within or near the project site.
*San Miguel savory	*Satureja chandleri*	Federal: None State: None CNPS: 1B.1	Chaparral, cismontane woodland, coastal shrub, rip woodland, valley and foothill grassland; found in rocky gabbroic or metavolcanic substrate. 120-1005m.	None. High level of disturbance on project site precludes this species from occurring.
Rayless ragwort	*Senecio aphanactis*	Federal: None State: None CNPS: 2	Cismontane woodland, coastal scrub, drying alkaline flats. 20-575m elevation	None. High level of disturbance on project site precludes this species from occurring.

Federal designations: (Federal Endangered Species Act, USFWS):
FE: Federally listed, endangered
State designations: (California Endangered Species Act, CDFG)
SE: State-listed, endangered
California Native Plant Society (CNPS) Designations:
List 1B: Plants rare and endangered in California and throughout their range.
List 2: Plants rare and endangered in California, but more common elsewhere.
List 3: Plants about which more information is needed
* MSHCP: Narrow Endemic Species

SOURCES: California Natural Diversity Database (CNDDB 2008) Riverside West (five-mile buffer); USGS quads, January 3, 2008; Western Riverside County's Conservation Summary Report Generator; http://www.rcip.org/conservation.htm, accessed online January 11, 2008.

TABLE 3.3-2
SPECIAL-STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Status Designation	Preferred Habitat	Potential for Occurrence
Birds				
Tricolord Blackbird	*Agelaius tricolor*	Federal: FSOC State: CSC	Freshwater marshes. Suitable breeding habitat includes cattails and bulrushes, as well as non-native thistles and mustards.	May occur within the Santa Ana River Corridor. No potential to forage or nest on the project site.
Southern California Rufous-Crowned Sparrow	*Aimophila ruficeps canescens*	Federal: None State: CSC	Rocky slopes, especially where a relatively open shrub cover dominated by California sagebrush is interspersed with grassy areas.	None. No habitat present within or adjacent to the project site.
Burrowing owl	*Athene cunicularia*	Federal: None State: CSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	None: No habitat present within or adjacent to the project site. Would not occur within the Santa Ana Riverbed.
Western Yellow-Billed Cuckoo	*Coccyzus americanus occidentalis*	Federal: FC State: SE	Restricted to extensive deciduous riparian thickets or forest with dense, low-level or understory foliage which occur along slow moving watercourses, backwaters or seeps. Willows are almost always a dominant component nesting habitat.	May occur within the Santa Ana River Corridor. No potential to forage or nest on the project site.
Coastal California Gnatcatcher	*Polioptila californica californica*	Federal: FT State: CSC	Obligate resident of several distinct sub-associations of the coastal sage scrub plant community.	None. No habitat present within or adjacent to the project site.
Least Bell's Vireo	*Vireo bellii pusillus*	Federal: FE State: SE	Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis, mesquite. Summer resident of southern california in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	May occur within the Santa Ana River Corridor. No potential to forage or nest on the project site.
Fish				
Santa Ana Sucker	*Catostomus santaanaae*	Federal: FT State: CSC	Small- to medium-sized permanent streams in water of varying depth. Flow is also variable. Usually found in clear water, they are able to tolerate seasonal turbidity. Prefers substrates that are generally coarse and consist of gravel, rubble, and boulder, but are occasionally found on sandy or muddy substrates	Expected to occur within the perennial waters of the Santa Ana River located adjacent to the project site. Nearby records of occurrence exist.

TABLE 3.3-2
SPECIAL-STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Status Designation	Preferred Habitat	Potential for Occurrence
Arroyo Chub	*Gila orcutti*	Federal: None State: CSC	Lowland habitats, and prefers steady currents and emergent vegetation. Prefers slower-moving pools and ponded areas of streams with mud or sand substrates.	Expected to occur within the perennial waters of the Santa Ana River located adjacent to the project site. Nearby records of occurrence exist.
Santa Ana Speckled Dace	*Rhinichthys osculus ssp. 3*	Federal: None State: CSC	Requires permanent flowing streams with summer water temperatures of 17-20 C (60-68 F). Typically, streams are maintained by outflows of cool springs. Inhabits shallow cobble and gravel riffles.	Expected to occur within the perennial waters of the Santa Ana River located adjacent to the project site.Nearby records of occurrence exist.
Mammals				
Stephens' Kangaroo Rat	*Dipodomys stephensi*	Federal: FE State: ST	Inhabits annual grassland with sparse perennial vegetation in the San Jacinto Valley and adjacent areas of western Riverside and northwestern San Diego County.	None. No habitat present within or immediately adjacent to the project site.
Western mastiff bat	*Eumops perotis californicus*	Federal: None State: CSC	Found in open, semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	No roosting habitat present within or adjacent to the project site. May forages within the Santa Ana River Corridor.
Western yellow bat	*Lasiurus xanthinus*	Federal: None State: CNDDB	Found in valley foothill riparian, desert riparian, desert wash and palm oasis habitats. Roosts in trees, particularly palms, forages over water and among trees.	No roosting habitat present within or adjacent to the project site. May forages within the Santa Ana River Corridor.
San Diego Black-Tailed Jackrabbit	*Lepus californicus bennettii*	Federal: None State: CSC	Arid regions supporting short-grass habitats such as annual grassland, Riversidean sage scrub, alluvial fan sage scrub. Great Basin sagebrush, chaparral, disturbed habitat and herbaceous edges	Not expected to occur within the project site. May forage within adjacent habitats.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	Federal: None State: CSC	Found in a variety of arid areas in S. California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc.	None. No suitable habitat present within or adjacent to the project site.
Los Angeles Pocket Mouse	*Perognathus longimenbris brevinasus*	Federal: None State: CSC	Restricted to lower elevation grasslands and coastal sage scrub associations in the Los Angeles Basin.	None. No suitable habitat present within or adjacent to the project site.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	Federal: None State: CSC	Found in a variety of arid areas in S. California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc.	None. No suitable habitat present within or adjacent to the project site.

TABLE 3.3-2
SPECIAL-STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE PROJECT VICINITY

Common Name	Scientific Name	Status Designation	Preferred Habitat	Potential for Occurrence
Reptiles				
Orange throated whiptail	*Aspidoscelis hyperythrus*	Federal: None State: CSC	Inhabits low-elevation coastal scrub, chaparral and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches or brush and rocks.	No suitable habitat present within the project site; however, may be present within the Santa Ana River Corridor.
San Diego banded gecko	*Coleonyx variegates abbotti*	Federal: None State: CNDDB	Found in coastal and cismontane areas in southern California, prefers granite or rocky outcrops in coastal scrub and chaparral habitats	None. No suitable habitat present within or adjacent to the project site.
Northern Red-Diamond Rattlesnake	*Crotalus ruber ruber*	Federal: None State: CSC	Chaparral, woodland, grassland, and desert areas. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	None. No suitable habitat present within or adjacent to the project site.
Coast (San Diego) Horned Lizard	*Phrynosoma coronatum (blainvillei)*	Federal: None State: CSC	Open or sparse scrub and chaparral communities. This species prefers loose, friable soil for burrowing.	Not expected to occur within the project site; however, could occur within adjacent habitat containing sandy soils and within upland habitats of the Santa Ana River.

Status Codes

Federal	State
FE = Federal listed; Endangered	ST = State-listed; Threatened
FT = Federal listed; Threatened	SE = State-listed; Endangered
FPE = Federal Proposed Endangered	CSC = California Species of Special Concern
FPT = Federal Proposed Threatened	CNDDB = listed in CNDDB for rarity or other designation
FSOC = Federal Species of Concern	
FC = Federal Candidate Species	

SOURCE: California Natural Diversity Database (CNDDB 2008), Riverside West and 5 mile buffer USGS quads. January 3, 2008.

3.3.2 Regulatory Framework

Federal Regulations

Federal Endangered Species Act

The USFWS administers the federal Endangered Species Act (FESA) that provides a process for listing species as either threatened or endangered, and methods of protecting listed species. Species are listed as either endangered or threatened under Section 4 of the FESA that defines as “endangered” any plant or animal species that is in danger of extinction throughout all or a significant portion of its range and “threatened” if a species is likely to become endangered in the foreseeable future. Section 9 of the ESA prohibits “take” of listed threatened or endangered species. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Harm under the definition of “Take” includes disturbance or loss of habitats used by a threatened or endangered species during any portion of its life history. Under the regulations of the FESA, the USFWS may authorize “take” when it is incidental to, but not the purpose of, an otherwise lawful act.

Migratory Bird Treaty Act

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 causes nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend would be in violation of the Migratory Bird Treaty Act.

Clean Water Act (33 USC 1252–1376)

Section 401 of the Clean Water Act (CWA) requires an applicant to obtain certification for any activity that may result in a discharge of a pollutant into Waters of the United States. As a result, proposed fill in waters and wetlands require coordination with the appropriate State Regional Water Quality Control Board (RWQCB) that administers Section 401 and provides certification. The RWQCB also plays a role in review of water quality and wetland issues, including avoidance and minimization of impacts. Section 401 certification is required prior to the issuance of a Section 404 permit.

Under Section 404 of the CWA, the U.S. Army Corps of Engineers (ACOE) has jurisdiction over "Wetlands" and "Waters of the United States." Permitting of activities that could discharge fill or dredge materials or otherwise adversely modify wetlands or other waters of the United States and associated habitat is required. Permits authorized by ACOE under the Act typically contain mitigation to offset unavoidable impacts on wetlands and other waters of the United States in a manner that achieves no net loss of wetland acres or values.

Executive Order 11990, Protection of Wetlands (May 24, 1977)

This Executive Order establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On projects with Federal actions or approvals, impacts on wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm to those wetlands must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding in the final environmental document for the proposed project.

State Regulations

California Endangered Species Act

The CDFG administers the California Endangered Species Act (CESA). The State of California considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is 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 plant species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are protected against take, which under the CESA is restricted to direct killing or harm of individual animals and does not apply to the loss of habitat as it is under FESA.

Fish and Game Code of California

All birds, and raptors specifically, and their nests, eggs and parts thereof are protected under Sections 3503 3503.5 of the Fish and Game Code California. Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) is considered a violation of this code. Additionally Section 3513 prohibits the take or possession of any migratory non-game bird listed by the Migratory Bird Treaty Act.

CDFG regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake which supports fish or wildlife resources under Sections 1600-1603 of the Fish and Game Code of California. The CDFG issues Streambed Alteration Agreements for the alteration of any of these areas. It is not legal to alter the bed or bank of a stream or lake or their natural water flow without a CDFG Streambed Alteration Agreement.

Non-Listed Species Management and Conservation Concerns

Species of Special Concern is an informal designation used by CDFG for some declining wildlife species that are not proposed for listing as threatened or endangered. This designation does not provide legal protection, but signifies that these species are recognized as declining by CDFG.

The California Native Plant Society (CNPS) has developed an inventory of California's sensitive plant species. This inventory summarizes information on the distribution, rarity, and endangerment of California's vascular plants. The inventory is divided into four lists based on the rarity of the species. In addition the CNPS provides an inventory of plant communities that are considered natural communities of special concern by the state and federal resource agencies, academic institutions, and various conservation groups. The determination of the level of significance of impacts on plant species and natural communities is based on the number and size of remaining occurrences as well as recognized threats.

Natural communities of special concern are those that support concentrations of special-status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife. Natural communities of special concern are not afforded legal protection unless they are designated critical habitat for federally listed threatened or endangered species, support formally listed species, or are jurisdictional wetland habitats.

Porter-Cologne Water Quality Act

The *Porter-Cologne Water Quality Control Act* charges the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCB) statewide with protecting water quality throughout California. Typically, the SWRCB and RWQCB act in concert with the ACOE under Section 401 of the CWA in relation to permitting fill of Federal jurisdiction of the ACOE under Section 404 pf the CWA. This action does not limit the State's regulatory jurisdiction over Waters of the State. Waters of the State are defined in Section 13050(c) of the *Porter-Cologne Water Quality Control Act* "… any surface water or groundwater, including saline waters, within the boundaries of the State." Currently, an applicant would delineate the wetlands on their property utilizing methodology presented in the *1987 Corps of Engineers Wetland Delineation Manual* and the delineation would be verified by the ACOE. In cases where

an area meets the criteria to be considered a wetland, but the ACOE does not have jurisdiction, the applicant is referred to the appropriate RWQCB. In these cases, the project must receive a permit for Waste Discharge Requirements or Waiver of Waste Discharge Requirements from the RWQCB. Projects that adversely affect Waters of the State are required by the RWQCB to incorporate mitigation. Mitigation ratios are determined on a project-specific basis during the permitting process and are based on the quality of the wetlands impacts by the project.

Local Regulations

Riverside County MSHCP Western Riverside County Multi-Species Habitat Conservation Plan

The proposed project site lies within the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP). The MSHCP involves the assembly and management of a 500,000-acre Conservation Area for the conservation of natural habitats and their constituent wildlife populations. The approval of the MSHCP and the Implementing Agreement (IA) by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) allows signatories of the IA to issue "Take" authorizations for the 146 species covered by the MSHCP (termed "covered species"), including state and federally listed species as well as other identified sensitive species. The "Take" authorization includes impacts to the habitats of the covered species. The signatories considered "permittees" include Riverside County, 14 cities in western Riverside County (including the City of Riverside), Caltrans, and California Department of Parks and Recreation (State Parks).

The MSHCP allows the permittees to "take" (permit the loss of) the plant and animal species covered by the MSHCP through their local land use planning and development review processes. The permittees have the authority to grant Third Party Authorization to private developers, provided the terms of the MSHCP are satisfied. A project that complies with the MSHCP meets federal and state endangered species requirements and meets CEQA criteria for less than significant impacts to the covered species and their habitats.

Stephens' Kangaroo Rat Habitat Conservation Plan

The proposed project is located within the boundary of the adopted Habitat Conservation Plan (HCP) for the endangered Stephens' kangaroo rat (SKR) implemented by the Riverside County Habitat Conservation Agency (RCHCA). The SKR HCP mitigates impacts from development on the SKR by establishing a network of preserves and a system for managing and monitoring them. Through implementation of the SKR HCP, more than $45 million has been dedicated to the establishment and management of a system of regional preserves designed to ensure the persistence of SKR in the plan area. This effort has resulted in the permanent conservation of approximately 50% of the SKR occupied habitat remaining in the HCP area. Through direct funding and in-kind contributions, SKR habitat in the regional reserve system is managed to ensure its continuing ability to support the species. The City of Riverside is a member agency of the RCHCA. The proposed project is located within the SKR HCP area and will be required to comply with applicable provisions of this plan.

3.3.3 Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. Therefore, significance determinations utilized in this Section are from Appendix G of the CEQA Guidelines. A significant impact will occur if implementation of the project will:

- 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;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- 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, such as the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

3.3.4 Environmental Impacts Assessment

The proposed construction activities at the RWQCP will be within the boundaries of a previously developed RWQCP site and an overwhelming majority of the proposed collection system is in paved ROW and thus the likelihood for biological impacts is very low. Operational activities associated with the project would not change from what currently exists today and proposed construction activities would be restricted within the boundaries of the RWQCP. Therefore, the proposed expansion and operations associated with the RWQCP would not directly impact the biological resources that occur within the Santa Ana River or the Hidden Valley Wildlife Area.

Indirectly Impact Habitat

Impact 3.3-1: Construction of the project could indirectly affect neighboring habitats that support species identified as a candidate, sensitive, or special-status species. (Less than Significant with Mitigation)

Proposed Project

On-site Biology

The proposed construction activities at the RWQCP would occur within the boundaries of a previously developed site and would not include the removal of any trees and/or any impact to riparian vegetation and or habitat. The project is located within Cell #617 of the MSHCP, an

Independent Cell Group that is 5.84 acres in size and is located within the Riverside and Norco Area Plan, Sub Unit of SU1 – Santa Ana River South. Covered species within this cell include burrowing owl and narrow endemic plant species consisting of San Diego ambrosia, Brand's phacelia, and San Miguel savory. The project site has been already disturbed by the existing facilities; therefore, there is no habitat currently present to support any potentially occurring special-status species, which includes the aforementioned covered species covered under the MSHCP. As a result, focused surveys are not necessary to determine presence/absence of the target species, since there is no habitat present to support these species.

Direct impacts to sensitive species would therefore be avoided within the proposed project site itself. No wetland habitats regulated by the US Army Corps of Engineers under CWA Section 404 would be affected by the proposed project.

Santa Ana River

Increased discharges resulting from the project would increase water flow out of the outfall into the Santa Ana River over time if otherwise not recycled, but the outfall itself would not be modified. Increased discharges could gradually increase channel depth and width downstream of the outfall. The Santa Ana River between the project site and the Prado Basin is characterized by large areas of contiguous, well-developed riparian habitat. The Prado Flood Control Basin, which is owned and maintained by the Orange County Water District (OCWD), consists of approximately 465 acres of constructed wetlands, riparian habitats, and naturally-occurring wetlands. The habitat contains willow, sycamore, alder, and cottonwood woodlands, emergent marshlands, and open water habitats, some of which are seasonally created by flows into the Basin.[5]

The Santa Ana sucker, a federally-listed endangered species and state species of special concern, has been spotted between the project site and the Prado Dam. The Santa Ana sucker is a small, bottom-feeding fish with an average length of 4.5 inches. They prefer cool, clear water and coarse substrates consisting of gravel, rubble, and boulders. Larvae and young are found in the area of a stream where it gradually grades to expose bank, about 6 inches deep and shallower. Adults are found within pools or holes that are usually 18 to 50 inches deep.[6]

The Santa Ana sucker has been affected by channelization and introduced competitor species and predators (i.e., brown trout). Large flooding events can also jeopardize the species.[7] River flow levels in the Santa Ana River vary greatly from season to season. Flow is generally low with sudden peaks following rain events. Perennial flow in the middle reaches of the river is mostly made up of wastewater treatment plant discharges. Fourteen wastewater treatment plants discharge to the Santa Ana River contributing a perennial flow that is increasing as the region's population increases. In 2006, the discharge rate from the RWQCP was 33.5 mgd, approximately 32 percent of the total flow in the river. [8]

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5 Western Municipal Water District, *Santa Ana River Water Right Applications for Supplemental Water Supply,* October 2004.
6 *Ibid.*
7 *Ibid.*
8 *Ibid.*

With no recycled water diversions, discharges could increase up to 52.2 mgd by the year 2025 under the maximum projected growth rate, an increase of approximately 36 percent from 2006 levels. The increase would occur gradually, as more of the area around the RWQCP is developed. River habitat would adapt to the slightly raised flow year to year. Riparian cover may expand outward over years, but is not expected to diminish in extent. As the river volume rises, it may become more channelized in some areas, loosing some braiding rivulets and shallow bank habitat experienced during lower flows. In these areas, habitat for younger suckers may diminish. However, the channel below the RWQCP outfall is generally wide enough to accommodate additional flows and maintain a diversity of channel forms. Shallower bank habitat would likely remain in the river system with increased discharges, providing habitat suitable for the suckers within the flood plain channel. The morphology of the river system is modified each year during high flow periods following storm events. As base flows gradually increase, channel morphology would vary from season to season maintaining diversity of depth and width along the length of the river as under existing conditions. No sudden habitat impacts would occur from the gradual increases in flow. Aquatic resources would not be adversely affected by gradual increases in discharge.

Surrounding Terrestrial

The proposed project site abuts the Santa Ana River riparian corridor; therefore, the proposed project could indirectly impact animals, both common and special-status, that may occur within habitats found within the Santa Ana River and the Hidden Valley Wildlife Area. Vegetation in the adjacent riparian habitat would be expected to provide nest sites for birds (including raptors) and may provide habitat for the least Bell's vireo, tri-colored black bird and western yellow-billed cuckoo.

Several common birds and raptors are expected to nest within the Santa Ana River corridor and in nearby tall trees. Most of the species that would be expected to nest within the adjacent vegetation are better adapted to urban environments, because the proposed project site is situated within an urban setting. Construction activities could result in the direct loss of active nests of common bird species (including raptors) or the abandonment of active nests as a result of noises and/or vibrations generated by temporary construction activities. The Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code consider the loss of active nests (nests with eggs or young) of all native bird species as unlawful. Consequently, the loss or abandonment of nests of common bird species as a result of construction-related activities is considered a potentially significant impact and would conflict with state and federal laws. Impacts to breeding or nesting birds would be considered less than significant with the implementation of Mitigation Measure Bio-1, which avoids impacting, or causing the abandonment of, active bird nests found on or immediately adjacent to the project site during construction.

Mitigation Measures

> **Mitigation Measure Bio-1:** To avoid impacts to native nesting birds including the least Bell's vireo during the typical nesting season (March through August), the City shall retain a qualified biologist to survey potential nesting habitat located within property boundary of the project site prior to construction or site preparation activities. Specifically, within 30 days of ground disturbance activities associated with construction or grading within the typical nesting season, a qualified biologist shall conduct weekly surveys to determine if

active nests of bird species protected by the Migratory Bird Treaty Act (MBTA) or the California Fish and Game Code are present in the construction zone or within a distance determined by CDFG. The surveys shall continue on a weekly basis, with the last survey being conducted no more than three days prior to initiation of clearance or construction work. If ground disturbance activities are delayed, additional pre-construction surveys will be conducted such that no more than five days will have elapsed between the last survey and the commencement of ground disturbance activities.

No nesting surveys are necessary during the months of September through February.

If active nests are found, construction activities within a buffer distance of 150 feet or as otherwise determined by CDFG, shall be postponed or halted 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 during the same year. The results of the survey, and any avoidance measures taken, shall be submitted to the CDFG within 30 days of completion of the pre-construction surveys to document compliance with applicable state and federal laws pertaining to the protection of native birds.

Significance After Mitigation: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario the population projection would generate approximately 55.2 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under the Maximum Buildout Scenario, the project would be larger than the proposed project but would still be constructed within the existing RWQCP property site. Discharge to the river would increase slightly under this scenario, but would not increase downstream water levels significantly or adversely affect aquatic habitats. Therefore, impacts to biological resources would be the same as the proposed project and considered less than significant with the implementation of Mitigation Measure Bio-1.

Mitigation: Implementation of Mitigation Measure Bio-1

Significance after Mitigation: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, the population projections would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the project would require a larger operational footprint than both the proposed project and the Maximum Buildout Scenario, but would still remain confined within the existing RWQCP site to accommodate the 63.9 mgd facility. Discharge to the river would increase under this scenario, but would not increase downstream water levels significantly or adversely affect aquatic habitats. Therefore, impacts to biological resources would be the same as the proposed project and considered less than significant with the implementation of Mitigation Measure Bio-1.

Mitigation: Implementation of Mitigation Measure Bio-1

Significance after Mitigation: Less than significant

Collection System

Construction activities associated with the future collection system upgrade are anticipated to occur within existing roadways of the City. Collection system improvements in roads can include tree removal, and/or generate noise impacts on adjacent areas with sensitive biological resources. The construction of future collection system could affect biological resources if the pipelines are not located within existing roadways. However, at this time the location and size of most of the collection system are unknown. Site-specific environmental analysis would be prepared on a project-by-project basis if the collection system project is not located within an existing roadway and has the potential to impact biological resource when the future project details are identified and finalized.

Interfere with Movement Wildlife Species

Impact 3.3-2: The project may 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. (Less than Significant)

Proposed Project

Wildlife corridors are pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or human-induced factors, such as urbanization. Adjacent land uses to the RWQCP include industrial and commercial development, open space and residential; therefore, the proposed project site does not provide a corridor for wildlife movement to and from adjacent sites. Furthermore, the proposed project is the expansion of an existing plant and all improvements would be located within the existing footprint of the RWQCP. The proposed project would not include any components that would encroach into the Santa Ana River corridor. Some animals accustomed to urbanization, such as opossum (*Didelphis virginiana)*, striped skunk (*Mephitis mephitis)*, and coyote (*Canis latrans*), may travel through the Santa Ana River corridor; however, the proposed project is currently fenced for security purposes and is not accessible for wildlife movement from the river's corridor. Therefore, the proposed project would not result in impacts on the movement of wildlife species.

Significance: No impact

Maximum Buildout Scenario

The expansions required for this scenario are anticipated to be accommodated on the same site as the existing and proposed RWQCP expansion. Therefore, impacts to wildlife corridors would also be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

The expansions required for this scenario are anticipated to be accommodated on the same site as the existing and proposed RWQCP expansion. Therefore, impacts to wildlife corridors would be the same as the proposed project. Therefore impacts would also be less than significant.

Significance: Less than significant

Collection System

Most of the collection system improvements would be conducted within city streets and would not affect wildlife corridors. However, some projects would have the potential to have an impact on wildlife corridors. At this time the location and size of collection system are unknown. As a result, a site-specific environmental analysis would be prepared on a project by project basis when the future project details are identified and finalized.

Conflict with Policies or Ordinances

Impact 3.3-3: The project may conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (Less than Significant)

Proposed Project

The proposed project is located within the boundary of the adopted Habitat Conservation Plan (HCP) for the endangered Stephens' kangaroo rat (SKR) implemented by the Riverside County Habitat Conservation Agency (RCHCA). The SKR HCP mitigates impacts from development on the SKR by establishing a network of preserves and a system for managing and monitoring them. However, no habitat for SKR exists within the proposed project site. Habitats adjacent to the project site are also not suitable for SKR and therefore no disturbance to SKR or its habitat will occur as a result of project implementation. Furthermore, the City of Riverside does not have an adopted tree ordinance. The proposed project would not result in the removal of any mature trees, including oak trees. Therefore, impacts would be less than significant.

Significance: Less than significant

Conflict with Adopted Plans

Impact 3.3-4: The project may conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. (Less than Significant)

Proposed Project

Stephens' Kangaroo Rat Habitat Conservation Plan

The proposed project falls within the SKR HCP fee area. The SKR HCP mitigates impacts from development on the SKR by establishing a network of preserves and a system for managing and monitoring them. The HCP requires that direct and indirect impacts to the Stephens' kangaroo rat, including habitat destruction of occupied land be mitigated either via on-site preservation of land, or the payment of the mitigation fee set out by the County ordinance. Mitigation fees are used to finance the implementation of the Stephens' Kangaroo Rat HCP.

No suitable habitat to support Stephens' kangaroo rat is present at the proposed project site, therefore there would be no impact to the species. The mitigation fee is not required due to the lack of occupied habitat on the proposed project site.

Western Riverside County Multi-Species Habitat Conservation Plan

The proposed project site lies within the boundary of the Western Riverside County MSHCP. The MSHCP involves the assembly and management of a 500,000-acre Conservation Area for the conservation of natural habitats and their constituent wildlife populations. The approval of the MSHCP and the Implementing Agreement (IA) by the USFWS and CDFG allows signatories of the IA to issue "take" authorizations for the 146 species covered by the MSHCP (termed "covered species"), including state and federally listed species as well as other identified sensitive species. The "take" authorization includes impacts to the habitats of the covered species. The signatories considered "permittees" include Riverside County, 14 cities in western Riverside County, Caltrans, and California Department of Parks and Recreation (State Parks).

The MSHCP allows the permittees to "take" (permit the loss of) the plant and animal species covered by the MSHCP through their local land use planning and development review processes. The City of Riverside is a permittee under the MSHCP. The MSHCP is designed to provide compliance with federal and state endangered species requirements. Under the MSHCP, if Public/Quasi-Public Lands would be used in a way that alters the land use so that the land would not contribute to covered species conservation, then replacement land must be acquired or otherwise permanently protected. The proposed project is not located within Public/Quasi Public designated land, and therefore would not require any Public/Quasi-Public Land replacement.[9]

The proposed project falls within the MSHCP fee area. The entire proposed project site has been previously disturbed and is currently developed with a water treatment plant. Due to the proposed project site's lack of native vegetation and/or lack of species-occupied habitat, the proposed project would not impact special-status wildlife or plant species and would not impact any vegetation or habitat. Therefore no mitigation fee is required and RCA consultation is not required.

The proposed project site lies within the Cell #617 of the MSHCP, an Independent Cell Group that is 5.84 acres in size and is located within the Riverside and Norco Area Plan, Sub Unit of SU1 – Santa Ana River South. Potential species within this cell include burrowing owl and

[9] City of Riverside GIS Map – PQP Conserved Areas Map, April 16, 2010

narrow endemic plant species consisting of San Diego ambrosia, Brand's phacelia, and San Miguel savory. The proposed project lies outside of the conserved portion of the cell. Criteria Cell 617's conservation would contribute to the assembly of Existing Core A and focuses on lands connecting existing conserved wetland habitat along the Santa Ana River and encompasses approximately five percent of the Cell's eastern portion. The proposed project site lies within the eastern portion of the cell and not the central part. In addition, the proposed project site does not contain any wetland habitat.

The project is located within an already developed site and does not contain any natural habitats, or cores or linkages identified in the MSHCP, that would be impacted by construction or operational activities. Moreover, construction or operational related activities would not (directly or indirectly) impact nearby cores or linkages, such as the Santa Ana River or the Hidden Valley Wildlife Area. As indicated in Impact 3.3-1, the project does not contain suitable habitat for the covered species. On January 3, 2008 during site reconnaissance surveys conducted by ESA, it was determined that none of the species listed for conservation within Criteria Cell #617 could be potentially present due to the disturbed nature of the site. Based on these surveys and the location of the proposed project within the criteria cell away from conserved areas, no further habitat assessments are necessary to show consistency with the MSHCP Reserve Assembly requirements. In summary, the project would not result in the "take" of a covered species, nor does it conflict with the provisions or goals of the MSHCP.

Maximum Buildout Scenario

The expansions required for this scenario are anticipated to be accommodated on the same site as the existing and proposed RWQCP expansion. Therefore implementation of Mitigation Measure Bio-1 would ensure the proposed project is not in conflict with the provisions or the goals of the MSHCP and impacts in this regard would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, the projected population would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the project would require a larger operational footprint than both the proposed project and the Maximum scenario most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility because the Maximum with PRD Buildout would occur on the same site as the proposed project. Therefore implementation of Mitigation Measure Bio-1 would ensure the proposed project is not in conflict with the provisions or the goals of the MSHCP and impacts in this regard would be less than significant.

Significance: Less than significant

Collection System

An overwhelming majority of the collection system is in paved ROW and thus the likelihood for biological impacts is very low. However each new project would be required to evaluate the potential for affecting conservation areas and protected resources prior to approval. Each collection system project would need to comply with the MSHCP. Conformance with the MSHCP would ensure that no significant impacts would occur.

Cumulative Impacts

Impact 3.3-7: Implementation of the proposed project would not result in a cumulatively considerable impact to biological resources in the project vicinity. (Less than Significant)

Cumulative impacts require the analysis of projects located within the vicinity of the proposed project. Cumulative impacts are concluded to be considerable if the incremental effects of an individual 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. Currently, the site is developed and would not require the removal of any biological resource. As previously indicated, with the implementation of Mitigation Measure Bio-1, the proposed project would not impact any sensitive biological resources. Therefore, the proposed project would not have a cumulatively considerable impact to biological resources.

Future wastewater treatment plant discharges and urban runoff discharges in the entire watershed will cumulatively increase flow in the river. Many of the treatment plants that discharge to the river including the City of San Bernardino RIX facility upstream and the Western Riverside County Regional Waste Water Treatment Plant downstream among others have programs to increase recycled water production in the future. These recycled water diversions will reduce the increase in discharges. However, it is likely that cumulatively, dry-weather discharges to the river will increase. Overtime these discharges may modify the dynamics and water quality of the river that could affect habitats. The additional water in the river would not significantly reduce the habitat values in the river or reduce the viability of sensitive species that utilize these habitats. Each discharge would be subject to NPDES permit requirements and Endangered Species Act requirements. Compliance with these federal regulations would ensure less than significant impacts to the river biological resources.

Significance: Less than significant

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3.4 Cultural Resources

This section describes the cultural, historical, and paleontological resources of the City of Riverside and the project site and evaluates the potential cultural, historical, and paleontological impacts associated with implementation of the Project. This section incorporates information and analyses from the City of Riverside General Plan (2007), and the Final Environmental Impact Report for the City of Riversides General Plan (2007).

This section also includes a program-level analysis of potential impacts to cultural resources that would result from implementing the General Plan 2025 Maximum Buildout Scenario (Maximum) and Maximum with Planned Residential Development Buildout Scenario (Maximum with PRD). It is anticipated that these scenarios would be constructed within the existing Regional Water Quality Control Plant's (RWQCP) property site and that no new property would be required. In addition, this EIR will analyze for future offsite infrastructure improvements that would be required to accommodate the anticipated increase in sewer volume flow.

Introduction

Cultural resources are defined as prehistoric and historic sites, structures, and districts, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious or any other reason. For analysis purposes, cultural resources may be categorized into three groups: archaeological resources, historic built resources, and contemporary Native American resources. Paleontological resources, while not by definition a cultural resource, are grouped with cultural resources under CEQA and are therefore included in this section.

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric-era (before the introduction of writing in a particular area) or historic-era (after the introduction of writing). The majority of such places in California are associated with either Native American or Euro-American occupation of the area. The most frequently encountered prehistoric or historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and sites of rock art. Historic-era archeological sites may include foundations or features such as privies, corrals, and trash dumps.

Historic built resources are standing structures of historic or aesthetic significance that are generally 50 years of age or older (i.e., anything built in the year 1960 or before). In California, historic built resources considered for protection tend to focus on architectural sites dating from the Spanish Period (1529-1822) through the early years of the Depression (1929-1930), although there has been recent attention paid to WWII and Cold War era facilities. Historic built resources are often associated with archaeological deposits of the same age.

Contemporary Native American resources, also called ethnographic resources, can include archaeological resources, rock art, and the prominent topographical areas, features, habitats, plants, animals, and minerals that contemporary Native Americans value and consider essential for the preservation of their traditional values. These locations are sometimes hard to define and traditional culture often prohibits Native Americans from sharing these locations with the public.

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.

3.4.1 Regional Setting

Environmental Setting

The City of Riverside lies within the northern end of the Peninsular Ranges, approximately 12 miles south of the intersection with the Transverse Range. The Santa Ana Mountains are approximately 15 miles south and southwest of the City, while the San Jacinto Mountains are approximately 10 miles east and northeast. The San Bernardino Mountains are about 20 miles north of the City. The Santa Ana River forms most of the project area's northern border.

There were three vegetation communities that likely existed in the study area prior to extensive grazing by domestic livestock, historic agriculture, and extensive residential and commercial development: Valley Grassland Community, Riversidian Sage Scrub Community, occurring on the south facing hillslopes, and the Chamise Chaparral Community, occurring on the north-facing hillslopes. All of these communities would have provided resources for native peoples.

Prehistoric Context

While it is not certain when humans first came to California, their presence in Southern California by about 13,000 Before Present (B.P.) has been well documented. During the Paleo-Indian and Early Archaic periods (13,000-7000 B.P.) the climate of southern California became warmer and more arid and the human population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Horne and McDougall, 2003).

Major Archaic Period traditions in southern California include the San Dieguito and Encinitas traditions. The people of the Early Archaic San Dieguito (10,000-8,000 B.P.) tradition inhabited the chaparral zones of southwestern California, exploiting the plant and animal resources of these ecological zones (Chartkoff and Chartkoff, 1984). The Middle Archaic Encinitas (8000-4000 B.P.) tradition is essentially a continuation of the San Dieguito tradition. Encinitas groups lived in chaparral zones or along the coast, often migrating between the two. Similar to the San Dieguito

tradition, Encinitas peoples produced large, coarse stone tools, but also produced well-made projectile points, milling slabs, and stone objects with no known utilitarian function. By the Middle Archaic Period (7000-4000 B.P.), climatic conditions in the inland valleys of southern California had ameliorated while the climate in the desert worsened. For this reason the inland valleys became a more attractive place for human habitation. The Middle Archaic period represents a period of population growth and increasing social complexity. It was also during this period that the first evidence of the exploitation of marine resources and the grinding of seeds for flour occured, as indicated by the abundance of millingstones in the archaeological record (Horne and McDougall, 2003).

The Late Archaic Period (4000-1500 B.P.) witnessed the Little Pluvial, a climatic event that brought increased moisture to the region. There is evidence in this period for the processing of acorns for food and for the increased importance of hunting (Horne and McDougall, 2003). Over the course of the Late Archaic period and the following Saratoga Springs Period (1500-750 B.P.), there was a shift in the location of prehistoric human activity from alluvial fan margins to mountain-front benches near water sources. Around 1000 B.P., a period of sustained drought, known as the Medieval Warm, occurred. While this climatic event did not appear to reduce the human population of the inland valleys of Southern California, it did lead to a change in subsistence strategies in order to deal with the substantial stress on resources. The processing of plant foods increased, a wider variety of animals were hunted, and trade with neighboring regions intensified (Horn and McDougall, 2003).

During the Protohistoric Period (410-180 B.P.), at the time of the first Spanish presence in California, native populations of Southern California were becoming less mobile and small sedentary villages formed. Although the intensity of trade had been increasing throughout the Late Archaic Period, it now reached its zenith, with asphaltum (tar), seashells and steatite being traded from Southern California to the Great Basin. Also in this period, the production of pottery, while common in other parts of the Southwest for centuries finally appeared in locations near the project area.

The City of Riverside General Plan EIR indicates that 538 prehistoric sites, 51 historical sites, and 5 sites containing both prehistoric and historical remains have been documented within the City of Riverside (Alfred A. Webb Associates, 2007).

The most common prehistoric archaeological site types in the region are bedrock milling stations containing milling slicks and mortar cups. Other prehistoric site types include: flaked and ground stone scatters; lithic quarry locations; pictographs and petroglyphs; and large village locations with house pit features. Historical archaeological site types include: canals and canal remnants dating to the late 1800s and early 1900s; mines; Riverside’s Chinatown; Pacific Electric Railway transfer stations; and historical structural remains associated with former homestead locations.

Ethnographic Context

At the time of European contact, the project site was inhabited by the Serrano and Cahuilla peoples. Both the Serrano and the Cahuilla occupied territories that ranged from low or moderately low desert to the mountain regions of the Transverse and Peninsular ranges, with the

Serrano inhabiting the north and the Cahuilla holding the south. Both groups adapted to and inhabited the terrain in a similar manner. Villages located at higher elevations were placed near canyons that received substantial precipitation or were adjacent to streams and springs. Villages situated at lower elevations were also located close to springs or in proximity to the termini of alluvial fans where the high water table provided abundant mesquite and shallow wells could be dug. Although the two groups were independent of one another, village communities often interacted with each other (Bean 1978; Bean and Smith 1978; Warren 1984).

Serrano territory was bordered to the west by the Cajon Pass in the San Bernardino Mountains, to the east by Twenty-nine Palms and to the south by Yucaipa Valley. The Serrano subsistence strategy relied upon hunting and gathering, and occasionally fishing. The division of labor was split between women gathering and men hunting and fishing (Bean and Smith 1978; Warren 1984). Mountain sheep, deer, rabbits, acorns, grass seeds, piñon nuts, bulbs, yucca roots, cacti fruit, berries, and mesquite were some of the more common resources utilized (Bean and Smith 1978; Warren 1984).

The Serrano were organized into clans, with the clan being the largest autonomous political entity. They lived in small villages where extended families lived in circular, dome-shaped structures made of willow frames covered with tule thatching. Despite early European and Spanish contact in 1771 and 1772, the Serrano remained relatively autonomous until the period between 1819 and 1834 when most of the western Serrano were removed and placed into missions (Bean and Smith 1978; Warren 1984).

As with the Serrano, the Cahuilla occupied high-altitude locations as well as low desert lands, with villages positioned in close proximity to plentiful water sources near fresh water sources. House structures of the Cahuilla ranged from “brush shelters to dome-shaped or rectangular structures 15-20 feet long” (Bean 1978). The Cahuilla social structure revolved around clans and exogamous moieties (social units connected through inter-marriage). Hunting, in conjunction with the exploitation of a variety of available resources governed the Cahuilla subsistence strategy in much the same way as the Serrano.

The material culture of the Cahuilla was extensive and varied, and included pottery, ornamental items, charmstones, and a number of knapped stone tools. Unlike other Native American populations in Southern California, the Cahuilla were able to retain their autonomy even after the arrival and increasing control of European explorers and the settling governments that followed. It was not until 1891 that the Cahuilla culture and its population began to succumb to the pressure of European and, later, United States governing bodies (Bean & Smith 1978).

Historical Context

The 1901 USGS 30-foot contour topographic map (Elsinore) shows no structures present on the site of the future RWQCP. In 1910, the land was designated as part of the River Farm Tract and in 1914 was deeded to the City of Riverside. In the early 1940s, adjacent parcels were deeded to the City in anticipation of the construction of the sewage treatment plant.

The RWQCP was constructed in 1947, with a capacity of 3.5 mgd. In 1953, the plant's size was doubled to 7 mgd, and in 1958 the capacity was expanded again to 15 mgd. At that time, a new head works, chlorine contact basin, additional sludge drying beds, operations and laboratory building, and maintenance shop were also constructed. In 1978, a new tertiary filtration was constructed and the plant began operation as a regional facility. Over the next two decades, the plant experienced numerous other additions and expansions to meet the region's wastewater treatment needs (Site record, 33-13531).

Paleontological Context

Most of the proposed project is situated within a mapped lithologic unit consisting of young wash deposits of Holocene (less than 10,000 years before present (ybp)) and latest Pleistocene age. These unconsolidated sedimentary deposits consist of coarse cobble gravels to sandy alluvium of inactive parts of the Santa Ana River channel. The easternmost quarter of the project site consists of recent artificial fill, most likely the result of twentieth century construction activities (Morton and Cox, 2001).

3.4.2 Site Setting

This section describes the surveys that were conducted in the project area to determine to the cultural significant of the area.

Methods

Archaeological and Historical Resources

A cultural resource record search was conducted at the California Historic Resources Information System- Eastern Information Center (EIC) in February 2008. The purpose of this search was to identify previous archaeological and historical investigative activity, and previously recorded cultural resources within one mile of the existing RWQCP site. This records search included an examination of previous survey coverage and reports, historic maps, and known cultural resources within a one-mile radius of the project site. Other sources that were reviewed included the California Points of Historical Interest (PHI), the California Historical Landmarks (CHL), the California Register of Historic Places (California Register), the National Register of Historic Places (National Register), and the California State Historic Resources Inventory (HRI).

In addition to the records search, a site survey was conducted in January 2008 by an Environmental Science Associates (ESA) archaeologist. A historical reconnaissance survey of the RWQCP was performed on November 6, 2009 by ESA architectural historian Brad Brewster.

Native American Correspondence

Because the proposed project does not involve the adoption or amendment of a General Plan or Specific Plan, Senate Bill 18 (Government Code §65092) is not applicable to the proposed project and formal consultation with Native American tribes as specified by Senate Bill 18 is not required. However, as part of standard information gathering procedures and as method by which to determine whether the proposed project would impact any cultural resources, contact with the

Native American Heritage Commission and with interested local Native American groups and individuals was initiated. A Sacred Lands record search with the Native American Heritage Commission (NAHC) was requested in January 2008 and follow-up consultation with all individuals and groups indicated by the NAHC as having affiliation with the project site was conducted. Follow-up consultation consisted of a letter describing the proposed project and a map indicating the project area. Recipients were requested to reply with any information they are able to share about Native American resources that might be affected by the proposed project.

Paleontological Resources

A search of the paleontological collections relevant to the location of the RWQCP site was conducted at the San Bernardino County Museum in March 2008, by Dr. Eric Scott. The USGS Geological Map of the Riverside West 7.5' Quadrangle was also reviewed (Morton and Cox 2001).

Results

Archaeological and Historical Resources

Record Search

The results of the records search conducted at CHRIS-EIC indicated that 32 cultural resource studies have been conducted within a one-mile radius of the project area, two of which involved parts of the project area. Thirty-nine cultural resources have been recorded within a one mile radius of the project area, and three of these were recorded within the project area of potential effect (APE). These are described below:

- CA-RIV-679: This site, recorded in 1967, consists of several red pictographs on a large granite boulder on a river terrace on the southern side of the Santa Ana River.
- Site Record 33-13531: This site, recorded in 2003, is a granite boulder outcropping with several bedrock mortars, described as being located within the RWQCP property and surrounded by a fence.
- Site Record 33-13252: This site was identified as a cluster of historic facilities at the RWQCP, dating to 1942. This includes office and maintenance buildings, and primary clarifiers and digesters.

Although the site records for CA-RIV-679 and Site Record 33-13531 differ in their descriptions of the resource, it is probable that these two site records in fact describe the same prehistoric site. The descriptions of the site's location match with each other and conform to the location of the site as it was identified during ESA's field survey in January 2008 (see below). For the purposes of this document, these sites will be treated as one site (described as "RIV-679/33-13531"). No other cultural or historical resources were recorded.

Field Surveys

A systematic archaeological survey could not be completed during ESA's 2008 site visit due to the fact that the majority of the project site was completely paved. Instead, unpaved portions of the plant were inspected, paying special attention to those areas where the soil was clearly visible.

Site RIV-679/33-13531 was relocated, and is currently secured by fencing installed around the site by the City.

A historical reconnaissance survey of the RWQCP was performed on November 6, 2009 by ESA architectural historian Brad Brewster. The entire plant was inspected and evaluated for its historical significance, with a focus of building or structures that date to the plant's original construction in 1947. Plant records were reviewed and interviews with plant employees were conducted. Results of the historical reconnaissance survey and evaluation of the RWQCP can be found in the cultural resources evaluation report (Brewster and Bray, 2009; Appendix D)

Native American Correspondence

The Sacred Lands search results prepared by the NAHC did not indicate the presence of Native American cultural resources in the immediate project area. The NAHC results also noted, however, that the "absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area."

Responses were received from the Soboba Band of Luiseno Indians, the Pechanga (Temecula Band of Luiseno Indians), and the Morongo Band of Mission Indians. The Soboba determined that the project area was located in an area of traditional Soboba use, and requested further consultation and copies of any archaeological reports. The Pechanga determined that the project area is within the northernmost portion of their traditional territory, but the response indicated that they did not wish to comment on the project. The Morongo also had no comment but requested that provisions should be made for the accidental discovery of archaeological resources or human remains. Copies of archaeological reports will be provided to those groups that requested them.

Paleontological Resources

The literature and map review performed at the San Bernardino County Museum revealed that the project area is located upon surface exposures of Holocene wash sediments, recent artificial fill, and middle to late Pleistocene alluvial fan deposits. The Holocene wash and recent artificial fill are too young to contain fossils and have a low paleontological sensitivity. The Pleistocene sediments have a high potential to contain significant fossils, and are therefore considered to be highly paleontologically sensitive. Although no previously recorded paleontologic resource localities have been recorded within the project area, similar Pleistocene sediments throughout Riverside County have yielded significant fossils of extinct Ice Age animals, such as mammoth, mastodons, ground sloths, horses, bison, and sabre-toothed cats.

3.4.3 Regulatory Framework

Numerous laws and regulations require federal, State, and local agencies to consider the effects a project may have on cultural and paleontological 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. Applicable regulations are discussed below.

Federal Regulations

Section 106 (Code of Federal Regulations [CFR] 36 Part 800) of the National Historic Preservation Act (NHPA) would apply to the Proposed Project, because federal permits are anticipated to be required. Therefore, the National Register of Historic Places eligibility criteria are discussed below as they provide the basis for analyzing the significance of cultural resources.

Section 106 of the NHPA

Archaeological resources are protected through the NHPA of 1966, as amended (16 USC 470f), and its implementing regulation, Protection of Historic Properties (36 CFR Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979. Prior to implementing an "undertaking" (e.g., issuing a federal permit), Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places. As indicated in Section 101(d)(6)(A) of the NHPA, properties of traditional religious and cultural importance to a tribe are eligible for inclusion in the National Register. Under the NHPA, a find is considered significant if it meets the National Register listing criteria at 36 CFR 60.4.

National Register of Historic Places

When Section 106 of the NHPA applies to a project, the National Register of Historic Places eligibility criteria provide the basis for analyzing the significance of cultural resources. 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" (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.

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):

A. Are associated with events that have made a significant contribution to the broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. 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

D. 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.

Paleontological Resources

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 Regulations

The State of California 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 [PRC] § 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (California PRC § 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, 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:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. 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
4. 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

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 in PRC Section 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 *State 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 *State CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *State 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 *State 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 (*State CEQA Guidelines* Section 15064.5(c)(4)).

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.

Local Regulations

City of Riverside General Plan 2025

The Historical Preservation Element contains goals, recommendations, objectives, guidelines, and standards for the management of cultural resources. The following objectives pertaining to the protection of scenic resources may be relevant to the proposed project.

Policy HP-1.1: The City shall promote the preservation of cultural resources to ensure that citizens of Riverside have the opportunity to understand and appreciate the City's unique heritage.

Policy HP-1.3: The City shall protect sites of archaeological and paleontological significance and ensure compliance with all applicable State and federal cultural resources protection and management laws in its planning and project review process.

Policy HP-2.1: The City shall actively pursue a comprehensive program to document and preserve historic buildings, structures, districts, sites (including archaeological sites), objects, landscapes, and natural resources.

Policy HP-4.3: The City shall work with the appropriate tribe to identify and address, in a culturally appropriate manner, cultural resources and tribal sacred sites through the development review process.

City of Riverside Municipal Code

Title 20 of the City of Riverside Municipal Code regulates the identification and preservation of cultural resources in the City of Riverside. The code defines historical and archaeological resources and outlines measures required to preserve cultural resources in the city.

3.4.4 Thresholds of Significance

For the purposes of this EIR, and taking guidance from Appendix G of the CEQA Guidelines, impacts to cultural resources may occur if the proposed project or build out scenarios would cause:

- A substantial adverse change in the significance of a historical resource that is either listed or eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, or a local register of historic resources;
- A substantial adverse change in the significance of a unique archaeological resource;
- Disturbance or destruction of a unique paleontological resource or site or unique geologic feature; or
- Disturbance of any human remains, including those interred outside or formal cemeteries.

CEQA provides that a project may cause a significant environmental effect where the project could result in a substantial adverse change in the significance of a historical resource (Public Resources Code, Section 21084.1). *CEQA Guidelines* Section 15064.5 defines a "substantial adverse change" in the significance of a historical resource to mean physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be "materially impaired" (CEQA Guidelines, Section 15064.5[b][1]).

CEQA Guidelines, Section 15064.5(b)(2), defines that the significance of a historic resources is "materially impaired" when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

3.4.5 Environmental Impact Assessment

Archaeological Resources

Impact 3.4-1: The project may cause a substantial adverse change in the significance of an archaeological resource. (Less than Significant with Mitigation)

Proposed Project

One archaeological resource has been documented within the project area. Site RIV-679/33-13531 is a prehistoric milling station and/or petroglyph site and is currently located within the RWQCP site boundaries. The site has been fenced off by the City to protect it from foot and vehicle traffic. However, the use of heavy equipment and the extensive construction activities that would occur on the site and near this resource could result in accidental disturbance of the site.

The plant has been upgraded several times in its history and the project area has been highly disturbed by construction in the past. Nevertheless, the possibility of uncovering previously unknown archaeological deposits or artifacts during project-related excavation is high. Based on the presence of numerous archaeological sites within and in close proximity to the project area, and the location of the RWQCP along the banks of the Santa Ana River, the project site should be considered to be of high archaeological sensitivity.

Construction activity related to the proposed project could inadvertently disturb, damage, or destroy previously unknown buried archaeological resources. In addition, due to its location, site RIV-679/33-13531 could be inadvertently disturbed or damaged during construction. Disturbance, damage or destruction of known or unknown cultural resources would be a significant impact. Implementation of Mitigation Measures Cult-1, Cult-2, and Cult-3 would reduce impacts to archaeological resources to less than significant.

Mitigation Measures

Mitigation Measure Cult-1: Site RIV-679/33-13531 shall be avoided during implementation of the proposed project. Prior to any ground-disturbing activities, a qualified archaeologist (defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology [Appendix A of 36 CFR Part 61]) shall mark exclusion zones around the known archaeological site to ensure that it is not impacted by construction.

Mitigation Measure Cult-2: An archaeologist meeting the Secretary of the Interior's Standards for professional archaeology shall monitor initial ground-disturbing activities in native soils, including but not limited to trenching, boring, grading, removal of retired facilities, and use of staging areas and access roads. Any ground disturbing or vehicular activity within 100 feet of site RIV-679/33-13531 shall also be subject to archaeological monitoring. The duration and timing of monitoring shall be determined by the qualified archaeologist in consultation with the City. In the event that cultural resources are unearthed during ground-disturbing activities, the archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the find so that the find can be evaluated. The monitor shall prepare and submit brief weekly monitoring reports as well as one final monitoring report summarizing the results of the

monitoring activity and describing any cultural resources recovered in the duration of monitoring.

Due to the sensitivity of the project area for Native American resources, if requested by a local Native American group or individual, a Native American monitor shall also monitor ground-disturbing activities in the project area. Selection of monitors shall be made by agreement of the Native American groups identified by the Native American Heritage Commission as having affiliation with the project area.

Mitigation Measure Cult-3: If previously undiscovered cultural resources are encountered, all activity in the vicinity of the find shall cease or redirect away from the vicinity until it can be evaluated by the archaeological monitor. If the archaeological monitor determines that the resources may be significant, the qualified archaeologist will notify the lead agency and will develop an appropriate treatment plan for the resources. The archaeologist shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature.

Significance after Mitigation: Less than significant

Maximum Buildout Scenario

Under this scenario, the project would require a larger operational footprint than the proposed project but would still be constructed within the boundaries of the existing RWQCP site. Therefore, impacts to archaeological resources would be similar to those under the proposed project, and implementation of Mitigation Measures Cult-1, Cult-2, and Cult-3 would reduce these impacts to less than significant.

Mitigation: Implement **Mitigation Measures Cult-1** through **Cult-3**

Significance after Mitigation: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, the population projections would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. This expansion scenario would require larger additional facilities to accommodate the 63.9 mgd capacity, most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility. Therefore, impacts to archaeological resources would be the same as the proposed project, and implementation of Mitigation Measures Cult-1, Cult-2, and Cult-3 would ensure that impacts would be less than significant.

Mitigation: Implement **Mitigation Measures Cult-1** through **Cult-3**

Significance after Mitigation: Less than significant

Collection System

Construction activities associated with the future collection system upgrade could be located in areas of the City that have different levels of archaeological sensitivity. Construction of future collection system would have the potential to impact archaeological resources. However, at this time the location and size of the collection system are unknown. As a result, a site-specific environmental analysis would be prepared on a project-by-project basis when the future project details are identified and finalized.

Historic Resources

Impact 3.4-2: The project may cause a substantial adverse change in the significance of a historical resource that is either listed or eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, or a local register of historic resources. (No Impact)

Proposed Project

The RWQCP contains nearly 60 buildings or structures on a 106-acre site that were constructed between 1947 and 2005. Several buildings and structures, including the former operations building, two digester tanks with attached digester control room, the Primary Sedimentation Basins, and Secondary Sedimentation Tanks, date to the plant's original construction (1947).

The entire RWQCP was evaluated by ESA architectural historian Brad Brewster. Appendix D provides the survey report. The survey report concludes that neither the RWQCP as a whole nor its surviving original elements appear to be eligible for listing under federal, state or local criteria due to a lack of historical and architectural merit, and a reduced level of physical integrity due to the numerous alterations to the original structures and expansions to the plant after its original construction. The RWQCP was found ineligible under federal, state, and local criteria, and is not considered a historic resource under CEQA. No mitigation is recommended for the proposed Integrated Wastewater Master Plan project.

Significance: No impact

Maximum Buildout Scenario

The expansions required for this scenario are anticipated to be accommodated on the same site as the existing and proposed RWQCP expansion. Therefore, impacts to historic resources would be the same as the proposed project.

Significance: No impact

Maximum with PRD Buildout Scenario

The expansions required for this scenario are anticipated to be accommodated on the same site as the existing and proposed RWQCP expansion. Therefore, impacts to historic resources would be the same as the proposed project.

Significance: No impact

Collection System

The construction of future collection system would have the potential to have an impact on historic resources. However, at this time the location and size of the upgrades are unknown. As a result, a site-specific environmental analysis would be prepared on a project-by-project basis when the future project details are identified and finalized.

Human Remains

Impact 3.4-3: The project may disturb human remains, including those interred outside of formal cemeteries. (Less than Significant with Mitigation)

Proposed Project

The high level of both historic and prehistoric activity in the area, evidenced by the large number of historic and prehistoric sites near or within the project area, suggests that previously unknown human remains could be encountered during excavation and other ground-disturbing activities. In the event that human remains were discovered during subsurface activities, the human remains could be inadvertently damaged, which would result in a significant impact. However, potential impacts would be reduced by the implementation of Mitigation Measures Cult-2, Cult-3, and Cult-4. Therefore, impacts would be reduced to below a level of significance with the incorporation of mitigation.

Mitigation Measures:

Implement Mitigation Measure Cult-2 and Cult-3

Mitigation Measure Cult-4: If human skeletal remains are uncovered during project construction, the City will immediately halt work, contact the County coroner 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 project proponent will 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). The NAHC will then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American, who will then help determine what course of action should be taken in dealing with the remains.

Per Public Resources Code 5097.98, the City shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the City 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

Maximum Buildout Scenario

Under the Maximum Buildout Scenario the population projection would generate approximately 55.2 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the project would require a larger operational footprint than the proposed project. The Maximum Buildout Scenario project would be larger than the proposed project but would still be constructed within the existing RWQCP property site. Therefore, impacts to human remains would be the same as the proposed project, and implementation of Mitigation Measures Cult-2, Cult-3, and Cult-4 would ensure that impacts would be less than significant.

Mitigation: Implement Mitigation Measures Cult-2 through Cult-4

Significance after Mitigation: Less than significant

Maximum with PRD Buildout Scenario

Under the maximum with PRD Buildout Scenario, the population projections would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the project would require a larger operational footprint than both the proposed project and the Maximum. This expansion scenario would require larger additional facilities to accommodate the 63.9 mgd capacity, most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility. Therefore, impacts to human remains would be the same as the proposed project, and implementation of Mitigation Measures Cult-2, Cult-3, and Cult-4 would ensure that impacts would be less than significant.

Mitigation: Implement Mitigation Measures Cult-2 through Cult-4

Significance after Mitigation: Less than significant

Collection System

Construction activities associated with the future collection system upgrade could be located in areas of the City that have varied sensitivities for previously unknown human remains. The construction of future collection system would have the potential to have an impact on human remains. However, at this time the location and size of the collection system are unknown. As a result, a site-specific environmental analysis would be prepared on a project-by-project basis when the future project details are identified and finalized.

Paleontological Resources

Impact 3.4-4: The project may disturb or destroy a unique paleontological resource or site or unique geologic feature. (Less than Significant with Mitigation)

Proposed Project

The literature and map review performed at the San Bernardino County Museum revealed that the project area is underlain by Pleistocene sediments, which have a high potential to contain significant fossils and are therefore highly paleontologically sensitive. Disturbance or destruction of a unique paleontological resource would be a significant impact. Implementation of Mitigation Measure Cult-5 would reduce impacts to paleontological resources to less than significant.

Mitigation Measures:

> **Mitigation Measure Cult-5:** A qualified monitor shall be retained and approved by the City to establish and implement procedures for paleontological resource monitoring during grading activities. The paleontologist shall monitor, at a minimum, all ground-disturbing activity, such as excavation or grading, within the undisturbed paleontologically sensitive Pleistocene alluvial fan deposits. If a potential fossil is found, the paleontologist shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation and, if necessary, salvage. Fossils encountered and recovered by the monitor shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the NHM of Los Angeles County or the San Bernardino County Museum. Accompanying notes, maps, and photographs shall also be filed at the repository.
>
> Following the completion of the above tasks, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on-site. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to the County and to the Natural History Museum of Los Angeles County and the San Bernardino County Museum. The County shall submit a copy of the report to the City, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and the required mitigation measures.

Significance after Mitigation: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario the population projection would generate approximately 55.2 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the project would require a larger operational footprint than the proposed project. The Maximum Buildout Scenario project would be larger than the proposed project but would still be constructed within the existing RWQCP property site. Therefore, impacts to paleontological resources would be the same as the proposed project, and implementation of Mitigation Measure Cult-5 would ensure that impacts would be less than significant.

Mitigation: Implement Mitigation Measure Cult-5

Significance after Mitigation: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, the population projections would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. This expansion scenario would require larger additional facilities to accommodate the 63.9 mgd capacity, most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility. Therefore, impacts to paleontological resources would be the same as the proposed project, and implementation of Mitigation Measure Cult-5 would ensure that impacts would be less than significant.

Mitigation: Implement Mitigation Measure Cult-5

Significance after Mitigation: Less than significant

Collection System

Construction activities associated with the future collection system upgrade could be located in areas of the City that have varied paleontological sensitivities. The construction of future collection system would have the potential to have an impact on paleontological resources. However, at this time the location and size of the collection system are unknown. As a result, a site-specific environmental analysis would be prepared on a project-by-project basis when the future project details are identified and finalized.

Cumulative Impacts

Impact 3.4-5: The proposed project could have a cumulatively considerable contribution to a cultural resources impact considering past, present, and probable future projects. (Less than Significant)

Cultural and Historic Resources

Ground-disturbing activities associated with the project and other related projects may lead to repeated impacts on and progressive loss of the cultural resources within the City. Implementation of the mitigation measures presented in this section would reduce project impacts to cultural and historic resources to a less than significant level. It is anticipated that other projects would be required to implement similar mitigation measures, where applicable, on a case-by-case basis as determined by project-specific environmental review. With the implementation of these mitigation measures, the cumulative impacts to cultural resources will be less than significant.

Significance: Less than significant

Paleontological Resources

Grading and excavation activities associated with the project in combination with other related projects in the project vicinity could contribute to the progressive loss of fossil remains, as-yet unrecorded fossil sites, associated geological and geographic site data, and fossil-bearing strata. However, as described above, with implementation of the proposed mitigation measures, project impacts would be less than significant. It would also be expected that other related projects would implement such mitigation measures on a case-by-case basis if deemed appropriate as part of their environmental review. Thus, with implementation of the mitigation measures listed above, cumulative impacts associated with paleontological resources would be less than significant.

Significance: Less than significant

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3.5 Geology and Soils

This section of the EIR describes the existing geology, soils, and seismic conditions in the proposed project site and analyzes the potential physical environmental effects related to seismic hazards, underlying soil characteristics, and subsidence. Several criteria were eliminated from further consideration and will not be discussed below. These criteria were considered but were found to be not applicable to the project; therefore, no further discussion of these criteria is provided. Please refer to the Initial Study Checklist (**Appendix A**) for further clarification.

3.5.1 Environmental Setting

Topography and Geology

The City of Riverside lies within the northern end of the Peninsular Ranges, approximately 12 miles south of the intersection with the Transverse Range. The Santa Ana Mountains are approximately 15 miles south and southwest of the City, while the San Jacinto Mountains are approximately 10 miles east and northeast of the City of Riverside.[1] The San Bernardino Mountains are about 20 miles north of the City.

The City of Riverside contains a series of hills and small mountains (**Figure 3.5-1)**. These hills and mountains are located between the San Jacinto and Santa Ana mountain ranges. They include La Sierra/Norco Hills, Mt. Rubidoux, Box Springs Mountains, Sycamore Canyon and the many smaller ranges south of the City. Within the City, surface elevations range from about 700 feet above mean sea level (amsl) near the Santa Ana River to over 1,400 feet amsl west of La Sierra.[2]

Typically, mountains and hills have slopes of 15 to 50 percent while valleys and basin areas usually have slopes of less than 15 percent. Within the City of Riverside, most natural slopes are very flat, generally less than 15 percent, with some slopes ranging from 15 to 25 percent in eastern and western portions of the City.[3] Areas around Lake Mathews and the Box Springs Mountain have much steeper slopes (exceed 30 percent).

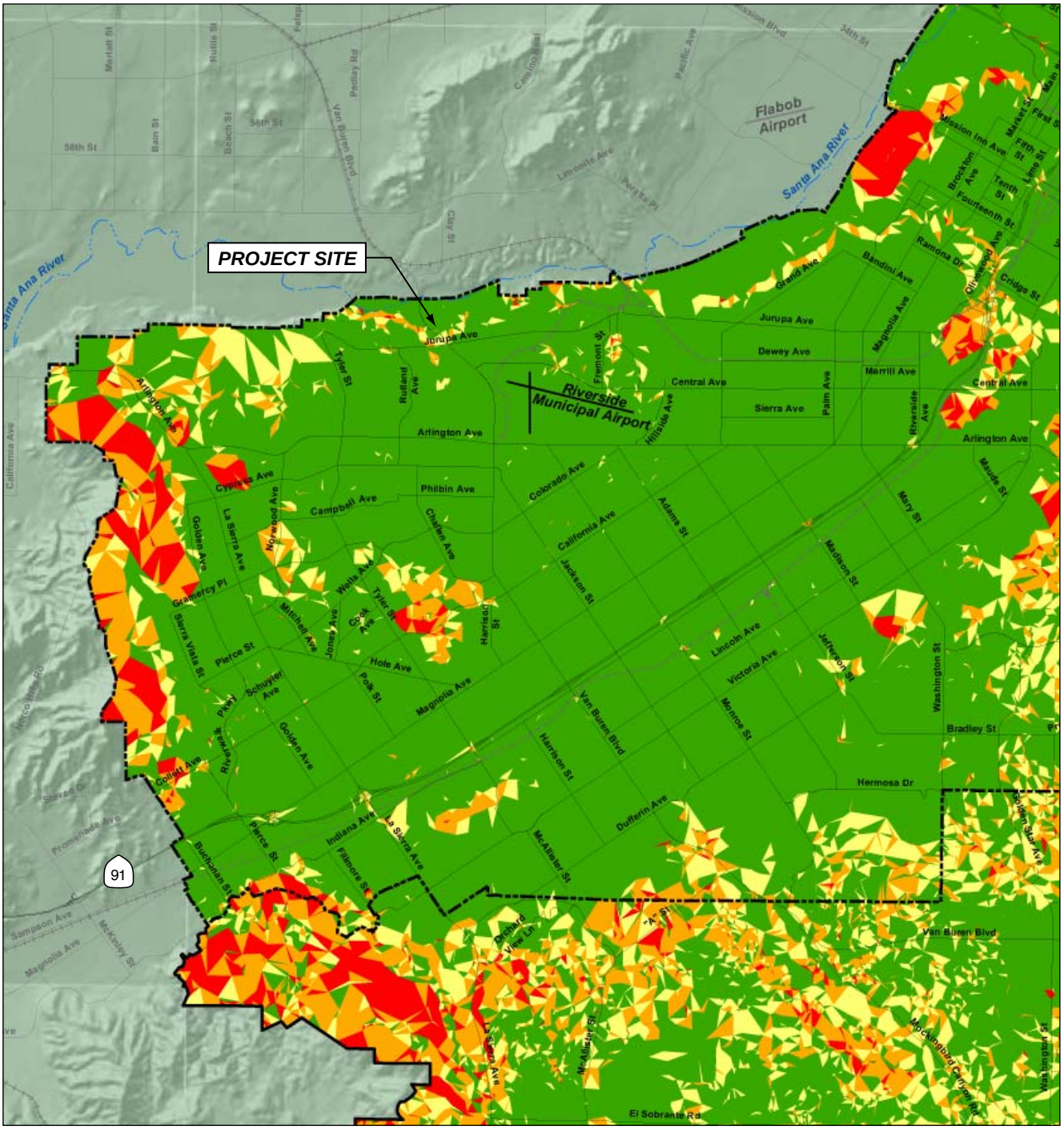
The City of Riverside is generally comprised of granite and adamellite (g_{ra}), mesozoic granitic rock (g_r), granodiorite(g_{rg}), mesozoic basic intrusive rocks (b_i), and alluvium (Q_{al}) (located around the Santa Ana River). Most are dated from the Mesozoic period, except for the alluvium which dated from the Quaternary.

Seismic Activity

Faults

Fault rupture is displacement at the earth's surface resulting from fault movement associated with an earthquake. Surface rupture can damage or collapse buildings, cause severe damage to roads and

1 City of Riverside, General Plan Environmental Impact Report, Page 5.6-1, Certified November 2007.
2 City of Riverside, General Plan Environmental Impact Report, Page 5.6-2, Certified November 2007.
3 *Ibid*.



SLOPE

- 0 – 10%
- 10 – 15%
- 15 – 30%
- 30% +

— · · — Riverside City Boundary

——— Riverside Sphere of Influence

0 2 Miles

City of Riverside . 206047

SOURCE: *City of Riverside General Plan 2025,* 2007

Figure 3.5-1
Areas Underlain by Steep Slope

other paved areas, and cause failure of overhead and underground utilities. Earthquake Fault Zones, established in accordance with the Alquist-Priolo Earthquake Fault Zoning Act (see discussion under Regulatory Framework), are regulatory zones around the surface traces of active faults. No Fault-Rupture Hazard Zone, as designated by the California Department of Conservation, Alquist-Priolo Earthquake Fault Zone (1999) exists within the project area.[4] However, the City is located in a region with several active fault lines. **Figure 3.5-2** shows the most significant faults affecting the project area. The closest faults include the San Jacinto and Elsinore faults. The San Andreas Fault lies outside of the City of Riverside in the County of San Bernardino.

- The San Andreas Fault, at its closest point, is approximately 17 miles northeast of the project site. The San Andreas Fault extends approximately 600 miles from Eureka in Northern California's Humboldt County south to the Mexican border. The San Andreas Fault is estimated to have the capability of producing up to an 8.3 magnitude (M) earthquake.
- The San Jacinto Fault runs as close as 11 miles to the northeast from the project site. This fault runs more than 125 miles, from northwest of El Centro in Imperial County to northwest of San Bernardino, passing through the intersection of Interstates 10 and 215, the City of Loma Linda and the Box Springs Mountains. [5] This fault is estimated to have the capability of producing up to a 7.0 M earthquake.
- The Elsinore Fault runs approximately eight miles to the southwest of the project site. This northwest-southwest trending fault is estimated to have the capability of producing up to a 6.0 M earthquake.

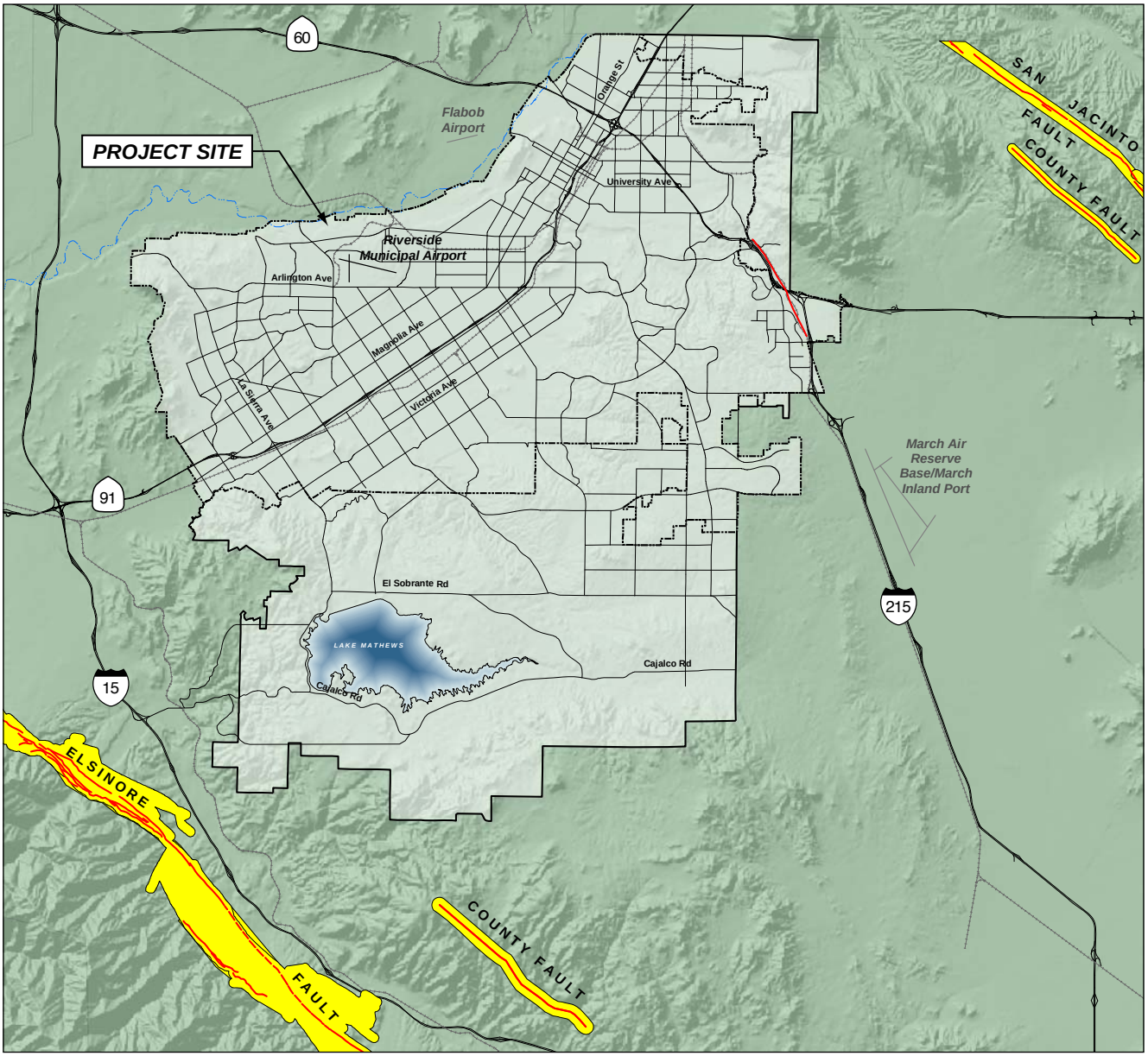
Seismic Hazards

The RWQCP site is located in a seismically active area, as is the majority of southern California, and there is the potential for strong ground shaking near the project area. Several active faults have the potential to cause damage in the event of an earthquake. Seismic hazards include those hazards that could reasonably be expected to occur at the project site during a major earthquake on any of the regional active faults. Both people and structures can be subjected to risks from earthquakes hazards. Seismic activity poses two types of hazards: primary and secondary. Primary hazards include ground rupture, ground shaking, ground displacement, and subsidence and uplift from earth movement. Primary hazards can induce secondary hazards such as ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, water waves (tsunamis and seiches), movement on nearby faults (sympathetic fault movement), dam failure, and fires. Potential seismic hazards affecting the proposed project site include ground shaking, ground failure, and liquefaction.

Seismicity and Liquefaction

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. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. For this reason, earthquake intensities are also measured in terms of their observed effects at a given locality. The intensities of an earthquake will vary over the region of a fault and generally

4 City of Riverside, General Plan Environmental Impact Report, Page 5.6-2, Certified November 2007.
5 *Ibid*.



Fault Lines

Fault Zones

Riverside City Boundary

Riverside Sphere of Influence

0 2 Miles

SOURCE: *City of Riverside General Plan 2025*, 2007

City of Riverside . 206047

Figure 3.5-2

Regional Fault Map

decrease with distance from the epicenter of the earthquake. According to the City of Riverside's General Plan 2025, the City has the potential to experience ground acceleration greater than 35 to 43 percent. These probabilistic ground motion values for the City are within the limits for current structural design [Uniform Building Code (CBC)/Uniform Building Code (UBC)] for non-critical structures, including most residential, commercial, and industrial buildings.[6]

Major geologic hazards associated with ground shaking include liquefaction and ground failure. Liquefaction occurs when ground shaking causes water-saturated soils to become fluid and lose strength. Liquefaction hazards may be present in loose, saturated soils, such as sands and loamy sands, in which the space between individual particles is completely filled with water. These soils can behave like a dense fluid when exposed to prolonged shaking during an earthquake. Liquefaction is determined by three main factors: depth to groundwater, soil type, and the seismicity of the area. Historically, liquefaction has been responsible for significant damage, creating problems with bridges, buildings, buried pipes and underground storage tanks. Liquefaction hazards are particularly significant along watercourses, such as the Santa Ana River.[7] As shown on the City's General Plan Liquefaction Zone Map (see **Figure 3.5-3**), the proposed project site is underlain by material that has a very high liquefaction hazard. The characteristics of the various liquefaction hazard zones are detailed in **Table 3.5-1**.

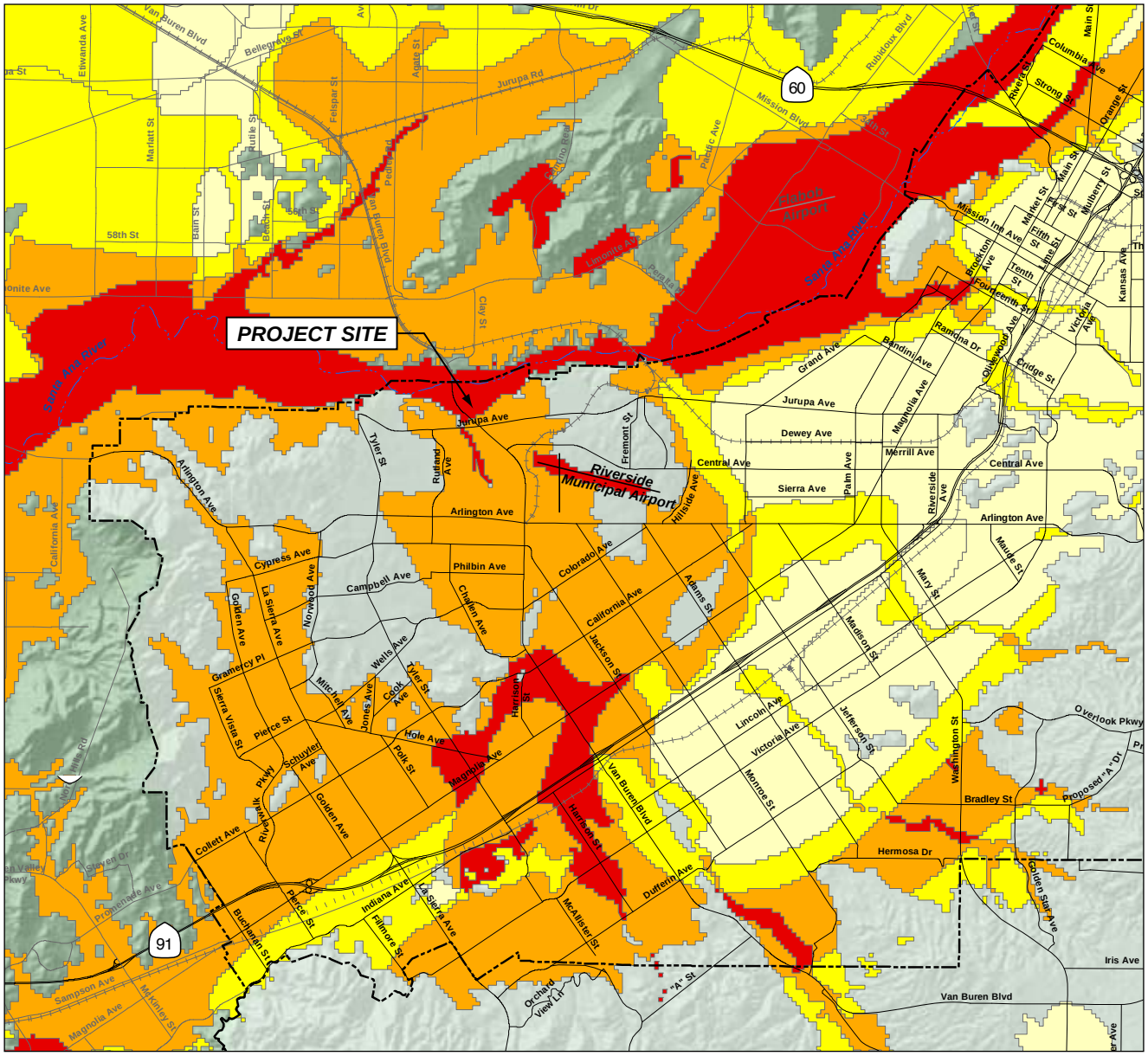
TABLE 3.5-1
GENERAL LIQUEFACTION ZONES

Rank	Groundwater Depth[a]	General Sediment Type[b]
High	Less than 30 feet	Very Susceptible
Moderate	Less than 30 feet	Susceptible
	30-50 feet	Very Susceptible
Low	Greater than 30 feet	Susceptible
Very Low	30-50 feet	Susceptible
	50-100 feet	Very Susceptible
Extremely Low	50-100 feet	Susceptible
None	Greater than 100 feet	Susceptible
	No Data	Bedrock

[a] Groundwater depth is based on the historic high measurement.
[b] Very susceptible sediment type includes generally granular Holocene sediments; susceptibility includes generally granular Pleistocene sediments.

SOURCE: County of Riverside 2003 RCIP EIR.

6 City of Riverside, General Plan Environmental Impact Report, Page 5.6-5, Certified November 2007.
7 *Ibid*.



Very Low
Low
Moderate
High
Very High

Riverside City Boundary
Riverside Sphere of Influence

0 2
Miles

SOURCE: *City of Riverside General Plan 2025*, 2007

City of Riverside . 206047

Figure 3.5-3
Generalized Liquefaction Zones

Strong ground motions can also worsen existing unstable slope conditions, particularly if coupled with saturated ground conditions. Factors contributing to the stability of slopes include slope height and steepness, engineering characteristics of the earth materials comprising the slope, and intensity of ground shaking. It is estimated that a ground acceleration of at least 0.10 gravitational acceleration (g) in steep terrain is necessary to induce earthquake-related rockfalls, although exceeding this value does not guarantee that rockfalls will occur. Because there are several faults capable of generating peak ground accelerations of over 0.10 g in Riverside County, there is a high potential for seismically induced rockfalls and landslides in areas with steep slopes in excess of 30 percent**.** The proposed project site is not on or near steep slopes in excess of 30 percent which more readily slide.

Soils

The project site contains the following general soil associations: Cajalco-Temescal-Las Posas, Traver-Domino-Willows, Cieneba-Rock Land-Fallbrook, Monserate-Arlington-Exeter and Hanford-Tujunga-Greenfield associations. Several soil boring were conducted as part of the geotechnical report for the project site by Leroy Crandall and Associates (1986). The project site contains soils that are sandy and silty sands. These soils are generally well-drained sandy loams that are moderately deep and have a low to moderate shrink swell factor. The characteristics of the various soil types are detailed in **Table 3.5-2**.

Other Geologic Hazards

Soil Erosion

Erosion is the wearing away of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of waves, wind and underground water. Excessive soil erosion can eventually lead to damage of building foundations and roadways. Most natural erosion occurs at slow rates; however, the rate of erosion increases when land is cleared or altered and left in a disturbed condition. The primary factors that influence erosion include soil characteristics, vegetative cover, topography, and climate. Soil characteristics that determine the potential for soil erosion include particle size and gradation, organic content, soil structure, and soil permeability.

Soil containing high amounts of silt can be easily eroded, while sandy soils are less susceptible. Organic matter creates a favorable soil structure, improving soil stability and permeability, which increases the soil's capacity for the infiltration of water, delays the start of erosion, and reduces the amount of runoff (i.e. the less permeable the soil the higher the likelihood for erosion). The presence of vegetation cover can assist in erosion control by shielding the soil surface from the impact of falling rain or blowing wind. Vegetation slows the velocity of runoff, permits greater infiltration, maintains the soil's capacity to absorb water, and holds soil particles in place. Soil erosion rates can be higher during the construction phase. Typically, the potential for soil erosion is reduced once the soil is graded and covered with concrete, structures, or asphalt.

TABLE 3.5-2
SOIL TYPE CHARACTERISTICS

Soil Type	Map Symbol	Erosivity	Permeability	Shrink-Swell Potential	Depth (inches)	Texture
Arlington	AnC, AnD, AoA, AoC, AoD, ApB, ArB, ArD	Slight to moderate	Moderately slow	Low to Moderate	0-24	Loam
					24-36	Weakly cemented sandy loam
					36-60	Loamy coarse sand
Cajalco	CaC2, CaD2, CaF2, CbD2, CbF2	High	Moderate	Moderate	0-13	Fine sandy loam
					13-22	Loam
Cieneba	ChC, ChD2, ChF2, CkD2, CkF2, Cr	High	Rapid	Low	0-22	Gravelly coarse sandy loam
Domino	Du	Slight	Moderate over very slow	Moderate	0-27	Silt loam
					27-36	Loam, weakly to strongly cemented with lime
					36-63	Loam
Exeter	EnC2, EpC2	Slight	Moderate	Moderate	0-16	Sandy loam and very fine sandy loam
					16-37	Loam
					37-50	Indurated hardpan
					50-60	Coarse sandy loam
Fallbrook	FaD2, FkD2, FaE2, FbC2, FbF2, FcD2,FcF2, FfC2	Moderate	Moderate	Moderate	0-14	Sandy loam
					14-24	Sandy clay loam
					24	Weathered granite
Greenfield	GyA, GyC2, GyD2	Slight to Moderate	Moderate	Low	0-43	Sandy loam
					43-60	Loam
Hanford	HaC, HcA, HcC, HcD2, HfD, HgA	Slight to Moderate	Moderately rapid to rapid	Low	0-40	Coarse sandy loam
					40-60	Loamy sand and gravelly coarse sand
					0-30	Cobbly coarse sandy loam
					30-60	Loamy coarse sand
Las Posas	LaC, LaD2, LaE3, LcD2	Moderate	Moderate	High	0-12	Loam, clay loam
					12-32	Clay
					32	Weathered gabbro
Monserate	MmB, MmC2, MmD2, MmE3, MnD2, MnE3	Moderate	Moderately slow over very slow	Moderate	0-10	Sandy loam
					10-28	Sandy clay loam
					28-45	Indurated hardpan
Temescal	TaF2, TbF2	High	Moderate	Moderate	0-17	Loam
					17	Fractured Latiteporphyry
Tujunga	TuB, TvC, TwC	Water: slight, Wind: high	Rapid	Low	0-10	Loamy sand
					10-60	Sand
					0-60	Gravelly loamy sand

SOURCE: U.S. Department of Agriculture, 1971

Expansive Soil

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. Fine grained soils may also contain variable amounts of expansive clay minerals. This shrink/swell movement can adversely affect building foundations, often causing them to crack or shift, with resulting damage to the buildings they support. Table 3.5-2 above identifies the soil types with shrink-swell potential, ranging from low to high.

Settlement

Settlement can occur from immediate settlement, consolidation, shrinkage of expansive soil, and liquefaction. Immediate settlement occurs when a load from a structure or placement of new fill material is applied, causing distortion in the underlying materials. This settlement occurs quickly and is typically complete after placement of the final load. Soils tend to settle at different rates and by varying amounts depending on the load weight or changes in properties over an area, which is referred to as differential settlement.

3.5.2 Regulatory Framework

Federal Regulations

Uniform Building Code

The UBC is published by the International Conference of Building Officials. It forms the basis of about half of the State building codes in the United States, including in California, and has been adopted by the California State legislature together with Additions, Amendments, and Repeals to address the specific building conditions and structural requirements.

State Regulations

California Building Code

California Code of Regulations (CCR), Title 24, Part 2, the CBC, provides minimum standards for building design in the State, consistent with or more stringent than UBC requirements. Local codes are permitted to be more restrictive than Title 24, but are required to be no less restrictive. Chapter 16 of the CBC deals with General Design Requirements, including regulations governing seismically resistant construction (Chapter 16, Division IV) and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials. Chapter 18 and Appendix Chapter 33 deal with site demolition, excavations, foundations, retaining walls, and grading, including requirements for seismically resistant design, foundation investigations, stable cut and fill slopes, and drainage and erosion control.

Alquist-Priolo Earthquake Fault Zoning Act

Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act) of 1972 (revised in 1994) is the state law that addresses hazards from earthquake fault zones. The purpose of this law is to mitigate the hazard of surface fault rupture by regulating

development near active faults. As required by the Act, the state has delineated Earthquake Fault Zones (formerly Special Studies Zones) along known active faults in California. As noted above, the project site is not located within an Alquist-Priolo Earthquake Fault Zone.

Seismic Hazards Mapping Act

California Geological Survey (CGS) provides guidance with regard to seismic hazards. Under the CGS *Seismic Hazards Mapping Act*, seismic hazard zones are identified and mapped to assist local governments in land use planning. The intent of this Act is to protect the public from the effects of strong ground shaking, liquefaction, landslides, ground failure, or other hazards caused by earthquakes. This 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. The CGS Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California, provides guidance for mitigation of earthquake-related hazards for projects within designated zones of required investigations. Seismic Hazard maps have been completed for much of the Southern California region.

As shown on the City's General Plan Liquefaction Zone Map (see Figure 3.5-3 above), the proposed project site is underlain by material that has a very high liquefaction hazard. Therefore, evaluation and mitigation of potential liquefaction hazards must be conducted in accordance with the California Geological Survey, Special Publication 117, adopted March 13, 1997 by the State Mining and Geology Board pursuant to the Seismic Hazards Mapping Act, as discussed in the impacts section below.

Local Regulations

City of Riverside Municipal Code

The Riverside Municipal Code Title 16 – Building and Construction, requires provisions for the requirement of geologic investigations (Section 16.08.185). The Municipal Code states that prior to issuing building permits for any property identified by the seismic safety element of the City's General Plan as being potentially subject to liquefaction during a ground shaking episode, a thorough geologic analysis by an expert in the field shall be made identifying the specific potential of the subject property for liquefaction and prescribing specific construction measures to eliminate or substantially reduce the possibility of structural failure from this cause.

3.5.3 Threshold of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. Thus the significance criteria for this analysis were developed from criteria presented in Appendix G of the *CEQA Guidelines* and Initial Study performed for the proposed project. Several criteria were eliminated from further consideration and will not be discussed here:

- 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
  - Landslides
- 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 wastewater;
- 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; or
- 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.

These criteria were considered but were found to be not applicable to the project; therefore, no further discussion of these impacts is provided. Please refer to the Initial Study Checklist (**Appendix A**) for further clarification.

For this analysis, the proposed project would result in significant impacts if the proposed project significantly impacted the following criteria:

- Exposure of people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving:
  - Strong seismic ground shaking; or
  - Seismic related ground failure, including liquefaction.
- 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 lateral spreading, subsidence, liquefaction or collapse.

3.5.4 Environmental Impacts Assessment

Exposure to Seismic-Related Hazards

Impact 3.5-1: The proposed project could expose people or structures to potential substantial adverse effects of strong seismic ground shaking or seismic related ground failure, including liquefaction. (Less than Significant)

Proposed Project

Ground Shaking

The project site is located in a seismically active area that has the potential to experience strong ground shaking. Ground shaking has the potential to dislodge objects from walls, ceilings, and shelves, and to damage and destroy buildings and other structures. People in the area would be exposed to these hazards. The above-referenced faults are capable of severe seismic activity that could affect the proposed project area. The proposed project site would have the same potential for ground shaking as other land uses in the vicinity of the project site. As part of the building permit approval process, the City will require that all construction meet the latest standards of the

California Building Code (CBC) for construction, thus minimizing hazards associated with damage or destruction to buildings. Well-designed structures in conformance with the CBC seismic building code requirements would not be anticipated to experience serious damage or collapse because the criteria have been developed to prevent any such damage. These building codes provide requirements for construction, grading, excavation, use of fill, and foundation work, including type of materials, design, procedures, etc., which are intended to limit the probability of occurrence and the severity of consequences from geologic hazards. Necessary building permits, plan checks, and inspections would also be required by the City.

Liquefaction

Soil liquefaction occurs within relatively loose, cohesion-less sands located below the water table (60 to 200 ft below ground) that are subjected to ground accelerations from earthquakes. Seismically induced soil liquefaction is a phenomenon in which loose to medium dense, saturated granular materials undergo matrix rearrangement, develop high pore water pressure, and lose shear strength due to cyclic ground vibrations induced by earthquakes or other means. The risk of seismically induced soil liquefaction on the site is high given the characteristics of the formation materials on the site as well as the shallow water table. Several soil borings were conducted as part of the geotechnical report for the project site by Leroy Crandall and Associates (1986). The project site contains soils that are sandy and silty sands.

The proposed project would be required to conform to the specification within the CBC for constructing on hazardous areas including liquefaction. In addition, the City Policy PS-1.1 of the General Plan 2025 requires that all new construction abides by the most recent City and State seismic and geotechnical requirements and Section 16.08.185 of the City Municipal Code requires that a professional geologic investigation be prepared in areas where high liquefaction hazards exist. As a result, the proposed project would be required to comply with the current City policies, codes and the UBC prior to receiving construction approval. Therefore, impacts associated with seismic-related hazards, including liquefaction, would be less than significant.

Significance: Less than significant

Maximum Buildout Scenario

The expansion of the RWQCP under this scenario would require a larger construction and operational footprint than the proposed project. Thus, there would be larger and more facilities subject to potential liquefaction and seismic-related hazards. However, the construction of all new facilities would be required to conform to City polices, codes, and CBC/UBC construction standards. Therefore, impacts associated with seismic-related hazards, including liquefaction, would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

The expansion of the RWQCP under this scenario would require a larger construction and operational footprint than the proposed project and the Maximum Buildout Scenario. Thus, there would be larger and more facilities subject to potential liquefaction and seismic -related hazards. However, the construction of all new facilities would be required to conform to City polices, codes, and UBC construction standards. Impacts associated with seismic-related hazards, including liquefaction, would be less than significant.

Significance: Less than significant

Collection System

Construction activities associated with the future upgrades could occur in a wide range of the City that has various geologic conditions. Collection system upgrades would be installed in accordance with appropriate design construction techniques, depending on their locations, in compliance with applicable seismic standards. Upgrades to the system would decrease the potential for system failures during an earthquake. Impacts to the collection system associated with seismic-related hazards, including liquefaction, would be less than significant.

Soil Erosion or Topsoil Loss

Impact 3.5-2: The project could result in substantial soil erosion or the loss of topsoil. (Less than Significant)

Proposed Project

The project site currently includes several different elevations. The elevation increases as the property moves south from the low spot of the Santa Ana River to the high spot of the southern property boundary. The site is developed with relatively flat pads separated by manufactured landscaped slopes. The developed nature of the site significantly reduces the potential for erosion and loss of topsoil during construction of the proposed project. The proposed project would involve earthwork and grading activities that could disturb site soils and potentially expose them to wind or water erosion. However, the proposed project components would be constructed on previously developed land (within the RWQCP footprint) that has been previously graded. There is no native topsoil present at the site; therefore, no loss of topsoil would occur with implementation of the proposed project.

Construction activity associated with the proposed project components has the potential to result in minor wind- and water-driven erosion of soils. Excavation and/or grading for proposed project components would have the potential to result in erosion during construction activities as bare soils would be exposed and would have the potential to be eroded by wind or water (see analyses below). Soils excavated for each component of the proposed project would be stockpiled on the site temporarily and would potentially be exposed to erosive forces such as wind and water. The proposed project would disturb more than one acre and, therefore, would be required to apply for

the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). However, it should be noted that the proposed project would capture all storm water run-off and convey the flows into the plant for treatment. Nevertheless, Best Management Practices (BMPs) have been recognized as effective in preventing or minimizing erosion; the project would be required to adhere to erosion control measures outlined in the BMPs. BMPs would also be implemented during construction to mitigate and regulate dust control, hauling all excess soil to safe disposal sites and frequently watering the construction site ground to prevent dust. Therefore, potential soil erosion impacts would be less than significant.

Wind Erosion Analysis

Construction

The excavation and stockpiling operation would have the potential to expose soils to wind erosion that previously would not be exposed without the project. Therefore, the construction of the proposed project would have a significant impact associated with wind erosion. However, as stated in Section 3.2, Air Quality, dust control measures would be implemented and consistent with the South Coast Air Quality Management District (SCAQMD) Rule 403. Therefore, the project's construction-related, wind-induced soil erosion impacts would be less than significant.

Operation

Upon completion of construction, the RWQCP expansion areas would be resurfaced with asphalt and/or concrete; therefore, wind erosion would not occur and this impact would be less than significant.

Water Erosion Analysis

Construction

All construction activities would comply with Chapter 29 of the CBC, which regulates excavation activities and the construction of foundations and retaining walls, and Chapter 70 of the CBC, which regulates grading activities, including drainage and erosion control. As stated in Section 3.7, Hydrology and Water Quality, the proposed project would comply with the NPDES general permit for construction activities, pursuant to which, as part of an erosion control plan, appropriate construction site erosion and sedimentation control BMPs would be implemented. Therefore, the project's construction-related, water-induced soil erosion impacts would be less than significant.

Operation

Upon completion of construction, the RWQCP expansion areas would be resurfaced with asphalt and/or concrete; therefore, water-induced soil erosion impacts would be less than significant.

The following General Plan 2025 buildout scenarios would require wastewater treatment facilities with capacities of approximately 55.3 mgd and 63.9 mgd, respectively. The expansions required to accommodate these volumes of wastewater are anticipated to be accommodated on the same site as the existing and proposed RWQCP expansion.

Significance: Less than significant

Maximum Buildout Scenario

The expansion of the RWQCP under this scenario would require a larger construction and operational footprint than the proposed project. Thus, there would be greater potential of soil erosion. However, this development scenario would be required to comply with the NPDES program as well as BMPs Therefore, wind and water-induced construction and operational impacts would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

The expansion of the RWQCP under this scenario would require a larger construction and operational footprint than the proposed project and the Maximum Buildout Scenario. Thus, there would be greater potential of soil erosion. However, this development scenario would be required to comply with the NPDES program as well as BMPs. Therefore, wind and water-induced construction and operational impacts would be less than significant.

Significance: Less than significant

Collection System

Construction activities associated with the future collection system upgrades could occur in a wide range of area within the City of Riverside. Different areas of the City can contain various soil conditions. However, the construction of the collection system would be required to comply with NPDES requirements, BMPs, and standard City requirement that would reduce the likelihood of impacts to below a level of significance.

Soil Stability

Impact 3.5-3: The project could 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 lateral spreading, subsidence or collapse. (Less than Significant)

Proposed Project

Lateral Spreading

Lateral spreading is the most pervasive type of liquefaction-induced ground failure. The project site includes the existing RWQCP and associated facilities, and as a result, the subsurface soils have been engineered to support the above-ground improvements. The City's Building and Construction Code (Section 16.08.185) requires that a geotechnical investigation be prepared and that any potential hazardous geologic or soil condition be addressed with design recommendations. The reports must be written by a registered soil professional, and measures to eliminate inappropriate soil conditions must be applied. The design foundation support must conform to the analysis and implementation criteria described in CBC Chapter 15 of the CBC. Compliance with the CBC would ensure that lateral spreading would remain less than significant.

Subsidence

Land subsidence is the gradual, local setting or shrinking of the earth's surface with little or no horizontal motion. Subsidence may also be caused by liquefaction, groundwater withdrawal, oil or gas withdrawal, and hydroconsolidation. The proposed project is located in an area that has a high potential for liquefaction. The Public Safety Element of the General Plan 2025 identifies the project site as being located within a "very high liquefaction zone" (see Figure 3.5-3). As a result, during very large earthquakes, it is possible for subsidence or seismically induced settlement to occur in loose granular soils in flat or gently sloped portions of areas as the result of intense ground shaking. Structures built on expansive soils could experience foundation cracking as a result of the expanding and contracting soils. In addition, in areas susceptible to subsidence or settlement, facility foundations could be damaged. As a result, the proposed project has the potential to have a significant impact associated with subsidence. However, the proposed project would be required to conform to the specification of the CBC for constructing on hazardous areas including subsidence. In addition, the City Policy PS-1.1 requires that all new construction abides by the most recent City and State seismic and geotechnical requirements and Section 16.08.185 of the City Municipal Code requires that a professional geologic investigation be prepared in areas where high subsidence hazards exist. The proposed project would be required to comply with current City policies, codes and the CBC/UBC prior to receiving construction approval. Therefore, impacts related to subsidence would be less than significant.

The following General Plan 2025 buildout scenarios would require wastewater treatment facilities with capacities of approximately 55.3 MGD and 63.9 MGD. The expansions required to accommodate these volumes of wastewater are anticipated to be accommodated on the same site as the existing and proposed RWQCP expansion.

Significance: Less than significant

Maximum Buildout Scenario

Expansion under this scenario would be subject to the same requirements under the CBC, City Policy PS-1.1 and the City Municipal Code Section 16.08.185 as the proposed project. Implementation of required codes would ensure impacts would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Expansion under this scenario would be subject to the same requirements under the CBC, City Policy PS-1.1 and the City Municipal Code Section 16.08.185 as the proposed project. Implementation of the required codes would ensure impacts would be less than significant.

Significance: Less than significant

Collection System

Construction activities associated with the future collection system upgrades could occur in a wide range of the City that has various soil and geologic conditions. All of the collection system upgrades would be subject to the same requirements under the CBC, City Policy PS-1.1 and the City Municipal Code Section 16.08.185 as the proposed project. However, at this time the location and size of the collection system are unknown. As a result, a site-specific environmental analysis would be prepared on a project-by-project basis when the future project details are identified and finalized.

Cumulative Impacts

Impact 3.5-4: The proposed project could result in adverse cumulatively considerable geologic impacts. (Less than Significant)

The entire region is located within a seismically active region containing a wide range of geologic and soil conditions which relate to varying degrees of hazards. These conditions can vary widely within a short distance, making the cumulative context for potential impacts more localized and even site-specific.

Geologic hazards are localized in nature, as they are related to the soils and geologic character of a particular site. Development of the proposed project would have less than significant impacts related to exposing persons or structures to geologic, soils, or seismic hazards. Future projects in the City of Riverside may also result in development in an area subjected to seismic risks and hazards, and would be subject to individual project mitigation measures, where deemed appropriate by the applicable lead agency. All construction phases of this and future projects would be required to implement appropriate mitigation measures and adhere to all federal, state and local programs, requirements and policies pertaining to building safety and construction permitting. The proposed project and all potential future projects would be required to adhere to the CBC, NPDES program, City Municipal Codes and Policies. The proposed project is required to incorporate appropriate design and construction measures to guard against geologic hazards, which requires the use of site-specific engineering and construction standards identified for each potential hazard. Since the proposed project would be required to abide by both local and state safety seismic engineering standards such as the CBC, NPDES program, City Municipal Codes and Policies, cumulative impacts would be less than significant.

Significance: Less than significant

References – Geology and Soils

City of Riverside General Plan 2025 FPEIR, certified November 2007.

City of Riverside Wastewater Collection and Treatment Integrated Master Plan, Carollo Engineers, September 2006.

3.6 Hazards and Hazardous Materials

This section presents an evaluation of the potential for hazards and hazardous materials impacts related to the proposed project. Several hazards and hazardous material criteria were eliminated from further consideration and will not be discussed below. These impacts were considered but were found to be absent or not applicable to the project; therefore, no further discussion of these impacts is provided. Please refer to the Initial Study Checklist (**Appendix A**) for further clarification. Existing conditions in the project area; potential hazardous materials issues associated with site construction; and the potential of the project to and or transport hazardous materials and/or hazardous wastes are discussed. This section identifies potential project impacts and appropriate mitigation measures where necessary and describes the regulatory process for the project site and surrounding area. This section incorporates information and analyses from the City of Riverside General Plan 2025 (City of Riverside, 2007), and the Final Environmental Impact Report for the City of Riverside General Plan 2025 (Albert A. Webb Associates, 2007).

3.6.1 Environmental Setting

Hazardous Materials and Wastes

The presence of hazardous materials and other safety hazards has the potential to affect residents, workers, and visitors within and adjacent to the project site. Certain activities can pose a risk of exposure to the public or the environment due to routine or accidental releases, such as spills, or as a result of possible contamination related to past uses of the property.

The U.S. Environmental Protection Agency (US EPA) defines a hazardous waste as a substance that 1) may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness; and 2) that poses a substantial present or potential future hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed. Hazardous waste is defined as ignitable, corrosive, explosive, or reactive (Federal Code of Regulations-FCR-Title 40: Protection of the Environment, Part 261).

As used in this EIR, the term “hazardous materials” refers to both hazardous substances and hazardous wastes. Hazardous materials are defined in California Health and Safety Code Section 25501:

> “A hazardous material is any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. “Hazardous materials” include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.”

Hazardous wastes are defined in Section 25117:

> "Hazardous wastes are wastes that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed."

The City of Riverside General Plan Public Safety Element defines a hazardous material as any material that because of its quality, concentration or physical or chemical characteristics pose a significant potential hazard to human health or safety or to the environment (City of Riverside, 2007).

A material may also be classified as a hazardous material if it contains defined amounts of toxic chemicals. The City General Plan 2025 FPEIR states that hazardous materials may be released through spilling, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment. The EPA has developed a list of specific hazardous wastes that are in the form of solids, semisolids, liquids, and gases. The EPA regulates the production and distribution of commercial and industrial chemicals to protect human health and the environment. All motor carriers and drivers involved in the transportation of hazardous materials must comply with the requirements of federal and state regulations, and must apply for and obtain a hazardous materials transportation license from the California Highway Patrol (City of Riverside, 2007).

Existing Site Conditions

The plant consists of approximately 106 acres of land. Approximately 30 percent of the existing site is in open land. The proposed project through the year 2025 would use about one-third (1/3) of the open land (see Project Description, Figure 2-4). In addition to the 25 facility areas listed in the project description, there are three outdoor storage areas. Two of these areas are used to store miscellaneous parts and equipment that are used throughout the plant.

There are 40 chemicals presently used and or stored on-site. These chemicals have different hazardous classes. Of the 39 chemicals presently used on-site, two are classified as Carcinogen (CARC) (2- Propanol Reagent A.C.S, Sulfuric Acid A.C.S.), one of which is also designated in the Water-Reactive Class 1; six are classified as Corrosive (CORR), one of which is also an Oxidizer Class 1 and a Toxic; five are classified as a Compressed Gas (CGas) or Flammable Gas, and the remaining chemical used and or stored on-site do not have a classification (BEP Summary Report, 2009). Existing chemicals used on-site include sodium hypochlorite (NaOCl) and sodium bisulfite ($NaHSO_3$) among others which are considered hazardous materials by the State of California (City of Riverside Wastewater Collection and Treatment Integrated Master Plan, 2006). The following is a summary of those two chemicals used and/or stored on-site.

- **Sodium Hypochlorite** (NaOCl) is a liquid form of chlorine. NaOCl is used for disinfection purposes. NaOCl solutions are used in place of gaseous chloride, an acutely toxic chemical. NaOCl solutions are unstable and some chlorine vapor may be released in the event of a spill. Chlorine vapor production from using NaOCl is minimal and poses minimum public health risks in comparison to using pressurized gaseous chlorine. Because NaOCl degrades with time, the volume in storage must be balanced by the amount used.

- **Sodium Bisulfite** ($NaHSO_3$) is used for dechlorination prior to discharge. It is a noncombustible, corrosive liquid that is harmful if swallowed or inhaled. It may cause allergic respiratory reactions and act as an irritant to skin, eyes, and the respiratory tract. $NaHSO_3$ is moderately reactive and releases toxic sulfur dioxide gas if it comes in contact with acids or water. $NaHSO_3$ strength diminishes somewhat with age and will gradually decompose in air to sulfate, generating sulfurous acid gas.

Hazardous waste generated on-site also includes a minimal amount of volatile organic chemicals from cleaners and paints. Disposal of all hazardous materials requires compliance with applicable California hazardous waste disposal laws. The current facility maintains a Hazardous Materials Business Emergency Plan/ Emergency Procedures in the event of an injury and/or accidental release of hazardous materials (BEP Summary Report, 2009).

City of Riverside Environmental Setting

Comprehensive Environmental Response, Compensation, and Liability Information System

The *Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)* protects the water, air, and land resources from the risk created by past chemical disposal practices. This Act is also referred to as the Superfund Act, and the sites listed under it are referred to as Superfund sites. Under CERCLA, the EPA maintains a list, known as CERCLIS, of all contaminated sites in the nation that have in part or are currently undergoing clean-up activities. This list contains sites that are on the National Priorities List (NPL) or are being considered for the NPL. According to the EPA's list, there are 11 CERCLIS sites in the City of Riverside, and one of them is included on the National Priority List (Albert A. Webb Associates, 2007).

Toxic Release Inventory (TRI)

The Toxics Release Inventory (TRI) is an EPA database that contains information on toxic chemical releases and other waste management activities reported annually by certain industry groups as well as Federal facilities. TRI sites are known to release toxic chemicals into the air. The EPA closely monitors the emissions from these facilities to ensure that their annual limits are not exceeded. A total of 41 sites have been identified within the City on the EPA's TRI database as of February 2008 (U.S. EPA Toxic Release Inventory Program, 2008).

Department of Toxic Substance Control

The Department of Toxic Substance Control (DTSC) maintains a Hazardous Waste and Substances Site List for site cleanup referred to as the Cortese List. The Cortese List is a planning document used to comply with the California Environmental Quality Act (CEQA) requirements in providing information about the location of hazardous materials release sites. Government Code section 65962.5 requires the California Environmental Protection Agency (Cal EPA) to develop at least annually an updated Cortese List. The Cortese List identifies properties in the City of Riverside that are regulated by the DTSC's Site Mitigation and Brownfields Reuse Program where extensive investigation and/or cleanup actions are planned, have been completed, and where land use restrictions remain (Albert A. Webb Associates, 2007).

California Accidental Release Prevention

The California Accidental Release Prevention (CalARP) Program was established to prevent accidental releases of substances determined to potentially pose the greatest risk of immediate harm to the public and the environment. The program is also intended to mitigate the effects of an accidental release.

Other Hazards

Storage Tanks

Underground storage tanks (UST) are generally defined as "any one or combination of tanks, including pipes connected thereto, that is used for the storage of hazardous substances and that are substantially or totally beneath the surface of the ground" (Albert A. Webb Associates, 2007). Aboveground storage tanks (AST) can also contain hazardous materials. The California State Water Resources Control Board (SWRCB) established an Underground Storage Tank Program (UST Program) to protect public health and safety and the environment from releases of petroleum and other hazardous substances from tanks. The UST Program has four elements including leak prevention, cleanup, enforcement and tank tester licensing. The program's searchable database, Geotracker, identifies sites and facilities with USTs. A review of the Geotracker database yielded 156 USTs that have been reported in the City (City of Riverside General Plan, 2007).

Leaking underground fuel tanks (LUFTs) are one of the greatest environmental concerns of the past several decades. The City of Riverside Office of Emergency Services also maintains an inventory of LUFT sites. According to data from the SWRCB as of February 2008, 316 underground fuel tank leak locations have been identified in the City.. Of these, 221 sites have been either cleaned up or deemed to be of no environmental consequence, leaving 95 cases that are still open and in various stages of the remediation process.

Wells

The City of Riverside owns a total of 133 active and inactive wells. In 2002, an assessment of wells in the Bunker Hill Basin (located north of the City in San Bernardino County) was completed. Contamination in a number of inactive wells in the Bunker Hill Basin contain trichloroethylene (TCE), and dibromochloropropane (DBCE). According to the City's General Plan EIR, the contaminants are being remediated through water treatment and other methods by other water agencies under the purview of the California Department of Health Services (DHS). DBCE contamination is primarily related to herbicide use in orange groves (Albert A. Webb Associates, 2007).

Airport Hazards

There are two airports near the project area; Riverside Municipal Airport and Flabob Airport. The Riverside Municipal Airport is situated on 451 acres located southeast of the RWQCP, bordered by Arlington Avenue to the south, Hillside Avenue to the east, Van Buren Boulevard to the west and Central Avenue to the north (see Project Description, Figure 2-1,). The Riverside Municipal Airport provides private general aviation services and includes two runways. The Flabob Airport,

a privately owned facility open to the public, is the seventh oldest surviving airport in California. The Flabob Airport is located west of the Santa Ana River in the unincorporated community of Rubidoux, approximately two miles northwest of the City of Riverside's Downtown Central Business District. The Riverside Municipal and Flabob Airports involve six zones of airport influence areas, as delineated in the 2004 Riverside County Airport Land Use Compatibility Plan. Portions of the Flabob Airport Land Use Compatibility Plan affect the City of Riverside. Affected areas correspond to the largely undeveloped areas or areas with low intensity residential development north and west of Brockton Avenue (City of Riverside General Plan, 2007).

The City of Riverside Airport Commission acts as an advisory board and oversees airport operation. Airport development is programmed in the Riverside Airport Master Plan adopted in 1999 in cooperation with the Federal Aviation Administration (FAA) (City of Riverside General Plan, 2007). The Riverside County Airport Land Use Compatibility Plan identifies the Riverside Airport safety zones, as shown in **Figure 3.6-1**.

3.6.2 Regulatory Framework

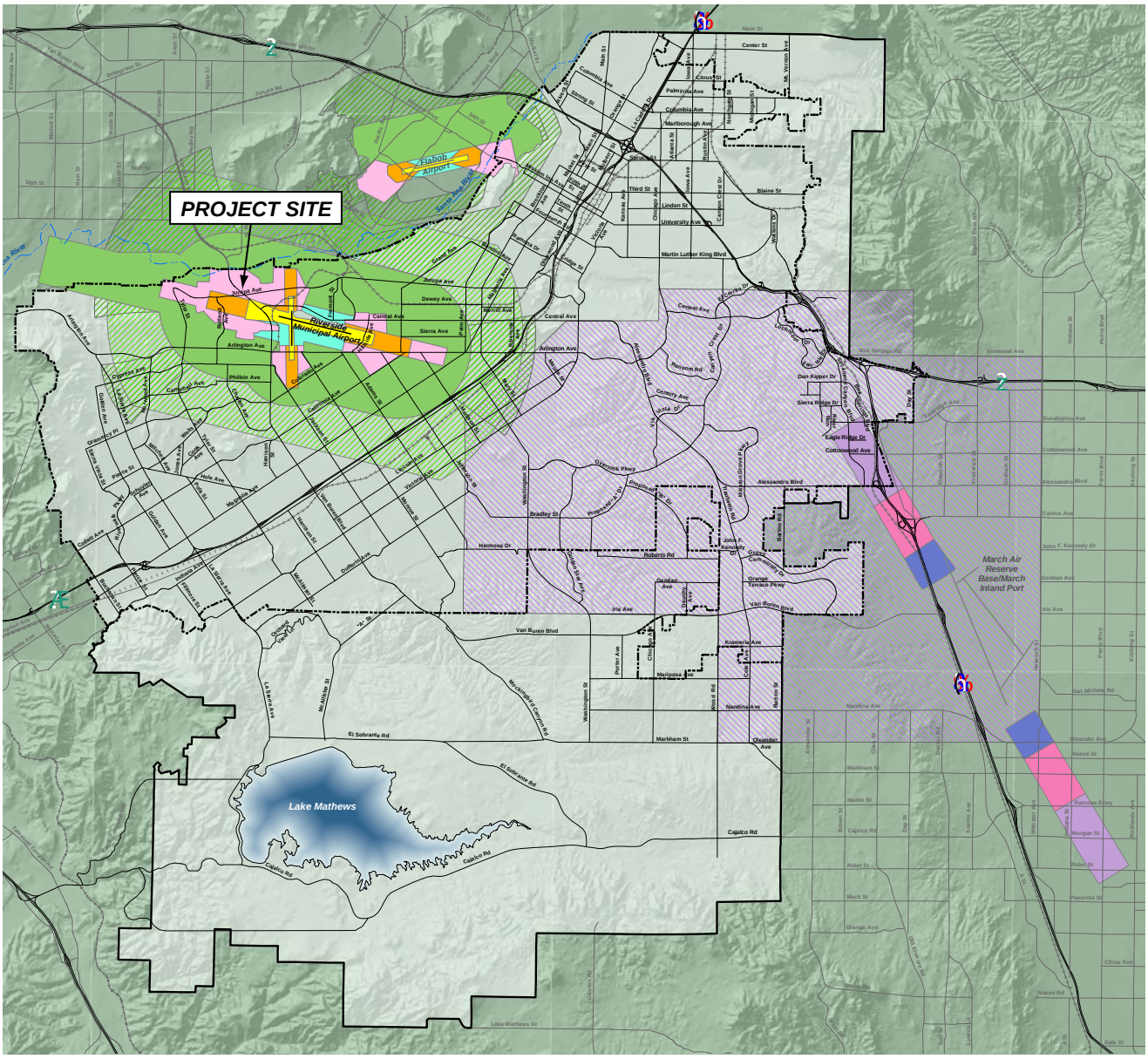
Federal Regulations

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 150/5200-33B addresses hazardous wildlife attractants on or near airports (FAA, 2007). This Advisory Circular is intended to provide guidance on siting certain land uses that have the potential to attract potentially hazardous wildlife to a public-use airport or its vicinity. It 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.

The US EPA is the primary Federal agency responsible for the implementation and enforcement of hazardous materials regulations. In most cases, enforcement of environmental laws and

[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.



Riverside Municipal and Flabob Airport Safety Zones

- Adjacent to Runway
- Runway Protection Zone
- Extended Approach/ Departure Zone
- Inner Approach/ Departure Zone
- Primary Traffic Patterns
- Other Airport Environs

MARB/MIP Safety Zones

- Accident Potential I
- Accident Potential II
- Clear Zone
- Other Airport Environs

- Riverside City Boundary
- Riverside Sphere of Influence

0 2 Miles

SOURCE: *City of Riverside General Plan 2025*, 2007

City of Riverside . 206047

Figure 3.6-1
Airport Safety and Compatibility Zones

regulations established at the Federal level is delegated to State and local environmental regulatory agencies. Applicable Federal regulations are contained primarily in Titles 10, 29, 40, and 49 of the Code of Federal Regulations (CFR).

Occupational Safety and Health Administration

The federal Occupational Safety and Health Administration (OSHA) enforces regulations covering the handling of hazardous materials in the workplace. The regulations established in the Code of Federal Regulations (CFR) Title 29 are designed to protect workers from hazards associated with encountering hazardous materials at the work site. The regulations require certain training, operating procedures, and protective equipment to be used at work sites that could encounter hazardous materials

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 RCRA as long as the state program is at least as stringent as federal RCRA requirements and is approved by the U.S. Environmental Protection Agency (US EPA). The US EPA approved California's RCRA program, called the Hazardous Waste Control Law (HWCL), in 1992. Cal EPA and the Department of Toxic Substance Control (DTSC), a department within Cal EPA, regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. DTSC has primary regulatory responsibility for hazardous materials, 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 US EPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. The US EPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. The US EPA has the authority to ban the manufacture and import of chemicals that pose an unreasonable risk. The Department of Toxic Substance Control (DTSC)is responsible for regulating the use, storage, transport, and disposal of hazardous substances in the state. DTSC maintains a Hazardous Waste and Substances Site List for site cleanup. This list is commonly referred to as the Cortese List. Government Code section 65962.5 requires the Cal EPA to update the Cortese List at least annually. DTSC is responsible for a portion of the information contained in the Cortese List.

Comprehensive Environmental Response, Compensation, and Liability Act

As stated above, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) was developed to protect the water, air, and land resources from the risk created by past chemical disposal practices. This act is also referred to as the Superfund Act and the sites listed under it are referred to as Superfund sites. Under CERCLA, the US EPA maintains a list, known as CERCLIS, of all contaminated sites in the nation that have in part or are currently undergoing clean-up activities. CERCLIS contains information on current hazardous waste sites,

potential hazardous waste sites, and remedial activities. This includes sites that are on the National Priorities List (NPL) or being considered for the NPL.

State Regulations

California Code of Regulations

The California Code of Regulations (CCR), Title 22, Section 66261.20-24 contains technical descriptions of characteristics that would classify wasted material, including soil, as hazardous waste. When excavated, soils having concentrations of contaminants higher than certain acceptable levels must be handled and disposed as hazardous waste.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) administer the requirements of the Clean Water Act that regulate pollutant discharges into waterways of the U.S. The Colorado River Basin RWQCB (CRBRWQCB) enforces site cleanup regulations in the City of Riverside for illicit discharges that have resulted in contamination of groundwater in the project area.

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 on site 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 on-site, an emergency response plan, and a safety and emergency response training program for new employees with an annual refresher course.

California Occupational Safety and Health Administration

In California, the California Occupational Safety and Health Administration (Cal OSHA) regulates worker safety similarly to the federal OSHA. Cal 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).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

In January 1996, Cal EPA adopted regulations that 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 on-site treatment; (2) USTs; (3) ASTs; (4) hazardous materials release response plans and inventories; (5) risk management and prevention programs; and (6) Uniform Fire Code hazardous materials management plans and inventories. It 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 San Bernardino County, the San Bernardino County Fire Department is the designated CUPA. For the City of Riverside, CUPA jurisdiction is a division under the fire department.

California Accidental Release Prevention Program

The CalARP program (CCR Title 19, Division 2, Chapter 4.5) covers certain businesses that store or handle more than a certain volume of specific regulated substances at their facilities. The CalARP program regulations became effective on January 1, 1997, and include the provisions of the Federal Accidental Release Prevention program (Title 40, CRF Part 68) with certain additions specific to the State pursuant to Article 2, Chapter 6.95, of the Health and Safety Code.

The list of regulated substances is found in Article 8, Section 2770.5 of the CalARP program regulations. The businesses that use a regulated substance above the noted threshold quantity must implement an accidental release prevention program, and some may be required to complete a Risk Management Plan (RMP). A RMP is a detailed engineering analysis of the potential accident factors present at a business and the mitigation measures that can be implemented to reduce this accident potential.

California Occupational Safety and Health Administration

Occupational safety standards exist in Federal and State laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health (Cal OSHA) is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal OSHA obligates many businesses to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. The Hazard Communication Standard requires that workers be informed of the hazards associated with the materials they handle. For example, manufacturers are to appropriately label containers, Material Safety Data Sheets are to be available in the workplace, and employees are to properly train workers.

Hazardous Materials Transportation

The CHP and California Department of Transportation (Caltrans) are the enforcement agencies for hazardous materials transportation regulations. Transporters of hazardous materials and waste are responsible for complying with all applicable packaging, labeling, and shipping regulations. The Office of Emergency Services (OES) also provides emergency response services involving hazardous materials incidents.

Local Regulations

Riverside County Airport Land Use Compatibility Plan

The County Airport Land Use Commission has developed the Riverside County Airport Land Use Compatibility Plan (RCALUCP) that is intended to protect and promote the safety and welfare of residents in the airport vicinity and users of the airport while ensuring the continued operation of the airports. Specifically, these plans seek to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities encroach upon or adversely affect the use of navigable airspace. The following is a selection of polices that apply to the project:

Policy: 1.1.1: *Riverside County Airport Land Use Commission (ALUC):* The ALUC:

a) Shall utilize when reviewing proposed land use development in Riverside County for compatibility with airport activity.

Policy 1.4.1: *Principal Compatibility Concerns:* The Commission is concerned only with the potential impacts related to:

a) Exposure to aircraft noise;
b) Land use safety with respect both to people on the ground and the occupants of aircraft;
c) Protection of airport airspace; and
d) General concerns related to aircraft over flights.

Policy 1.5.3: *Major Land Use Actions:* The scope or character of certain *major land use actions,* as listed below, is such that their compatibility with airport activity is a potential concern. Even though these actions may be basically consistent with the local general plan or specific plan, sufficient detail may not be known to enable a full airport compatibility evaluation at the time that the general plan or specific plan is reviewed. To enable better assessment of compliance with the compatibility criteria set forth herein, ALUC review of these actions may be warranted. The circumstances under which ALUC review of these actions is to be conducted are indicated in Policy 1.5.2.

a) Actions affecting land uses within any compatibility zone.
    1. Any discretionary development proposal for projects having a building floor area of 20,000 square feet or greater unless only ministerial approval (e.g., a building permit) is required.
    2. Major capital improvements (e.g., water, sewer, or roads) which would promote urban uses in undeveloped or agricultural areas to the extent that such uses are not reflected in a previously reviewed general plan or specific plan.
    3. Any off-airport, non-aviation use of land within *Compatibility Zone A* of any airport.
    4. Proposals for new development (including buildings, antennas, and other structures) having a height of more than:
        i. 35 feet within *Compatibility Zone B1*, *B2*, or a *Height Review Overlay Zone*;
        ii. 70 feet within *Compatibility Zone C*; or
        iii. 150 feet within *Compatibility Zone D* or *E*.
    5. Any obstruction reviewed by the Federal Aviation Administration in accordance with Part 77 of the Federal Aviation Regulations that receives a finding of anything other than “not a hazard to air navigation.”
    6. Any project having the potential to create electrical or visual hazards to aircraft in flight, including:
        i. Electrical interference with radio communications or navigational signals;
        ii. Lighting which could be mistaken for airport lighting;
        iii. Glare in the eyes of pilots of aircraft using the airport; and
        iv. Impaired visibility near the airport.

7. Projects having the potential to cause attraction of birds or other wildlife that can be hazardous to aircraft operations to be increased within the vicinity of an airport.

b) Regardless of location within Riverside County, any proposal for construction or alteration of a structure (including antennas) taller than 200 feet above the ground level at the site. (Such structures also require notification to the Federal Aviation Administration in accordance with Federal Aviation Regulations, Part 77, Paragraph 77.13(a)(1).)

c) Any other proposed land use action, as determined by the local planning agency, involving a question of compatibility with airport activities.

Policy: 4.3.7. *Other Flight Hazards:* New land uses that may cause visual, electronic, or increased bird strike hazards to aircraft in flight shall not be permitted within any airport's influence area. Specific characteristics to be avoided include:

a) Glare or distracting lights which could be mistaken for airport lights;

b) Sources of dust, steam, or smoke which may impair pilot visibility;

c) Sources of electrical interference with aircraft communications or navigation; and

d) Any proposed use, especially landfills and certain agricultural uses, that creates an increased attraction for large flocks of birds. (Refer to FAA Order 5200.5A, *Waste Disposal Sites on or Near Airports* and Advisory Circular 150/5200-33A, *Hazardous Wildlife Attractants On or Near Airports).*

City of Riverside Municipal Code

Title 14 Public Utilities of the Municipal Code, Chapter 14.12 Discharge of Wastes into the Public Sewer and Storm Drain Systems, Section 14.12.315, prohibits waste discharges by a person or user into a collection system of the City or a Community Services District.

Related General Plan 2025 Policies

In recognition of the potential risks associated with hazards and hazardous materials, the Public Safety Element of the City's General Plan 2025 includes the following policies to protect the community. The following are selected policies:

Policy PS-3.1: Ensure that hazardous materials used in business and industries are handled properly.

Policy PS-3.2: Provide the Fire Department with resources to ensure that hazardous materials used and generated by businesses are handled properly.

Policy PS-3.3: Work with responsible Federal, State, and County agencies to identify and regulate the disposal of toxic materials.

Policy PS-3.4: Reduce the risks associated with ground transportation hazards, where feasible.

Policy PS-3.5: Encourage sewer service to minimize groundwater contamination.

Policy PS-4.2: When planning for development near airports, anticipate possible increases in airport activity and expansion of airport facilities and services and the effects these changes may have on public safety.

Policy PS-4.3: Encourage development in the vicinity of the Riverside Municipal Airport that would not cause land use conflicts, hazards to aviation or hazards to public and that is compatible with the Riverside County Airport Land Use Plan for the airport.

Policy PS-4.6: Ensure that development within the airport influence areas is consistent with the Airport Protection Overlay Zone development standards and the Riverside County Airport Land Use Compatibility Plan.

3.6.3 Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. Thus the significance criteria for this analysis were developed from criteria presented in Appendix G of the *CEQA Guidelines* and Initial Study performed for the proposed project. Several criteria were eliminated from further consideration and will not be discussed here:

- Result in hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school;
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- 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.

These criteria were considered but were found to be not applicable to the project; therefore, no further discussion of these impacts is provided. Please refer to the Initial Study Checklist (**Appendix A**) for further clarification.

For this analysis, the proposed project would result in significant impacts if the proposed project significantly impacted the following criteria.

- Creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Creates a significant hazard to the public or the environment through an accident conditions involving the release of hazardous materials into the environment; and
- 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, which would result in a safety hazard for people residing or working in the project area.

Methodology

This impact analysis focused on potential effects of hazardous materials or waste associated with the project's use or transport.

3.6.4 Environmental Impact Assessment

Public and Environmental Hazards

Impact 3.6-1: The project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or would the project 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. (Less than Significant with Mitigation)

Proposed Project

The proposed RWQCP expansion would result in the construction and expansion of treatment facilities components such as but not limited to: a primary equalization pump station, a primary sludge pump station, a primary sludge thickening facility, a membrane bioreactor, an acid phase digester facility, a new chlorine contact basin, a new maintenance building, and a parking lot expansion. Construction of the proposed project would temporarily increase the transport of materials classified as hazardous materials that are used during construction activities. Hazardous materials transportation would be made in accordance with Caltrans requirements and regulations. It is anticipated that limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluids, paint, and other similarly related materials would be brought onto the project site, used, and stored during the construction period. During construction and transportation activities, such hazardous materials could accidently be spilled or otherwise released into the environment exposing construction workers, the public and/or the environment to potentially hazardous conditions. This is a potentially significant impact; however, with implementation of Mitigation Measure Haz-1 through Haz-6, impacts would be less than significant. Mitigation Measure Haz-1 through Haz-6 would reduce risks of accidental upset of hazardous materials by requiring best management practices (BMPs) during project construction and would reduce these impacts to a less than significant level.

As part of the operation of the wastewater treatment process, sodium hypochlorite and sodium bisulfite would be used during the treatment and disinfection process. Present uses and transport of existing hazardous materials at the site would not change. Proposed additional chemicals on-site would be as follows:

- Polymer would be used and or stored in areas 9 and 10 as shown on the new proposed facility layout, (see Project Description, Figure 2-4);
- Sodium Hypochlorite, Sodium Bisulfite, Citric Acid and Sodium Hydroxide would be located adjacent to area 7; and
- An increase in the amount of digester gas stored in the new digester, displayed area 11 (see Figure 2-4 Proposed Project Components/ Site Plan) (BEP Summary Report, 2009).

The storage and routine use of sodium hypochlorite and sodium bisulfite on-site could result in a significant impact. Compliance with existing regulations would reduce project impacts to less than significant levels.

The treatment plant maintains facilities to minimize vector generation including rodents and insects. The proposed project would upgrade facilities, including covering some facilities that would reduce vector generation potential at the facility. Impacts from vectors would be less than significant.

Mitigation Measures

Mitigation Measure Haz-1: Construction contractor(s) shall be required to implement best management practices (BMPs) for handling hazardous materials during the project. Use of the construction BMPs will 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.
- On-site fueling of construction equipment shall be conducted only in designated re-fueling areas equipped with proper containment.
- During routing maintenance of construction equipment, properly contain and remove grease and oils.
- Properly dispose of discarded containers of fuels and other chemicals.

Mitigation Measure Haz-2: The City 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:

- Absorbent materials shall be maintained at locations where hazardous materials are used or stored, in order to capture spilled materials in the event of an accidental release.
- 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(s) shall contact the local fire agency and the Environmental Health Services Division of the City of Riverside, for any

site-specific requirements regarding hazardous materials or hazardous waste containment or handling.

Mitigation Measure Haz-3: The City 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

Maximum Buildout Scenario

Under the Maximum Buildout Scenario (Maximum), the expanded RWQCP would require larger treatment facilities as compared to the proposed project, which would require the use of greater amounts of hazardous materials during the treatment and disinfection process. Implementation of Mitigation Measures Haz-1 though Haz-4 above would ensure that impacts remain less than significant. In addition, the RWQCP would continue to operate in compliance with the Tanner Act and the Unified Program which would ensure impacts remain less than significant.

Mitigation: Implement Mitigation Measures Haz-1 through Haz-4.

Significance after Mitigation: Less than significant

Maximum with PRD Buildout Scenario

Under this scenario, the project would require a larger operational footprint than both the proposed project and the Maximum with PRD Buildout Scenario most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility, which would require the use of greater amounts of hazardous materials during the treatment and disinfection process. Implementation of Mitigation Measures Haz-1 though Haz-4 above would ensure that impacts remain less than significant. In addition, the RWQCP would continue to operate in compliance with the Tanner Act, and the Unified Program which would ensure impacts are less than significant.

Mitigation: Implementation of Mitigation Measures Haz-1 through Haz-4.

Significance after Mitigation: Less than significant

Collection System

Construction activities associated with the future sewer line collection system could occur throughout the RWQCP's service area. Currently, it is unknown if any hazardous materials would be used during this upgrade process. Excavation in various parts of the City could encounter known or previously unknown contamination from past land uses. A separate site specific environmental analysis and appropriate mitigation if necessary would be required under this scenario.

Airport Hazards

Impact 3.6-2: The project could be located within an airport land use plan within two miles of a public airport. The proposed project would not result in a safety hazard for people using the airport or residing or working in the project area. (Less than Significant)

Proposed Project

The project site is located within an airport land use plan for the Riverside Municipal Airport. In addition, as shown in Figure 3.6-1 above, the project site is located within the RCALUCP Influence Area. Specifically, the project is located within the Airport Influence Area Zone C (Extended Approach/Departure Zone) and Zone D (Primary Traffic Pattern and Runway Buffer Area). **Table 3.6-1** summarizes the basic compatibility criteria established in the County Airport Land Use Compatibility Plan for land uses and development in Zones C and D. As shown in Table 3.6-1, the major land use restrictions and prohibitions are applicable to residential development, noise sensitive land uses, and high density population land uses. The proposed project is not residential, noise sensitive, or a high density population generator.

However, the proposed project could generate a hazard to flights by attracting wildlife to the site, which is prohibited within both safety zones. The on-site equalization basins and other facilities that contain slow moving surface water can attract waterfowl. The expansion of these facilities would only slightly increase the amount of on-site surface water. The new facilities would not create new open water features with foraging opportunities for small birds or water fowl. The Riverside Municipal Airport may prepare a Wildlife Hazard Management Plan in accordance with Part 139 of the FAA Advisory Circular for Hazardous Wildlife Attractants on or Near Airports. The Plan would be subject to FAA approval. The RWQCP would be required to comply with the Airport Land Use Compatibility Plan and the Wildlife Hazard Management Plan that would restrict structure height and open water features. The proposed project would not significantly affect safety at the neighboring airport.

Significance: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario the expanded RWQCP would require larger treatment facilities as compared to the proposed project. The Maximum would be constructed and operated in the same location as the proposed project. Therefore the Maximum would be subject to airport land use planning similar to the proposed project. The impact would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

The Maximum with PRD Buildout Scenario would be constructed and operated in the same location as the proposed project. Therefore the Maximum with PRD Buildout Scenario would be subject to airport land use planning similar to the proposed project. The impact would be less than significant.

Significance: Less than significant

TABLE 3.6-1
BASIC LAND USE COMPATIBILITY CRITERIA

		Maximum Densities/Intensities						
		Residential	Other Uses (people/ac.)					
Zone	**Locations**	**d.u./ac.**	**Average**	**Single ac.**	**With Bonus**	**Required Open Land**	**Prohibited Uses**	**Other Development Conditions**
C	Extended Approach/ Departure Zone	0.2 (avg. parcel size ≥5.0 ac.)	75	150	195	20%	• Children's schools, day care centers, libraries • Hospitals, nursing homes • Buildings with >3 aboveground habitable floors • Highly noise-sensitive outdoor nonresidential uses • Hazards to flight	• Minimum NLR of 20 dB in residences (including mobile homes) and office buildings • Airspace review required for objects >70 feet tall • Deed notice required
D	Primary Traffic Pattern and Runway Buffer Zone	**(1)** ≤0.2 (avg. parcel size ≥5.0 ac.) or **(2)** ≥5.0 avg. parcel size ≤0.2 ac.)	100	300	390	10%	• Highly noise-sensitive outdoor nonresidential uses • Hazards to flight	• Airspace review required for objects >70 feet tall • Children's schools, hospitals, nursing homes discouraged • Deed notice required

SOURCE: Riverside County Airport Land Use Compatibility Plan (2004).

Collection System

Construction activities associated with the collection system upgrades could occur in numerous locations throughout the City and potentially with Airport Influence Areas. The exact locations of the collection system upgrades are not known at this time. However, it is assumed that the upgrades would include the installation of new sewer pipe, removal and replacing aging pipe and/or rehabilitation of existing sewer pipes. The future collection upgrades would be located underground and would not result in an impact to airport safety or create a hazard to people. However, at this time the location and size of the collection system are unknown. The construction of the collection system would be required to comply with NPDES requirements, BMPs, and standard City requirement that would reduce the likelihood of impacts to below a level of significance. Furthermore, a site-specific environmental analysis would be prepared on a project-by-project basis when the future project details are identified and finalized.

Cumulative Impacts

Impact 3.6.3: The project alternatives could contribute to cumulative impacts associated with release of hazardous materials or other hazards. (Less than Significant)

Implementation of the proposed project, as with most construction projects involve limited storage, use, disposal, and transport of hazardous materials to varying degrees during construction and operation. Most potential hazards and hazardous materials impacts associated with the storage, use, disposal, and transport of materials are extensively regulated by various federal, state and local agencies. As discussed above, the proposed project would result in less than significant project-level hazardous material impacts related to construction activities after mitigation is incorporated (Mitigation Measures Haz-1 though Haz-4 listed above) .

Hazardous material impacts typically occur in a local or site-specific context versus a cumulative context combined with other development projects. It is possible, however, for combined effects of transporting and disposal of hazardous materials to be affected by cumulative development. However, compliance with regulations and requirements concerning the use and storage of hazardous materials, would assure that the project would have a less than significant hazardous materials impact to the public or the environment within the vicinity of the project area. Other foreseeable development within the area, although likely increasing the potential to disturb existing contamination and the handling of hazardous materials, would also be required to comply with the same regulatory framework as the proposed project. This includes compliance with federal and state regulatory requirements for transporting hazardous materials or cargo (including fuel and other materials used in all motor vehicles) on public roads or disposing of hazardous materials. The effects of the proposed project with respect to hazards and hazardous materials is less than significant after mitigation and the project’s contribution in combination with other foreseeable projects would also be less than significant. The proposed project would not make a cumulatively considerable contribution to any significant cumulative impact related to hazardous materials after mitigation. Therefore, the proposed project would have less than significant cumulative impact.

The proposed project would be within the RCALUCP Influence Area along with other land uses in the Influence Area. As discussed above, the proposed project would not modify the existing land use on the treatment plant site and would therefore not result in a direct or cumulatively considerable indirect impact to hazards associated with airport operations.

Mitigation: Implement Mitigation Measures Haz-1 through Haz-4.

Significance after Mitigation: Less than significant

References – Hazards and Hazardous Materials

Albert A. Webb Associates. *City of Riverside General Plan and Supporting Documents EIR*, November 2007.

BEP Summary Report for the Riverside Sewage Treatment Facility, given to ESA in a response to a Data Request, February, 2009.

California Department of Toxic Substances Control, EnviorStor, accessed at http://www.envirostor.dtsc.ca.gov/public/ on February 8, 2008.

City of Riverside General Plan 2025, certified November 2007.

City of Riverside Wastewater Collection and Treatment Integrated Master Plan, Carollo Engineers, September 2006.

Riverside County Airport Land Use Compatibility Plan, 2004.

US EPA, Toxic Release Inventory (TIP), accessed at http://www.epa.gov/enviro/html/tris/tris_query.html, on February 8, 2008.

3.7 Hydrology and Water Quality

This section describes local surface water and groundwater resources and discusses regional water quality issues. This section also evaluates the proposed project's potential impacts on water resources in the project area. Several criteria were eliminated from further consideration and will not be discussed here. These criteria were considered but were found to be not applicable to the project; therefore, no further discussion of these impacts is provided. Please refer to the Initial Study Checklist (Appendix A) for further clarification. This section incorporates information and analysis from the City of Riversides General Plan 2025 (2007), and the Final Environmental Impact Report for the City of Riversides General Plan (Albert A. Webb Associates, 2007).

3.7.1 Environmental Setting

Surface Water

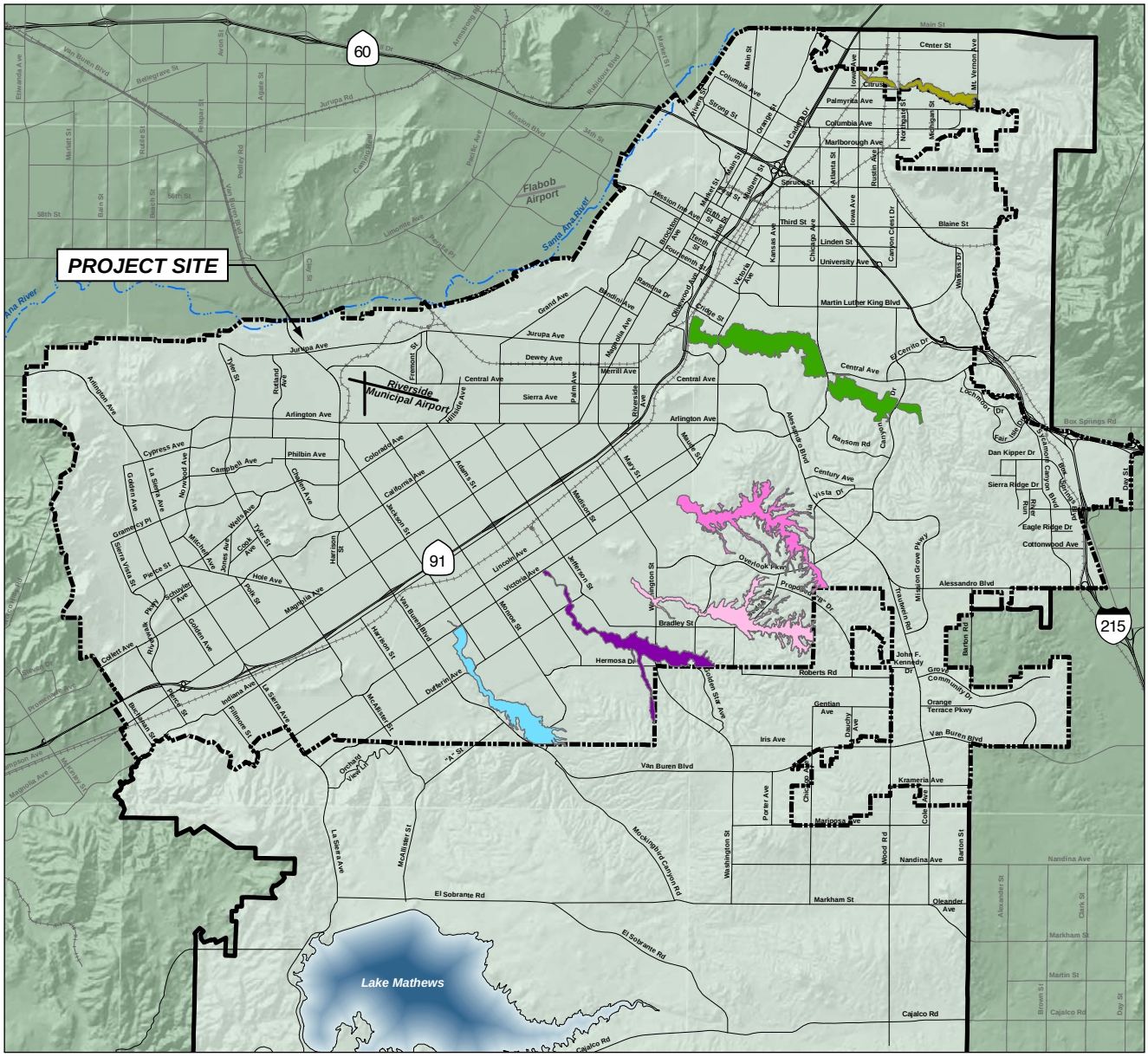
The City of Riverside is located within the Santa Ana Regional Water Quality Control Board (SARWQCB) Middle Santa Ana River Watershed Management Area and in the Santa Ana Hydrologic Unit. Surface drainages generally flow in a northerly direction to the Santa Ana River, the main surface water feature in the City. The Santa Ana River is over 100 miles in length and flows from the San Bernardino Mountains to the Pacific Ocean. It is the receiving water for over 2,700 square miles covering portions of San Bernardino, Riverside, and Orange Counties.

A number of arroyos, which are tributary to the Santa Ana River, traverse the City. Six arroyos are recognized by the City's General Plan: Springbrook Wash Arroyo, Woodcrest Arroyo, Prenda Arroyo, Alessandro Arroyo, and Tequesquite Arroyo. **Figure 3.7-1** identifies major surface water resources in the region.

Water Quality

Section 303(d) of the CWA requires that each state identify water bodies or segments of water bodies that are "impaired" (i.e. do not meet one or more of the water quality standards established by the state). These waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish Total Maximum Daily Load (TMDL) for the pollutant. A TMDL is the maximum amount of a pollutant that a water body can receive and still meet the water quality standards. Typically, TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources.

Table 3.7-1 summarizes the impaired water bodies on the SARWQCB 2006 Clean Water Act Section 303(d) list adjacent to the proposed project site. Santa Ana River, Reach 3 includes the portion of the Santa Ana River adjacent to the RWQCP.



SOURCE: *City of Riverside General Plan 2025*, 2007

City of Riverside . 206047

Figure 3.7-1
Arroyos Locations

TABLE 3.7-1
IMPAIRED WATER BODIES IN THE PROJECT AREA

Water Body/Reach Name	Pollutant/Stressor	Potential Source
Santa Ana River, Reach 3	Pathogens	Nonpoint Source

SOURCE: SARWQCB, 2006

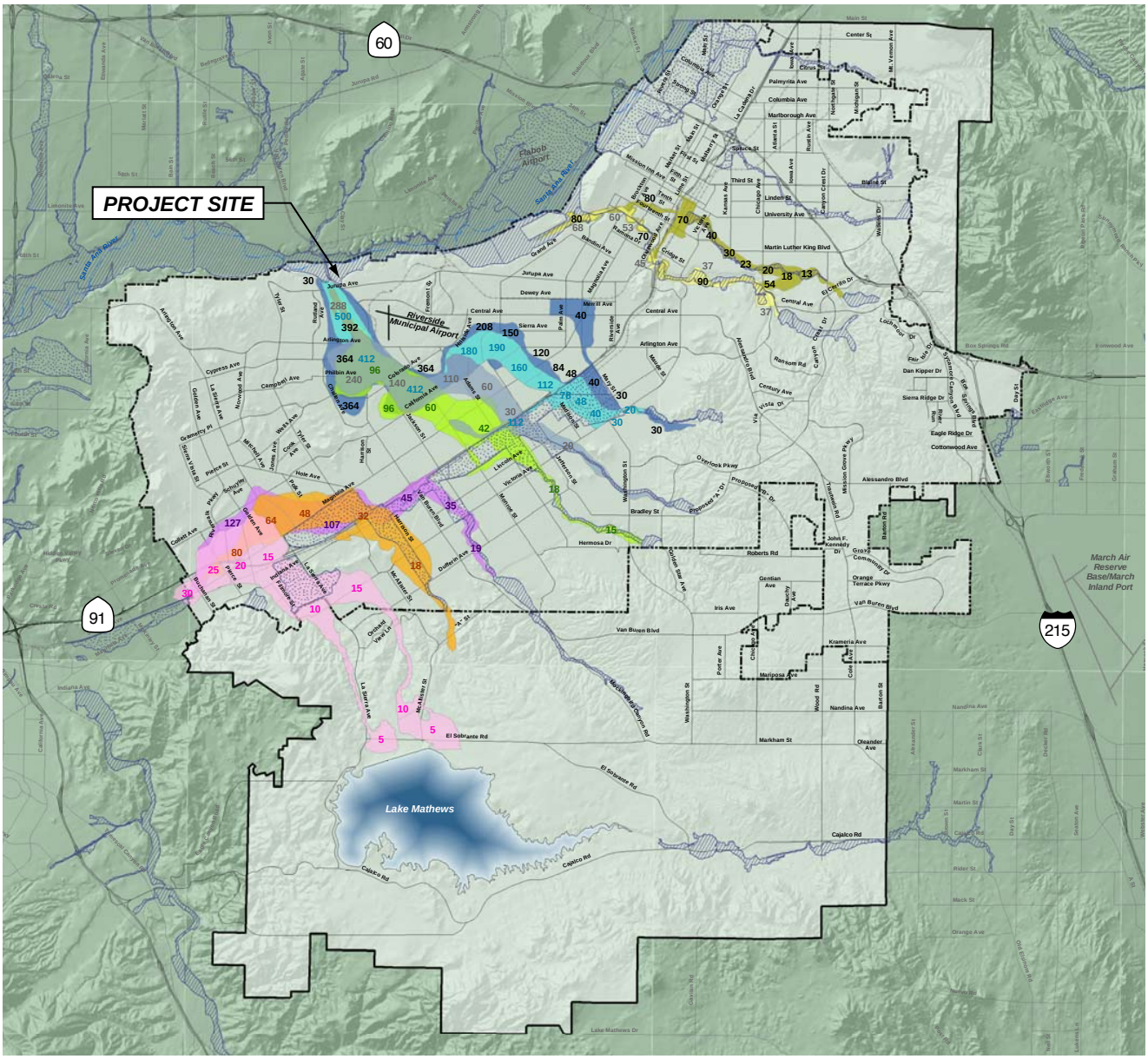
Groundwater

Local groundwater basins are recharged from natural runoff, treated wastewater, and imported runoff. Runoff from rainfall is the main source of recharge for the smaller basins. In 2005, the City met 97 percent of its water needs from underground resources, while receiving only three percent from the Western Municipal Water District. The groundwater basins produce approximately 260,932 acre feet per year annually.

Water resources throughout Riverside County are sustained by significant groundwater basins, which are used as reservoirs to store water during wet years and to supply stored water in dry years. Groundwater conditions in these basins are influenced by natural hydrologic conditions such as percolation of precipitation, groundwater seepage and ephemeral stream flow from the nine arroyos that traverse the City and Sphere of Influence. The City has water supply wells in the Bunker Hill, Rialto-Colton, Riverside North, Riverside South and Arlington groundwater basins most of which are located outside of the City limits. The City extracts domestic water from the Bunker Hill, Riverside North, and Riverside South basins through 51 wells operated by Riverside Public Utilities (RPU) and the Gage Canal Company. Water for domestic use is not extracted from the Arlington and Rialto-Colton basins because of poor water quality and lack of transmission lines. The RWQCP is located just to the north of the Arlington Groundwater Basin. The RWQCP property is not within a defined groundwater production basin.

Storm Water

Most of the annual rainfall in the region occurs in the winter. Flooding in the City of Riverside could result from intense storms or as the result of dam failure. The U.S. Army Corps of Engineers (ACOE) is responsible for dam safety and conducting routine inspections of Federal dams, however, most of the dams near the City fall under the jurisdiction of the State Department of Water Resources Division of Safety of Dams. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) show that portions of the City fall within Special Flood Hazard Areas subject to inundation by the one percent annual chance flood. Areas subject to inundation by the one percent annual chance flood are depicted in **Figure 3.7-2.** Flood hazard risks are greatest in the vicinity of channels, creeks, streams and watercourses. This includes the Santa Ana River and several dams, including Sycamore Canyon Dam, Box Springs Dam, Mary Street Dam, Alessandro Dam, Prenda Dam, Woodcrest Dam, Mockingbird Canyon Dam, Harrison Dam, and Lake Mathews Dam. With the exception of the Mockingbird Canyon, and Lake Mathews Dam, all these dams are owned by Riverside County Flood Control and Water



DAM INUNDATION AREAS

- # Sycamore Canyon Dam
- # Box Spring Dam
- # Prenda Dam
- # Woodcrest Dam
- # Mary St Dam
- # Alessandro Dam
- # Lake Mathews Dam
- # Harrison Dam
- # Mockingbird Canyon Dam

FLOOD HAZARD AREAS

- 100-Year Flood Plain
- 500-Year Flood Plain
- Riverside City Boundary
- Riverside Sphere of Influence

0 2 Miles

SOURCE: *City of Riverside General Plan 2025*, 2007

City of Riverside . 206047

Figure 3.7-2
Flood Hazard Areas

Conservation District, according to the State Department of Water Resources. Mockingbird Canyon Dam is owned and maintained by the City, while Lake Mathews is owned by Metropolitan Water District. The State Division of Safety of Dams inspects all dams under its jurisdiction. The RWQCP is not within any dam inundation areas (City of Riverside General Plan, 2007).

Currently all of the on-site storm water is collected in a storm drainage system that consists of catch basins and storm drain piping. The piping sends all the storm water to a pump station at a low point in the site, from where it is pumped into the Plant 1 aeration basins for treatment and discharged into Hidden Valley Wetlands and ultimately into the Santa Ana River.

The Hidden Valley Wetlands was constructed by the City to reduce the total inorganic nitrogen (TIN) in the RWQCP effluent prior to discharging into the Santa Ana River. Approximately 10 mgd of flow is diverted through the wetlands. A total of 70 acres of wetlands has been developed.

3.7.2 Regulatory Framework

Federal Regulations

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 municipal and industrial (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.

NPDES Phase I

Phase I of the NPDES Program addresses ten categories of industrial activities; construction activities disturbing five acres of land or greater; and storm water runoff from “medium” and “large” municipal separate storm sewer systems (MS4s) generally serving populations of 100,000 or greater.

For construction activities disturbing five acres of land or greater, the SWRCB issued one statewide General Construction Activity Storm Water Permit (on August 20, 1992) to apply to all construction activities. Landowners are responsible for obtaining and complying with this permit but may delegate specific duties to developers and contractors by mutual consent. For construction activities, the permit requires landowners, or their designated agent, to:

- Eliminate or reduce non-storm water discharges to storm water systems and other waters of the United States,
- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP), and
- Perform inspections of storm water control structures and pollution prevention measures.

A SWPPP prepared in compliance with the General Permit describes the site, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of post-construction sediment and erosion control measures and maintenance responsibilities, and non-storm water management controls. Dischargers are also required to inspect construction sites before and after storms to identify storm water discharge from construction activity, and to identify and implement controls where necessary.

NPDES Phase II

NPDES Phase II regulations were finalized and issued by the EPA in January 2000 in an effort to further preserve, protect, and improve the nation's water resources from polluted storm water runoff. The new regulations were designed to implement programs to control urban storm water runoff from additional MS4s in urbanized areas and the operations of small construction sites that were not already covered by Phase I NPDES permits. The main objectives of the Phase II regulations are to reduce the amount of pollutants being discharged and protect the quality of the receiving waters.

To meet this goal, the permittee must implement a Stormwater Management Program that addresses six minimum control measures, including (1) public education and outreach; (2) public participation/involvement; (3) illicit discharge detection and elimination; (4) construction site storm water runoff control for sites greater than one acre; (5) post-construction storm water management in new development and redevelopment; and (6) pollution prevention/good housekeeping for municipal operations. These control measures will typically be addressed by developing BMPs.

Federal Emergency Management Agency

Under Executive Order 11988, FEMA is responsible for the management and mapping of areas subject to flooding during a 100-year flood event (i.e., one percent chance of occurring in a given year). FEMA requires that local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within a Special Flood Hazard Areas subject to inundation by the one percent annual chance flood. The existing RWQCP is located within the Santa Ana River Special Flood Hazard Area subject to inundation by the one percent annual chance flood, as shown in Figure 3.7-2 above.

State Regulations

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California. This act establishes the authority

of the SWRCB and the nine RWQCBs. The SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the RWQCBs conduct planning, permitting, and enforcement activities. The RWQCP lies within the jurisdiction of the Santa Ana RWQCB.

Santa Ana Water Quality Control Plan

The SWRCB and the SARWQCB share the responsibility, under the Porter-Cologne Act, to formulate and adopt water policies and plans and to adopt and implement measures to fulfill CWA requirements. The SARWQCB has prepared the Santa Ana River Basin Water Quality Control Plan (Basin Plan) that identifies beneficial uses for the major surface waters in the project area, as shown in **Table 3.7-2**. **Table 3.7-3** defines the beneficial uses identified in Table 3.7-2 (SARWQCB, 2006). The Basin Plan also presents an Anti-Degradation Policy that places restrictions on any activity that could result in degradation of water quality.

TABLE 3.7-2
BENEFICIAL USE DESIGNATIONS FOR WATER BODIES IN THE PROJECT AREA

Water Body	MUN	AGR	IND	PROC	GWR	SPWW	RARE	WARM	WILD	REC-1	REC-2
Santa Ana River Reach 3 (Prado Dam to Mission Blvd in Riverside)	*	X			X	X	X	X	X	X	X
Santa Ana River Reach 4 (Mission Blvd. in Riverside to San Jacinto Fault in San Bernardino)	*				X	X		X	X	X[a]	X
Chino South Groundwater Management Zone	X	X	X	X							
Orange Groundwater Management Zone	X	X	X	X							

[a] Access prohibited in some portions by San Bernardino County Flood Control

X = Present or potential beneficial uses
* = Excepted from MUN

SOURCE: SARWQCB, 2008

State Water Resource Control Board-Resolution Number-68-16

California Legislature has declared that it is the policy of the State that the granting of permits and licenses for inappropriate water and the disposal of wastes into the waters of the State shall be so regulated as to achieve highest water quality consistent with maximum benefit to the people of the State and shall be controlled so as to promote the peace, health, safety and welfare of the people of the State.

Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and

TABLE 3.7-3
DEFINITIONS OF BENEFICIAL USES OF SURFACE WATERS

Beneficial Use	Description
Municipal and Domestic Supply (MUN)	Waters are used for community, military, municipal or individual water supply systems. These uses may include, but are not limited to, drinking water supply.
Agricultural Supply (AGR)	Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Industrial Service Supply (IND)	Waters are used for industrial activities that do not depend primarily on water quality. These uses may include, but are not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection and oil well repressurization.
Industrial Process Supply (PROC)	Waters are used for industrial activities that depend primarily on water quality. These uses may include, but are not limited to, process water supply and all uses of water related to product manufacture and food preparation.
Groundwater Recharge (GWR)	Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting saltwater intrusion into freshwater aquifers.
Spawning, Reproduction, and/or Early Development (SPWN)	Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.
Preservation of Rare and Endangered Species (RARE)	Uses of waters that support habitats necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened, or endangered.
Warm Freshwater Habitat (WARM)	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Wildlife Habitat (WILD)	Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
Water Contact Recreation (REC 1)	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white-water activities, fishing, or use of natural hot springs.
Non-Contact Water Recreation (REC 2)	Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

SOURCE: SARWQCB, 2008

(b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

RWQCB NPDES Permit

The RWQCP currently discharges treated effluent to Reach 3 of the Santa Ana River under NPDES Permit No. CA0105350. The permit requires tertiary treated effluent to have 85 percent removal of Total Suspended Solids (TSS), a 30-day average TSS effluent limit of 20 milligrams per liter

(mg/L), 85 percent removal of Biochemical Oxygen Demand (BOD_5), and a 30-day average BOD_5 effluent limit of 20 mg/L. The permit requirements are summarized in **Table 3.7-4**. The NPDES

TABLE 3.7-4
CURRENT RIVERSIDE NPDES TERTIARY TREATED EFFLUENT DISCHARGE REQUIREMENTS FOR RWQCB

Constituent	Units	Monthly (30-day) Average	Weekly (7-day) Average	Maximum Daily	Instantaneous Maximum
5-day Biochemical Oxygen Demand (BOD_5)	mg/L	20	30	–	
	lbs/day	6,672	10,008		
Total Suspended Solids	mg/L	20	30	–	
	lbs/day[1]	6,672	10,008		
Total Chlorine Residual	MPN/100 ml	–	–	–	0.1
Ammonia-Nitrogen	mg/L	5.0	–	–	–
	lbs/day[a]	1,668	–	–	–
Cyanide (Free)	ml/L	4.2	–	8.5	
pH		Within the limits of 6.5 to 8.5 at all times			

SOURCE: SARWQCB, 2006

permit also allows secondary treated effluent to be discharged when the Santa Ana River flow provides a 20 parts receiving water to one part effluent or more at Discharge Point 001. The permit requires secondary treated effluent to have 85 percent removal of TSS, a 30-day average TSS effluent limit of 30 mg/L, 85 percent removal of BOD_5, and a 30-day average BOD_5 effluent limit of 30 mg/L.

NPDES General Construction Permit

Construction activities of one acre or more are regulated by the SWRCB and are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The SWRCB has the authority to implement the federal CWA NPDES Phase I and Phase II program. The project applicant must submit a Notice of Intent to the RWQCB to be covered by the General Permit prior to the beginning of construction. The General Construction Permit requires the preparation and implementation of a SWPPP. The SWPPP must be prepared before project construction begins and must include specifications for BMPs that would be implemented during construction. BMPs are measures undertaken to control degradation of surface water by preventing soil erosion or the discharge of pollutants from the construction area. Additionally, the SWPPP must describe measures to prevent or control runoff after construction is complete and to identify procedures for inspecting, maintaining, and monitoring BMP facilities or other project elements. The proposed project would affect more than one acre during construction and therefore would require preparation of a SWPPP. Required elements of a SWPPP include:

- Site description addressing the elements and characteristics specific to the site,

- Descriptions of BMPs for erosion and sediment controls,
- BMPs for construction waste handling and disposal,
- Proposed post-construction controls, and
- Procedures for monitoring BMP performance.

3.7.3 Thresholds of Significance

Several criteria were eliminated from further consideration and will not be discussed here:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge;
- Substantially alter the existing drainage patterns in a manner that would result in substantial erosion or siltation on or off the site;
- Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- Substantially degrade water quality; or
- Be subject to inundation by seiche, tsunami, or mudflow.

These criteria were considered but were found to be not applicable to the project; therefore, no further discussion of these impacts is provided. Please refer to the Initial Study Checklist (Appendix A) for further clarification.

For this analysis, the proposed project would result in significant impacts if the proposed project significantly impacted the following criteria:

- Place within a 100-year flood hazard area structures that would impede or redirect flood flows; or
- 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.

A discussion of the impacts and mitigation measures for the proposed project are presented below.

Methodology

The following section is based on research of the existing hydrology and water quality policies and regulations and data included in the City of Riverside General Plan 2025, 2007.

3.7.4 Environmental Impact Assessment

The following sections discuss the potential effects of the proposed project to hydrology and water quality according to the key issue areas identified in Appendix G of the *CEQA Guidelines* and corresponding to the significance criteria identified above.

Water Quality

Impact 3.7-1: Construction of the proposed project could adversely affect storm water runoff quality. Increased treatment will improve water quality of discharges. (Less than Significant)

Proposed Project

Construction of the proposed project would be subject to the General Construction Storm Water NPDES permit. The construction contractor would be required to prepare a SWPPP prior to beginning construction. The SWPPP would impose best management practices that would ensure storm water runoff does not increase sedimentation or otherwise adversely affect downstream water quality. Furthermore, the proposed project would increase treatment of wastewater resulting in improved discharge water quality. No adverse impacts to water quality would result from project implementation.

Significance: Less than significant

Maximum Buildout Scenario

Under the General Plan 2025, the Maximum Buildout Scenario would require a larger operational footprint than the proposed project. However, the larger footprint would be within the existing RWQCP site boundary and would be subject to SWPPP requirements. Impacts would be less than significant.

Significance: Less than significant

Maximum with PRD Build Out Scenario

Under the General Plan 2025, the Maximum with PRD Buildout Scenario, the population projections would generate approximately 63.9 mgd of wastewater that would need to be treated at the RWQCP. The project would require a larger operational footprint than the proposed project. However, the larger footprint would be within the existing RWQCP property boundary and would be subject to SWPPP. Impacts would be less than significant.

Significance: Less than significant

Collection System

The collection system upgrades could occur in any portion of the City. At this time the location and size of the collection system are unknown. Construction would be subject to SWPPP requirements. Impacts to water quality from collection system construction projects would be less than significant.

Drainage and Flooding

Impact 3.7-2: The proposed project would be constructed within the 100-year floodplain and could result in modifications to the floodplain. (Less than Significant)

Proposed Project

The proposed project would include removing older outdated facilities and replacing them with newer facilities that would be able to accommodate the future sewer demands as forecasted in the City's General Plan 2025. All of the proposed upgrades would be located within the boundary of the existing RWQCP site. According to the FEMA map, the RWQCP is within the Santa Ana River Special Flood Hazard Areas subject to inundation by the one percent annual chance flood. However, an existing levee constructed along the northern property boundary protects the RWQCP and surrounding areas from the 100-year flood even though the FEMA map does not reflect this levee. Therefore, construction of facilities within the plant site would not modify the floodplain or impact downstream properties with flood flows. Therefore, impacts would be less than significant.

Significance: Less than significant

Maximum Buildout Scenario

Under the General Plan 2025, the Maximum Buildout Scenario would require a larger operational footprint than the proposed project. However, the larger footprint would be within the existing RWQCP site boundary and would be protected by the existing levee. Impacts would be less than significant.

Significance: Less than significant

Maximum with PRD Build Out Scenario

Under the General Plan 2025, the Maximum with PRD Buildout Scenario, the population projections would generate approximately 63.9 mgd of wastewater that would need to be treated at the RWQCP. The project would require a larger operational footprint than the proposed project. However, the larger footprint would be within the existing RWQCP property boundary and would be protected by the existing levee. Impacts would be less than significant.

Significance: Less than significant

Collection System

The collection system upgrades could occur in any portion of the City that are within a 100-year floodplain. At this time the location and size of the collection system are unknown. The collection system improvements would be underground and therefore would not alter the floodplain. As a result, the anticipated impacts to the 100-year floodplain would be less than significant.

Levee or Dam Failure

Impact 3.7-3: Construction and operation of the proposed project could expose people or structures to a significant risk of loss or injury involving flooding as a result of levee or dam failure. (Less than Significant)

Proposed Project

According to the City of Riverside General Plan 2025 Final Program (FPEIR), the proposed project would not be located in an area that would be subject to inundation due to dam failure. A levee has been constructed on the north side of the property that protects the RWQCP from the Santa Ana River during peak storm flow events including the 100-year flood. The RWQCP has been in operation since the mid-forties at its current location and has never had a breach in the levee. The expansion of the site would not increase the risk of exposing people or structures to flooding beyond what exists today. The current levee is adequate to protect the treatment plant from the 100-year flood. The proposed project would not include any component that would affect the integrity of the levee or increase flood hazards at the RWQCP. Therefore, the flood hazard associated with the proposed project would be less than significant.

Significance: Less than significant

Maximum Buildout Scenario

Under this General Plan 2025 buildout scenario, the population projections would generate approximately 55.2 MGD of wastewater that would need to be treated at the RWQCP. The project would require a larger operational footprint than the proposed project. This scenario would not be located in an area that would be subject to 100-year flooding or inundation due to dam failure.

Significance: Less than significant

Maximum with PRD Build Out Scenario

Under this General Plan 2025 buildout scenario, the population projections would generate approximately 63.9 MGD of wastewater that would need to be treated at the RWQCP. The project would require a larger operational footprint than the proposed project. This scenario

would not be located in an area that would be subject to 100-year flooding or inundation due to dam failure.

Significance: Less than significant

Collection System

Upgrades to the City's collection system would occur throughout the City of Riverside. Once installed, the upgraded sewer system would be underground and would not be expected to be affected by dam or levee failure. Impacts would be less than significant.

Cumulative Impact

Impact 3.7-4: The proposed project could result in adverse cumulatively considerable flood impacts. (Less than Significant)

The proposed project is not located within the 100-year floodplain. No construction would occur outside of the existing treatment plant boundaries. Therefore, the proposed project would not result in cumulatively considerable impacts to the floodplain or increase flood hazards to other properties. The proposed project would have a less than significant impact.

Significance: Less than significant

References – Hydrology and Water Quality

Albert A. Webb Associates, *City of Riverside General Plan and Supporting Documents EIR*, November 2007.

City of Riverside, *General Plan*, 2007.

City of Riverside Public Utilities, *Urban Water Management Plan*, December 2005.

Santa Ana State Water Resources Control Board, *Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin*, February 2008.

3.8 Land Use and Planning

Several land use criteria were eliminated from further consideration and will not be discussed below. These criteria were considered but were found to be not applicable to the project; therefore, no further discussion of these impacts is provided. Please refer to the Initial Study Checklist (**Appendix A**) for further clarification. This section describes and discusses existing land uses on the project site and in the vicinity and will considers the compatibility of the proposed project with relevant land use plans and policies, and potential impacts that would result from the proposed project. Applicable plans and policies related to land use and planning are presented and potential impacts and mitigation measures are identified.

3.8.1 Setting

Regional Setting

The RWQCP is located in the City of Riverside, one of the major development areas of Riverside County. The County encompasses 7400 square miles of Southern California. Over 200 miles across, it is bounded on the east by the Colorado River and to the west by Orange County. The county is bisected by the San Jacinto and Santa Rosa Mountains. The western portion of the county is experiencing rapid urbanization. Key areas of development include the City of Riverside, the March Air Reserve Base, Moreno Valley, Perris, Lake Elsinore, Hemet, and Temecula.

The City of Riverside is located in western Riverside County and is bounded to the north by the unincorporated Riverside County communities of Rubidoux and Jurupa and the cities of Colton and Rialto; to the east by the City of Moreno Valley; to the south by unincorporated Riverside County; and to the west by the cities of Norco and Corona. The existing City incorporated boundaries include approximately 51,310 acres as of December 2006 (Webb, 2007).

Project Area

The City of Riverside's General Plan land use designation for the existing RWQCP site is Public Facilities. The site is surrounded to the south by land designated as Industrial; to the north and west by land designated as Open Space/Natural Resources; and to the east by land designated as Business/Office Park (City of Riverside, 2007).

Riverside Municipal Airport is situated on 451 acres in the northwest portion of the City, bordered by Arlington Avenue to the south, Hillside Avenue to the east, Van Buren Boulevard to the west and Central Avenue to the north. The airport is classified as a Reliever General Aviation Airport and is owned and operated by the City. The City of Riverside Airport Commission acts as an advisory board and oversees airport operation. Airport development is programmed in the Riverside Airport Master Plan, which was last updated in 1999 in cooperation with the Federal Aviation Administration (FAA).The proposed project would be located within the Airport Influence Area of Riverside Municipal Airport. The Riverside Municipal Airport is approximately 0.5 mile south of the proposed project. Specifically, the proposed project would be located within the Airport Influence Area Zone C (Extended Approach/Departure Zone) and Zone

D (Primary Traffic Pattern and Runway Buffer Area) (see Figure 3.6-1). Flabob Airport, a private airport, is approximately 2.5 miles northeast of the proposed project.

3.8.2 Regulatory Framework

Federal Regulations

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 150/5200-33B addresses hazardous wildlife attractants on or near airports (FAA, 2007). This Advisory Circular is intended to provide guidance on siting certain land uses that have the potential to attract potentially hazardous wildlife to a public-use airport or its vicinity. It 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 Regulations

California 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 California 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, 2009). 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.

[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.

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.

Local Regulations

City of Riverside General Plan

The Land Use and Urban Design Element and the Open Space and Conservation Element of the City of Riverside General Plan govern the land use and open space resources of the city. The Land Use and Urban Design Element presents goals and policies that guide future geographic patterns of development in the city. The Open Space and Conservation Element describes the management and conservation practices for natural resources and open space in the city. Some policies for land use in the City of Riverside General Plan that are relevant to the proposed project are as follows (City of Riverside, 2007):

General Plan Land Use and Urban Design Element

Airports

Policy LU-22.2: Work cooperatively with the Riverside County Airport Land Use Commission in developing, defining, implementing protecting airport influence zone around the March Air Force Base/March Inland Port, Riverside Municipal and Flabob Airports and in implementing the new Airport Land Use Compatibility Plan.

Policy LU-22.5: Review all proposed projects within the airport influence areas of Riverside Municipal Airport, Flabob Airport and March Air Reserve Base/Inland Port Airport […] – Airport Safety Zones and Influence Areas [of the General Plan] for consistency with all applicable airport land use compatibility plan policies adopted by the Riverside County Airport Land Use Commission (ALUC) and the City of Riverside, to the fullest extent the City finds feasible.

Western Riverside County Multi-Species Habitat Conservation Plan

The proposed project site lies within the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP) area. The MSHCP involves the assembly and management of a 500,000-acre Conservation Area for the conservation of natural habitats and their constituent wildlife populations. The approval of the MSHCP and the Implementing Agreement (IA) by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game

[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*.

(CDFG) allows signatories of the IA to issue "Take" authorizations for the 146 species covered by the MSHCP (termed "covered species"), including state and federally listed species as well as other identified sensitive species. The "Take" authorization includes impacts to the habitats of the covered species. The signatories considered "permittees" include Riverside County, 14 cities in western Riverside County, Caltrans, and California Department of Parks and Recreation (State Parks).

The MSHCP allows the permittees to "take" (permit the loss of) the plant and animal species covered by the MSHCP through their local land use planning and development review processes. The permittees have the authority to grant Third Party Authorization to private developers, provided the terms of the MSHCP are satisfied. A project that complies with the MSHCP meets federal and state endangered species requirements and meets CEQA criteria for less than significant impacts to the covered species and their habitats.

Riverside County Airport Land Use Compatibility Plan

The Riverside County Airport Land Use Compatibility Plan (RCALUCP), adopted by the Airport Land Use Commission on October 14, 2004, establishes policies applicable to land use compatibility planning in the vicinity of airports throughout Riverside County. The plan includes compatibility criteria and maps for the influence area of individual airports, including the Riverside Municipal and Flabob Airports. Future amendments to the plan will include the addition of March Air Reserve Base/March Inland Port Airport (City of Riverside, 2007).

The ALUCP has identified the Airport Influence Area (AIA) for each public use airport in Riverside 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 affects to flight operations and safety. Proposals for development within an AIA, as defined by the adopted ALUCP, are reviewed for consistency with the ALUCP compatibility criteria. Figure 3.6-1 (see Section 3.6) identifies the AIA associated with the Riverside Municipal Airport. As show in Figure 3.6-1, the proposed project would be located within Zones C (Extended Approach/Departure Zone) and Zone D (Primary Traffic Pattern and Runway Buffer Area). In addition, Section 3.6 Hazards includes an analysis of the project compliance for being located in AIA of the Riverside County Municipal Airport.

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:

General Policies

Policy 3.1.1: Based Land Use Compatibility Criteria: The basic criteria for assessing whether a land use plan, ordinance, or development proposed is to be judged compatible with a nearby airport are set forth in the Basic Compatibility Criteria matrix, Table 2A. These criteria are to be used in conjunction with the compatibility map and policies for each airport as presented in Chapter 3 [of the ALUCP].

Safety Policies

Policy 4.2.1: Safety Policy 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) The most stringent land use controls shall be applied to the areas with the greatest potential risks.

Airspace Protection Policies

Policy 4.3.2: Basis for Height Limits. The criteria for limiting the height of structures, tress, and other objects in the vicinity of an airport shall be based upon: Part 77, Subpart C, of the Federal Aviation Regulations (FAR); the United States Standard for Terminal Instrument Procedures (TERPS); and applicable airport design standards published by the Federal Aviation Administration.

3.8.3 Thresholds of Significance

The City of Riverside has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. Thus the significance criteria for this analysis were developed from criteria presented in Appendix G of the *CEQA Guidelines* and Initial Study performed for the proposed project. Several criteria were eliminated from further consideration and will not be discussed here:

- Physically divide an established community;
- Conflict with existing or designated land uses in the area or land use policies;

These criteria were considered but were found to be not applicable to the project; therefore, no further discussion of these impacts is provided. Please refer to the Initial Study Checklist (**Appendix A**) for further clarification.

For this analysis, the proposed project would result in significant impacts if the proposed project significantly impacted the following criterion.

- Conflict with any applicable habitat conservation plan or natural community conservation plan.

3.8.4 Environmental Impact Assessment

Habitat Conservation Plan

Impact 3.8-1: The proposed project could conflict with the Western Riverside County Multi-Species Habitat Conservation Plan. (Less than Significant)

Proposed Project

The proposed project site lies within the MSHCP area. The General Plan land use designation for the project site is Public Facilities. The project site is surrounded to the south by land designated as Industrial; to the north and west by land designated as Open Space/Natural Resources; and to

the east by land designated as Business/Office Park. The open space to the north and west is the Santa Ana River.

The proposed project would consist of expanding and upgrading the existing RWQCP to accommodate the demands of the forecasted future growth of the City of Riverside. The proposed project would be constructed within the existing property boundary of the RWQCP. The current use on the property is in compliance with the MSHCP and the City's General Plan 2025. The proposed project is consistent with the MSHCP and is discussed in detail under impact 3.3-4.

Significance: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario, the population projection would generate approximately 55.2 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the project would require a larger operational footprint than the proposed project. The Maximum project would be larger than the proposed project but would still be constructed within the existing RWQCP property site. Other treatment plants in the region with greater capacity are located on sites with similar acreage. The RWQCP is located on a parcel approximately 100 acres. The Orange County Sanitation District operates their Treatment Plant No. 2 with a capacity over 100 mgd on approximately 100 acres. The Hyperion Treatment Plant operated by the City of Los Angeles with a capacity of 450 mgd is located on a 170-acre parcel. As a result, the Maximum Buildout Scenario could be accommodated within the plant footprint. Since the parcel is fully developed, none of the treatment facilities would conflict with the MSHCP. See discussion on compatibility of the proposed project with the MSHCP in section 3.3.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, the population projections would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the project would require a larger operational footprint than both the proposed project and the Maximum Buildout Scenario most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility. Other treatment plants in the region with greater capacity are located on sites with similar acreage. The RWQCP is located on a parcel approximately 100 acres. The Orange County Sanitation District operates their Treatment Plant No. 2 with a capacity over 100 mgd on approximately 100 acres. The Hyperion Treatment Plant operated by the City of Los Angeles with a capacity of 450 mgd is located on a 170-acre parcel. As a result, the Maximum with PRD Buildout Scenario could be accommodated within the plant footprint. Since the parcel is fully developed, none of the treatment facilities would conflict with the MSHCP. See discussion on compatibility of the proposed project with the MSHCP in section 3.3.

Collection System

Construction activities associated with the future collection system upgrades could occur in areas identified as conserved under the MSHCP. Future collection system projects would mostly occur within city streets. Prior to implementation of collection system projects, additional environmental evaluation pursuant to CEQA would be necessary. In addition, each project would need to demonstrate consistency with the MSHCP prior to implementation.

Cumulative Impacts

Impact 3.8-2: The proposed project would not result in a cumulatively significant impact to existing land uses in the project vicinity. (Less than Significant)

In the vicinity of the proposed project, there are six proposed developments. The projects include an auto auction lot (27,267 sf), two warehouses (90,000 sf and 57,969 sf), Empire Market Center (61,600 sf), a cluster of five Industrial Buildings (total of 89,000 sf) and the De Anza Active Adult-Living Center (271 residential lots and 105,000 sf light industrial building). Of the six planned projects, four of them are industrial projects, one is a residential development/light industrial, and one is a commercial project (Figure 3.8-1).

As stated earlier, the project is located within the northwestern City limits, primarily surrounded by industrial and commercial uses. The proposed project is consistent with the applicable General Plan, and is compatible with existing and planned land uses in the immediate vicinity. Therefore, the proposed project would not result in cumulatively significant impacts to land uses.

Significance: Less than significant

References – Land Use and Planning

Albert A. Webb Associates (Webb), City of Riverside General Plan and Supporting Documents EIR, Certified November 2007. Available online at: http://www.riversideca.gov/planning/2008-0909/FPEIR_V2.asp

California Department of Transportation (Caltrans), 2009 Division of Aeronautics General Information. Available online: http://www.dot.ca.gov/hq/planning/aeronaut/, accessed April 15, 2009.

City of Riverside, Riverside General Plan 2025, Adopted November 2007. Available online at: http://www.riversideca.gov/planning/2008-0909/general-plan.asp

Federal Aviation Administration (FAA), Advisory Circular 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports*, August 28, 2007.

Rodriguez, Joe, Personal communication with Joe Rodriguez, Federal Aviation Administration, August 7, 2006.

3.9. Noise and Vibration

3.9.1 Introduction

This section presents information on ambient noise conditions on and in the vicinity of the project site, describes the applicable regulatory framework, and identifies potential impacts associated with noise due to construction and operations associated with the proposed project and buildout scenarios. Background information on environmental acoustics, including definitions of terms commonly used in noise analysis, is also provided.

Environmental Noise Fundamentals

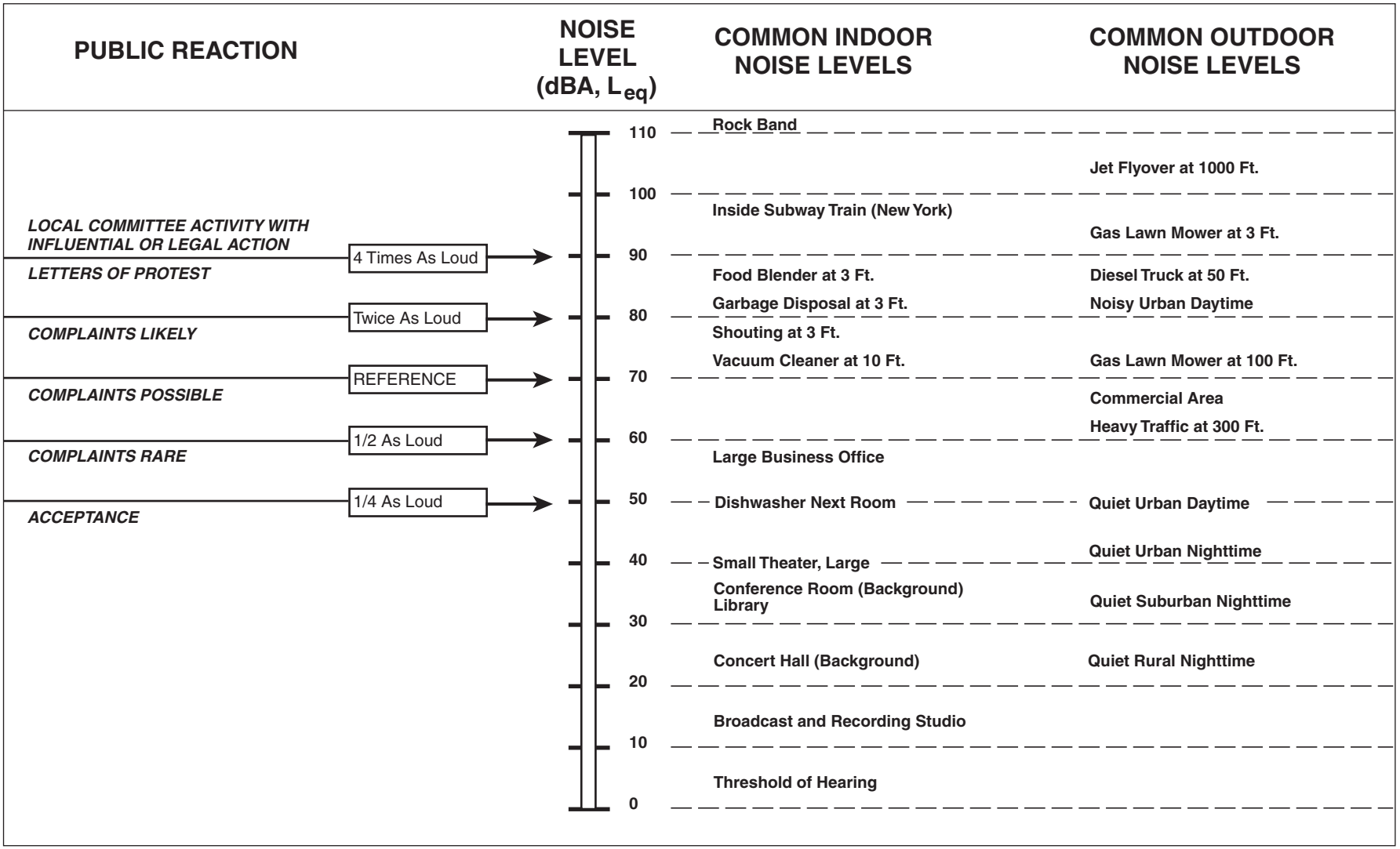
Noise is defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold 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 ears decreased sensitivity to extremely low and extremely high frequencies. 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. 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



SOURCE: ESA, 2007

City of Riverside . 206047

Figure 3.9-2

Effect of Noise on People

relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise 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:

Leq: 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 Leq is the constant sound level which 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).

Lmax: 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.

Ln: the noise level that is equaled or exceeded N percent of the specified time period. L1 for example is the noise level equaled or exceeded 1 percent of the specified time period.

Ldn: Also termed the DNL, the Ldn is the 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 PM and 7:00 AM is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

CNEL: similar to the Ldn the Community Noise Equivalent Level (CNEL) adds a 5-dBA “penalty” for the evening hours between 7:00 PM and 10:00 PM in addition to a 10-dBA penalty between the hours of 10:00 PM and 7:00 AM

As a general rule, in areas where the noise environment is dominated by traffic, the Leq during the peak-hour is generally equivalent to the Ldn at that location (within +/- 2 dBA) (Caltrans, 1998).

Effects of Noise on People

The effects of noise on people can be placed into three categories:

1. subjective effects of annoyance, nuisance, dissatisfaction;
2. interference with activities such as speech, sleep, learning; and
3. physiological effects such as hearing loss or sudden startling.

Community noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the third category. There is no completely 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:

- 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 as traffic noise from vehicles) 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).

Fundamentals of Vibration

As described in the Federal Transit Administration's Transit Noise and Vibration Impact Assessment, 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 (FTA, 2006). 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 affect 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.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 in/sec PPV and the FTA threshold of human annoyance to ground-borne vibration is 80 RMS (FTA, 2006).

3.9.2 Existing Noise Environment

The noise environment on and within the immediate vicinity of the project site is primarily influenced by wastewater facility noise generated by the existing RWQCP facilities, and truck and automobile traffic on local roadways. The RWQCP expansion site is located to the north of the Riverside Municipal Airport at a distance where the airport's 60 dB CNEL noise contour falls on the southwestern portion of the site and the 55 dB CNEL noise contour falls across the remainder of the site.

3.9.3 Regulatory Framework

Federal Regulations

Federal Noise Control Programs

No federal noise regulations directly apply to the project. Certain federal programs, however, influence the audible landscape. Most transportation-related sources of noise are within federal jurisdiction. Vehicle noise emissions standards and requirements for mufflers are set by the

USEPA, but are normally enforced locally to avoid potential conflicts[1]. The Federal Highway Administration (FHWA) requires abatement of highway traffic noise for highway projects[2]. The Federal Transit Administration (FTA) recommends noise and vibration assessments for mass transit projects through comprehensive guidelines[3]. For transportation projects that trigger abatement requirements, the normal result is to shield the existing buildings from traffic noise with sound walls or retrofitted noise insulation. The FHWA criteria specify that noise abatement should be provided if a highway project would cause exterior noise levels at any affected school to approach or exceed 67 dBA $L_{eq\,(h)}$ or 70 dBA L_{10}.

Federal regulations under 40 Code of Federal Regulations (CFR), Part 205, Subpart B establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating). 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 Regulations

California Standards for Noise-Compatible Land Uses

The Governor's Office of Planning and Research (OPR) recommends that local jurisdictions follow consistent guidelines for determining the compatibility of land uses with respect to noise.[4] Noise-compatible land use planning depends on the ability to locate noise-sensitive land uses in an acceptable environment.

The State of California 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.

Local Regulations

City of Riverside General Plan 2025 Noise Element

Noise and Land Use Planning

Policy N–1.2: Require the inclusion of noise-reducing design features in development consistent with standards in Figure N–10 (Noise/Land Use Compatibility Criteria), Title 24, California Code of Regulations and Title 7 of the Municipal Code.

1 U.S. Environmental Protection Agency, 49 CFR 190.
2 Federal Highway Administration (23 CFR 772)
3 US Department of Transportation 1995, Federal Transit Administration: Noise and Vibration Impact Guidelines, April.
4 State of California, Governor's Office of Planning and Research (OPR), 1998. *General Plan Guidelines. Appendix A, Noise Element Guidelines*, November.

Policy N–1.3: Enforce the City of Riverside Noise Control Code to ensure that stationary noise and noise emanating from construction activities, private developments/residences and special events are minimized.

Policy N–1-5: Avoid locating noise-sensitive land uses in existing and anticipated noise-impacted areas.

City of Riverside Municipal Code

The City of Riverside Municipal Code –Title 7 Noise Control, establishes interior and exterior noise standards for specific land uses/zoning (Section 7.25.010 and 7.30.015). The City Noise Ordinance also regulates noise from construction activities or any operational noise that is excessive or offensive or causes discomfort to anyone of normal sensitivity. **Table 3.9-1** and **Table 3.9-2** summarize the City Noise Ordinance.

TABLE 3.9-1
CITY OF RIVERSIDE EXTERIOR NOISE STANDARDS

Category	Time Period	Noise Level (dBA)
Residential	Night (10 PM to 7 AM)	45
Residential	Day (7 AM to 10 PM)	55
Office/Commercial	Any time	65
Industrial	Any time	70
Community Support	Any time	60
Public Recreation Facility	Any time	65
Nonurban	Any time	70

SOURCE: City of Riverside Municipal Code (7.25.10)

TABLE 3.9-2
CITY OF RIVERSIDE INTERIOR NOISE STANDARDS

Category	Time Period	Noise Level (dBA)
Residential	Night (10 PM to 7 AM)	35
Residential	Day (7 AM to 10 PM)	45
School	Day (7 AM to 10 PM) while school is in session	45
Hospital	Any time	45

SOURCE: City of Riverside Municipal Code (7.25.10)

The City's Noise Code states that construction activities shall not occur between the hours of 7:00 PM and 7:00 AM on a weekday and between 5:00 PM and 8:00 AM on Saturdays or at anytime on Sunday or federal holidays.

An exemption in the noise code (Section 7.35.020) states that the following activities shall be exempt from the provisions of the Title:

> "Public Health, Welfare and Safety Activities. The provisions of this Title shall not apply to construction maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including but not limited to, trash collection, street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, vacuuming catch basins, repairing of damaged poles, removal of abandoned vehicles, repairing of water hydrants and mains, gas lines, oil lines, sewers, storm drains, roads, sidewalks, etc."

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others because of the level of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Residences, hotels, schools, rest homes, and hospitals are generally considered more sensitive to noise than commercial and industrial land uses.

The closest sensitive receptors to the Riverside Water Quality Control Plant (RWQCP) are residences approximately 1,500 feet to the west.

3.9.4 Thresholds of Significance

Significance Criteria

The significance criteria for this analysis were developed from criteria presented in Appendix G of the *CEQA Guidelines* and the City's Environmental Assessment Form: Initial Study Checklist. Several checklist criteria were deemed less than significant and will not be discussed in this section. Please refer to the Initial Study Checklist (Appendix A) for the criteria that were considered to be less than significant. For this analysis, the proposed project would result in significant impacts if the proposed project significantly impacted the following criteria.

- Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels existing without the project.

Methodology

Noise impacts are assessed based on a comparative analysis of the noise levels resulting from the proposed project and noise levels under existing conditions. Analysis of temporary construction noise effects is based on typical construction phases and equipment noise levels and attenuation

of those noise levels due to distances, and any barriers between the construction activity and the sensitive receptors near the sources of construction noise.

3.9.5 Environmental Impact Assessment

Noise Standards

Impact 3.9-1: Project construction could expose persons to or generate noise levels in excess of standards. (Less than Significant with Mitigation)

Construction activity noise levels at and near the construction areas would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. 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 impulsive noises (such as excavation), which can be particularly annoying. **Table 3.9-3** shows typical noise levels during different construction stages. **Table 3.9-4** shows typical noise levels produced by various types of construction equipment.

TABLE 3.9-3
TYPICAL CONSTRUCTION NOISE LEVELS

Construction Phase	Noise Level (dBA, Leq)a
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

a 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, 1971.

TABLE 3.9-4
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
Pile Driver	101
Backhoe	85

SOURCE: Cunniff, Environmental Noise Pollution, 1977.

Noise from construction activities generally attenuates at a rate of 6 to 7.5 dBA per doubling distance. Based on the proposed project site layout and terrain, consisting of dirt, small buildings, and drying beds, an attenuation of 7.5 dBA will be assumed. The nearest sensitive receptors are located approximately 1,500 feet to the west. Table 3.9-3 shows that excavation can generate noise levels of 89 dBA at 50 feet. Accordingly, attenuated at 1,500 feet, these residences would experience worst case noise levels of up to 52 dBA Leq during finishing and excavation, the loudest of construction activities that would occur. Most of the project construction would occur at further distances from sensitive receptors. As an example, construction noise attenuated at 2,000 feet and 3,000 feet would reach levels of 49 dBA and 45 dBA respectively. Furthermore, additional screening would come from buildings in between the sensitive receptors and the project site, as well as the wall surrounding the residential development. Construction noise would then be drowned out by Van Buren Blvd, a 55 mph 4 lane road and the train tracks.

Per the City's Noise Code, construction activities shall not occur between the hours of 7:00 PM and 7:00 AM on a weekday and between 5:00 PM and 8:00 AM on Saturdays or at anytime on Sunday or federal holidays. Construction noise levels up to 52 dBA Leq would not exceed the daytime noise standard of 55 dBA at the nearest sensitive receptors, and would be less than significant without mitigation.

Commercial and light industrial land uses occur within 600 feet south of the treatment plant. In these areas, construction-generated noise may reach levels of approximately 65 dBA. These levels would comply with the City Noise Ordinance for industrial and commercial land uses (Table 3.9-1).

Mitigation Measures

Mitigation Measure Noise-1: During construction, the contractor shall outfit all equipment, fixed or mobile, with properly operating and maintained exhaust and intake mufflers, consistent with manufacturers' standards.

Mitigation Measure Noise-2: Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. External jackets on the tools themselves shall be used where feasible. Quieter procedures, such as use of drills rather than impact tools, shall be used whenever feasible.

Significance after Mitigation: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario, the projected population would generate approximately 55.2 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario the new facilities would require a larger operational footprint and would likely be larger in size, in general, than the proposed project. The Maximum project would be larger than the proposed project and would require more construction to implement the scenario. As with the

proposed project, all components associated with the main RWQCP would be constructed within the existing RWQCP site. This scenario may need to develop the area currently used for solids drying beds. Construction in this area would be closer (a distance of approximately 700 feet) to the sensitive receptors just west of Van Buren Boulevard. At this distance these residences would experience worst case noise levels of up to 60 dBA Leq during finishing and excavation, the loudest of construction activities that would occur. Per the City's Noise Code, construction activities will be shall not occur between the hours of 7:00 PM and 7:00 AM on a weekday and between 5:00 PM and 8:00 AM on Saturdays or at anytime on Sunday or federal holidays. However, construction noise would exceed the daytime noise standard of 55 dBA. Mitigation Measures Noise-1 and Noise-2 would ensure that construction equipment is equipped with appropriate noise controls. Temporary construction noise would be consistent with local noise ordinance and would be less than significant.

Mitigation: Implement Mitigation Measures Noise-1 through Noise-2

Significance after Mitigation: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, the projected population would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the project would require a larger operational footprint than both the proposed project and the Maximum scenario most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility. This scenario would develop the area currently used for solids drying beds. Construction in this area would be closer (a distance of approximately 700 feet) to the sensitive receptors just west of Van Buren Boulevard. At this distance these residences would experience worst case noise levels of up to 60 dBA Leq during finishing and excavation, the loudest of construction activities that would occur. Per the City's Noise Code, construction activities will be shall not occur between the hours of 7:00 PM and 7:00 AM on a weekday and between 5:00 PM and 8:00 AM on Saturdays or at anytime on Sunday or federal holidays. However, construction noise would exceed the daytime noise standard of 55 dBA. The implementation of Mitigation Measures Noise-1 through Noise-2 would reduce this impact to less than significant.

Mitigation: Implement Mitigation Measures Noise-1 through Noise-2

Significance after Mitigation: Less than significant

Collection System

Construction activities associated with future upgrades to the collection system could occur throughout the RWQCP's service area. At this time, it is unknown which sewer lines would require upgrades. Specific locations for construction activities and staging areas are not known at this time. The collection system upgrades could occur in any portion of the City and surrounding sphere-of-influence, including in or within areas with sensitive receptors. However, at this time

the location and size of the collection system are unknown. As a result, a site-specific environmental analysis would be prepared on a project-by-project basis when the future project details are identified and finalized.

Groundborne Vibration

Impact 3.9-2: Project construction could result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. (Less than Significant)

The proposed project would result in a significant impact if buildings would be exposed to the FTA building damage ground-borne vibration threshold level of 0.2 PPV or if sensitive individuals would be exposed to the FTA human annoyance response ground-borne vibration threshold level of 80 RMS. As shown in **Table 3.9-5**, use of a Vibratory Compactor for project construction generates vibration levels of up to 0.210 PPV or 94 RMS (large bulldozer) at a distance of 25 feet. The nearest off-site structure to the RWQCP is approximately 600 feet to the south. Heavy equipment activity on the site could result in vibration levels of approximately 0.001 PPV and 44.6 RMS at the off-site structures. Vibration levels at these structures would not exceed the potential building damage threshold of 0.2 PPV nor the annoyance threshold of 80 RMS. Furthermore, operation of the RWQCP would not create vibrations above what would be created during construction. Therefore, this impact would be less than significant.

TABLE 3.9-5
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
Jackhammer	0.035	79
Vibratory Compactor	0.210	94

[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.

Significance: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario, the projected population would generate approximately 55.2 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario the new facilities would require a larger operational footprint and would likely be larger in size, in general, than the proposed project. The Maximum project would be larger than the proposed project and would require more construction to implement the scenario. However, as with the proposed project, construction would be phased over several years and would not include

having a large number of construction equipment operating at the same time. Therefore, the construction activities are not anticipated to create Vibration levels for surrounding receptors that would exceed the potential building damage threshold of 0.2 PPV nor the annoyance threshold of 80 RMS. Furthermore, as mentioned above the operation of the Maximum Buildout Scenario is not anticipated to create vibrations above what would be created during construction. Therefore, this impact would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, the projected population would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the project would require a larger operational footprint than both the proposed project and the Maximum scenario most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility. As described in the two scenarios above, this scenario would include phased construction activities over a 20 year timeframe. As a result, construction vibration is not anticipated to create vibrations above what would be created during construction. Therefore, this impact would be less than significant.

Significance: Less than significant

Collection System

Construction activities associated with future upgrades to the collection system could occur throughout the RWQCP's service area. At this time, it is unknown which sewer lines would require upgrades. Specific locations for construction activities and staging areas are not known at this time. The upgrades could occur in any portion of the City and surrounding sphere-of-influence, including in or within areas with sensitive receptors. However, at this time the location and size of the collect system are unknown. As a result, a site-specific environmental analysis would be prepared on a project-by-project basis when the future project details are identified and finalized.

Ambient Noise Levels

Impact 3.9-3: Project operations could result in a substantial increase in ambient noise levels in the project vicinity above levels existing without the project. (Less than Significant)

The proposed changes to ambient noise levels would be indistinguishable from current ambient noise levels in the project vicinity, including noise sources from the RWQCP, local traffic, and airport noise. Therefore, operation of the upgraded RWQCP would not increase ambient noise levels from stationary noise sources in the vicinity and would be less than significant.

The increase in operational traffic generated by project operation would be minimal. The RWQCP expansion would require an additional three to four delivery truck trips a day. Therefore, noise from the additional project-related traffic would be a less than significant impact.

Significance: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario, the projected population would generate approximately 55.2 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario the new facilities would require a larger operational footprint and would likely be larger in size, in general, than the proposed project. The Maximum project would be larger than the proposed project and would require more equipment to process the increase wastewater demands. However, the Maximum scenario would be located in an area with existing industrial noise. The Maximum scenario would be located under a flight path of the Riverside Municipal Airport and adjacent to a busy roadway in Van Buren Boulevard. The implementation of this scenario would not create a significant amount of ambient noise beyond what is currently occurring. Impacts would be less than significant.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, the projected population would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the project would require a larger operational footprint than both the proposed project and the Maximum scenario most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility. As a result, this scenario would have the potential to create a potentially significant increase the ambient noise in project area. However, because the scenario is the expansion of existing use that is consistent with the General Plan and is located in an area designated to accommodate this kind of use the increase in noise would less than significant.

Significance: Less than significant

Collection System

Operation of the collection system would not increase ambient noise levels. No impact would occur.

Cumulative Impact

Impact 3.9- 4: Project operations together with anticipated future development in the area could result in long-term cumulative noise impacts. (Less than Significant)

A cumulative impact arises when two or more individual projects are considered together, are considerable or which compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant impacts, meaning that the project's incremental effects must be viewed in connection with the effects of past, current, and probable future projects.

When considered alone, the proposed project would generate noise mainly by adding minimal construction traffic to the area. Noise from cumulative development in the area would primarily occur from increases in motor vehicle traffic. As stated in Impact 3.9-3, construction traffic and equipment noise associated with development of the proposed project would not contribute significantly to the cumulative noise levels beyond the treatment plant property line or along local roadways. Operational noise would be similar to existing conditions and would not contribute significantly to ambient noise levels. Therefore, cumulative noise impacts would be a less than significant impact.

Significance: Less than significant

References – Noise

Caltrans, Technical Noise Supplement, 1998.

City of Riverside, Riverside Municipal Code Title 7, 2009.

Cunniff, Patrick, *Environmental Noise Pollution*, 1977.

Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, 2006.

U.S. Environmental Protection Agency, Bolt, Beranek, and Newman, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, 1971

3.10 Transportation and Circulation

This section addresses potential traffic and circulation impacts associated with implementation of the proposed project. Several traffic and circulation criteria were eliminated from further consideration and will not be discussed below. These criteria were considered but were found to be not applicable to the project; therefore, no further discussion of these impacts is provided. Please refer to the Initial Study Checklist (Appendix A) for further clarification. This analysis provides information on the level of service (LOS) of the existing circulation system and the locations and types of public transportation nodes, and the potential transportation and circulation impacts. The traffic and circulation analysis includes a description of existing traffic conditions, an evaluation of potential impacts associated with implementation of the proposed project, and proposes mitigation measures to reduce any potentially adverse significant impacts to less than significant levels. A discussion of applicable state, local and regional plans and/or programs also is included. This section incorporates information and analyses from the City of Riversides General Plan 2025 (2007), and the Final Environmental Impact Report for the City of Riversides General Plan (2007).

3.10.1 Environmental Setting

The proposed project, which includes the existing RWQCP, is located at 5950 Acorn Street in the City of Riverside. The site is located along the Santa Ana River and is within the Riverside Airport's Airport Influence Area. The site is bound to the west by Van Buren Boulevard, to the south by Jurupa Avenue, to the east by Acorn Street, and to the north, across the Santa Ana River, by Clay Street and General Drive.

Existing Circulation and Transportation System

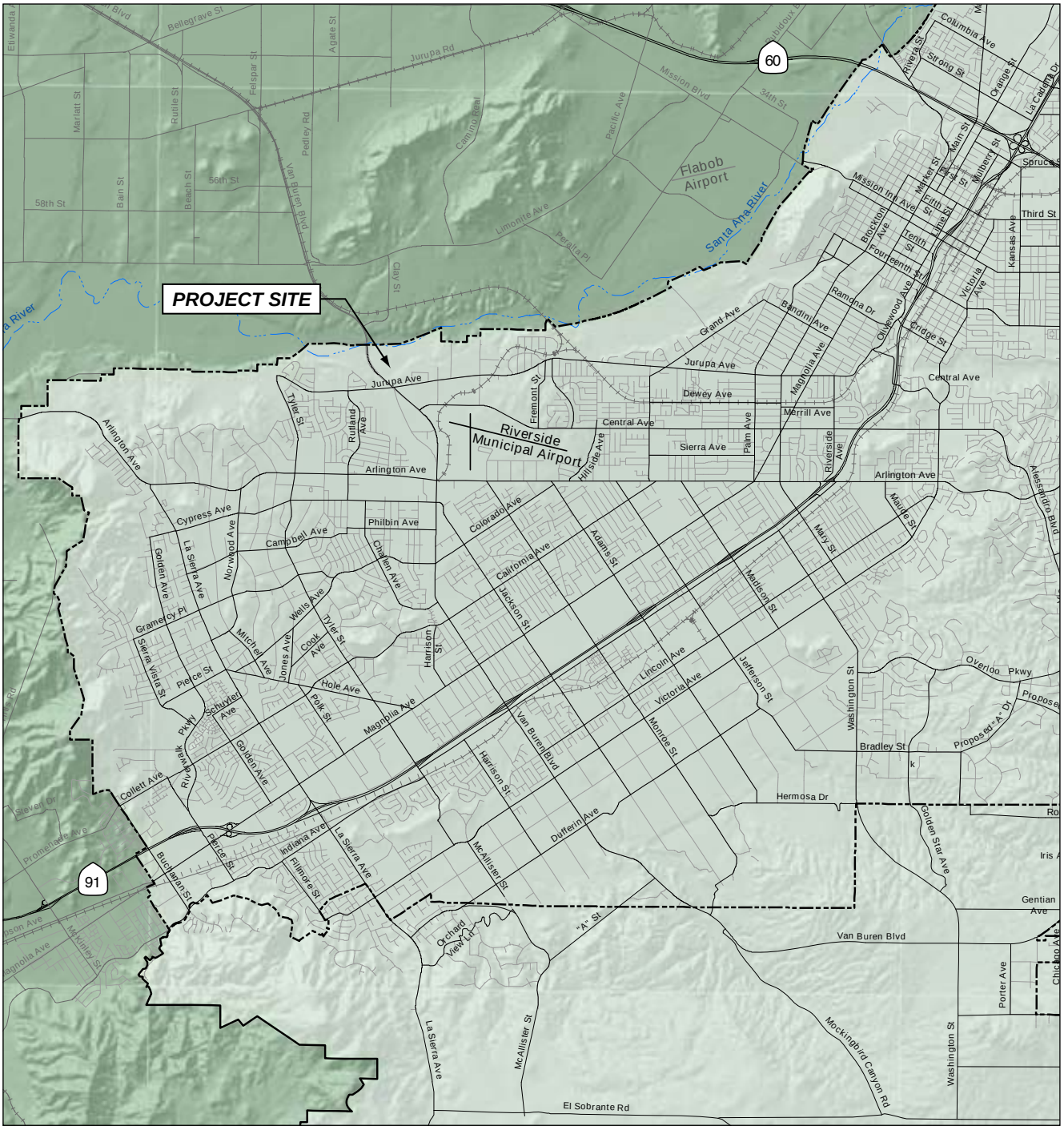
Regional Roadways

Three freeways traverse portions of the City of Riverside (**Figure 3.10-1**):

- State Route (SR) 91, a major east-west interregional facility that extends from the beach cities in Los Angeles County to SR 60 to the east;
- SR 60, an east-west trending state route connects downtown Los Angeles to the Inland Empire; and
- Interstate 215 (I-215), a north-south interstate route that provides access to the City of Temecula and San Diego County from Riverside.

The existing traffic volumes on these freeways within the City ranges from 101,000–125,000 vehicles per day (vpd) on SR 60, approximately 160,000-197,000 vpd on SR-91, and approximately 151,000–173,000 vpd on I-215 (City of Riverside General Plan, 2007).

There are improvements planned for the regional roadway network in and adjacent to the City of Riverside. These improvements include high-occupancy vehicle lanes, auxiliary and truck climbing lanes, interchange upgrades and reconstructions and limited areas of additional mixed-flow lane additions.



Riverside City Boundary

Riverside Proposed Sphere of Influence

0 2
Miles

City of Riverside . 206047

SOURCE: *City of Riverside General Plan & Supporting Documents EIR, Certified, 2007.*

Figure 3.10-1
Existing Network of Roadways

The City of Riverside uses a series of functional classifications to describe types of roadways, consisting of local streets, collector streets, arterial streets, and scenic and special boulevards and parkways.

Local Streets

Local streets principally provide vehicular, pedestrian, and bicycle access to property that is directly abutting the public right-of-way with movement of through-traffic discouraged. Local streets are designated to be 36-foot wide curb-to-curb within a 66-foot right-of-way and have two through lanes (one in each direction). Some local streets are designated as scenic boulevards, special boulevards, and scenic parkways, and may require special landscaping and additional right-of-way. As described in Section 3.1 (Aesthetics), roadways with these designations include Van Buren Boulevard.

Collector Streets

The City's collector streets are intended to serve as the intermediate route for traffic between the local streets and streets of higher classification. Collector streets also provide access to abutting property, and are typically two-lanes in width. Their purpose is not to provide for through traffic capacity but to connect the local street system to the arterial network. There are generally two sizes of collector streets within the City: the 66-foot collector streets are designed to be 40-foot wide curb-to-curb within a 66-foot right-of-way; and the 80-foot collector streets are designed to be 40-foot wide curb-to-curb but have an 80-foot wide right-of-way.

Arterial Streets

Arterial streets within the City of Riverside carry through traffic and connect to the State Highway system with restricted access to abutting properties. These streets are designed to have the highest traffic carrying capacity in the roadway system with the highest speeds and limited interference with traffic flow by driveways. The City of Riverside has several arterial classification sizes including but not limited to the following: 88-foot arterial with four-lanes, 64-foot wide curb-to-curb; 100-foot wide curb-to-curb; and a 144-foot arterial with eight travel lanes, a raised median, 124-foot wide curb-to-curb. In general, parking may be allowed, or peak hour parking may be prohibited on higher volume arterials.

Level of Service

The City of Riverside General Plan FEIR provides information relating to intersection and roadway operation as well as Average Daily Traffic (ADT) throughout the City. Level of Service (LOS) measurements are utilized to describe traffic operations with a scale ranging from LOS A to LOS F. LOS is a qualitative measure used to describe the efficiency of traffic flow. LOS A typically indicates excellent free flow traffic conditions where LOS F indicates very poor, forced flow conditions. The LOS describes the way traffic conditions are perceived by individuals. LOS measurements also describe variables such as speed and travel time, freedom to maneuver, traffic interruptions, traveler comfort and convenience, and safety. **Table 3.10-1**, identifies conditions associated with each LOS descriptor. LOS is based on average vehicle delay and also on the volume-to-capacity ratio and can be determined for a number of transportation facilities including freeways, multi-lane highways, signalized intersections, intersections that are not signalized, arterials, and pedestrian facilities among others.

TABLE 3.10-1
INTERSECTION LEVEL OF SERVICE DEFINITIONS

LOS	Interpretation	Signalized Intersection Delay (seconds per vehicle)	Stop-Controlled Intersection Average Delay (seconds)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	>10	>10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized; traffic queues start to form.	>10 and >20	>10 and >15
C	Good operation. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>20 and >35	>15 and >25
D	Fair operation. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	>35 and >55	>25 and >35
E	Poor operation. Some long-standing queues develop on critical vehicular approaches.	>55 and .80	>35 and >50
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop-and-go-type traffic flow.	>80	>50

LOS = Level of Service

SOURCE: Transportation Research Board, *Highway Capacity Manual*, 2000.

Existing Traffic Volumes and LOS

Typical traffic flow is measured and analyzed both on a daily basis and during peak hours of traffic commute flow. On a daily basis, traffic flow is measured on roadways at mid-block locations to determine the overall level of travel demand and level of service. ADT values are developed that represent the typical daily traffic flow on each key roadway in the City. According to the City of Riverside General Plan FEIR, some of the highest traffic volume levels in the City occur at the following locations:

1. Van Buren Boulevard north of Arlington Avenue ─ 49,900 to 56,500 ADT.
2. Alessandro Boulevard between Chicago Avenue and Trautwein Road ─ 42,100 to 46,400 ADT.
3. Van Buren Boulevard west of Wood Road ─ 42,100 ADT.
4. Tyler Street between Magnolia Avenue and Indiana Avenue ─ 40,900 ADT.
5. Arlington Avenue between Victoria Avenue and Alessandro Boulevard ─ 37,200 ADT.
6. Van Buren Boulevard between Magnolia Avenue and Indiana Avenue ─ 37,100 ADT.

In the City of Riverside, intersection traffic demand is measured for the peak morning and afternoon/evening commute peak periods. The single highest hour in the morning and in the afternoon is determined and used to develop intersection level of service estimates. Typically these period range from 7: 00 a.m. to 9: 00 a.m. and 4:00 p.m. to 6: 00 p.m.

The City of Riverside conducted counts for various intersections within the City. The roadway characteristics and traffic volume data was used to estimate existing a.m. and p.m. peak hour LOS as represented in **Table 3.10-2**.

TABLE 3.10-2
2003 INTERSECTION LOS

		AM Peak Hour		PM Peak Hour	
Intersection		**LOS**	**Delay (seconds)**	**LOS**	**Delay (seconds)**
Alessandro	Arlington/Chicago	C	26.8	D	41.6
Alessandro	Trautwein	C	23.9	B	13.8
Arlington	La Sierra	B	20.0	C	20.8
Canyon Crest	Central	C	26.5	C	29.0
Magnolia	Arlington	C	27.5	C	30.3
Magnolia	Tyler	C	20.1	C	27.1
Market	University	C	23.9	C	24.8
Martin Luther King	Canyon Crest	C	22.1	C	24.8
Martin Luther King	Chicago	C	28.4	C	27.3
Van Buren	Arlington	D	41.7	D	47.3
Van Buren	Indiana	C	25.4	C	25.7
Van Buren	Magnolia	C	27.0	C	29.5
Van Buren	Orange Terrace	C	30.7	A	7.9
Van Buren	Trautwein	C	28.9	C	23.7

SOURCE: City of Riverside FEIR, 2007.

As shown in Table 3.10-2**,** above, all intersections that were analyzed operate at LOS D or better, indicating generally acceptable conditions.

Air Traffic

Riverside Municipal Airport is situated on 441 acres in the northwest portion of the City of Riverside, bordered by Central Avenue to the north, Arlington Avenue to the south, Hillside Avenue to the east, and Van Buren Boulevard to the west. The airport is owned and operated by the City, with its operations overseen by the City of Riverside Airport Commission.

Another significant air facility that impacts the region is the approximately 6,500-acre March Air Reserve Base/March Inland Port (MARB/MIP) located to the City's southeast, between the Cities of Perris and Moreno Valley. Flabob Airport is located just northwest of the City of Riverside across the Santa Ana River in the unincorporated Riverside County in the community of Rubidoux. Flabob operations impact a small portion of the northern part of the City, particularly with regard to air safety concerns. However, the Riverside Municipal Airport is closest to the proposed RWQCP expansion site (approximately one mile to the southwest) (see Figure 3.10-1).

Alternative Transportation

The City of Riverside contains active rail lines that serve the Union Pacific and Burlington Northern Santa Fe companies. The freight rail system serves the growing Ports of Los Angeles and Long Beach, and much of the freight travels easterly through Riverside. The peak railroad traffic in Riverside County was 85 freight trains per day and is expected to grow to 169 trains per day in 2020 (City of Riverside General Plan, 2007). The City is actively pursuing grade separation projects in order to increase vehicular safety, and reduce vehicular delays thus reducing air quality impacts caused by idling vehicles waiting for trains to pass.

Transit Service

The City is served by a mix of bus and rail services. Extensive bus service is provided by the Riverside Transit Agency (RTA), which serves western Riverside County. The nearest RTA bus route to the project site is along Van Buren Boulevard.

Passenger rail service is provided by Metrolink and three lines traverse the City: the Inland Empire- Orange County Line, which runs between San Bernardino and San Juan Capistrano; the 91 Line, which runs from Riverside to downtown Los Angeles via Fullerton and other points in Orange County; and the Riverside Line, which runs from Riverside to downtown Los Angeles. Amtrak service is also available at the Downtown Metrolink Station.

Non-Motorized Transportation

The City of Riverside's Bicycle Master Plan designates a series of Class I and Class II bicycle facilities throughout the City. **Figure 3-10-2** displays the Bicycle Master Plan and the System of Trails. Both City- and County-designated bike paths are located on the north side of the RWQCP property, adjacent to the Santa Ana River.

3.10.2 Regulatory Framework

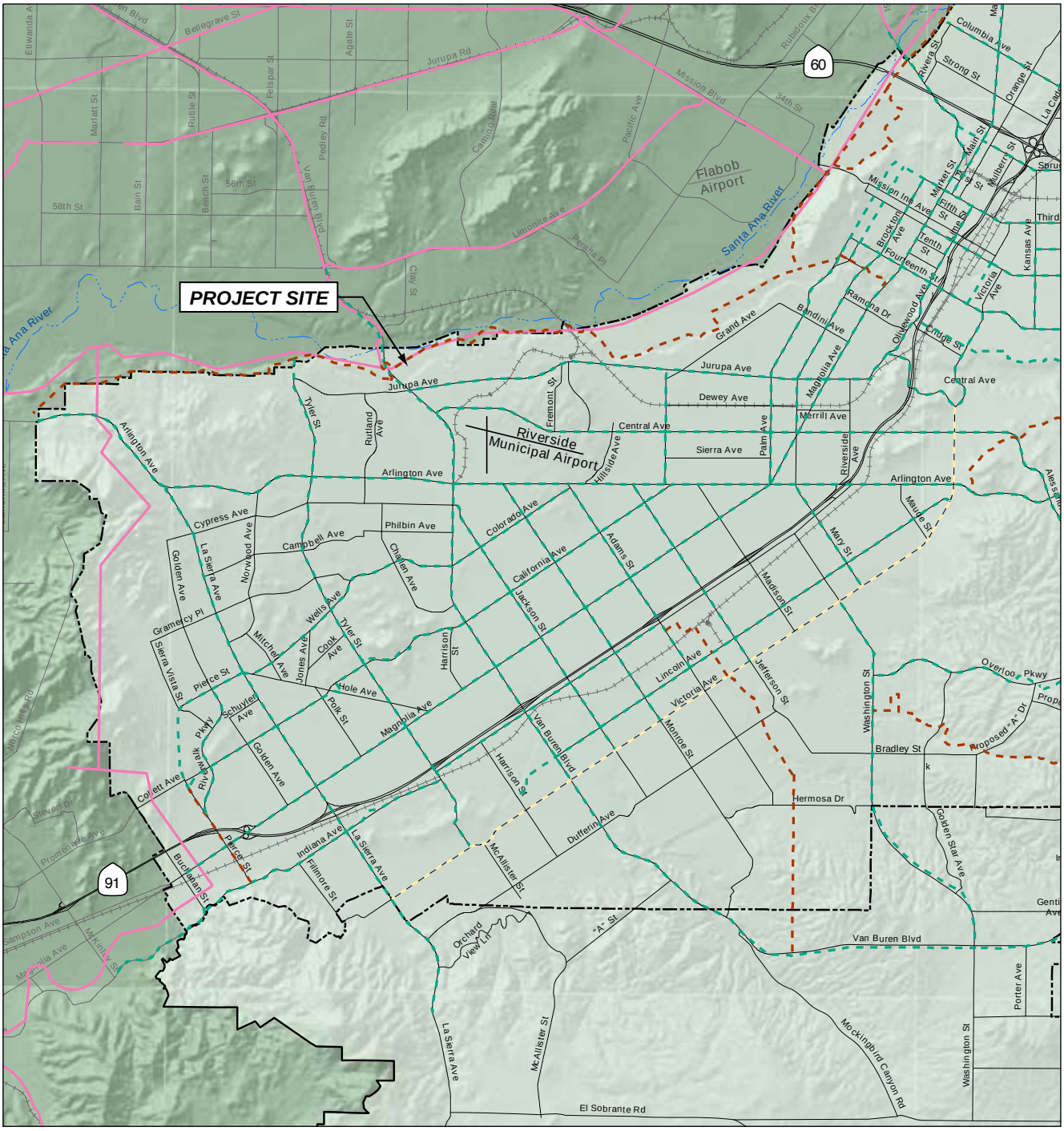
Federal Regulations

As described in Section 3.8, Land Use, the Federal Aviation Administration (FAA) has regulatory authority over air traffic. The development and regulation of the transportation network in the vicinity of the proposed project primarily involves state and local jurisdictions. All roads within the project area are under the jurisdiction of state and local agencies. Applicable state and local laws and regulations related to traffic and transportation issues are discussed below.

State Regulations

California Department of Transportation

The California Department of Transportation (Caltrans) administers transportation programming. Transportation programming is the public decision making process which sets priorities and funds projects envisioned in long-range transportation plans. It commits expected revenues over a multi-year period to transportation projects. The Statewide Transportation Improvement Program



City Bikeways

- Class 1
- Class 1&2
- Class 2

Riverside County Bikeways

- Class 1 Bike Path
- Class 1 Bike Path / Regional Trail
- Riverside City Boundary
- Riverside Proposed Sphere of Influence

0 2 Miles

SOURCE: *City of Riverside General Plan & Supporting Documents EIR, Certified, 2007.*

City of Riverside . 206047

Figure 3.10-2
Bike Trails

is a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the State Highway Account and other funding sources.

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.

Local Regulations

Regional Transportation Plan

The Regional Transportation Plan (RTP) is a component of the Regional Comprehensive Plan and Guide prepared by the Southern California Association of Governments (SCAG) to address regional issues, goals, objectives, and policies for the Southern California region. The RTP, which SCAG periodically updates, sets broad goals for the region and provides strategies to reduce problems related to congestion and mobility. The RTP identifies transportation facilities that are of regional significance. In order to be eligible for federal funding assistance, transportation projects must be consistent with the RTP.

County of Riverside Congestion Management Plan

Urbanized areas such as Riverside County are required by State law to adopt a Congestion Management Plan (CMP). The goals of the CMP are to reduce traffic congestion and to provide a mechanism for coordinating land use development and transportation improvement decisions. The CMP contains specific strategies and improvements to reduce traffic congestion and improve the performance of a multi-modal transportation system. Examples of strategies include increased emphasis on public transportation and rideshare programs, mitigating the impacts of new development and better coordinating land use and transportation planning decisions. Local agencies are required to establish minimum LOS thresholds in the general plans and conduct traffic impact assessments on individual development projects. Deficiency plans must be prepared when a development project would result in LOS F on non-exempt CMP roadway segments. The deficiency plans outline specific mitigation measures and a schedule for mitigating the deficiency.

City of Riverside General Plan 2025: Related Policies

The Circulation and Community Mobility Element of the City's General Plan 2025 contains goals, recommendations, objectives, policies, and standards for the management of Transportation and Circulation. Below are selected objectives and policies from the Circulation and Community Mobility Element that may be partially applied to the proposed project.

Circulation and Community Mobility Element – Overarching Objectives

Objective CCM-1: Facilitate freeway and regional roadway improvements and construction to alleviate congestion and air pollution and to minimize regional cut-through traffic within Riverside.

Objective CCM-2:	Build and maintain a transportation system that combines a mix of transportation modes and transportation system management techniques, and that is designed to meet the needs of Riverside's residents and businesses, while minimizing the transportation system's impacts on air quality, the environment and adjacent development.
Policy CCM-2.3:	Maintain LOS D or better on Arterial Streets wherever possible. At key locations, such as City Arterials that are used by regional freeway bypass traffic and at heavily traveled freeway interchanges, allow LOS E at peak hours as the acceptable standard on a case-by-case basis.
Policy CCM-2.7:	Limit driveway and local street access on Arterial Streets to maintain a desired quality of traffic flow. Whenever possible, consolidate driveways and implement access controls during redevelopment of adjacent parcels.
Policy CCM-6.1:	Encourage the reduction of vehicle miles, reduce the number of daily peak hour trips, increase the vehicle occupancy rate and provide better utilization of the circulation system through the development and implementation of TDM programs contained in the SCAQMD and County of Riverside TDM Guidelines.
Objective CCM-7:	Minimize or eliminate cut-through traffic within Riverside's residential neighborhoods.
Policy CCM-10.1:	Ensure the provision of bicycle facilities consistent with the Bicycle Master Plan.
Policy CCM-10.7:	Maintain an extensive trails network that supports bicycles, pedestrians and horses and is linked to the trails system of adjacent jurisdictions.
Policy CCM-11.1:	Protect flight paths from encroachment by inappropriate development using the Riverside County Airport Land Use Compatibility Plan to determine the consistency of proposed development.
Policy CCM-13.1:	Ensure that new development provides adequate parking.

General Regulations

Neighborhood Traffic Management

The City of Riverside has an active Neighborhood Traffic Management Program to minimize and/or prevent intrusion of regional cut-through traffic into residential neighborhoods through traffic management and traffic calming strategies; and to improve the livability of neighborhoods through controlling the impacts of outside traffic. The strategies include speed control methods, parking restrictions, speed humps, pedestrian safety improvements and sight obstruction elimination

Emergency Access

The City has adopted the 2000 Uniform Fire Code as amended by the California State Fire Marshal. The code, codified in Section 16.32.020 of the Riverside Municipal Code, establishes site planning and design standards to ensure adequate emergency access to new developments.

The City reviews proposed projects to ensure that adequate parking is provided off-street and emergency access lanes are not blocked.

Truck Routes

In the City of Riverside, trucks are generally not restricted to specific roadways. The City Municipal Code (Sections 10.56.010 and 10.56.020) designates certain roads where trucks over ten thousand (10,000) pounds are prohibited, except when making deliveries.

3.10.3 Thresholds of Significance

Several criteria were eliminated from further consideration and will not be discussed here:

- 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 (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Result in inadequate emergency access?
- Result in inadequate parking capacity?
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.)?

These criteria were considered but were found to be not applicable to the project; therefore, no further discussion of these impacts is provided. Please refer to the Initial Study Checklist (Appendix A) for further clarification.

For this analysis, the proposed project would result in significant impacts if the proposed project significantly impacted the following criteria:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capability 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); and
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.

3.10.4 Environmental Impact Assessment

Traffic Increase

Impact 3.10-1: The project may cause an increase in traffic which is substantial in relation to the existing traffic load and capability 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). (Less than Significant with Mitigation)

Proposed Project

The proposed project would result in the construction and operation of new treatment facilities including components such as but not limited to, a primary equalization pump station, a primary sludge pump station, a primary sludge thickening facility, a membrane bioreactor, an acid phase

digester facility, a new chlorine contact basin, a new maintenance building, and a parking lot expansion.

The construction and demolition of structures associated with the RWQCP expansion would result in temporary disruption of traffic resulting from truck movements and other construction-related traffic to and from the project site. Construction-related truck traffic would cause a temporary and intermittent lessening of the capacities of the streets along haul routes and which provide access to the project site because of the slower movements and turning radii of construction trucks compared to personal vehicles. The proposed RWQCP expansion would occur in the northwestern portion of the City between the Santa Ana River, Van Buren Boulevard, Jurupa Avenue, and Acorn Street. Construction activities could also introduce construction equipment and oversized vehicles on roadways in and around the facility and neighboring properties. No road closures are expected to be required for construction of the proposed project.

All of the new RWQCP facilities would be located within the existing RWQCP property. Construction site access would occur from the northern terminus of Acorn Street, the current facilities main entrance. An alternative gated entrance to the site is located off of Jurupa Avenue near Van Buren Boulevard. However, this entrance is not anticipated to be used during construction.

Construction of the proposed RWQCP expansion would result in additional truck and construction worker commute trips to the site that could result in temporary disruption of traffic from the increased vehicle trips and from truck movements to and from the project area during activities associated with project construction. **Table 3.10-3** below illustrates the approximate employees required per phase of construction.

TABLE 3.10-3
CONSTRUCTION EQUIPMENT

Construction Phase	Period	Number of Employees Commuting
Mobilization, Site Preparation, Site Grading and Demolition	4 months	30
Facility Construction	26 months	120
Fine Grading	3 months	50
Start Up	3 months	40

SOURCE: Carollo Engineers, 2008

Construction activities are anticipated to generate up to 230 trips per day on local and regional roadways during peak construction days. This accounts for approximately 120 construction worker commute trips and 110 truck trips per day. Deliveries would include construction material and equipment. During the busiest construction period, it is estimated that concrete delivery trucks could generate an additional 50 trips per day during the short-term construction of the

treatment facility. It is not anticipated that excavated soil will be removed from the construction site. However, approximately 17,000 cubic yards of soils may need to be imported to the site, generating approximately 1,000 truck trips. During peak delivery days, approximately 100 soil haul trucks per day could access the site. Soil import trucks and concrete delivery trucks would not occur simultaneously. During peak days that included soil importation a maximum of 230 trips could be added to the local roadways. Haul routes would follow City-approved truck routes from the treatment plant to the SR 60 and SR 91 freeways. The construction activities would be phased over an approximate 15-year schedule, consistent with the City of Riverside Facilities Master Plan (City of Riverside Wastewater Collection and Treatment Facilities Integrated Master Plan, 2007).

As shown in Table 3.10-2 above, none of the project site's nearby intersections (Jurupa Avenue/Van Buren Boulevard, Jurupa Avenue/Acorn Street, or Jurupa Avenue /Clay Street) have been identified as critical study intersections in the General Plan. However, construction-related traffic occurring on these roadways and intersections during peak hourly traffic would have the potential to impede traffic flow. With the implementation of the Traffic Control/Traffic Management Plan described in Mitigation Measure Trans-1, impacts to traffic would be less than significant. The Traffic Control Plan also would include measures to lessen roadway hazards for passing motorists to less than significant levels and require the City to coordinate with local emergency service providers to ensure emergency access to properties in the project vicinity are maintained.

Site access for normal operations would continue to occur at the northern terminus of Acorn Street, the current facility's main entrance. Operation of the proposed RWQCP would require two additional employees and some additional operating materials delivery to the site. Biosolids haul trips to the Rialto Landfill would increase commensurate with inflow increases. Currently approximately six biosolids truck leave the treatment plant per day. This number would increase to nine haul trips per day. It is not anticipated that the new employees, material deliveries, and biosolids haul trips would contribute to an increase in traffic which is substantial in relation to the existing traffic load and intersection operations of the affected roadways. Impacts would be less than significant.

Mitigation Measure

Mitigation Measure Trans-1: The City shall require the construction contractor to prepare and implement a Traffic Control/Traffic Management Plan to minimize impacts during project construction. The Traffic Control/Traffic Management Plan shall include, but not be limited to, the following measures:

- The City of Riverside shall maintain access for local land uses including public properties, recreational properties, beachfront access, and commercial properties during construction activities.
- Emergency services access to local land uses will be maintained at all times for the duration of construction activities. Local emergency service providers will be informed of lanes closures and detours.
- The City of Riverside shall post advanced warning of construction activities to allow motorists to select alternative routes in advance.

- The City of Riverside shall arrange for a telephone resource to address public questions and complaints during project construction.
- The City of Riverside shall comply with roadside safety protocols, so as to reduce the risk of accident.
- Haul trucks to and from the plant will follow City-approved haul routes whenever feasible.

Significance after Mitigation: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario, the projected population would generate approximately 55.3 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the RWQCP would require larger treatment facilities that would require more construction and equipment delivery to the site. Additionally, a greater number of construction workers may be required at the site. Biosolids haul trips would increase to approximately 9 per day. As a result, the Maximum scenario would have potential traffic impacts. However, with the implementation of Mitigation Measure Trans-1 impacts would be reduced to below a level of significance.

Mitigation: Implement Mitigation Measure Trans-1

Significance after Mitigation: Less than significant

Maximum with PRD Buildout Scenario

Under the maximum with PRD Buildout Scenario, the projected population would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the RWQCP would require larger treatment facilities and would require more construction and equipment to be delivered to the site. Additionally, a greater number of construction workers may be required at the site. Under this scenario, the project would require a larger operational footprint than both the proposed project and the Maximum scenario, most likely resulting in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility. Biosolids haul trips would increase to approximately 12 per day. The increased trips associated with the construction and operation of the RWQCP under this scenario would potentially result in a significant impact on the local roadway capacities. However, with the implementation of mitigation measure Trans-1 impacts would be reduced to below a level of significance

Mitigation: Implement Mitigation Measure Trans-1

Significance after Mitigation: Less than significant

Collection System

Construction activities associated with the future collection system upgrades could occur throughout the RWQCP's service area. Currently, it is unknown which infrastructure and/or the location within the City would require upgrades. Infrastructure upgrades could occur in any

portion of the City which has congested roadways and or intersections. It is anticipated that partial temporary road closures would be required to accommodate the infrastructure upgrades. Therefore, a separate site specific environmental analysis would be required once the final project details are know to determine the site specific environmental impacts.

Level of Service Standards

Impact 3.10-2: The project may exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways. (Less than Significant with Mitigation)

Proposed Project

The expansion of the RWQCP would have greatest effect on the Jurupa Avenue/Van Buren Boulevard, Jurupa Avenue/Acorn Street and/or Jurupa Avenue /Clay Street intersections, which are closest to the project site and would be most affected by truck deliveries and workers commuting to and from the RWQCP. Regional roadways would also be potentially affected by increased truck deliveries and worker commute trips. Construction activities are anticipated to generate less than 50 trips per day on local and regional roadways. This accounts for approximately 40 construction worker commute trips and 10 truck trips per day. The additional trips have the potential to temporary impact the surrounding roadways. However, as stated above, the implementation of a traffic control plan would reduce impacts to below a level of significance.

Mitigation: Implement Mitigation Measure Trans-1.

Significance after Mitigation: Less than significant

Maximum Buildout Scenario

Under the Maximum Buildout Scenario, the population projection would generate approximately 55.3 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the RWQCP would require larger treatment facilities that would require more construction and equipment delivery to the site. Additionally, a greater number of construction workers may be required at the site. The increased trips associated with the construction and operation of the RWQCP under this scenario would potentially result in a significant impact to the level of service on local roadways. However, with the implementation of Mitigation Measure Trans-1 impacts would be reduced to below a level of significance,

Mitigation: Implement Mitigation Measure Trans-1

Significance after Mitigation: Less than significant

Maximum with PRD Buildout Scenario

Under the Maximum with PRD Buildout Scenario, the population projections would generate approximately 63.9 mgd of wastewater that would be conveyed to the RWQCP for treatment. Under this scenario, the RWQCP would require larger treatment facilities and would require more construction and equipment delivery to the site. Additionally, a greater number of construction workers may be required at the site. Under this scenario, the project would most likely result in complete build out of the site and an increased density of the RWQCP site to accommodate the 63.9 mgd facility. The increased trips associated with the construction and operation of the RWQCP under this scenario would potentially result in a significant impact to the level of service to local roadways. However, with the implementation of Mitigation Measure Trans-1 impacts would be reduced to below a level of significance.

Mitigation: Implement Mitigation Measure Trans-1

Significance after Mitigation: Less than significant

Collection System

Construction activities associated with the future upgrades to the sewer lines could occur throughout the RWQCP's service area. Currently, it is unknown which infrastructure and/or the location within the City would require upgrades. The upgrades could occur in any portion of the City and surrounding sphere that have designated roadways and or intersections. It is anticipated that temporary road closures would be required to accommodate the collection system upgrades. Therefore, a separate site specific environmental analysis would be required once the final project details are know to determine the site specific environmental impacts.

Cumulative Impacts

Impact 3.10-3: Cumulative development could significantly impact local intersections and street segments in the project vicinity during construction and/or operation. (Less than Significant)

The proposed project would include a traffic control plan that would include standards that would minimize circulation conflicts and would have a less than significant impact; therefore, it would not make a cumulatively considerable contribution to significant impacts associated with traffic and transportation. Construction of the proposed RWQCP expansion would result in a temporary traffic increase from truck movements to and from the project site during activities associated with project construction. Traffic impacts from the project would primarily be short-term construction related impacts that would contribute very little peak hour operational traffic.

Planned growth, as described in the City's General Plan, along with the proposed project in the City of Riverside would continue to contribute to overall traffic in the region. However, the proposed project would not substantially increase operational traffic as a limited number of new

employees (two employees) would be generated. All future projects within the City would be required to comply with existing regulations and undergo environmental review to assure that impacts are appropriately evaluated and mitigated, as appropriate. Therefore, the proposed project would not create a cumulatively considerable contribution to increases in traffic levels during construction or operation. Cumulative impacts would be less than significant.

Significance: Less than significant

References – Transportation and Circulation

City of Riverside General Plan 2025 FPEIR, certified November 2007.

City of Riverside Wastewater Collection and Treatment Integrated Master Plan, Carollo Engineers, September 2006.

Southern California Association of Governments, *Regional Transportation Plan Amendment*, 2004. (Available at http://www.scag.ca.gov/rtp2004/2004amend/Final-RTPAmendment072706. pdf).

Southern California Association of Governments, *Destination 2030: 2004 Regional Transportation Plan.* April, 2004.

Transportation Research Board, *Highway Capacity Manual*. 2000.

3.11 Utilities and Service Systems

This section provides an overview of the regulatory framework, existing utility setting, and analysis of potential impacts to the services that would result from implementation of the proposed project. Public utilities and utility systems in the project area include water, wastewater, storm water, solid waste, electrical, telecommunications, and natural gas conveyance facilities. This section incorporates information and analyses from the City of Riversides General Plan (2007), and the Final Environmental Impact Report for the City of Riversides General Plan (Albert A. Webb Associates, 2007).

3.11.1 Environmental Setting

Wastewater

The City of Riverside Public Works Department provides for the collection, treatment and disposal of most of the wastewater generated within the City of Riverside, through its Riverside Regional Water Quality Treatment Plant (RWQCP) and complies with State and Federal requirements governing the treatment and discharge of wastewater. Primary, secondary and tertiary treatment of wastewater from the Jurupa, Rubidoux and Edgemont Community Services Districts is also provided. The City also has an agreement with the County of Riverside to provide wastewater services to the northern Sphere Area, also known as the Highgrove community. The agreement states that the City of Riverside will operate and maintain the collection system and provide sewer services to this area. The County of Riverside will install and own the collection system.

The wastewater collection system includes over 800 miles of gravity sewers ranging in size from 6 to 48 inches in diameter. The system also includes 18 wastewater pump stations. Most of the wastewater lift stations are designed for flows of 100 to 400 gpm. There are two large lift stations with design capacities in excess of 2,000 gpm. The Public Works Department installs and maintains the wastewater system. The plant currently discharges tertiary-treated effluent to the Santa Ana River and deliveries recycled water to irrigation customers.

Drainage Systems

Stormwater flows directly into the City’s storm drain system which then discharges into the Santa Ana River. The Santa Ana River drains a watershed of over 2,700 square miles which includes Orange County, the northwestern corner of Riverside County, southwestern corner of San Bernardino County and a small portion of Los Angeles County. In the City of Riverside there are 12 principal drainage areas for which Master Drainage Plans (MDP) have been completed. Of the 12 drainages in the area, ten eventually flow into the Santa Ana River. The main drainage areas are: Box Springs, Central, Riverside, Home Gardens, La Sierra, Mead Valley, Monroe, Moreno Valley West End, Norco, Perris Valley, Southwest Riverside, and University. The RWQCP property does not have improved drainage systems on site and is not included in a Riverside County Flood Control Master Drainage Plan (MDP) Boundary.

The Riverside County Flood Control and Water Conservation District (RCFCWCD) is responsible for the operation and maintenance of regional flood control facilities such as dams, flood basins, levees, open channels and regional underground storm drains. In most cases, RCFCWCD does not maintain storm drain inlets or pipes less than 36 inches in diameter. The RCFCWCD is also responsible for construction of new facilities called for in its adopted MDP. As noted above, there are a total of 11 MDPs that cover the City. Most funding for county facilities located in Riverside comes through general fund allocations by the RCFCWCD. Other funding comes from the Riverside County Drainage Area Management Plan (DAMP).

The City of Riverside is located in the Santa Ana River Region which is within the Riverside County DAMP. The DAMP addresses the requirements of the municipal separate storm sewer system (MS4) permits issued to the Riverside County Co-Permittees by the Santa Ana Regional Water Quality Control Board. These are the third MS4 permits issued by each Regional Board and are referred to as the Third-term MS4 Permits. The City is a permittee under the Third-term MS4 Permits. Under these permits, the City is required to enforce and comply with storm water discharge requirements.

Smaller drainage facilities, consisting mostly of underground closed conduits and storm drains located primarily in developed areas of the City and Sphere of Influence, are typically maintained by the City or County Transportation Department crews. The City maintains three storm water pump stations. The three storm water pump stations have design capacities of approximately 500 gpm each. These local facilities collect stormwater and convey it to regional facilities, including RCFCWCD facilities, the Santa Ana River, and the many arroyos located in the Planning Area.

The RWQCP captures all storm water on-site and conveys the flows to the headworks for treatment prior to recycling or discharging into the Santa Ana River.

Riverside Public Utilities

The City of Riverside established its own water utility, the Riverside Public Utilities Department (RPU), in 1913. RPU's primary water source comes from local groundwater basins from the Bunker Hill Basin in San Bernardino and Riverside North and South Basins in Riverside. RPU purchases water from Western Municipal Water District (WMWD), primarily to meet peak water demand during summer months and during emergencies. As of 2004, RPU provided water service to approximately 62,000 customers. The RWQCP is within the Riverside Public Utilities Service Area.

The City of Riverside has prepared an update to its Water System Master Plan which identifies anticipated water facility improvements needed over a 20 year period. RPU's service area encompasses 74 square miles, of which approximately 68.5 square miles are located within the City limits and 5.6 square miles are located outside the City limits. RPU operates approximately 890 miles of pipelines ranging from 4 to 72 inches in diameter, 46 domestic wells, 18 irrigation wells, 16 reservoirs with an approximate total volume of 100 million gallons, 21 pressure reducing stations, and 39 pumping stations.

Although not a direct supplier of water to City of Riverside users, Metropolitan Water District of Southern California (Metropolitan) operates and maintains facilities located within the City of Riverside and its Sphere of Influence. Metropolitan's Upper Feeder Pipeline, Lower Feeder Pipeline, and Mills Filtration Plant are located within the City limits. The Upper Feeder Pipeline is a 132-inch diameter pipeline located with a permanent easement right-of-way; and the Lower Feeder Pipeline is a 120-inch diameter pipeline located within a fee-property right-of-way. Metropolitan also owns the Box Springs Feeder right of way property, which is located within the City limits of Riverside. In addition, Metropolitan owns land and operates facilities around Lake Mathews.

Solid Waste

The City of Riverside Public Works Department collects trash from approximately 38,500 households (70 percent of all households) largely using automated trash collection trucks. The remaining portion of the City's solid waste is collected by a private contractor. The private collector services approximately 20,000 customers. The private collector services customers in the La Sierra, University and Orangecrest neighborhoods. Commercial areas are also serviced by private collectors. There are currently three collectors that serve the commercial areas.

All non-hazardous solid waste collected is taken to the Robert A. Nelson Transfer Station, which is owned by the County of Riverside and operated under a 20-year franchise by a private company. Waste is then transferred to the Badlands Landfill for disposal. However, local trash haulers may dispose of collected waste at other County landfills in the area, such as the Lamb Canyon Landfill and El Sobrante landfill. All Riverside County landfills are Class III disposal sites permitted to receive non-hazardous municipal solid waste. The capacities of the landfills are expected to be reached between 2016 and 2022.

As of June 2007, the El Sobrante Landfill had a remaining capacity of 36.89 million tons in-county (109 million tons total), translating into a remaining life of approximately fifteen years. The Badlands Landfill has an overall remaining disposal capacity of approximately 8.289 million tons, with the expected capacity to be reached in 2016. However, further landfill expansion potential exists at the Badlands Landfill site. The Lamb Canyon Landfill has a remaining disposal capacity of 11.391 tons, which is estimated to be reached in 2018.See **Table 3.11-1** for information about the above-listed sites.

The California Integrated Waste Management Act (CIWMA), also known as Assembly Bill 939, requires every city and county in the State to divert from landfills at least 50 percent of the quantity of waste generated within their jurisdiction. The Legislature amended this statute in 2000, requiring jurisdictions to sustain their waste diversion efforts into the future. In 2004, the City's waste diversion rate was 60 percent, in compliance with Assembly Bill 939. (California Integrated Waste Management Board, 2007).

TABLE 3.11-1
CURRENT CAPACITY AND LIFESPAN OF EXISTING LANDFILLS LOCATED IN RIVERSIDE COUNTY

Landfill	Description	Current Remaining Capacity as of 6/2007 (tons)	Maximum Permitted Capacity (tons)	Estimated Close Date	Maximum Daily Load (tons/day)	Average Daily Load (tons/day)	2006 Annual Usage (tons)
Badlands Landfill[a]	East of Moreno Valley, 1,168.3 acres, of which 150 acres are permitted for waste disposal and 70 acres are permitted for excavation and stockpiling cover material and other ancillary activities.	8.289 million	15.237 million	2016	4,000	2,195	676,104
El Sobrante Landfill	East of Interstate 15 and Temescal Canyon Road to the south of the City of Corona and Cajalco Road at 10910 Dawson Canyon Road. The landfill encompasses 1,322 acres, of which 645 acres are permitted for waste disposal.	36.89 million (in-county)	48 million (in-county)[b]	2023[c]	10,000	3,590	1.106 million (in-county)
Lamb Canyon Landfill[a]	City of Beaumont and the City of San Jacinto at 16411 Lamb Canyon Road. The landfill encompasses approximately 1,109 acres, of which 144.6 acres are permitted for waste disposal	11.391 million	16.244 million	2018	3,000	2,030	637,000
	Total	**56.57 million**	**79.481 million**		**17,000**	**7,815**	**2.419 million**

[a] Further expansion potential at the site.
[b] 109 Million Tons Total
[c] Assumes diversion from Badlands and Lamb Canyon as they close.

SOURCE: City of Riverside, 2007

Energy

The City of Riverside is the primary distribution provider for electricity in the entire City. Riverside Public Utility (RPU) is a municipally-owned electrical utility and as such maintains electrical facilities and infrastructure within the City. Southern California Edison (SCE) serves electrical customers outside of the City limits. The RWQCP is located within the Riverside Public Utility service area.

Established in 1895, RPU's electrical system includes almost 90 miles of transmission lines and 1,200 miles of distribution lines. RPU's service area covers 80 square miles. It is the sixth largest municipal electric utility in California. RPU is responsible for the generation, transmission and distribution of electric power within the City. As of 2004-05 fiscal year, RPU had over 103,000 electrical meter connections and sold over 2,432 million of kilowatt-hours of energy (City of Riverside General Plan, 2007). RPU's peak power demand was 519 MW (megawatts) of electricity. Currently, all of RPU's energy from external sources comes through SCE's Vista Substation, which is located in Grand Terrace. RPU has a capacity limit of 557 megawatts (MW) from the Vista Substation. The Springs 40 MW peaking generation facility and the Riverside Energy Resource Center 98 MW peaking generation facility went online in June 2002 and June 2006, respectively. This provides an additional 138 MW for RPU. In combination with Vista Substation, these facilities provide a total of 695 MW of peak capacity.

As of the 2004/05 fiscal year, RPU's annual power delivery in the City was 1,962,000 megawatt hours (MWh). In the 2004-05 fiscal year, RPU residential customers used an annual average of 7,424 kilowatt hours per residential household.

As of 2006, the largest proportion (68 percent) of RPU's electrical power came from coal, followed by nuclear power (13 percent) and natural gas (3 percent). Approximately 13 percent of RPU's electrical power comes from renewable energy sources, including geothermal, wind, biomass/waste, small-scale hydroelectric and solar power. The City has established goals to increase renewable energy sources to meet 50 percent of the total demand by the year 2013.

The existing treatment plant has existing co-generation facilities fueled by methane generated in the treatment process. The facilities have a 3.2 MW capacity, reliant on the availability of gas from the treatment plant. These facilities currently meet most of the plant's energy demand.

Natural Gas

Southern California Gas Company (SCGC) provides natural gas service for residential, commercial, and industrial uses. Natural gas is a fossil fuel, indicating that it comes from the ground, similar to other hydrocarbons such as coal or oil. Most of the major natural gas transmission pipelines within the City are owned and operated by SCGC. The California Public Utilities Commission (CPUC) regulates SCGC, who is the default provider required by State law, for natural gas delivery to the City. SCGC has the capacity and resources to deliver gas except in certain situations that are noted in State law. SCGC is continuously expanding its network of gas pipelines to meet the needs of new commercial and residential developments in Southern California.

Telecommunication

The City of Riverside has already begun planning for electronic infrastructure needs and creating an environment that is attractive to its workforce and to the community as a whole. Several key programs that the City of Riverside has initiated include the City-wide WiFi project which offers City-wide broadband for free to residents and has a 2.4 Ghz monthly rate for Riverside Government use and a 4.9 Ghz portion for first responders.

3.11.3 Regulatory Framework

The following are related federal, state, and local regulations that relate to the proposed Regional Water Quality Control Plant expansion:

Federal Regulations

Clean Water Act

In 1972, the Federal Water Pollution Control Act (Clean Water Act) was amended to prohibit the discharge of pollutants to waters of the United States unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The Clean Water Act (CWA) focused on tracking point sources, primarily from waste water treatment facilities and industrial waste dischargers, and required implementation of control measures to minimize pollutant discharges. The CWA was amended again in 1987, adding Section 402(p), to provide a framework for regulating municipal and industrial storm water discharges. In November 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish application requirements for specific categories of industries, including construction projects that encompass greater than or equal to 5 acres of land. The Phase II Rule became final in December 1999, expanding regulated construction sites to those greater than or equal to 1 acre. The regulations require that storm water and non-storm water runoff associated with construction activity, which discharges either directly to surface waters or indirectly through municipal separate storm sewer systems (MS4s), must be regulated by an NPDES permit.

Title 40 of the Code of Federal Regulations Part 503

The federal biosolids regulations are contained in Title 40 of the Code of Federal Regulations Part 503 (40 CFR Part 503) as Standards for the Use or Disposal of Sewage Sludge. Known as the Part 503 Rule, or Part 503, these regulations govern the use and disposal of biosolids. Biosolids can be reused as fertilizer for crops (land application) or disposed either in a surface landfill or biosolids incinerator (USEPA, 1994). Part 503 permits are issued by the USEPA and are required for all biosolids generators. Part 503 requirements can be incorporated into the National Pollutant Discharge Elimination System (NPDES) permits that also are issued to publicly-owned treatment works, such as the RWQCP.

Part 503 classifies biosolids by pathogen concentration levels as either Class A, Class B, or sub-Class B biosolids. Class A biosolids have pathogen levels that have been reduced to below detectable limits. Class B biosolids meet adequate pathogen reduction requirements but still contain detectible levels of pathogens. Sub-class B biosolids do not meet adequate pathogen

reduction requirements. Biosolids that are to be land applied must contain metal concentrations that are below the Part 503 Table 1 ceiling limits. Biosolids are classified as exceptional quality (EQ) biosolids if metal concentrations are below the Part 503 Table 3 ceiling limits, a lower set of thresholds. Part 503 allows for EQ biosolids to be applied to land without regard to annual or cumulative loading limits.

State Regulations

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 Energy Action Plan II

The California Energy Action Plan II is the state's principal energy planning and policy document (California Energy Commission, 2005, 2008). 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.

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 (Public Resources Code [PRC], Division 30), enacted through Assembly Bill (AB) 939 and modified by subsequent legislation, required all California cities and counties to implement programs to reduce, recycle, and compost at least 50 percent of wastes by the year 2000 (PRC Section 41780). The state determines compliance with this mandate to "divert" 50 percent of generated waste (which includes both disposed and diverted waste) through a complex formula. This formula requires cities and counties to conduct empirical studies to establish a "base year" waste generation rate against which future diversion is measured.

California State Water Resource Control Board

In the State of California, the State Water Resources Control Board and nine Regional Water Quality Control Boards (RWQCB) are responsible for implementing the CWA and the State Porter-Cologne Water Quality Control Act.

The Porter-Cologne Water Quality Control Act Section 13000 directs each RWQCB to develop a Water Quality Control Plan (Basin Plan) for all areas within its region. The Basin Plan is the basis for each RWQCB's regulatory programs. The City of Riverside is located within the purview of the Santa Ana RWQCB (Region 8), and must comply with applicable elements of the region's Basin Plan, as well as the Porter-Cologne Water Quality Control Act.

State Water Resources Control Board Waste Discharge Requirements

In California, the application or beneficial reuse of biosolids must comply with the California Water Code (Section 13274) in addition to meeting the requirements specified in Part 503. To satisfy the CWC requirements, in July 2004, the SWRCB adopted Water Quality Order No. 2004-0012-DWQ (General Order) for general waste discharge requirements (WDRs) for the discharge of biosolids to land for use in agriculture, silviculture, horticulture, and reclamation activities. The General Order is intended to streamline the process for issuing WDRs for land application sites. The General Order applies to both the biosolids generators and appliers (SWRCB, 2008).

The General Order incorporates the minimum standards established by Part 503 and expands upon them to fulfill obligations to the California Water Code. The General Order includes additional provisions and requirements such as the following: threshold concentrations and loading limits for molybdenum; annual monitoring for pesticides, PCBs, and semi-VOCs; maximum moisture content of at least 50 percent for land applied biosolids; and requirements for incorporation of biosolids into the soil within 24 hours in arid areas.

Compliance with the General Order does not constitute compliance with Part 503 because the SWRCB is not delegated as a local authority for the Federal Biosolids Program. In addition, the General Order does not preclude local agencies from further prohibiting, restricting, or controlling the use of biosolids within their jurisdiction, as allowed by law (SWRCB, 2008).

Local Regulations

City of Riverside General Plan 2025

The Public Facility Element and Open Space Element of the City's General Plan include the following selected policies related to the proposed project (City of Riverside General Plan 2025, adopted November 2007):

Policy OS-10.3: Provide incentives such as structured water rates to encourage residential and business customers to use less water.

Policy OS-10.5: Establish standards for the use of reclaimed water for landscaping.

Policy PF 5.4: Implement more severe fines for dumping bio-solids into the City's sewer and storm drain system.

Policy PF-1.6: Examine creating a "gray water" ordinance which would provide incentives for new residential development to construct a gray water reclamation system. This system would keep water re-circulating in the home before going into the sewage system.

Policy PF-2.1: Expand the use of reclaimed water for irrigation and other applications.

Policy PF-3.1: Coordinate the demands of new development with the capacity of the wastewater system

Policy PF-3.3: Pursue improvements and upgrades to the City's wastewater collection facilities consistent with current master plans and the City's Capital Improvement Program.

Policy PF-3.4: Continue to investigate and carry out cost-effective methods for reducing stormwater flows into the wastewater system and the Santa Ana River.

Policy PF-4.2: Continue to cooperate in regional programs to implement the National Pollutant Discharge Elimination System Program.

Policy PF-4.3: Continue to routinely monitor and evaluate the effectiveness of the storm drain system and make adjustments as needed.

Policy PF-5.1: Develop innovative methods and strategies to reduce the amount of waste materials entering landfills. The City should aim to achieve 100% recycling citywide for both residential and non-residential development.

3.11.4 Thresholds of Significance

Several criteria were eliminated from further consideration and will not be discussed here. These impacts were considered but were found to be absent or not applicable to the project; therefore, no further discussion of these impacts is provided. Please refer to the Initial Study Checklist (**Appendix A**) for further clarification. For this analysis, the proposed project would result in significant impacts if the proposed project significantly impacted the following criterion.

- Would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, or
- Effect local and regional energy supplies such that additional electrical capacity is required.

3.11.5 Environmental Impact Assessment

Solid Waste

Impact 3.11-1: The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? (Less than Significant)

Proposed Project

The City is currently served by three landfills that have capacity that is anticipated to be exceeded from 2016 to 2023. These landfills will be available to serve the proposed project during

construction and operation. While the phases of the proposed expansion have been planned to occur through the year 2021, commensurate with the landfill capacity to be exceeded it is anticipated that new permits for landfill operations would be obtained or the City of Riverside would be required to look outside the County of Riverside for landfills with capacity to serve the City. The construction for the proposed project would be completed prior to the anticipated closure of the El Sobrante Landfill. As a result, solid waste generated from construction and operation would be accommodated by the City-serving landfills.

Demolition and Construction

Site clearing including demolition and grading activities would generate some solid waste materials such as asphalt, concrete, metal, soils and piping. Excavation activities for site preparation would generate approximately 134,350 cubic yards (cy) of excavated soils. All of the soils removed during excavation would be stockpiled and reused for site grading. An additional 17,000 cy soils would be imported for fill. The proposed project would not require the export of soils to the local landfill. However, demolition and construction of the new facilities would generate solid waste that would require the disposal at the local landfill. The proposed project would be required to comply with solid waste reduction and recycling of solid waste during project construction and operation to achieve the 50 percent landfill diversion rate required by AB 939. Compliance with AB 939 will reduce solid waste disposal needs resulting in a less than significant impact to local landfill capacity.

Operation

The expansion of the existing RWQCP would allow for the treatment of more wastewater in the future. As a result, the facility would produce more solid waste, which would require disposal. Currently, solids produced at the RWQCP are disposed of at the Rialto treatment facility. In the future, solids produced on-site would be sent off-site for conversion to pellets that would be used as a fuel source for a cement kiln. As a result, the solid waste produced by the project would not impact the local landfills. Therefore, impacts to landfills would be less than significant.

Significance: Less than significant

Maximum Buildout Scenario

Under this General Plan 2025 buildout scenario, the population projection would generate approximately 55.2 MGD of wastewater that would need to be treated at the RWQCP. Construction and operation of the RWQCP under this scenario would generate more solid waste than the proposed project due to the increased capacity and amount of waste being treated. However, compliance with AB 939 would reduce impacts to below a level of significance.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under this General Plan 2025 buildout scenario, the population projections would generate approximately 63.9 MGD of wastewater that would need to be treated at the RWQCP. Construction and operation of the RWQCP under this scenario would generate more solid waste

than the proposed project due to the larger operational footprint. However, compliance with AB 939 would reduce the impacts to below a level of significance.

Significance: Less than significant

Collection System

Construction activities associated with the future collection system upgrades could occur throughout the RWQCP's service area. The upgrade projects would likely generate solid waste from construction activities. Compliance with AB 939 would reduce the future impacts to below a level of significance.

Energy Demand

Impact 3.11-2: Implementation of the proposed project would result in an increase in energy consumption at the RWQCP. (Less than Significant)

The City of Riverside is the primary distribution provider for electricity in the entire City. RPU is a municipally-owned electrical utility and as such maintains electrical facilities and infrastructure within the City. The RWQCP is located within the RPU service area.

Operation of the proposed project would result in an increase in energy consumption at the RWQCP. The current energy consumption at the existing RWQCP is approximately 2,456 kilowatts (kW) per year for the current annual average measured daily flow of 33 mgd. The existing cogeneration facilities on site can generate up to 3.2 MW of power. Energy required to meet the existing demand is provided by the existing co-generation facilities on site. The new energy consuming facilities include the new headworks, primary clarifier, primary EQ, MBR, sludge thickener, acid digester, disinfection process, UV/Ozone unit and the WAS Thickeners. **Table 3.11-2** below identifies the future proposed facilities anticipated energy usage and in which year they will be in operation.

TABLE 3.11-2
PROPOSED PROJECT ENERGY REQUIREMENTS

Headworks	Additional kW Requirements
Primary Clarifier, Primary EQ, MBR, and Sludge Thickening	Additional 1,955 kW in year 2013; increase to 3,047 in year 2025
Acid Digester	Additional 186 kW in year 2013
Disinfection	Additional 8 kW in year 2020
UV/Ozone	Possible addition of 583 kW in year 2020
WAS Thickeners	Additional 34 kW in year 2027

SOURCE: Carollo Engineers, 2008

The proposed project would not increase the capacity of the existing cogeneration facilities. As gas production increases, the cogeneration facilities would increase energy production up to the design capacity of 3.2 MW. The proposed project would increase energy demand by up to 3.5

MW. With only 3.2 MW of existing power generation capacity on site, the additional 2.7 MW (2.4 MW + 3.5 MW - 3.2 MW = 2.7 MW) of the plant's entire energy demand would be accessed from the grid supplied by the City of Riverside Utilities Department. The additional energy requirement for the proposed project is consistent with the General Plan 2025. Therefore, the RPU has accounted for the future energy requirement as part of the forecasted growth model for the City. Impacts to energy demands would be less than significant.

Significance: Less than significant

Maximum Buildout Scenario

Under this General Plan 2025 buildout scenario, the population projection would generate approximately 55.2 mgd of wastewater that would need to be treated at the RWQCP. Construction and operation of the RWQCP under this scenario would require approximately 0.3 MW more energy than the proposed project due to the increased capacity and amount of wastewater requiring treatment. The additional energy demand would be minimal and would not result in a significant impact.

Significance: Less than significant

Maximum with PRD Buildout Scenario

Under this General Plan 2025 buildout scenario, the population projections would generate approximately 63.9 mgd of wastewater that would need to be treated at the RWQCP. Construction and operation of the RWQCP under this scenario would require approximately 1.3 MW more energy than the proposed project due to the increased capacity and amount of wastewater requiring treatment. The additional energy demand would be substantial. Implementation of this scenario may result in significant impacts on the RPU system. Additional capacity in the RPU system may be necessary prior to implementing this alternative. Once the necessary energy capacity is confirmed or constructed by RPU, this alternative would not result in a significant impact to energy demands.

Significance: Less than significant

Collection System

Construction activities associated with the future collection system upgrades could occur throughout the RWQCP's service area. The upgrade projects would not likely require the need for energy. New pump stations would also increase energy usage. The new collection system projects would accommodate additional flows generated by approved growth consistent with the General Plan. Therefore, impacts would be less than significant.

Cumulative Impacts

Impact 3.11-3: The proposed project would not result in adverse cumulative impacts to utilities. (Less than Significant)

The proposed project is the expansion of the existing RWQCP to accommodate the anticipated growth identified in the City's General Plan 2025. The proposed project expansion has been

incorporated into the General Plan and is necessary to accommodate the wastewater demands that are anticipated to result from cumulative projects being proposed in the City. Furthermore, each of the related cumulative projects would be required to obtain the necessary agreements with each public agency and utility company for service. In the event of a related project impact, implementation of mitigation measures for the respective related projects would ensure that any potential impact would be reduced to a less than significant level where feasible. The proposed project's contribution to cumulative impacts to utilities would not be cumulatively considerable.

Significance: Less than significant

References – Utilities and Service Systems

City of Riverside General Plan 2025 EIR, certified November 2007.

City of Riverside Wastewater Collection and Treatment Integrated Master Plan, Carollo Engineers, September 2006.

CHAPTER 4
Other CEQA Considerations

This chapter presents the evaluation of other types of environmental impacts as required by CEQA that are not covered within the other chapters of this PEIR. The other CEQA considerations include less than significant impacts, significant and unavoidable adverse impacts, significant irreversible impacts, and growth-inducing impacts.

4.1 Less Than Significant Impacts

The following topic areas were deemed less than significant based on the results of the Initial Study, which was made available for public review at the time of the NOP (see Appendix A).

Agricultural Resources- Would the project:

- 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?
- Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- 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?

According to the maps prepared for the Farmland Mapping and Monitoring Program of the California Resource Agency, the on-site soils are not prime, unique, or of statewide importance. In addition, according to the City of Riverside's General Plan EIR, 2007, no sites are zoned for agricultural use and no existing Williamson Act Contract lands would be affected by the proposed project. Therefore, no impact would occur to agricultural resources.

Mineral Resources – Would the project:

- Result in the loss of availability of a known mineral resource in an area classified or designated by the State that would be of value to the region or the residents of the State?
- 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?
- Be an incompatible land use located adjacent to a State classified or designated area or existing surface mine?
- Expose people or property to hazards from proposed, existing or abandoned quarries or mines?

The proposed project area is not classified by the City of Riverside General Plan 2025 Final PEIR as having significant mineral deposits and is not located near an important mineral resource recovery site. The proposed project would be located on land classified as Mineral Resource Zone 4 (MRZ-4) by the General Plan 2025. The MRZ-4 designation is defined as an area that has available geologic information that indicates that mineral deposits exist, however, the significance of the deposits are undetermined. In addition, the proposed project would occur within the boundary of the existing RWQCP site. Implementation of the proposed project would not result in the loss of availability of an important mineral resource or mineral resource recovery site. There would be no impact.

Population and Housing – Would the project:

- 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)?
- Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The proposed project would not build new homes or businesses and would not have a direct impact on population growth in the project area. Furthermore the proposed project would not displace any housing units or displace a substantial number of people. The proposed project would expand the existing RWQCP to a capacity that is consistent with the City of Riverside General Plan's population projections. As a result, the proposed project would accommodate projected growth planned for under the General Plan 2025 and previously analyzed in the General Plan 2025 Final PEIR. No impact would occur.

Public Services – Would the project 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:

The proposed project is not a population-generating land use; rather the RWQCP expansion would serve the planned and anticipated growth of the region forecasted by the Riverside General Plan 2025. Therefore, the proposed project would not result in a short-term nor long-term increase for police, fire, or other emergency services nor would the project result in substantial adverse impacts to local schools, parks, hospitals, or other public facilities. There would be no impact.

Recreation – Would the project:

- 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?
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The proposed project would be limited to the expansion of the RWQCP. The project would not result in impacts to existing neighborhood or regional parks or any other recreational facilities. The proposed project would not contribute towards population growth. Though expansion of the RWQCP would add two more employees, they are likely to come from within the Riverside area. Therefore, there would be no associated increase in parks usage. In addition, the project would not include recreational facilities or require the expansion of existing facilities that would cause an impact on the environment. There would be no impact.

4.2 Significant Unavoidable Impacts

Pursuant to Section 15126.2(b) of the *CEQA Guidelines*, this section identifies significant impacts that would not be avoided, even with the implementation of feasible mitigation measures. The final determination of significance of impacts and of the feasibility of mitigation measures will be made by the City of Riverside's City Council as part of their certification action for the EIR. Sections 3.1 through 3.11 of this EIR provide a comprehensive identification of the project's potentially significant adverse environmental effects and any necessary mitigation measures, as well as the level of significance both before and after mitigation. A summary of the environmental impacts and mitigation measures is contained in the Executive Summary of this EIR. The proposed project does not result in any impacts that are Significant Unavoidable.

4.3 Significant Irreversible Environmental Changes

In general, the *CEQA Guidelines* require an analysis of the consumption of nonrenewable resources by a proposed project, as well as a discussion concerning the extent to which the project commits future generations to similar uses of nonrenewable resources. In addition, CEQA requires evaluation of irreversible environmental damage resulting from an accident associated with the proposed project. According to the *CEQA Guidelines*,

> [u]ses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. (CEQA Guidelines, CCR, Title 14, Chapter 3, Article 9 §15126(c), 2006).

As such, a project would result in significant irreversible environmental changes if any of the following would occur:

- The primary and secondary impacts would generally commit future generations to similar uses;
- The project would involve a large commitment of nonrenewable resources;
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or

- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Both construction and operation of the proposed project would lead to the consumption of limited, slowly renewable, and nonrenewable resources, as well as commit such resources to uses that future generations would be unable to reverse. The proposed project would require the commitment of resources that include: (1) building materials; (2) fuel (including energy generation) and operational materials/resources; and (3) the transportation of goods and people to and from the proposed project site. Construction of the project would also require resources that include the following construction supplies: certain types of lumber and other forest products; aggregate materials used in concrete and asphalt such as sand, gravel and stone; metals such as steel; petrochemical construction materials such as plastics; and water. Fossil fuels such as gasoline and oil would also be consumed in the use of construction vehicles and equipment. Most of the energy consumed by the plant would be generated on site through the existing co-generation facilities. However, as inflow increases energy demands will exceed the cogeneration system's capacity, requiring additional energy supplied from the grid.

The resources that would be committed during operation of the project would be similar to those currently consumed within the City of Riverside and in the vicinity of the project site. These would include energy resources such as electricity and natural gas, petroleum-based fuels required for vehicle-trips, fossil fuels, and water. Fossil fuels would represent the primary energy source associated with both construction and ongoing operation of the project for demands greater than the co-generation facility capacity.

In summary, construction and operation of the project would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would limit the availability of these particular resource quantities for future generations or for other uses during the life of the project. However, continued use of such resources would be of a relatively small scale and would be consistent with regional and local growth forecasts in the area. Furthermore, the loss of such resources would not be highly accelerated as compared to existing conditions. As such, although irreversible environmental changes would result from the project, such changes would not be considered significant.

4.4 Growth Inducing Impacts

Pursuant to Section 15126.2(d) of the *CEQA Guidelines*, an EIR must address whether a project will directly or indirectly foster growth. Section 15126.2(d) reads as follows:

> [An EIR shall] discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects 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 population may further 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's potential to induce growth does not automatically mean that it would result in growth. The potential growth-inducing effect is regulated by local governments in California through the development, adoption, and implementation of land use plans and policies intended to avoid, minimize, or otherwise manage the potential for growth inducement or manage the pressure to induce growth created by projects both individually or cumulatively. Growth occurs through capital investment in new economic opportunities from both public and private entities. The nature of the resulting growth (i.e., the location, size, and type of the development) is also typically the result of numerous factors including local government planning, availability of public services, natural resources, and economic conditions, as well as local political and environmental concerns. Consequently, these factors can have an important role in determining the extent of a project's potential growth-inducing impacts.

As discussed below, this analysis evaluates whether the proposed project would directly or indirectly induce economic, population, or housing growth in the surrounding environment.

Direct Growth Inducing Impacts in the Surrounding Environment

The proposed project would not significantly induce growth in the surrounding area. A project would directly induce growth if it would remove barriers to population growth such as a change to a jurisdiction's general plan and zoning ordinance, or extensions of utilities or roadways well beyond existing development limits, which facilitates new growth. A project would directly induce growth if it would remove barriers to population growth such as a change to a jurisdiction's general plan and zoning ordinance, which allows new residential development to occur. The construction of the proposed project is consistent with City's General Plan 2025. No residential development is proposed by the project and therefore no direct residential population growth would be created by the proposed development.

The proposed project would expand the RWQCP to a capacity that is consistent with the City of Riverside General Plan's population projections and planned growth. As a result, the proposed project would accommodate projected growth planned for under the General Plan 2025 and previously analyzed in the General Plan 2025 Final PEIR.

Indirect Growth Inducing Impacts in the Surrounding Environment

The proposed project would increase the RWQCP's operating capacity up to 52.2 mgd by year 2025. The capacity increase of 12 mgd would be driven by increasing wastewater inflows and the rate of forecasted development in the City and Sphere of Influence (SOI) as a result of the General Plan growth projections. Because wastewater infrastructure is recognized as a constraint to continued population growth in the City and SOI, the additional capacity provided by the proposed project would be considered as removing an existing obstacle to growth. Growth-

inducement within the City has been addressed in General Plan 2025 FPEIR approved in November 2007. Since the purpose of a General Plan is to act as the "blueprint" for development, urbanization resulting in population growth is the ultimate impact of the adoption of the General Plan. This increase in urbanization will require the increase in infrastructure to serve development, which will indirectly remove obstacles to population growth in some areas, especially in the SOI areas. According to the City's General Plan 2025 estimates, population is projected to increase to 346,867 within the City limits, and 383,077 within the entire City and SOI by 2025. This population increase would equate to approximately 115,622 households within the City limits, and approximately 127,692 households throughout the City and SOI. The General Plan was designed to accommodate anticipated growth by providing adequate services, access, and infrastructure including the anticipation of the RWQCP expansion to accommodate the forecasted growth.

The General Plan 2025 PEIR was certified in November 2007 and included the adoption of a Statement of Overriding Considerations for the unavoidable significant impacts associated with the implementation of the General Plan. The unavoidable impacts identified in the General Plan EIR are disclosed below and would be accommodated as a consequence of implementing the propose project. As a result, the proposed project would accommodate a critical infrastructure component of the General Plan and therefore would have an indirect impact which is identified as a significant and unavoidable effect of the proposed project for which no mitigation is available.

Unavoidable Potentially Significant Impacts of the General Plan 2025

Based on the data and conclusions of the Final Program EIR for the General Plan 2025, the City of Riverside found that the General Plan will result in the following potentially significant impacts that cannot be fully mitigated or avoided:

Agricultural Resources

1. Convert designated farmlands or agriculture soils to non-agriculture uses;
2. Conflict with existing zoning for agriculture;
3. Result in indirect impacts from surrounding land uses to land subject to Proposition R and Measure C; and
4. Changes related to non-conforming agricultural uses.

Air Quality

1. Conflict with or violate air quality standards;
2. Contribute to an increase in criteria pollutants and GHG emissions; and
3. Expose sensitive receptors to substantial pollutant concentrations.

Hydrology

1. Flooding resulting from the failure of a dam or levee; and
2. Cumulative water quality impacts.

Noise

1. Exceed General Plan standards for noise due to long-term roadway and freeway noise exposure to existing sensitive land uses;
2. Ambient noise increases from increased traffic; and
3. Ground-borne noise impacts to existing sensitive receptors located along rail lines.

Population and Housing

1. Induce population growth.

Recreation

1. Cumulative deficiency in existing neighborhood and community parks.

Transportation/Traffic

1. Level of Service intersection and roadway linkage impacts; and
2. Substantial increase from existing traffic load and capacity.

Utilities

1. Cumulative deficiency in landfill capacity if no expansion of landfills occurs.

CHAPTER 5
Alternatives

5.1 Introduction and Overview

The California Environmental Quality Act (CEQA) and the *CEQA Guidelines* (Section 15126.6) dictate that an EIR must describe a reasonable range of alternatives to a proposed project that could feasibly attain most of the basic project objectives, and would avoid or substantially lessen any of the proposed project's significant effects. Additionally, a No Project Alternative must be analyzed. An EIR must evaluate the comparative merits of the alternatives.

The range of alternatives in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasonable choice. An EIR need not consider every conceivable alternative to a project. Rather, the alternatives must be limited to ones that meet the basic project objectives (though some objectives may be compromised with an alternative), are feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the project. "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

The EIR must briefly describe the rationale for selection and rejection of alternatives and the information the Lead Agency relied on when making the selection. It also should identify any alternatives considered, but rejected, as infeasible by the Lead Agency during the scoping process and briefly explain the reasons for the exclusion. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects.

This chapter identifies a No Project Alternative, as required under CEQA and a reduced capacity alternative.

5.2 Project Objectives

As discussed in Chapter 2, Project Description, the project objectives are as follows:

- Produce a higher quality of treated water;
- Upgrade the RWQCP to meet the goals and forecasted growth of the General Plan 2025;
- Provide tertiary treatment to projected wastewater flows to meet RWQCB discharge permit requirements; and
- Modernize the RWQCP to meet current safety and water quality standards.

5.3 Factors Considered in the Selection of Alternatives

The alternatives addressed in this EIR were selected in consideration of one or more of the following factors:

- The extent to which the alternative would accomplish most of the basic objectives of the project;
- The extent to which the alternative would avoid or lessen any of the identified significant environmental effects of the project;
- The feasibility of the alternative, taking into account site suitability, economic viability, availability of infrastructure, general plan consistency, and consistency with other applicable plans and regulatory limitations;
- The appropriateness of the alternative in contributing to a "reasonable range" of alternatives necessary to permit a reasoned choice; and
- The requirement of the *CEQA Guidelines* to consider a "no project" alternative; and to identify an "environmentally superior" alternative in addition to the no-project alternative (*CEQA Guidelines* Section 15126.6(e)).

Alternatives are ultimately compared to the goals of the project and of the City.

5.4 Selection of Alternatives

An EIR must briefly describe the rationale for selection and rejection of alternatives. The lead agency may make an initial determination as to which alternatives are feasible and which are infeasible, therefore providing merit to in-depth consideration for those selected for additional analysis. After consideration of various alternatives, the following were selected for evaluation: the No Project and 40 Percent Reduction from Maximum Allowable Density.

As noted earlier, the purpose of alternatives is to explore ways to avoid or substantially lessen any of the significant effects of the proposed project. As demonstrated in Chapter 3, all identified environmental impacts associated with implementation of the proposed project are less than significant or less than significant with mitigation. The following is a list of significant impacts requiring mitigation measures. The alternatives are expected to reduce these impacts from impacts that are already less than significant impacts, and may require fewer or reduced mitigation measures.

Significant Project Impacts Reduced to Less than Significant with Mitigation

- Aesthetics (no mitigation required)
- Air Quality (no mitigation required)
- Biological Resources
- Cultural Resources
- Geology (no mitigation required)
- Hazards and Hazardous Materials

- Hydrology
- Land Use (no mitigation required)
- Noise
- Transportation and Traffic
- Utilities and Service Systems (no mitigation required)

Significant Project Impacts that Cannot be Mitigated

There are no impacts associated with the proposed project or buildout scenarios that cannot be mitigated to below a level of significance.

5.5 Alternatives Eliminated from Further Consideration

An EIR must briefly describe the rationale for selection and rejection of alternatives. The Lead Agency may make an initial determination as to which alternatives are potentially feasible and, therefore, merit in-depth consideration, and which are clearly infeasible. Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, need not be considered (*CEQA Guidelines*, Section 15126.6(f)(3)). This section identifies alternatives considered by the Lead Agency, but rejected as infeasible, and provides a brief explanation of the reasons for their exclusion. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects (*CEQA Guidelines*, Section 15126.6(c)).

Alternative Site

The existing RWQCP is located on an approximately 106-acre site located at 5950 Acorn Street in the City of Riverside. An alternative site for the project need not be considered when its implementation is “remote and speculative” such as the site being out of the purview of the lead agency. This Alternative would require the City to acquire a large enough site to construct a 12 mgd satellite wastewater treatment plant. The property for the site would need to be compliant with the Public Facility/Industrial land use designation and the operation of the new facility would need to be compliant with the surrounding land uses. In addition, the RWQCP and the new 12 mgd site would need infrastructure to connect the two plants for optimal efficiency in treating the forecasted sewer demands. For this project, there are no readily available sites within the control of the City which would be able to accommodate a 12 mgd wastewater treatment plant. Given the size and nature of the proposed project and the project objectives, locating a portion of the proposed project on another site would be impractical and infeasible since the existing RWQCP site could accommodate the expansion. Furthermore, it would be difficult to proceed within a reasonably similar timeframe for project completion since the City would be required to find the property and ultimately negotiate the sale of the property before the design of the 12 mgd site could begin. It is anticipated that potential environmental impacts would be increased because the new site would require the clearing, grading and construction of the plant on a site with potential resources that are unknown until a site is determined, compared to the RWQCP site, which is already developed. In addition, the site would require infrastructure impacts along roadways in order for the two sites to operate in series.

40 Percent Reduction from Maximum Allowable Density Alternative

The 40 Percent Reduction Alternative would impose a 40 percent reduction citywide in the maximum allowable densities of all residential land uses in the General Plan planning area except for Agricultural (A), Agricultural/Rural Residential (A/RR), and the Hillside Residential (HR) which are already at very low densities. The maximum intensities of all commercial, industrial, office and public facilities land uses are also presumed to be reduced by 40 percent. This would assume the ultimate flow to the RWQCP would be approximately 47.2 mgd. This alternative was described in the City's General Plan. It has been eliminated from further consideration in this PEIR since the reduced growth alternative was not adopted as the preferred alternative of the General Plan. Constructing a treatment plant with insufficient treatment capacity would not meet the project objective of providing treatment capacity for approved growth in the service area.

5.6 Alternatives Analysis

For the project alternatives identified, a general description of the alternative is presented and a qualitative discussion of its comparative environmental impacts is provided. As provided in Section 15126.6(d) of the *CEQA Guidelines*, the significant effects of each alternative are identified in less detail than the proposed project. A summary comparison of impacts of the alternatives considered herein and the proposed project is included in **Table 5-1**.

TABLE 5-1
ALTERNATIVES – SUMMARY COMPARISON OF IMPACTS

Issue Area	Proposed Project	No Project Alternative (Alt 1)[a]	Increased Mixed Use (Alt 2)[a]
Aesthetics	LTS	Decreased	Similar
Air Quality	LTS	Decreased	Increased
Biological Resources	LTSWM	Decreased	Similar
Cultural Resources	LTSWM	Decreased	Similar
Geology and Soils	LTS	Decreased	Similar
Hazards/Hazardous Materials	LTSWM	Decreased	Similar
Hydrology and Water Quality	LTS	Increased	Similar
Land Uses	LTS	Decreased	Increased
Noise	LTSWM	Decreased	Similar
Transportation	LTSWM	Decreased	Similar
Utilities	LTS	Decreased	Similar

[a] Impacts compared to those of proposed project.

LTS = Less than Significant, LTSWM = Less than Significant with Mitigation, NI – No Impact

Alternative 1: No Project Alternative

The *CEQA Guidelines* (Section 15126.6(e)) provides the following guidance on the No Project Alternative, "for …a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved." For purposes of this analysis, the No Project Alternative assumes that additional treatment capacity would not be constructed. Since the City of Riverside operates the treatment plant, the No Project Alternative does not foresee alternate Master Plans or developers proceeding with a different project. It is not reasonable to assume that the No Project Alternative could include construction of a different treatment plant in a different location. The No Project Alternative assumes that the existing condition would remain in place until the City approves a treatment upgrade similar to the alternatives considered in this EIR.

Environmental Impacts

Under the No Project Alternative, the project site and the existing RWQCP would remain in its current condition.

Air Quality: There would be no construction-related emissions (from construction activities, vehicles and equipment), and no new operational or traffic emissions (associated with increased traffic). Therefore, no impact to air quality would occur as a result of this alternative. Impacts would be reduced compared to the proposed project.

Biological Resources: The project site would remain unchanged, and nothing would be removed or altered. Additional site grading would not occur. Impacts would be reduced compared to the proposed project.

Cultural Resources: Under the No Project Alternative, no grading or excavation activities would occur that could unearth cultural resources. Under this alternative, there would be no changes to the site and thus no impact to cultural resources would occur, eliminating any potential project impacts.

Geology: No grading would occur at the project site. The site would continue to be exposed to existing geological risks, but, because the site would remain unaltered under this alternative, no additional people or property would be exposed to potential geology risk. The No Project Alternative would result in a less than significant impact related to the exposure of people and structures to geologic hazards. Impacts would be reduced.

Hazards and Hazardous Materials: The site would remain in its present condition. Under the No Project Alternative, site operations would continue to result in the operation of the RWQCP, which includes the handling, storage and usage of hazardous materials. However, the No Project Alternative would not require additional hazardous materials to the project site and, therefore, is considered to have reduced hazardous materials impacts as compared to the proposed project. Overall, project impacts would be reduced.

Hydrology and Water Quality: Existing storm water runoff drainage patterns and volumes would remain unchanged. No potential impacts to water quality, such as new point and non-point source discharges, resulting from construction activities or subsequent operations would occur. Under this Alternative the storm water runoff would continue to be conveyed into the plant for treatment. The discharge water quality would not improve under the No Project Alternative and could decrease if the system capacity is exceeded. In addition, without collection system upgrades, the use of septic systems may increase and existing sewers could fail due to lack of appropriate upgrades. Therefore the No Project Alternative would result in increased water quality impacts compared to the proposed project.

Land Use and Planning: The No Project Alternative would not result in a change to the existing condition. Because no change to the existing land use or land use plans and policies related to the project site would occur, this alternative would have no impact on land use at the site or in the vicinity. Potential project related construction impacts would be reduced.

Noise: The No Project Alternative would not result in any change to existing ambient noise levels and would introduce no new source of noise. Because no additional construction or industrial related operations would occur, and because traffic related to the project site would remain the same, traffic-related noise attributable to the project site would also remain unchanged. This alternative would result in no impact related to noise at or in the vicinity of the project site. Impacts would be reduced and the proposed project construction-phase impacts would not occur.

Transportation/Traffic: The project-related increase in vehicle trips on the surrounding roadway network from proposed project construction and operation would not occur. The changes in traffic patterns from proposed project operations would not occur. Therefore, the No Project Alternative is considered to have fewer impacts regarding traffic and transportation as compared to the proposed project.

Utilities: No increase on electricity usage and the demands on solid waste facilities would occur. As a result, the No Project Alternative would reduced impacts compared to the proposed project.

Conclusion

The No Project Alternative would avoid most environmental impacts associated with the construction and operation of the proposed project. However, the No Project Alternative would result in greater impacts to water quality and would not meet any of the project objectives. The operating capacity of the RWQCP would remain at 40 mgd and therefore would not provide the City with capacity to accommodate the wastewater associated with the forecasted growth in the City's General Plan.

Alternative 2: Increased Mixed Use Alternative

The Increased Mixed Use Alternative would increase the allowable density of mixed uses along the "L" Corridor (along Magnolia Avenue and University Avenue) by 25 percent over the proposed project under the Typical Development Scenario. The Increased Mixed Use Alternative

would result in population increases of 12,066 from the proposed project and 13.7 million square feet of additional development. This additional development would require addition treatment capacity of 1.17 mgd more than the proposed project capacity of 52.2, for a total capacity of 53.37 mgd.

Environmental Impacts

Aesthetics: This Alternative would slightly increase the building footprint on the project site. However, the capacity increase would be accommodated with the proposed project facilities within the treatment plant boundaries. Even with a slightly larger building footprint, overall impacts would be similar.

Air Quality: This Alternative would result in similar construction and slightly larger operational emissions. Since the operational size of the plant under this Alternative would be slightly larger it is anticipated that energy demand and air emissions would be greater to those of the proposed project.

Biological Resources: As with the proposed project, the Increased Mixed Use Alternative would result in the same area of general disturbance. Both the proposed project and the Increased Mixed Use Alternative would be consistent with the Western Riverside County MSHCP. As a result, impacts are anticipated to be the same as the proposed project.

Cultural Resources: This Alternative would still result in excavation and/or grading and clearance of the project site to accommodate construction of the RWQCP expansion/upgrade. The configuration of the plants components and buildings would be similar to the proposed project. Thus, the Increased Mixed Use Alternative would have the same potential impacts as the proposed project and would require the same mitigation measures.

Geology: The geological formation, seismic, and soils conditions potentially affecting development under the Increased Mixed Use Alternative would be essentially the same as for the proposed project. All geological related impacts would be the same as the proposed project. This Alternative would have similar impacts as the proposed project and would require the same compliance with CBC.

Hazards and Hazardous Materials: Under the Increased Mixed Use Alternative, hazardous materials would still be used on both a short-term basis (i.e., during construction) and in the long-term through the use and storage of hazardous materials by the RWQCP. Similar to the proposed project, this Alternative would require mitigation measures to reduce the impacts to below a level of significance. This Alternative is considered to have similar hazardous materials impacts as compared to the proposed project.

Hydrology and Water Quality: The Increased Mixed Use Alternative would result in the installation of a similar amount of impervious surface area as compared to the proposed project The configuration and drainage of the project site would remain unchanged. Treatment upgrades for discharge water would be similar. Therefore, impacts to hydrology and water quality would be similar to the proposed project.

Land Use and Planning: This Alternative would conflict with the approved General Plan, since the City did not approve this alternative. As a result, the Increased Mixed Use Alternative would accommodate more growth than the General Plan has approved. This would be a new impact of the Alternative not experienced by the proposed project.

Noise: The Increased Mixed Use Alternative would have similar construction noise impacts as the proposed project. This alternative would require mitigation for the construction phase to assure that no significant noise impacts would occur to any sensitive receptors. The Alternative would have similar operational noise impacts as the proposed project. Overall, noise impacts would be similar to the proposed project.

Transportation/Traffic: The Increased Mixed Use Alternative would result in similar trips to the project site during construction and operation. The slight increase in treatment capacity would slightly increase solids haul trips. However, the increase would be small compared to the overall volume. Impacts to traffic and transportation would be similar to the proposed project.

Utilities and Service Systems: As with the proposed project, the Increased Mixed Use Alternative would have minimal effect on utilities and service systems within the service area. Impacts would be similar to the proposed project.

Conclusion

The Increased Mixed use Alternative would result in slightly greater impacts to air quality and land use. However, the Alternative would meet most of the project objectives. However, the operating capacity of the RWQCP would be greater than needed to accommodate the approved growth rate in the City's General Plan. This would result in a conflict with the General Plan.

Environmentally Superior Alternative

An EIR must identify the environmentally superior alternative. In addition, the *CEQA Guidelines* (Section 15126.6(e)(2)) require that, if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. The No Project Alternative would result in the least environmental impacts from construction. However, the proposed project would increase discharge water quality, upgrade treatment facilities to better control air emissions, and reduce risks of wastewater spills due to failure of older equipment. The two Build Out Alternatives and Increased Mixed Use Alternative would result in greater energy demand and would emit greater volumes of air pollutants due to the increased treatment requirements. If the higher wastewater flows did not materialize, the additional treatment capacity would be unnecessary. Therefore, the proposed project would have the fewest impacts and would be the environmentally superior alternative. A summary comparison of the potential impacts associated with the alternatives and the proposed project is provided in Table 5-1 above.

CHAPTER 6

Preparers, Organizations and Persons Consulted

6.1 Preparers

City of Riverside

Lead Agency, City of Riverside

Warren Huang, Public Works

Consultants to the City

Environmental Science Associates

Tom Barnes, Project Director
Kevin Smith, Project Manager
Lauren Campbell, Associate II and Deputy Project Manager
Christa Hudson, Senior Associate I
Madeline Bray, Associate I
Jason Nielsen, Graphics
Linda Uehara, Graphics
Gus JaFolla, Publishing Coordination

Organizations and Persons Consulted

Rodriguez, Joe, Personal communication with Joe Rodriguez, Federal Aviation Administration, August 7, 2006

Appendix A

Notice of Preparation of Environmental Impact Report/ Initial Study/Comment Letters

ESA

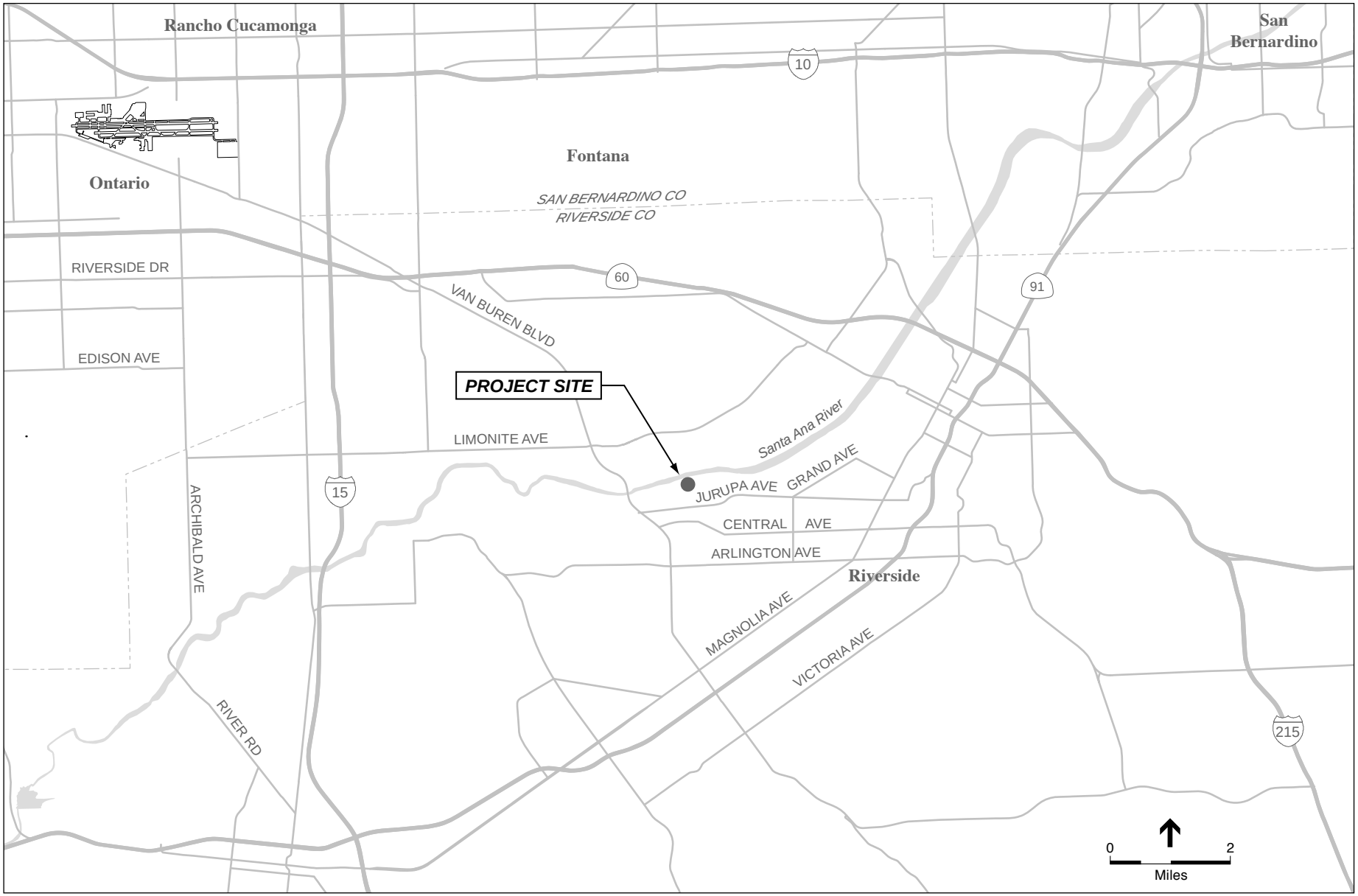
ENVIRONMENTAL CHECKLIST

Initial Study

1. Project Title:	City of Riverside's Integrated Master Plan for Wastewater Collection and Treatment Facilities
2. Lead Agency Name and Address:	City of Riverside
3. Contact Person and Phone Number:	Sandy Caldwell City of Riverside, Public Works Department 3900 Main Street Riverside, CA 92522 (951) 826-5348
4. Project Location:	The City of Riverside-Regional Water Quality Control Plant is located at 5950 Acorn Street in Riverside, California (**Figure 1**).
5. Project Sponsor's Name and Address:	City of Riverside, Public Works Department
6. General Plan Designation(s):	Public Facilities/Institutional
7. Zoning Designation(s):	Industrial

8. Description of Project: The City of Riverside's Sewage System Division is responsible for collection and treatment of wastewater flows generated within the City of Riverside and the adjacent communities of Jurupa, Rubidoux, Edgemont, and Highgrove. The City's Regional Water Quality Control Plant (RWQCP) provides primary through tertiary treatment at a rated capacity of 40 million gallons per day (mgd). There are currently 107 employees that operate and maintain the RWQCP. The existing site plan, which includes a list of facilities, is shown in **Figure 2** on page 5. The approximate square footage of the major facilities from Figure 2 are shown in **Table 1** below.

In addition to the facilities listed in Table 1, there are three outdoor storage areas. Two of these areas are used to store miscellaneous parts and equipment that are used throughout the plant. One of these two areas is located adjacent to VanBuren Boulevard in the southwest corner of the site (approximately 40,000 square feet). This area is visible from VanBuren Boulevard. The other area is southwest of the chemical building shown in Figure 2 (approximately 1,000 square feet). This area is screened from public view. The third storage area is located in the open area northwest of the Plant 1 (approximately 50,000 square feet). This area is screened from the public and is used for storage of green waste and materials for plant improvements (asphalt, etc.). This area is located at the site of the proposed Plant 1 Primary Treatment expansion, and it will be relocated to the northeast during construction. Existing access to the site is through Acorn Street. There is also a second access point off of VanBuren Boulevard, but access through this location is controlled by a locked gate. These access points are not expected to change.



SOURCE: ESA

City of Riverside . 206047

Figure 1
Vicinity Map

TABLE 1
EXISTING FACILITIES

List of Existing Facilities	Approximate Total Square Footage of Existing Facilities
Headworks	8,200
Power Building	800
Plant 1 Primary Clarifiers	30,200
Maintenance Buildings	18,400
Warehouse	5,152
Administration	19,300
Digester Total	28,214
Boiler Building	1,400
Cogeneration	22,900
Solids Handling Facilities	17,281
Chemical Building	13,700
Misc. Building	860
Plant 2 Primary Clarifiers	31,416
Plant 2 Aeration Basins	75,100
Plant 2 Secondary Clarifiers	42,254
Plant 1 Aeration Basins	40,000
Plant 1 Secondary Clarifiers	40,100
Tertiary Filter Building	46,400
Chlorine Contact Basin #2	16,600
Chlorine Contact Basin #3	27,800
Old Sulfur Dichloride Building	2,000
Backwash ponds	10,000
Backwash Storage Tanks	5,655
Equalization Basins	210,800
Storage Building	4,400
Sludge Beds	443,800
Existing Unused Structures	42,724
Existing Employee and Visitor Parking	109 Spaces

SOURCE: City of Riverside

The existing site generally slopes down from the south and east to the north and west, with about 70 percent of the site gently sloping. Portions of the site consist of some fairly steep slopes, with the overall elevation change on the site of about 60 feet from high point to low point. The total site area is approximately 106 acres, of which approximately 70% is currently developed.

The City's updated General Plan (the "General Plan 2025" program) was adopted in November 2007. The General Plan update considers three development scenarios for the planning area and the development scenarios respective population forecasts. The planning

area includes the City of Riverside and its Sphere of Influence. The three development scenarios are as follows: 1) Typical; 2) Maximum; and 3) Maximum plus Planned Residential Development (PRD). In accordance with the forecasted population growth in the City of Riverside (City of Riverside's General Plan 2025), the anticipated growth in the region by year 2025 would require the RWQCP to treat up to approximately 45.5 mgd of wastewater based on the population projections. This volume is above the existing RWQCP capacity of 40 mgd. However, during the RWQCP planning process the daily flows from the past six years were analyzed and a 90-percent confidence interval was calculated for the future flows for the year 2025 (A 90-percent confidence interval means that based on the historical flow data, there is a 90-percent chance of the future flows falling within a specific range in the year 2025). The calculation resulted in future flows approximately ranging between 47.3 and 52.2 mgd by the year 2025. As a result, the Program Environment Impact Report (PEIR) will analyze the conservative maximum flow projection of 52.2 mgd. It is anticipated that this scenario would increase plant staffing from 107 to 109 employees.

There are several factors that could impact the actual RWQCP flows including: economic conditions, actual growth rates, water conservation, widespread use of septic systems, and construction of supplemental wastewater treatment facilities at alternate locations. However, the PEIR will conduct a project-level analysis for the construction and operation of a 52.2 mgd capacity RWQCP under the Typical development scenario and would provide a programmatic-level analysis for the construction and operation of a 55.2 mgd capacity RWQCP under the Maximum development scenario and a 63.9 mgd capacity RWQCP under the PRD scenario. As seen in **Table 2**, the General Plan 2025 projects the following population and associated wastewater generation:

TABLE 2
ASSUMED POPULATION AND SEWER GENERATION RATES PER DEVELOPMENT SCENARIOS

	General Plan Development Scenario: Approximate Population			General Plan Development Scenario: Approximate Wastewater Generation (mgd)		
Development Area	**Typical**	**Maximum**	**Maximum + PRD**	**Typical**	**Maximum**	**Maximum + PRD**
City of Riverside	358,612	458,900	548,957	34.6	44.3	53.0
Community Service Districts (CSDs)				10.9	10.9	10.9
Total (City + CSDs)				45.5	55.2	63.9

SOURCE: City of Riverside General Plan 2025, November 2007

The following components of the 52.2 mgd capacity RWQCP, which would be constructed within the plant's existing footprint, would be required to be upgraded to accommodate the future wastewater demands and will be analyzed for environmental impacts at a project specific level (**Figure 3** on page 6):

Legend

- Headworks
- Primary Treatment Facilities
- Secondary Treatment Facilities
- Tertiary Treatment Facilities
- Disinfection
- Equalization Ponds
- Solids Handling Facilities
- Cogeneration Building
- Waste Lagoons
- Supporting Facilities

KEY

1. Headworks
2. Biofilter
3. Primary Sedimentation Basins for Plant 1
4. Primary Sedimentation Basins for Plant 2
5. Secondary Sedimentation Basins - Plant 1 (Abandoned)
6. Secondary Sedimentation Basins - Plant 2
7. Chlorine Contact Basins
8. Chlorine Injection Structure (Abandoned)
9. Waste Backwash Lagoons
10. Tertiary Filters
11. Dissolved Air Flotation Thickeners
12. Digesters
13. Sludge Hopper Building
14. Caustic Soda Feed Pump Station (Abandoned)
15. Combined Aeration Basin Distribution Structure
16. Maintenance/Storage Building
17. Pump Station
18. RAS Distribution Structure
19. Primary Effluent Distribution Structure
20. Equalization Distribution Structure
21. Distribution Structure
22. Trickling Filter Effluent Metering Structure
23. Solids Metering Structure
24. Final Effluent Metering Structure
25. Dewatering Flow Metering and Sampling Structure
26. Distribution Box 2 (Abandoned)
27. Junction Box
28. Grit Storage (Abandoned)
29. Junction Structure
30. Parshall Flume
31. Transformer
32. Electrical Pad
33. Motor Control Center, Operations Lab and Pump Station
34. Boiler 1 and Pump Station 9
35. Dechlorination Building
36. Digester Control Building and Pump Station
37. Digester Control Building
38. New Blower Building
39. Sewer Line Maintenance Building
40. Bioassay Studies Building
41. Office Maintenance Building
42. Landscape Maintenance Storage Building
43. Indian Rocks Reserve Area
44. Storage
45. Sampling Station
46. Equalization Ponds
47. Aeration Basins Plant 2
48. Aeration Basins Plant 1
49. Secondary Sedimentation Basin, Plant 1
50. Cogeneration
51. Belt Press Building
52. Storage/Electrical Shop
53. Maintenance Building
54. Chemical Building
55. Backwash Storage Tank
56. Lab/Administration Building
57. Old Administration Building

SOURCE: Carollo Engineers

City of Riverside . 206047

Figure 2

Existing Facilities

Key

1 New Headworks
2 Biofilters
3 Plant 1 New Primary Clarifiers
4 Primary Sludge Pump Station
5 Primary Effluent Equalization Basins
6 Plant 1 Aeration/Anoxic Basins Additions
7 Plant 1 Membrane Bioreactor
8 New Chlorine Contact Basin
9 Primary Sludge Thickeners
10 New Waste Activated Sludge Thickeners
11 Acid Phase Digester
12 New Maintenance Building
13 Parking Lot Expansion
14 Fine Screens
15 MBR Equipment

Legend

Liquid Stream Treatment Facilities
Solids and Odor Control Facilities
Support Facilities
Existing Pipes

SOURCE: Carollo Engineers

City of Riverside . 206047

Figure 3
Proposed Layout for New Facilities

Water Quality Control Plant Expansion

This project consists of three main pieces, plus supporting work for each of these pieces. The pieces include the Plant 1 Primary Expansion, the Plant 1 Membrane Bioreactor (MBR) Facilities and the Acid Phase Digester. This project would start in 2009 and would not be completed until 2014 to meet the capacity needs.

The Plant 1 Primary Treatment Expansion would include four circular primaries to treat 32 mgd (approximately 75,000 square feet with supporting structures), primary effluent equalization basins for a total volume of 12.1 million gallons (MG) (approximately 160,000 square feet), a primary equalization pump station (approximately 10,000 square feet), a primary sludge pump station (approximately 10,000 square feet), primary sludge thickening facilities (gravity belt thickeners - approximately 10,000 square feet), and a biofilter for odor scrubbing (approximately 40,000 square feet). Based on the master plan flow projections, it is anticipated that the available capacity of the existing Plant 1 would be exceeded by 2012.

The Plant 1 MBR facility would consist of a 32-mgd MBR that would be constructed in the northwestern portion of the RWQCP property. This facility would be constructed in two phases. The first phase would treat 26 mgd and the second phase would increase capacity to treat 32 mgd. The MBR project includes installation of MBR modules and appurtenances (approximately 40,000 square feet), installation of fine screens (approximately 10,000 square feet) and additional aeration basin capacity (approximately 20,000 square feet), the retrofit of the existing components would include the aeration basins and secondary clarifiers, upsizing the blowers, and upsizing the waste activated sludge (WAS) pumps. The available capacity of the Plant 1 secondary treatment facility, based on the master plan flow projections, is anticipated to be exceeded by 2013 for the first phase and 2020 for the second phase.

Acid Phase Digester Facility

The Acid Phase Digester Facilities would consist of a new multi-compartment acid phase digester plus new sludge heating and transfer facilities (approximately 20,000 square feet), along with upgrades to the existing sludge heating and transfer facilities. In addition, other support facilities including digester gas handling, storage and disposal facilities would be retrofitted and expanded. Based on the master plan flow projections, the available capacity of the existing digestion facilities is expected to be exceeded by 2012.

New Chlorine Contact Basin

A new chlorine contact basin (CCB) with a capacity of 8 mgd would be constructed in the southwest corner of the property (approximately 10,000 square feet). It is anticipated that the available capacity of the existing CCB would be exceeded in 2020. As a result, the upgrade to the new chlorine contact basin would start in the summer of 2016 and would be completed by the late 2019 to meet the capacity needs.

Waste Activated Sludge Thickening Facility

The new WAS thickening facilities would be located near the existing sludge dewatering facilities on the south end of the site (approximately 12,000 square feet). The facility would be sized to accommodate the proposed 52.2 mgd RWQCP capacity. It would replace the existing WAS thickening capacity that is supplied by Dissolved Air Flotation Thickeners (DAFs). It is anticipated that the available capacity of the existing DAFs would be exceeded by 2027. As a result, the new WAS facility project would start in 2023 and be completed in late 2026.

New Headworks

A new 15-mgd headworks facility would be constructed in the northeast portion of the RWQCP property (approximately 15,000 square feet). It is anticipated that the available capacity of the existing headworks facility would be exceeded by 2023. As a result, the upgrade to the facility would start in the summer of 2019 and would not be completed until the middle of 2022 to meet the capacity needs.

Plant Utilities and Support Facilities

The proposed project would include the construction of a new maintenance building (approximately 10,000 square feet) and the expansion of the existing parking lot located in the eastern portion of the project site (approximately 120 parking spaces). In addition, the project would include the replacement/upgrade of the existing public address (PA) system. Other projects proposed for the Master Plan planning period include addition of a 1.2 megawatt (MW) cogeneration facility to supplement the existing cogeneration and the fuel cell facilities. There would also be several other projects to support the ongoing operation of the RWQCP, including: influent metering upgrades, digester gas storage and disposal upgrades, upgrades to improve RWQCP hydraulics, seismic upgrades to various structures, operation and maintenance upgrades for various plant appurtenances and upgrades to the RWQCP electrical and instrumentation systems.

Collection System

The proposed project would include the rehabilitation and expansion of the City's existing collection infrastructure, due to the age of the system as well as new facilities to meet additional capacity needs. Expansion and rehabilitation of the collection system would be required throughout the City over the next 20 years. As the RWQCP is upgraded to accommodate additional flows to meet the population growth forecast of the City, the conveyance pipeline systems would also be required to be improved to accommodate the additional demands.

Levee Upgrade

Currently the existing levee on the north side of the property that protects the RWQCP from the Santa Ana River may have to be raised. However, prior to the City deciding that it is necessary to raise the levee, a more detailed analysis and hydraulic/hydrology study will be

required to determine that the levee indeed needs to be raised. After that study is completed, if it is determined at that time the levee needs to be raised, a CEQA and NEPA document would be prepared to specifically analyze the levee project prior to the authorization of the levee construction.

9. **Surrounding Land Uses and Setting:** The RWQCP site is designated as Public Facilities/Institutional. Surrounding land uses include Industrial and Business/Office Park.

10. **Other public agencies whose approval is required:** California Regional Water Quality Control Board, California Department of Fish and Game, U.S. Army Corps of Engineers, City of Riverside.

11. **Use of This Document:** This Initial Study is intended to be used to meet CEQA statute §21100(c) and CEQA guideline requirement 15128 by stating the effects of the proposed project that are found not to be significant and consequently not discussed in the PEIR.

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	☐ Agriculture 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
☐ Mineral Resources	☒ Noise	☐ Population and Housing
☐ Public Services	☐ Recreation	☒ Transportation and Traffic
☒ Utilities and Service Systems	☒ Mandatory Findings of Significance	

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.

Sandy Caldwell

Signature

April 3, 2009

Date

Sandy Caldwell

Printed Name

City of Riverside, Public Works

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) The proposed project would result in the construction of new facilities within the existing RWQCP property. The proposed facilities as well as construction equipment would be potentially visible from Van Buren Boulevard, which is a City designated scenic highway. Van Buren Boulevard is a northwestern/southeastern trending roadway that is located southwest of the RWQCP. As a result, the proposed project would have a potentially significant impact associated with views along the Van Buren Boulevard Bridge as motorists cross the Santa Ana River. Further analysis is required in the EIR.

b) The City of Riverside does not contain any state designed scenic highways within its jurisdictional limits. Therefore, construction and operation of the proposed RWQCP would not have an impact on a state scenic highway. Additionally, the RWQCP project area is highly disturbed from past and current plant operations. This site does not contain any scenic resources such as trees, rock outcropping, and or historic buildings that would be affected by the proposed project. Therefore, no further analysis is required.

c) The proposed RWQCP expansion area would be within the existing City owned parcel of land that contains the existing RWQCP facility. The proposed project would include new facilities that would be potentially visible from the surrounding land uses. As a result, implementation of the proposed project could substantially degrade the visual character of the surrounding industrial, commercial, and open space land uses. The PEIR will analyze the potential aesthetic impacts of the project.

d) Implementation of the proposed project would result in the development of new structures that would have the potential to increase sources of light and/or glare. The

proposed project would take place in a currently developed area, and potential new sources of light would include exterior building illumination, security lighting and parking lot lights. New sources of glare could result from the sun reflecting off of the new building surfaces. Sensitive views of the night sky could be impacted from implementation of new buildings that have the potential to contribute to new light and glare. The proposed RWQCP expansion area is not located within the Mount Palomar Nighttime Lighting Policy Area. However, nuisance lighting from the new parking lot lights, and security lighting from the proposed project would have the potential to impact the nighttime sky. Potential aesthetic impacts associated with light and glare will be further analyzed in the PEIR.

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) According to the maps prepared for the Farmland Mapping and Monitoring Program of the California Resource Agency, the on-site soils are not prime, unique, or of statewide importance. In addition, the proposed project would occur within the existing RWQCP property. No impact would occur.

b) According to the City of Riverside's General Plan EIR (2007), no sites zoned for agricultural use and no existing Williamson Act Contract lands would be affected by the project. In addition, the proposed project would occur within the existing RWQCP property. No impact would occur.

c) According to the maps prepared for the Farmland Mapping and Monitoring Program of the California Resource Agency, the project would not result in environmental changes

that would result in the conversion of farmland of Statewide Importance to non-agricultural use. There is no farmland of statewide importance that would be affected by the proposed project. The project would not in itself convert agricultural land or cause other agricultural land to be converted. No impact would occur.

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) Construction and operation of the proposed project could result in substantial short term and long term emissions of particulates and other criteria air pollutants that could exceed significant thresholds. The South Coast Air Quality Management District (SCAQMD) is principally responsible for the comprehensive pollution control in the South Coast Air Basin, in which the project site is located. Project related emissions, combined with existing sources of emissions, could contribute to the degraded air quality within the Basin. A project would conflict with and obstruct implementation of the applicable air quality plan if the project is incompatible with the SCAQMD and the Southern California Associate of Governments (SCAG) air quality policies. The assumptions for growth and associated air quality impacts have been established by SCAG, and these assumptions are utilized in SCAQMD's Draft 2007 Air Quality Management Plan (AQMP) (SCAQMD, 2006). The construction and operation of the proposed project has the potential to conflict with applicable air quality plans. As a result, an air quality report should be prepared to determine the impacts that may be associated with the project, if any. The PEIR will include analysis of the potential impacts.

b) Site preparation and construction activities could generate short term temporary emissions of particulates and other criteria air pollutants that may exceed significance thresholds. Construction of the site and associated infrastructure would generate fugitive dust emissions from grading and facility construction activities. A discussion of the project's construction and operational emissions relative to air quality standards and existing regional air quality violations will be discussed in the PEIR.

c) The potential construction and operational emissions added to the ambient air quality may result in cumulative air impacts. To determine if the project would result in a cumulatively considerable net increase in any criteria pollutant for which the project region is in nonattainment under the an applicable ambient air quality standard, the methods provided in SCAQMD's CEQA Air Quality Handbook will be utilized (SCAQMD, 2007). Daily emissions during construction will be compiled using URBEMIS 2007 and a discussion of the cumulative emissions will be discussed in the PEIR.

d) The proposed project will result in air emissions from construction activities and vehicle trips generated. Emissions could adversely affect sensitive receptors in the project area such as hospitals, schools, and senior centers. The closest sensitive land use is a residential development located west of Van Buren Boulevard. Terrace Elementary and Indian Hills Elementary Schools are both approximately 0.6 miles from the project site. A discussion of air emissions on sensitive receptors will be included in the PEIR.

e) Odor impacts may result from construction and operation of the RWQCP. Odor impacts associated with construction and operation of the proposed project will be included in the PEIR.

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) The proposed project would occur within the existing RWQCP property. However, the project could impact natural habitats during the proposed upgrade of the flood protection levee along the Santa Ana River. A discussion of impacts on any candidate, sensitive, or special-status plant and animal species will be included in the PEIR. The PEIR will also contain a discussion of the pertinent regional and local plans.

b) The proposed project is located adjacent to the Santa Ana River. Currently, the treated effluent flows are discharged into the Santa Ana River. The proposed project may impact riparian habitats or other sensitive natural communities by introducing additional flows to the Santa Ana River. In addition, the proposed project may require upgrade to the existing Santa Ana River flood protection levee that is located on the western boundary of the project site. A discussion of potential impacts to riparian habitats will be included in the PEIR.

c) See 4 b) above. The proposed project is located within the Santa Ana River watershed. Development of the proposed project could adversely impact federally protected wetlands. A discussion of potential wetland features affected by the project will be included in the PEIR.

d) The proposed project has the potential to impact the movement of any native resident or migratory fish or wildlife species and/or with established native resident migratory wildlife corridors. The Santa Ana River is a protected wildlife corridor located immediately adjacent to the project site. Therefore, a discussion of the project's impacts on wildlife movement corridors and wildlife nursery sites will be included in the PEIR.

e) The project would have a potential to conflict with local or regional biological policies, ordinances, and plans. As a result, the PEIR will identify and address the applicable regulatory environment.

f) The City of Riverside is located within western Riverside County, which has an approved Multi-Species Habitat Conservation Plan (MSHCP). Further analysis is required to determine if the project will impact the MSHCP and/or any other applicable HCPs.

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) The Riverside General Plan 2025 indicates that past cultural resource records searches have identified more than 826 prehistoric and historic archaeological sites within the Planning Area. As the proposed project would be constructed within the existing RWQCP boundary, the project would not likely affect surface historic resources within the immediate property boundary. However, the project would include excavation activities during the construction of the project. As a result, the proposed project would have the potential to disturb unknown subsurface historic resources during excavation activities. A cultural resources survey will be conducted as part of the PEIR. Further analysis is required in the PEIR.

b) The General Plan 2025 indicates that past cultural resource records searches have identified more than 826 prehistoric and historic archaeological sites within the Planning Area. In addition, there is currently an identified cultural site that is enclosed in a chain-link-fence to avoid any further disturbance within the RWQCP property site. As a result, construction and excavation activities of the proposed project would have the potential to unearth previously unknown cultural resources. Therefore, further analysis is required to determine if the project would have any significant impacts associated archaeological

resources. An archaeological survey will be prepared and the result will be discussed in the PEIR.

c) Construction of the proposed project would include earth moving that could encounter previously unknown paleontological resources. The proposed project would occur within the existing RWQCP boundary. However, unexpected discoveries are possible even in areas of low-sensitivity. A discussion of paleontological resources will be included in the PEIR.

d) Construction of the proposed project would include earth moving that could encounter previously unknown remains. The PEIR will further discuss the potential for discovering unidentified buried human remains.

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-iv) No Alquist-Priolo Fault Zone exists within the proposed project area. The closest faults to the project area are the San Jacinto, Elsinore, and the San Andreas. Due to its proximity to the faults, the proposed project is considered to be located in a seismically active area that has the potential to experience strong ground shaking, ground surface rupture, soil liquefaction, and landslides. The project area could also be subject to liquefaction due to the high water table and characteristics of the formation materials. Furthermore, the project site is relatively flat and would not be subject to any potential landslides. As a result, the PEIR will evaluate the project's potential to experience seismic related hazards.

b) Soil removal from grading, trenching and excavation activities for the proposed project would reduce soil cohesion. Soils excavated for each phase would be stockpiled and would potentially be exposed to erosive forces such as wind and water. Furthermore, excavation or grading for proposed project components would also result in erosion during construction activities as bare soils would be exposed and would have the potential to be eroded by wind or water. The PEIR will further evaluate the project's potential to induce erosion.

c) The proposed project is located in a seismically active area that could cause soil in the project area to become unstable. It is also located in an area that has a high potential for liquefaction. Figure PS-2 of the Public Safety Element of the General Plan 2025 identifies the project site within a "very high liquefaction zone". Implementation of the proposed project could result in impacts related to unstable soils as a result of lateral spreading, subsidence, or collapse. The PEIR will discuss potential landslide, liquefaction, lateral spreading, and or subsidence impacts.

d) Several soil boring were conducted as part of a geotechnical report for the project site by Leroy Crandall and Associates, 1986. The soils on site are not considered expansive soils according to the soils report. The project site includes soils that are sandy and silty sands. These soils are generally well-drained that are moderately deep and have a low to moderate shrink swell factor. Therefore, the project would have a less than significant impact associated with expansive soils and no further analysis is required.

e) No part of the proposed project would require the use of a septic system or any other waste water disposal system. The RWQCP does not use any form of septic system or treatment process that requires the use of soils. Construction and operation of the proposed project would not have any impacts on soils incapable of supporting a septic system. There would be no impact.

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?	☐	☐	☐	☒
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 project would require the use of fuels, oils, and lubricants and other hazardous materials. Sodium Hypochlorite and Sodium Bisulfite and other chemicals are routinely used during operation of the RWQCP for disinfection and treatment purposes. The storage and routine use of Sodium Hypochlorite and Sodium Bisulfite on site could result in a significant impact. As a result, the PEIR will discuss the use and storage of these materials and evaluate potential impacts to the environment.

c) Construction of the project would require the use of fuels, oils, and lubricants which can be hazardous to the environment. Also, Sodium Hypochlorite and Sodium Bisulfite are routinely used during operation of the RWQCP for disinfection and treatment purposes. Two schools are located about the same distance from the project site; Terrace Elementary School is located at 6601 Rutland Avenue, approximately 0.6 mile southwest

of the project site. Indian Hills Elementary School is located at 7750 Linares Avenue, approximately 0.6 mile northeast of the project site. As the schools are located over 0.25 mile away from the project site, there would be no impact.

d) The Department of Toxic Substance Control Envirostor Database was searched in February 2008 for hazardous material sites complied pursuant to Government Code Section 65962.5 within the City of Riverside. The Database identified 22 hazardous material sites. The nearest identified site is the Riverside Agricultural Park located 7020 Crest Avenue, located to the west of Van Buren Boulevard. The proposed project site was not a listed hazardous material site. Moreover, of the 316 leaking underground storage tanks monitored by the Regional Water Quality Control Board (RWQCB) within the City, the proposed project site has not had any leaking underground storage tanks on site. As a result, no further analysis is required.

e) The RWQCP is located within the Airport Influence Area of the Riverside Municipal Airport. Specifically, the proposed project is located within the Airport Include Area Zone C (Extended Approach/Departure Zone) and Zone D (Primary Traffic Pattern and Runway Buffer Area). The proposed project would not result in the addition of a restricted land use such as residences, noise sensitive land uses, and high population density land uses. However, the proposed project could generate a hazard to flights by attracting wildlife to the site. The on site equalization basins, and other facilities that contain slow moving surface water attract waterfowl. The expansion of these facilities would increase the amount of onsite surface water and could consequently increase the number of waterfowl attracted to the site. Airport hazards will be further discussed in the PEIR.

f) The project site is not located within two miles of a private airstrip, as Flabob airport is 2.8 miles away and the project site is not within the influence area of Flabob airport. Therefore, there would be no aircraft safety risks for people working in the project area. There would be no impact.

g) The proposed project would occur within the existing RWQCP property and therefore is not expected to interfere with any emergency response plans. The City of Riverside has developed an extensive Emergency Operations Plan, created by the Emergency Management Office. The proposed project would be in compliance with the Emergency Operations Plan. Therefore, no further analysis is required.

h) The project would not include flammable structures such as residences that could be threatened from wildfires nor would the project generate a large number of people that could be threatened by a wildfire. In addition, the project area has not been identified by the City of Riverside as having either a “moderate” or “very high” fire hazard rating. Most of the area surrounding the site has already been developed. As a result, no further analysis is required.

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?	☐	☐	☒	☐
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) During site grading, trenching, and construction activities, large areas of bare soil would be exposed to erosive forces for long periods of time. Soil grading activities could result in increased erosion. Stockpiled soils and hazardous materials used during construction could adversely affect surface and groundwater through contamination. Best Management Practices are expected to be used during construction to mitigate this potential. In addition, currently, all surface flows are contained onsite and are conveyed

back into the system and treated by the RWQCP. The project would have the potential to violate water quality standards if the RWQCP discharged a volume of water or quality of water that is above the standards established in the current NPDES permit issued to the plant from the RWQCB. However, because of current compliance with the existing NPDES permit and ultimately the issues of a new NPDES permit to cover the expansion of the RWQCP, the project would result in a less than significant impact to water quality standards.

b) The proposed project would not include the extraction of groundwater except, possibly, for dewatering purposes. No existing wells would require increased pumping as a result of the proposed RWQCP expansion. The proposed project would be located adjacent to the Santa Ana River on geologic materials generally associated with high permeability. Onsite recharge is currently limited due to the presence of existing impervious surfaces. The proposed project expansion would avoid expanding new facilities on undisturbed surfaces. During excavation activities the proposed project may have the potential to encounter groundwater. As a result, the project would be required to obtain and comply with a construction dewatering permit from the RWQCB. Compliance with the RWQCB's dewatering permit would assure that the proposed project would not significantly impact the groundwater. Therefore, no further analysis is required.

c,d) Expansion of the RWQCP would primarily occur on portions of the property which are currently developed with existing wastewater treatment facilities or in areas where previous facilities were removed. The proposed project would increase the amount of impervious surfaces at the RWQCP site. However, the project would not change the course of drainage patterns on the site and would therefore not result in substantial erosion or surface runoff. All surface runoff would be contained onsite and would be processed by the RWQCP. As part of the RWQCP expansion the stormwater system would be sized to accommodate future flows. Impacts would be less than significant.

e,f) The proposed project would increase the amount of impervious surfaces at the RWQCP site. The expansion of the site would have the potential to increase the impermeable surfaces and ultimately increase the surface stormwater runoff. However, as part of the RWQCP expansion the stormwater system would be sized to accommodate future flows. Potential sources of polluted runoff could occur during the construction phases of the project. However, the polluted runoff would be contained onsite and treated at the RWQCP. Impacts would be less than significant.

g) The proposed project would be located within the 100-year flood hazard area of the Santa Ana River. However, the proposed project would not involve the construction of any housing. There would be no impact.

h) According to the Federal Emergency Management Agency map, the proposed project would be constructed within the Santa Ana River 100-year flood hazard area. However, an existing levee runs along the northern property boundary, which is intended to protect

the site and surrounding areas from flood flows by containing the river. Failure of the levee would potentially lead to flooding of the project site. As a result, impacts from potential flooding will be evaluated in the PEIR.

i) According to the City of Riverside General Plan 2025 Final Program (FPEIR), the proposed project would not be located in an area that would be subject to inundation due to dam failure. However, as mentioned above in h) the project is protected by a levee that runs parallel to the western boundary of the project. Failure of the levee would potentially lead to flooding of the project site. The PEIR will include an evaluation of the levee failure hazards.

j) The City of Riverside is approximately 45 miles from the Pacific Ocean. It is also not close enough to Lake Matthews or Lake Evans to be threatened by a seiche. 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. It is also anticipated that the proposed project would not expose people or structures to a significant risk of loss, injury, or death due to mudflows. No further analysis is required.

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 would not divide an established community as upgrades to the RWQCP would occur within the existing RWQCP property. There would be no impact.

b) The PEIR will evaluate the consistency of the proposed project with the adopted plans and policies that apply to the project including but not limited to the City of Riverside General Plan 2025 (adopted in Nov. 2007) and the Riverside County Airport Land Use Compatibility Plan. The proposed project site has a General Plan Land Use Designation

"Public Facilities". As the proposed project would occur within the existing RWQCP property, it is not expected to conflict with any land use plans. There would be no impact.

c) The City of Riverside is located within western Riverside County which has an approved Multi-Species Habitat Conservation Plan (MSHCP). Additional analysis of the MSHCP and any other applicable HCPs will be included in the PEIR.

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 proposed project area is not classified by the City of Riverside General Plan 2025 FPEIR has having significant mineral deposits and is not located near an important mineral resource recovery site. The proposed project would be located on land classified as Mineral Resource Zone-4 (MRZ-4) by the General Plan 2025. The MRZ-4 designation is defined as an area that has available geologic information that indicates that mineral deposits exist, however, the significance of the deposits are undetermined (see Figure OS-1 of the General Plan). In addition, the proposed project would occur within the boundary of the existing RWQCP. Implementation of the proposed project would not result in the loss of availability of an important mineral resource or mineral resource recovery site. There would be no impact.

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) The General Plan Land Use Noise compatibility criteria establishes that industrial uses, such as the RWQCP have a normally acceptable noise threshold of 70 dBA Community Noise Equivalent Level (CNEL). A violation in the noise standard can occur during the construction and operation of the proposed project. The closest sensitive land use is a residential development located west of Van Buren Boulevard. To assure that the proposed project would not impact sensitive receptor a noise technical report will be prepared. The result of the noise technical report will be discussed in the PEIR. The PEIR will analyze the short-term noise levels produced relative to potential sensitive receptors and locally established noise standards. Both construction and operational impacts will be discussed in the PEIR.

b) Groundborne vibration could occur during construction activities. Construction of the proposed project could require the use of excavators, bulldozers, and other tracked heavy equipment that can generate vibration levels in the range of 90-100 VdB. As a result, the PEIR will further analyze potential groundborne vibration impacts.

c) Operation of the proposed project has the potential to result in long term noise increases as some of the new project components would generate noise. To determine if the operation of the expanded RWQCP would generate noise levels above the noise standards for the area a noise technical report will prepared. The noise technical report

will be conducted for the project site and the long-term ambient noise level results will be analyzed in the PEIR.

d) Construction of the proposed project could temporarily increase ambient noise levels. Elevated noise levels would be associated with the use of heavy-duty construction equipment such as dozers, graders, and loaders. In addition, construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and the types of vehicles used. Construction impacts will be discussed in the PEIR.

e) The RWQCP is located within the Airport Influence Area of the Riverside Municipal Airport. The southwestern corner of the project area is located within the airports 60 dB CNEL noise contour. With the exception of the northeast corner of the site, the airport's 55 dB CNEL noise contour falls across the remainder of the site. As a result, the project would not expose people residing or working in the area to excessive noise levels. No further analysis is required.

f) The project is located approximately 2.8 miles from Flabob Airport, a private airstrip. As the project would be over 2 miles away, it would not expose people residing or working in the project area to excessive noise levels. Therefore, impacts would be 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. The proposed project would expand the RWQCP to a capacity that is consistent with the City of Riverside General Plan's population projections. As a result, the proposed project would accommodate

projected growth planned for under the General Plan 2025 and previously analyzed in the General Plan 2025 FPEIR. The proposed project would not induce population growth. Therefore, no additional analysis is required.

b) The proposed project would not displace any housing units, necessitating the construction of additional housing elsewhere. There would be no impact on existing housing; therefore, no additional analysis is required.

c) The project would not displace a substantial number of people, necessitating the construction of housing elsewhere. No impacts to the current housing situation would result from the proposed project; as such, the PEIR will not include a discussion of this issue.

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) The proposed project is not a population generating land use; rather the RWQCP expansion will serve the planned and anticipated growth of the region forecasted by the Riverside General Plan 2025. Therefore, the proposed project would not result in a long-term increase for police, fire, or other emergency services nor would the project result in substantial adverse impacts to local schools, parks, hospitals, or other public facilities. There would be no impact.

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) The proposed project would be limited to the expansion of the RWQCP. The project would not result in impacts to existing neighborhood or regional parks or any other recreational facilities. The proposed project would not contribute towards population growth. Though expansion of the RWQCP would add two more employees, they are likely to come from within the Riverside area. Therefore, there would be no associated increase in parks usage. There would be no impact.

b) The proposed project would be limited to the expansion of the RWQCP. The project would not include recreational facilities or require the expansion of existing facilities that would cause an impact on the environment. There would be no impact.

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?	☒	☐	☐	☐
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?	☐	☐	☐	☒

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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) The proposed project would not introduce any new facilities to the project area that would generate long-term changes in traffic. All of the new facilities would be constructed within the existing RWQCP property. However, implementation of the proposed project would generate a short-term increase in traffic on regional and local roadways due to construction worker vehicle trips and truck trips for material hauling. The site would be accessed from the main entrance off of Acorn Street or the second entrance off of Jurupa Avenue. Operation of the RWQCP would require two additional employees and material delivery to the site. This is not expected to cause a substantial increase in traffic. However, the proposed project would have a potential traffic impact associated with the construction of future pipelines and project infrastructure. As a result, these impacts will be further discussed in the PEIR.

b) Expansion of the RWQCP would have greatest effect on the Jurupa/Van Buren, Jurupa/Acorn, or Jurupa/Clay Street intersections, which are closest to the project site and would be most affected by truck deliveries and worker commute trips. Further analysis is required to determine if the proposed project will have a traffic impact. This issue will be discussed in the PEIR.

c) The proposed project would be located within the City of Riverside's Municipal Airport Land Use Compatibility Plan safety zones C and D. Construction and operation of the proposed project would not cause a change in air traffic patterns that would cause a safety risk. There would be no impact.

d) The proposed project would be constructed entirely within the existing RWQCP property boundary. The project does not include the construction or design of any roadway infrastructure that would cause a safety risk to vehicle operations. Additionally, the proposed project would not be included in any incompatible land uses such as farm equipment of local roadways that would cause a traffic hazard. There would be no impact.

e) The emergency access route to the RWQCP is not expected to be altered as a result of the proposed project. Additionally, the project would be required to comply with the 2000 Uniform Fire Code, as codified in the City's Municipal Code Section 16.32.020 which ensures that adequate emergency access is provided. The proposed project would not result in long-term impacts to emergency access and maneuverability. As a result no further analysis is required.

f) The proposed project is the expansion of the existing RWQCP. The project would include the expansion of the existing parking lot located in the eastern portion of the project site from 109 parking spaces to approximately 229 parking spaces. The addition of 120 new spaces and the addition of two new employees would leave a surplus of 118 new parking spaces from the current conditions. As a result, the implementation of the propose project would not result in an inadequate amount of parking spaces. Impacts would be less than significant.

g) The proposed project would have no long-term impacts on demand for alternative transportation or on alternative transportation facilities. However, if levee reconstruction is needed then disruptions to operation of the existing bikeway along the northern property boundary may occur. However, this would be temporary and would not conflict with adopted plans supporting alternative transportation. No further analysis is required.

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?	☐	☐	☒	☐

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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 is the expansion of the existing RWQCP to accommodate the anticipated growth identified in the General Plan 2025. Currently, the facility is operating under permits issued by the RWQCB and once the proposed expansion occurs the volume of effluent would increase. As a result, the RWQCP would be required to update their permit with the RWQCB to reflect the increase in effluent volume. Compliance with the RWQCB permit would assure that the proposed project would have a less than significant impact. Therefore, no additional analysis is required.

b) The only wastewater generated by the RWQCP is from the sinks and toilets used by the plant operators. The proposed project is the expansion of a wastewater treatment facility, the impacts of which will be discussed throughout the PEIR. The proposed wastewater treatment expansion would accommodate the future expected sewer flows analyzed in the General Plan 2025 FPEIR and the Wastewater Treatment Master Plan. Therefore, the proposed project would not require the construction of a new wastewater treatment facility. No additional analysis is required.

c) The proposed project may result in the expansion of existing on-site stormwater conveyance system. Currently all of the surface stormwater is collected onsite and conveyed into the RWQCP for treatment. The expansion of the site would have the potential to increase the impermeable surfaces and ultimately increase the surface stormwater runoff. However, as part of the RWQCP expansion the stormwater system would be sized to accommodate future flows. Therefore, no additional analysis is required.

d) The existing RWQCP requires water for the onsite restroom facilities and some small kitchen facilities. A new or expanded supply would not be needed for the proposed project. This additional water demand would not cause the water provider, Riverside Public Utilities, to increase their water entitlements to supply the project. Therefore, impacts would be less than significant.

e) The proposed project is the expansion of the existing RWQCP to accommodate the anticipated growth identified in the General Plan 2025. The proposed project would not create a wastewater burden on the wastewater provider because the project is the expansion of the existing wastewater facility. Impacts would be less than significant.

f) Construction activities including excavation and grubbing may require disposal into local landfills. The City is currently served by three landfills that have permitted capacity that will expire from 2016 to 2022. These landfills will be available to serve the proposed project during construction and operation. The PEIR will include a discussion of local landfill capacity and the projects estimated contribution.

g) The expansion of the existing RWQCP would allow for the treatment of more wastewater in the future. As a result the facility would produce more solid waste, which would need to be disposed of. Currently, solids produced at the RWQCP are disposed of offsite and used as a soil amendment. In the future, solids produced onsite would be sent offsite for conversion to pellets that would be used as a fuel source for a cement kiln. Solid waste reduction, recycling, and other regulations regarding solid waste would be implemented during project construction and operation. As a result, the proposed project would comply with federal, state, and local solid waste regulation. No additional analysis is required.

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?	☒	☐	☐	☐
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 PEIR will discuss the projects potential impact on the environment.

b) The PEIR will include a cumulative impact discussion.

c) The PEIR will include a discussion of impacts on human beings.

References

City of Riverside, General Plan 2025, November 2007.

City of Riverside, General Plan 2025 Final Program EIR, November 2007.

Department of Toxic Substances Control, Envirostar Database, available online at: http://www.envirostor.dtsc.ca.gov/public/.

State of California Department of Conservation, Farmland Mapping & Monitoring Program, 2004-2006

Southern California Air Quality Management District (SCAQMD), Draft 2007 Air Quality Management Plan, 2007.

NOP Comment Letters

ESA

STATE OF CALIFORNIA

GOVERNOR'S OFFICE of PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

RECEIVED
APR 15 2009
Public Works

March 30, 2009

Notice of Preparation

To: Reviewing Agencies

Re: City of Riverside's Integrated Master Plan for Wastewater Collection and Treatment Facilities
SCH# 2009041054

Attached for your review and comment is the Notice of Preparation (NOP) for the City of Riverside's Integrated Master Plan for Wastewater Collection and Treatment Facilities draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Sandy Cladwell
City of Riverside
3900 Main Street, 3rd Floor
Riverside, CA 92522

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

For: Scott Morgan
Assistant Deputy Director & Senior Planner, State Clearinghouse

Attachments
cc: Lead Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

Project Title City of Riverside's Integrated Master Plan for Wastewater Collection and Treatment Facilities
Lead Agency Riverside, City of

Type **NOP** Notice of Preparation

Description The City of Riverside's Sewage System Division is responsible for collection and treatment of wastewater flows generated within the City of Riverside and the adjacent communities of Jurupa, Rubidoux, Edgemont, and Highgrove. The City's Regional Water Quality Control Plant (RWQCP) provides primary through tertiary treatment at a rated capacity of 40 million gallons per day (mgd). There are currently 107 employees that operate and maintain the RWQCP.

Lead Agency Contact

Name Sandy Cladwell
Agency City of Riverside
Phone (951) 826-5348 **Fax**
email
Address 3900 Main Street, 3rd Floor
City Riverside **State** CA **Zip** 92522

Project Location

County Riverside
City Riverside
Region
Cross Streets 5950 Acorn Street
Lat / Long
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use GP Des: Public Facilities/Institutional
Zoning: Industrial

Project Issues Aesthetic/Visual; Biological Resources; Air Quality; Archaeologic-Historic; Geologic/Seismic; Landuse; Toxic/Hazardous; Water Quality; Traffic/Circulation; Public Services; Other Issues

Reviewing Agencies Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 6; Public Utilities Commission; Native American Heritage Commission; Caltrans, District 8; State Water Resources Control Board, Division of Loans and Grants; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 8

Date Received 04/09/2009 **Start of Review** 04/09/2009 **End of Review** 05/08/2009

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

County: RIVERSIDE

SCH# 2009041054

Resources Agency

- [x] **Resources Agency**
  Nadell Gayou
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  Mike Sotelo
- [ ] **California Coastal Commission**
  Elizabeth A. Fuchs
- [ ] **Colorado River Board**
  Gerald R. Zimmerman
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  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Game M**
  George Isaac
  Marine Region

Other Departments

- [ ] **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture
- [ ] **Depart. of General Services**
  Public School Construction
- [ ] **Dept. of General Services**
  Anna Garbeff
  Environmental Services Section
- [x] **Dept. of Public Health**
  Bridgette Binning
  Dept. of Health/Drinking Water

Independent Commissions,Boards

- [ ] **Delta Protection Commission**
  Linda Flack
- [ ] **Office of Emergency Services**
  Dennis Castrillo
- [ ] **Governor's Office of Planning & Research**
  State Clearinghouse
- [x] **Native American Heritage Comm.**
  Debbie Treadway
- [ ] **Public Utilities Commission**
  Leo Wong
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [ ] **State Lands Commission**
  Marina Brand
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Business, Trans & Housing

- [ ] **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- [ ] **Caltrans - Planning**
  Terri Pencovic
- [ ] **California Highway Patrol**
  Scott Loetscher
  Office of Special Projects
- [ ] **Housing & Community Development**
  CEQA Coordinator
  Housing Policy Division

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Bruce de Terra
- [ ] **Caltrans, District 4**
  Lisa Carboni
- [ ] **Caltrans, District 5**
  David Murray
- [ ] **Caltrans, District 6**
  Michael Navarro
- [ ] **Caltrans, District 7**
  Elmer Alvarez
- [x] **Caltrans, District 8**
  Dan Kopulsky
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Chris Herre

Cal EPA

Air Resources Board

- [ ] Airport Projects
  Jim Lerner
  - [ ] Transportation Projects
    Douglas Ito
  - [ ] Industrial Projects
    Mike Tollstrup
- [ ] **California Integrated Waste Management Board**
  Sue O'Leary
- [x] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [x] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Steven Herrera
  Division of Water Rights
- [x] **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5
  - [ ] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [x] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)
- [ ] **Other** _____

Last Updated on 03/24/2009

Thank you for providing the Riverside Public Utilities Department with an opportunity to comment on the Initial Study for the City of Riverside's Integrated Master Plan for Wastewater Collection and Treatment Facilities project. At this time, I do not have any specific comment to make, other than I recommend that the EIR include a discussion of any potential impacts to city water facilities as a result of the project.

If you have questions, please contact me by e-mail or phone (information provided below); however, I will be going on leave starting tomorrow and will be returning in late July. Thank you.

Debra Einstein Leight

Associate Planner

Riverside Public Utilities, Water Engineering

3901 Orange Street

Riverside, CA 92501

(951) 826-5116 direct

(951) 826-2498 fax

dleight@riversideca.gov

DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
Inland Deserts Region
3602 Inland Empire Boulevard, C-220
Ontario, California 91764
Phone (909) 484-0167
Fax (909) 481-2945

RECEIVED
MAY 11 2009
Public Works

May 6, 2009

Sandy Cladwell
City of Riverside
3900 Main Street, 3rd Floor
Riverside, CA 92522
(951) 826-5348

Re: Notice of Preparation of a Draft Environmental Impact Report
City of Riverside's Integrated Master Plan for Wastewater Collection
SCH 2009041054

Dear ~~Ms.~~ Mr. Cladwell:

The California Department of Fish and Game (Department) thanks you for the opportunity to comment on the proposed development project. The Department is responding as a Trustee Agency for fish and wildlife resources [Fish and Game Code sections 711.7(a) and 1802 and the California Environmental Quality Act Guidelines (CEQA) section 15386] and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines section 15381), such as a Streambed Alteration Agreement or a California Endangered Species Incidental Take Permit (Fish and Game Code Sections 2080 and 2080.1).

The project is situated between Van Buren Boulevard to the west, the Santa Ana River to the north, and Jurupa Avenue to the south in the City of Riverside. The plant treats water from the City of Riverside, Jurupa, Rubidoux, Edgemont and Highgrove. As described in the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR), the project involves the expansion of the City's Regional Water Quality Control Plant (RWQCP) from 40 million gallons per day (mgd) capacity to 52.2 mgd capacity. The project consists of improvements to the existing Plant 1 Primary Treatment facility, construction of a 32-mgd Membrane Bioreactor (MBR), construction of a new Acid Phase Digester Facility, new headworks, maintenance building and expanded parking lot. The levee on the north side of the property adjoining the Santa Ana River may also have to be raised.

In January 2007, the Department submitted a letter of comment on the City of Riverside Recycle Water Program Draft EIR, SCH# 2004031107. In this document the City proposed to reduce the quantity of treated water from 36,000 acre feet per year (afy) to 25,000 afy by the year 2050. The DEIR should clarify the relationship between this project and the current proposal because the previous project would decrease the amount of water released and this project would increase the amount of water released.

The Department recommends that the DEIR address the following issues: 1) specific impacts and mitigation measures associated with future pipeline improvements and expansion, 2) raising of the project's levee on the Santa Ana River, 3) potential impacts as the result of the increase in discharged treated water, and 4) potential impacts to sensitive riparian flora and fauna.

Most of the project improvements occur within the boundary of the existing wastewater treatment plant. The project is slated to commence in 2019 and end in 2023. The project's impacts should be described and analyzed in the DEIR. Any future improvements not analyzed or mitigated in this document will require additional CEQA compliance.

The Department is concerned with the potential impacts to the Santa Ana River from the proposed project. Potential impacts include the raising of the levee on the Santa Ana River and the increased discharge of treated water into the Santa Ana River. These impacts will require notification to the Department, pursuant to Section 1600 et seq. of the Fish and Game Code. Therefore, it is important that the DEIR fully analyze all potential impacts to riparian flora and fauna in the Santa Ana River from the proposed project as well as include appropriate mitigation measures to offset the impacts. The DEIR should contain enough specific, up-to-date, biological information on the existing habitat and species, measures to minimize and avoid sensitive biological resources, and mitigation measures to offset the loss of native flora and fauna and State waters. If the site does contain Federal or State-listed species, the DEIR should include measures to avoid and minimize impacts to these species as well as comprehensive mitigation measures. The document should not defer impact analysis and mitigation measures to future regulatory discretionary actions, such as a 1602 Lake and Streambed Alteration Agreement, California Endangered Species Act permit or Federal Endangered Species Act permit.

This particular project has the potential to have significant environmental impacts on sensitive riparian flora and fauna resources, including Federal and State listed endangered species. Therefore, critical aspects of the DEIR should include an alternatives analysis which focuses on environmental resources and in-kind mitigation measures for impacts identified as significant. To enable Department staff to adequately review and comment on the proposed project, we suggest that updated biological studies be conducted prior to any environmental or discretionary approvals. The following information should be included in any focused biological report or supplemental environmental report:

1. A complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, and locally unique species and sensitive habitats.

    a. A thorough assessment of rare plants and rare natural communities, following the Department's May 1984 Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities.

    b. A complete assessment of sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the project area should also be

addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service.

c. Rare, threatened, and endangered species to be addressed should include all those which meet the California Environmental Quality Act (CEQA) definition (See CEQA Guidelines, 15380)

d The Department's California Natural Diversity Data Base in Sacramento should be contacted at (916) 327-5960 to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code.

2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts.

a. CEQA Guidelines, 15125(a), direct that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.

b. Project impacts should be analyzed relative to their effects on off-site habitats. Specifically, this should include nearby public lands, open space, adjacent natural habitats, and riparian ecosystems. Impacts to and maintenance of wildlife corridor/movement areas, including access to undisturbed habitat in adjacent areas, should be fully evaluated and provided.

c. The zoning of areas for development projects or other uses that are nearby or adjacent to natural areas may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the environmental document.

d. A cumulative effects analysis should be developed as described under CEQA Guidelines, 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

e. The document should include an analysis of the effect that the project may have on completion and implementation of regional and/or subregional conservation programs. Under 2800-2835 of the Fish and Game Code, the Department, through the Natural Communities Conservation Planning (NCCP) program is coordinating with local jurisdictions, landowners, and the Federal Government to preserve local and regional biological diversity.

3. A range of alternatives should be analyzed to ensure that alternatives to the proposed project are fully considered and evaluated (CEQA Guidelines 15126.6). A range of alternatives which avoid or otherwise minimize impacts to sensitive biological resources should be included. Specific alternative locations should also be evaluated in areas with lower resource sensitivity where appropriate.

    a. Mitigation measures for project impacts to sensitive plants, animals, and habitats should emphasize evaluation and selection of alternatives which avoid or otherwise minimize project impacts. Off-site compensation for unavoidable impacts through acquisition and protection of high-quality habitat elsewhere should be addressed.

    b. The Department considers Rare Natural Communities as threatened habitats having both regional and local significance. Thus, these communities should be fully avoided and otherwise protected from project-related impacts.

    c. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Department studies have shown that these efforts are experimental in nature and largely unsuccessful.

4. A California Endangered Species Act (CESA) Permit must be obtained, if the project has the potential to result in "take" of species of plants or animals listed under CESA, either during construction or over the life of the project. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to the proposed project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, require that the Department issue a separate CEQA document for the issuance of a CESA permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA permit. For these reasons, the following information is requested:

    a. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit.

    b. A Department-approved Mitigation Agreement and Mitigation Plan are required for plants listed as rare under the Native Plant Protection Act.

5. The Department opposes the elimination of watercourses and/or their channelization or conversion to subsurface drains. All wetlands and watercourses, whether intermittent or perennial, must be retained and provided with substantial setbacks which preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations.

a. Under Section 1600 *et seq* of the Fish and Game Code, the Department requires the project applicant to notify the Department of any activity that will divert, obstruct or change the natural flow or the bed, channel or bank (which includes associated riparian resources) of a river, stream or lake, or use material from a streambed prior to the applicant's commencement of the activity. Streams include, but are not limited to, intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, and watercourses with subsurface flow. The Department's issuance of a Lake and Streambed Alteration Agreement for a project this is subject to CEQA will require CEQA compliance actions by the Department as a responsible agency. The Department, as a responsible agency under CEQA, may consider the local jurisdiction's (lead agency) Negative Declaration or EIR for the project. However, if the CEQA document does not fully identify potential impacts to lakes, streams, and associated resources (including, but not limited to riparian and alluvial fan sage scrub habitat) and provide adequate avoidance, mitigation, monitoring and reporting commitments, additional CEQA documentation will be required prior to execution (signing) of the Streambed Alteration Agreement. In order to avoid delays or repetition of the CEQA process, potential impacts to a lake or stream, as well as avoidance and mitigation measures need to be discussed within this CEQA document. The Department recommends the following measures to be discussed within this CEQA document. The Department recommends the following measures to avoid subsequent CEQA documentation and project delays:

(i) Incorporate all information regarding impacts to lakes, streams and associated habitat within the DEIR. Information that needs to be included within this document includes: (a) a delineation of lakes, streams and associated habitat that will be directly or indirectly impacted by the proposed project; (b) details on the biological resources (flora and fauna) associated with the lakes and/or streams; (c) identification of the presence or absence of sensitive plants, animals, or natural communities; (d) a discussion of environmental alternatives; (e) a discussion of avoidance measures to reduce project impacts, (f) a discussion of potential mitigation measures required to reduce the project impacts to a level of insignificance and (g) an analysis of impacts to habitat caused by a change in the flow of water across the site. The applicant and lead agency should keep in mind that the State also has a policy of no net loss of wetlands.

(ii) The Department recommends that the project applicant and/or lead agency consult with the Department to discuss potential project impacts and avoidance and mitigation measures. Early consultation with the Department is recommended, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources. To obtain a Streambed Alteration Agreement Notification package, please call (909) 987-7161.

Thank you for this opportunity to comment. Please contact Robin Maloney-Rames at (909) 980-3818, if you have any questions regarding this letter.

Sincerely,

Leslie MacNair

Leslie MacNair
Staff Environmental Scientist

cc: State Clearinghouse, Sacramento
Michael Flores, DFG, Ontario

From: Glenn Robertson [mailto:grobertson@waterboards.ca.gov]
Sent: Tuesday, May 19, 2009 5:02 PM
To: Caldwell, Sandy
Subject: Note for Riverside Wastewater Collection System DEIR - AntiDeg Policies

To Sandy Caldwell, regarding the Draft Environmental Impact Report for City of Riverside's Integrated Master Plan for Wastewater Collection and Treatment Facilities:

At any time during compilation of your eventual EIR, Regional Board staff requests that your water quality and hydrology section, as well as alternatives analysis, consider both the federal (40 CFR 131.12) and state (State Water Resources Control Board Resolution No. 68-16) anti-degradation policies. Your consultant may reference the attached files, which basically say that high water quality must be maintained, and any lowering of quality (degradation) from that status requires a demonstration that such change is consistent with maximum benefit to the State and beneficial uses. So, discharges from the RWQCP that could enter waters of the state and U.S. must not see quality lowered below established values (objectives of your plant's waste discharge requirements).

This is fairly standard discussion in many CEQA documents, and therefore as we mentioned, no big deal of a issue to eventually include in the document, but "anti-degradation" is often left out just as much. My fault for missing your deadline, meant to get an email or short letter out to you before some other things came up.

Many thanks, Glenn Robertson

Glenn Robertson, Engineering Geologist
CEQA Coordinator
California Regional Water Quality Control Board, Santa Ana Region (8)
3737 Main Street, Suite 500
Riverside, CA 92501-3348
(951) 782-3259
Fax (951) 781-6288
Email grobertson@waterboards.ca.gov
Website: www.waterboards.ca.gov/santaana

WESTERN MUNICIPAL WATER DISTRICT

John V. Rossi
General Manager

Charles D. Field *Division 1* | Thomas P. Evans *Division 2* | Brenda Dennstedt *Division 3* | Donald D. Galleano *Division 4* | S.R. Al Lopez *Division 5*

RECEIVED
APR 28 2009
Public Works

April 27, 2009

L.F. (Sandy) Caldwell
City of Riverside
Public Works Department
3900 Main Street
Riverside, CA 92522

NOTICE OF PREPARATION – ENVIRONMENTAL IMPACT REPORT FOR WASTEWATER COLLECTION AND TREATMENT FACILITIES

Western Municipal Water District (Western) appreciates the opportunity to comment on the scope and content of the proposed Environmental Impact Report for Wastewater Collection and Treatment Facilities. The District concurs with the proposed scope and believes it adequately addresses the environmental issues applicable to the proposed project.

Further, Western supports the expansion and rehabilitation of critical public works infrastructure such as wastewater collection and treatment systems, as well as expanded production of tertiary-treated recycled water. District staff looks forward to reviewing the completed report.

JEFFREY D. SIMS
Assistant General Manager

JDS:sc

Mail to: P.O. Box 5286, Riverside, California 92517-5286
450 E. Alessandro Blvd. Riverside, California 92508
(951) 789-5000 • FAX (951) 780-3837
www.wmwd.com

Southern California Gas Company

A Sempra Energy company

RECEIVED

APR 30 2009

Public Works

April 27, 2009

Southern California Gas Company

9400 Oakdale Avenue
Chatsworth, CA
91313

Mailing Address:
P. O. Box 2300
Chatsworth, CA
91313-2300
M.L.9314

tel 818-701-4546
fax 818-701-3441

City of Riverside
Attn: L.F. Caldwell
3900 Main Street
Riverside, CA 92522

Subject: **DEIR – Utility Request - Riverside**
5950 Acorn Street

Southern California Gas Company, Transmission Department, has no facilities within your proposed improvement and will not impact our Transmission Lines. However, our Distribution department may have some facilities within your construction area. To assure no conflict with the local distribution's pipeline system, please contact (909) 335-7561.

Sincerely,

Rosalyn Squires
Transmission Pipeline Planning Assistant

Soboba Cultural Resource Department
P.O. Box 487 San Jacinto, Ca 92581
Phone: 951.654.5544 ext. 4137

SOBOBA BAND OF LUISEÑO INDIANS
EST. JUNE 19, 1883

RECEIVED
APR 17 2009
Public Works

April 15, 2009

Attn: L.F. Sandy Caldwell, P.E.
Principal Engineer
3900 Main Street
Riverside, Ca 92522

Re: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE CITY'S INTEGRATED MASTER PLAN FOR WASTEWATER COLLECTION AND TREATMENT FACILITIES.

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does fall within the bounds of our Tribal Traditional Use Areas. This project location is in close proximity to other known sites and is a shared use area that was used in ongoing trade between the Luiseno and Cahuilla tribes. Therefore it is regarded as highly sensitive to the people of Soboba.

Soboba Band of Luiseño Indians is requesting the following:

1. **Government to government** consultation under SB-18. Including the transfer of information to the Soboba Band of Luiseno Indians regarding the progress of this project should be done as soon as new developments occur.

2. The Soboba Band of Luiseño Indians is regarded as the lead consulting tribal entity for this project.

3. Working in and around traditional use areas intensifies the possibility of encountering cultural resources during the construction/excavation phase. For this reason the Soboba Band of Luiseño Indians requests that Native American Monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department to be present during any ground disturbing proceedings. Including surveys and archaeological testing.

4. At this time the Soboba Band does see a direct need for a Native American **Monitor** due to the high cultural significance of the area and is asking that the monitor be compensated for his/her time.

5. Request that proper procedures be taken and requests of the Tribe be honored (Please see the attachment)

Sincerely,

Joseph Ontiveros
Director
Soboba Cultural Resource Department
Cell Phone: 951.663.5279

Soboba Cultural Resource Department
P.O. Box 487 San Jacinto, Ca 92581
Phone: 951.654.5544 ext. 4137

SOBOBA BAND OF LUISEÑO INDIANS
EST. JUNE 19, 1883

Cultural Items (Artifacts). Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer should agree to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

The Developer should waive any and all claims to ownership of Native American ceremonial and cultural artifacts that may be found on the Project site. Upon completion of authorized and mandatory archeological analysis, the Developer should return said artifacts to the Soboba Band within a reasonable time period agreed to by the Parties and not to exceed (30) days from the initial recovery of the items.

Treatment and Disposition of Remains. Given that Native American human remains have been found during development of the Project and the Soboba Band has been designated the MLD, the following provisions shall apply to the Parties:

A. The Soboba Band shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and grave goods shall be treated and disposed of with appropriate dignity.

B. The Soboba Band, as MLD, shall complete its inspection within twenty-four (24) hours of receiving notification from either the Developer or the NAHC, as required by California Public Resources Code § 5097.98 (a). The Parties agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes.

C. Reburial of human remains shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The Soboba Band, as the MLD in consultation with the Developer, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains.

D. All parties are aware that the Soboba Band may wish to rebury the human remains and associated ceremonial and cultural items (artifacts) on or near, the site of their discovery, in an area that shall not be subject to future subsurface

Soboba Cultural Resource Department
P.O. Box 487 San Jacinto, Ca 92581
Phone: 951.654.5544 ext. 4137

disturbances. The Developer should accommodate on-site reburial in a location mutually agreed upon by the Parties.

E. The term "human remains" encompasses more than human bones because the Soboba Band's traditions periodically necessitated the ceremonial burning of human remains. Grave goods are those artifacts associated with any human remains. These items, and other funerary remnants and their ashes are to be treated in the same manner as human bone fragments or bones that remain intact

Coordination with County Coroner's Office. The Lead Agencies and the Developer should immediately contact both the Coroner and the Soboba Band in the event that any human remains are discovered during implementation of the Project. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c).

Non-Disclosure of Location Reburials. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r).

Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer agrees to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

WARREN D. WILLIAMS
General Manager-Chief Engineer

1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
FAX 951.788.9965
www.rcflood.org

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECEIVED
MAY 08 2009
Public Works

May 6, 2009

Mr. Sandy Caldwell
City of Riverside
Public Works Department
3900 Main Street
Riverside, CA 92522

Dear Mr. Caldwell:

Re: Notice of Preparation of a Draft Environmental Impact Report for the City of Riverside's Integrated Master Plan for Wastewater Collection and Treatment Facilities

This letter is written in response to the Notice of Preparation of a Draft Environmental Impact Report (DEIR) for the City of Riverside's Integrated Master Plan for Wastewater Collection and Treatment Facilities. The proposed project consists of a project-level analysis for the construction and operation of a 52.2, 55.2 and 63.9 million gallons per day (mgd) capacity Regional Water Quality Control Plant (RWQCP). The 52.2, 55.2 and 63.9 mgd capacity RWQCP facilities would be located within the existing RWQCP site area of approximately 106 acres generally bounded on the north side by the Santa Ana River, on the south side by Jurupa Avenue, on the west side by Van Buren Boulevard and on the east side by Peyton Road in the city of Riverside, Riverside County.

The Riverside County Flood Control and Water Conservation District has reviewed the Initial Study (IS) and has the following comment:

The proposed project is located within a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area and Regulatory Floodway as shown on the Community Panel Number 06065C0705G of the Flood Insurance Rate Map for the City of Riverside. It should be noted that development or encroachment within a FEMA-delineated floodway is generally prohibited. The City of Riverside should fully evaluate whether the construction and subsequent operation of the proposed project will be reasonably safe from flooding in accordance with Title 44, Section 60.3 of the Code of Federal Regulations. The proposed project may alter the limits of the mapped floodplain and its water surface elevation. Any impacts to the mapped floodplain should be evaluated and addressed in the DEIR.

Thank you for the opportunity to review the IS. Any further questions concerning this letter may be referred to Mai Son at 951.955.5418 or me at 951.955.1233.

Very truly yours,

Teresa Tung

TERESA TUNG
Engineering Project Manager

c: TLMA
Attn: Kathleen Browne

MTS:mcv
P8\125038

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

RECEIVED
MAY 07 2009
Public Works

April 24, 2009

Mr. ~~Ms.~~ Sandy Caldwell
City of Riverside
3900 Main Street
Riverside, California 92522

Dear Mr. ~~Ms.~~ Caldwell:

Change of Contact for Public Notices Relating to
CEQA Documents and Environmental Regulatory Permit Application

Effective immediately, please direct all Public Notices and CEQA documents addressed to The Metropolitan Water District of Southern California to:

Ms. Rebecca De Leon
Environmental Planning Team
The Metropolitan Water District of Southern California
700 N. Alameda Street, US3-230
Los Angeles, CA 90012

If you have any questions, please call me at (213) 217-6217. Thank you for your cooperation.

Very Truly Yours,

Delaine W. Shane

Delaine W. Shane
Manager, Environmental Planning Team

RDL
(Public Folders\EPT\2008 Letters\31-JUL-08A.doc)

NORTHWEST
MOSQUITO AND VECTOR CONTROL DISTRICT

President
Dennis Stanfield
County of Riverside

Vice President
George Read
County of Riverside

Secretary
John Knaak
City of Corona

Trustee
Thomas Buckley
City of Lake Elsinore

Trustee
Gary Bradley, Ph.D.
City of Riverside

Trustee
Berwin Hanna
City of Norco

Major S. Dhillon, Ph.D.
District Manager

May 6, 2009

L.F. (Sandy) Caldwell, P.E.
City of Riverside, Public Works Department
3900 Main Street
Riverside, CA 92522

Re: Draft EIR, City of Riverside's Integrated Master Plan for Wastewater Collection and Treatment Facilities

We are government agency whose primary objective is to protect the public from vectors and vector-borne diseases. Any impoundment of water which stands 3 days or longer can produce mosquitoes, and becomes a public nuisance or a health threat. Our concern with this facility would be its potential to breed mosquitoes and therefore expose nearby residents to West Nile virus and other mosquito-borne diseases.

Our request would be that the plans include a provision for unlimited access to our district technicians for the purpose of inspection and treatment mosquito breeding sources at the facility as often as necessary.

Sincerely,

Marta Tanaka

Marta Tanaka
Field Supervisor

Cc: Major S. Dhillon, Ph.D., District Manager

RECEIVED
MAY 07 2009
Public Works

1966 Compton Ave. • Corona, CA 92881-3318 • (951) 340-9792 • FAX (951) 340-2515
e.mail: office@northwestmosquitovector.org

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

April 10, 2009

Ms. Sandy Caldwell, P.E.
City of Riverside
Public Works Department
3900 Main Street
Riverside, CA 92522

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APR 15 2009
Public Works

Dear Ms. Caldwell:

Notice of Preparation of a Draft Environmental Impact Report (Draft EIR) for the City of Riverside's Integrated Master Plan for Wastewater Collection and Treatment Facilities

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The SCAQMD's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft environmental impact report (EIR). Please send the SCAQMD a copy of the Draft EIR upon its completion. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality analysis and electronic versions of all air quality modeling and health risk assessment files. Electronic files include spreadsheets, database files, input files, output files, etc., and does not mean Adobe PDF files. Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. Alternatively, the lead agency may wish to consider using the California Air Resources Board (CARB) approved URBEMIS 2007 Model. This model is available on the SCAQMD Website at: www.urbemis.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has developed a methodology for calculating PM2.5 emissions from construction and operational activities and processes. In connection with developing PM2.5 calculation methodologies, the SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD requests that the lead agency quantify PM2.5 emissions and compare the results to the recommended PM2.5 significance thresholds. Guidance for calculating PM2.5 emissions and PM2.5 significance thresholds can be found at the following internet address: http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html.

In addition to analyzing regional air quality impacts the SCAQMD recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized significance analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at http://www.aqmd.gov/ceqa/handbook/LST/LST.html.

It is recommended that lead agencies for projects generating or attracting vehicular trips, especially heavy-duty diesel-fueled vehicles, perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis") can be found on the SCAQMD's CEQA web pages at the following internet address: http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html. An analysis of all toxic air contaminant impacts due to the decommissioning or use of equipment potentially generating such air pollutants should also be included.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. To assist the Lead Agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the SCAQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additional mitigation measures can be found on the SCAQMD's CEQA web pages at the following internet address: www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html Additionally, SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required. Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/prdas/aqguide/aqguide.html. In addition, guidance on sitting incompatible land uses can be found in the California Air Resources Board's Air Quality and Land Use Handbook: A Community Perspective, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's World Wide Web Homepage (http://www.aqmd.gov).

The SCAQMD is willing to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. Please call Daniel Garcia, Air Quality Specialist, CEQA Section, at (909) 396-3304 if you have any questions regarding this letter.

Sincerely,

Michael Krause

Steve Smith, Ph.D.
for Program Supervisor, CEQA Section
Planning, Rule Development and Area Sources

SS:DG:AK
RVC090409-02AK
Control Number

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maziar Movassaghi, Acting Director
5796 Corporate Avenue
Cypress, California 90630

Arnold Schwarzenegger
Governor

RECEIVED
MAY 11 2009
Public Works

May 7, 2009

Mr. ~~Ms.~~ Sandy Cladwell
City of Riverside, Public Works Department
3900 Main Street, 3rd Floor
Riverside, California 92522

NOTICE OF PREPARATION FOR A DRAFT ENVIRONMENTAL IMPACT REPORT FOR CITY OF RIVERSIDE'S INTEGRATED MASTER PLAN FOR WATEWATER COLLECTION AND TREATMENT FACILITIES PROJECT (SCH# 2009041054), RIVERSIDE COUNTY

Dear Mr. ~~Ms.~~ Cladwell:

The Department of Toxic Substances Control (DTSC) has received your submitted Initial Study and Notice of Preparation (NOP) for a subsequent draft Environmental Impact Report (EIR) No. 507 for the above-mentioned Project. The following project description is stated in your document: "The proposed project would include the rehabilitation and expansion of the City's existing collection infrastructure, due to the age of the system as well as new facilities to meet additional capacity needs. This project consists of three main pieces, plus supporting work for each of these pieces. The pieces include the Plant 1 Primary Expansion, the Plant 1 Membrane Bioreactor (MBR) facilities and the Acid Phase Digester. The proposed project would include the construction of a new maintenance building and the expansion of existing parking lot located in the eastern portion of the project site. In addition, the project would include the replacement/upgrade of the existing public address (PA) system. The project is located at 5950 Acorn Street in City of Riverside, California. The total site area is approximately 106 acres, of which approximately 70% is currently developed. Surrounding land uses include Industrial and Business/Office Park." DTSC has the following comments:

1) The EIR should identify the current or historic uses at the project site that may have resulted in a release of hazardous wastes/substances, and any known or potentially contaminated sites within the proposed Project area. For all identified sites, the EIR should evaluate whether conditions at the site may pose a threat to human health or the environment. Following are the databases of some of the pertinent regulatory agencies:

- National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).

- Envirostor: A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).

- Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA.

- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.

- Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.

- Leaking Underground Storage Tanks (LUST) / Spills, Leaks, Investigations and Cleanups (SLIC): A list that is maintained by Regional Water Quality Control Boards.

- Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.

- The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).

2) The EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may be contaminated, and the government agency to provide appropriate regulatory oversight. If necessary, DTSC would require an oversight agreement in order to review such documents. Please see comment No. 11 below for more information.

3) All environmental investigations, sampling and/or remediation for the site should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The findings of any investigations, including any Phase I or II Environmental Site Assessment Investigations should be summarized in the document. All sampling results in which hazardous substances were found should be clearly summarized in a table.

4) Proper investigation, sampling and remedial actions overseen by the respective regulatory agencies, if necessary, should be conducted at the site prior to the new development or any construction. All closure, certification or remediation approval reports by these agencies should be included in the EIR.

5) If buildings or other structures, asphalt or concrete-paved surface areas are being planned to be demolished, an investigation should be conducted for the presence of other related hazardous chemicals, lead-based paints or products, mercury, and asbestos containing materials (ACMs). If other hazardous chemicals, lead-based paints or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies.

6) Project construction may require soil excavation or filling in certain areas. Sampling may be required. If soil is contaminated, it must be properly disposed and not simply placed in another location onsite. Land Disposal Restrictions (LDRs) may be applicable to such soils. Also, if the project proposes to import soil to backfill the areas excavated, sampling should be conducted to ensure that the imported soil is free of contamination.

7) Human health and the environment of sensitive receptors should be protected during the construction or demolition activities. If it is found necessary, a study of the site and a health risk assessment overseen and approved by the appropriate government agency and a qualified health risk assessor should be conducted to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment.

8) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility should also obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA.

9) If during construction/demolition of the project, the soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented.

10) If the site was used for agricultural, livestock or related activities, onsite soils and groundwater might contain pesticides, agricultural chemical, organic waste or other related residue. Proper investigation, and remedial actions, if necessary, should be conducted under the oversight of and approved by a government agency at the site prior to construction of the project.

11) DTSC can provide guidance for cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see www.dtsc.ca.gov/ SiteCleanup/Brownfields, or contact Ms. Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489.

12) In future CEQA documents, please provide your e-mail address, so DTSC can send you comments both electronically and by mail.

If you have any questions regarding this letter, please contact Mr. Rafiq Ahmed, Project Manager, at rahmed@dtsc.ca.gov or by phone at (714) 484-5491.

Sincerely,

Greg Holmes
Unit Chief
Brownfields and Environmental Restoration Program - Cypress Office

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
state.clearinghouse@opr.ca.gov

CEQA Tracking Center
Department of Toxic Substances Control
Office of Environmental Planning and Analysis
1001 I Street, 22nd Floor, M.S. 22-2
Sacramento, California 95814
nritter@dtsc.ca.gov

CEQA# 2573

Appendix B

Air Quality Data Sheets

ESA

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\cmp\Application Data\Urbemis\Version9a\Projects\Riverside WWTP.urb924

Project Name: Riverside WWTP Exp

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	11.38	72.63	63.02	0.05	67.79	4.56	72.35	14.18	4.19	18.38	9,806.83
2011 TOTALS (lbs/day unmitigated)	4.21	19.60	31.68	0.03	0.13	1.32	1.45	0.05	1.21	1.26	4,573.65
2012 TOTALS (lbs/day unmitigated)	52.89	18.38	30.41	0.03	0.14	1.21	1.34	0.05	1.11	1.15	4,644.35

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 1/1/2010-1/1/2010 Active Days: 1	0.06	0.79	0.30	0.00	0.77	0.03	0.80	0.16	0.03	0.19	106.89
Demolition 01/01/2010-05/01/2010	0.06	0.79	0.30	0.00	0.77	0.03	0.80	0.16	0.03	0.19	106.89
Fugitive Dust	0.00	0.00	0.00	0.00	0.76	0.00	0.76	0.16	0.00	0.16	0.00
Demo Off Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo On Road Diesel	0.06	0.79	0.30	0.00	0.00	0.03	0.04	0.00	0.03	0.03	106.89
Demo Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 1/4/2010-4/30/2010 Active Days: 85	7.78	40.17	46.67	0.03	0.91	3.01	3.92	0.21	2.76	2.97	6,426.98
Asphalt 01/04/2010-06/02/2010	3.17	18.50	12.77	0.00	0.01	1.59	1.60	0.01	1.46	1.47	1,745.95
Paving Off-Gas	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.98	18.01	10.28	0.00	0.00	1.57	1.57	0.00	1.44	1.44	1,418.44
Paving On Road Diesel	0.03	0.35	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	47.62
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Building 01/04/2010-03/02/2012	4.55	20.89	33.60	0.03	0.13	1.39	1.52	0.05	1.27	1.32	4,574.14
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10	1,621.20
Building Vendor Trips	0.28	3.18	2.61	0.01	0.02	0.13	0.15	0.01	0.12	0.13	604.38
Building Worker Trips	0.62	1.17	19.79	0.02	0.11	0.06	0.17	0.04	0.05	0.09	2,348.57
Demolition 01/01/2010-05/01/2010	0.06	0.79	0.30	0.00	0.77	0.03	0.80	0.16	0.03	0.19	106.89
Fugitive Dust	0.00	0.00	0.00	0.00	0.76	0.00	0.76	0.16	0.00	0.16	0.00
Demo Off Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo On Road Diesel	0.06	0.79	0.30	0.00	0.00	0.03	0.04	0.00	0.03	0.03	106.89
Demo Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Time Slice 5/3/2010-5/3/2010 Active Days: 1	7.72	39.39	46.36	0.03	0.15	2.98	3.12	0.05	2.73	2.79	6,320.09
Asphalt 01/04/2010-06/02/2010	3.17	18.50	12.77	0.00	0.01	1.59	1.60	0.01	1.46	1.47	1,745.95
Paving Off-Gas	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.98	18.01	10.28	0.00	0.00	1.57	1.57	0.00	1.44	1.44	1,418.44
Paving On Road Diesel	0.03	0.35	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	47.62
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Building 01/04/2010-03/02/2012	4.55	20.89	33.60	0.03	0.13	1.39	1.52	0.05	1.27	1.32	4,574.14
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10	1,621.20
Building Vendor Trips	0.28	3.18	2.61	0.01	0.02	0.13	0.15	0.01	0.12	0.13	604.38
Building Worker Trips	0.62	1.17	19.79	0.02	0.11	0.06	0.17	0.04	0.05	0.09	2,348.57

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Time Slice 5/4/2010-6/2/2010 Active Days: 22	11.38	**72.63**	**63.02**	**0.05**	**67.79**	**4.56**	**72.35**	**14.18**	**4.19**	**18.38**	**9,806.83**
Asphalt 01/04/2010-06/02/2010	3.17	18.50	12.77	0.00	0.01	1.59	1.60	0.01	1.46	1.47	1,745.95
Paving Off-Gas	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.98	18.01	10.28	0.00	0.00	1.57	1.57	0.00	1.44	1.44	1,418.44
Paving On Road Diesel	0.03	0.35	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	47.62
Paving Worker Trips	0.07	0.14	2.36	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.89
Building 01/04/2010-03/02/2012	4.55	20.89	33.60	0.03	0.13	1.39	1.52	0.05	1.27	1.32	4,574.14
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10	1,621.20
Building Vendor Trips	0.28	3.18	2.61	0.01	0.02	0.13	0.15	0.01	0.12	0.13	604.38
Building Worker Trips	0.62	1.17	19.79	0.02	0.11	0.06	0.17	0.04	0.05	0.09	2,348.57
Fine Grading 05/04/2010-08/02/2010	3.67	33.24	16.65	0.01	67.64	1.59	69.23	14.13	1.46	15.59	3,486.74
Fine Grading Dust	0.00	0.00	0.00	0.00	67.60	0.00	67.60	14.12	0.00	14.12	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Fine Grading On Road Diesel	0.63	8.19	3.15	0.01	0.04	0.34	0.37	0.01	0.31	0.32	1,115.03
Fine Grading Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39

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Time Slice 6/3/2010-8/2/2010 Active Days: 43	8.22	54.13	50.25	0.04	67.78	2.98	70.75	14.18	2.73	16.91	8,060.88
Building 01/04/2010-03/02/2012	4.55	20.89	33.60	0.03	0.13	1.39	1.52	0.05	1.27	1.32	4,574.14
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10	1,621.20
Building Vendor Trips	0.28	3.18	2.61	0.01	0.02	0.13	0.15	0.01	0.12	0.13	604.38
Building Worker Trips	0.62	1.17	19.79	0.02	0.11	0.06	0.17	0.04	0.05	0.09	2,348.57
Fine Grading 05/04/2010-08/02/2010	3.67	33.24	16.65	0.01	67.64	1.59	69.23	14.13	1.46	15.59	3,486.74
Fine Grading Dust	0.00	0.00	0.00	0.00	67.60	0.00	67.60	14.12	0.00	14.12	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Fine Grading On Road Diesel	0.63	8.19	3.15	0.01	0.04	0.34	0.37	0.01	0.31	0.32	1,115.03
Fine Grading Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39
Time Slice 8/3/2010-9/3/2010 Active Days: 24	4.55	20.89	33.60	0.03	0.13	1.39	1.52	0.05	1.27	1.32	4,574.14
Building 01/04/2010-03/02/2012	4.55	20.89	33.60	0.03	0.13	1.39	1.52	0.05	1.27	1.32	4,574.14
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10	1,621.20
Building Vendor Trips	0.28	3.18	2.61	0.01	0.02	0.13	0.15	0.01	0.12	0.13	604.38
Building Worker Trips	0.62	1.17	19.79	0.02	0.11	0.06	0.17	0.04	0.05	0.09	2,348.57
Time Slice 9/6/2010-12/31/2010 Active Days: 85	6.64	38.64	42.86	0.03	0.14	2.27	2.41	0.05	2.08	2.13	6,413.18
Building 01/04/2010-03/02/2012	4.55	20.89	33.60	0.03	0.13	1.39	1.52	0.05	1.27	1.32	4,574.14
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10	1,621.20
Building Vendor Trips	0.28	3.18	2.61	0.01	0.02	0.13	0.15	0.01	0.12	0.13	604.38
Building Worker Trips	0.62	1.17	19.79	0.02	0.11	0.06	0.17	0.04	0.05	0.09	2,348.57
Trenching 09/04/2010-01/02/2011	2.09	17.75	9.26	0.00	0.01	0.88	0.89	0.00	0.81	0.81	1,839.03
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.39

5/28/2009 4:54:54 PM

Time Slice 1/3/2011-12/30/2011 Active Days: 260	4.21	19.60	31.68	0.03	0.13	1.32	1.45	0.05	1.21	1.26	4,573.65
Building 01/04/2010-03/02/2012	4.21	19.60	31.68	0.03	0.13	1.32	1.45	0.05	1.21	1.26	4,573.65
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.26	2.86	2.42	0.01	0.02	0.12	0.14	0.01	0.11	0.12	604.39
Building Worker Trips	0.57	1.07	18.42	0.02	0.11	0.06	0.17	0.04	0.05	0.09	2,348.06
Time Slice 1/2/2012-1/3/2012 Active Days: 2	3.89	18.35	29.89	0.03	0.13	1.21	1.34	0.05	1.10	1.15	4,573.26
Building 01/04/2010-03/02/2012	3.89	18.35	29.89	0.03	0.13	1.21	1.34	0.05	1.10	1.15	4,573.26
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.24	2.55	2.24	0.01	0.02	0.11	0.13	0.01	0.10	0.10	604.41
Building Worker Trips	0.52	0.98	17.14	0.02	0.11	0.06	0.18	0.04	0.05	0.09	2,347.65
Time Slice 1/4/2012-3/2/2012 Active Days: 43	52.89	18.38	30.41	0.03	0.14	1.21	1.34	0.05	1.11	1.15	4,644.35
Building 01/04/2010-03/02/2012	3.89	18.35	29.89	0.03	0.13	1.21	1.34	0.05	1.10	1.15	4,573.26
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.24	2.55	2.24	0.01	0.02	0.11	0.13	0.01	0.10	0.10	604.41
Building Worker Trips	0.52	0.98	17.14	0.02	0.11	0.06	0.18	0.04	0.05	0.09	2,347.65
Coating 01/04/2012-07/02/2012	49.00	0.03	0.52	0.00	0.00	0.00	0.01	0.00	0.00	0.00	71.09
Architectural Coating	48.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.52	0.00	0.00	0.00	0.01	0.00	0.00	0.00	71.09
Time Slice 3/5/2012-7/2/2012 Active Days: 86	49.00	0.03	0.52	0.00	0.00	0.00	0.01	0.00	0.00	0.00	71.09
Coating 01/04/2012-07/02/2012	49.00	0.03	0.52	0.00	0.00	0.00	0.01	0.00	0.00	0.00	71.09
Architectural Coating	48.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.52	0.00	0.00	0.00	0.01	0.00	0.00	0.00	71.09

5/28/2009 4:54:54 PM

Phase Assumptions

Phase: Demolition 1/1/2010 - 5/1/2010 - Default Demolition Description

Building Volume Total (cubic feet): 118370.8

Building Volume Daily (cubic feet): 1815.85

On Road Truck Travel (VMT): 25.22

Off-Road Equipment:

Phase: Fine Grading 5/4/2010 - 8/2/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 13.54

Maximum Daily Acreage Disturbed: 3.38

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 263.08

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: Trenching 9/4/2010 - 1/2/2011 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 1/4/2010 - 6/2/2010 - Default Paving Description

Acres to be Paved: 3.38

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

5/28/2009 4:54:54 PM

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 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 1/4/2010 - 3/2/2012 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 1/4/2012 - 7/2/2012 - 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

5/15/2009 4:20:35 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name:

Project Name: Riverside WWTP Exp

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (tons/year unmitigated)	3.99	11.12	10.37	0.01	12.61	0.69	13.30	2.64	0.63	3.27	1,560.35
2011 TOTALS (tons/year unmitigated)	3.87	10.34	9.83	0.01	12.61	0.64	13.26	2.64	0.59	3.23	1,551.17
2012 TOTALS (tons/year unmitigated)	0.01	0.04	0.04	0.00	0.05	0.00	0.05	0.01	0.00	0.01	5.97

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	3.99	11.12	10.37	0.01	12.61	0.69	13.30	2.64	0.63	3.27	1,560.35

5/15/2009 4:20:35 PM

Demolition 01/01/2010-02/01/2010	0.01	0.09	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	9.07
Fugitive Dust	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.00	0.01	0.00
Demo Off Road Diesel	0.01	0.08	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	7.70
Demo 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
Demo Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37
Asphalt 01/04/2010-01/02/2012	0.40	2.37	1.65	0.00	0.00	0.21	0.21	0.00	0.19	0.19	222.62
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.39	2.34	1.34	0.00	0.00	0.20	0.20	0.00	0.19	0.19	184.40
Paving On Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
Paving Worker Trips	0.01	0.02	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.39
Building 01/04/2010-01/02/2012	0.64	2.96	5.62	0.01	0.02	0.19	0.22	0.01	0.18	0.18	759.90
Building Off Road Diesel	0.47	2.15	1.46	0.00	0.00	0.16	0.16	0.00	0.14	0.14	210.76
Building Vendor Trips	0.05	0.59	0.48	0.00	0.00	0.02	0.03	0.00	0.02	0.02	112.39
Building Worker Trips	0.12	0.22	3.68	0.00	0.02	0.01	0.03	0.01	0.01	0.02	436.75
Coating 01/04/2010-01/02/2012	2.26	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.27
Architectural Coating	2.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.27
Fine Grading 01/04/2010-01/02/2012	0.41	3.39	1.81	0.00	12.59	0.17	12.75	2.63	0.15	2.78	326.41
Fine Grading Dust	0.00	0.00	0.00	0.00	12.58	0.00	12.58	2.63	0.00	2.63	0.00
Fine Grading Off Road Diesel	0.39	3.25	1.62	0.00	0.00	0.16	0.16	0.00	0.15	0.15	292.15
Fine Grading On Road Diesel	0.01	0.13	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	18.08
Fine Grading Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.17

5/15/2009 4:20:35 PM

Trenching 01/04/2010-01/02/2012	0.27	2.31	1.20	0.00	0.00	0.11	0.12	0.00	0.11	0.11	239.07
Trenching Off Road Diesel	0.27	2.30	1.07	0.00	0.00	0.11	0.11	0.00	0.10	0.10	222.90
Trenching Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.17

5/15/2009 4:20:35 PM

2011	3.87	10.34	9.83	0.01	12.61	0.64	13.26	2.64	0.59	3.23	1,551.17
Asphalt 01/04/2010-01/02/2012	0.38	2.25	1.61	0.00	0.00	0.20	0.20	0.00	0.18	0.18	222.61
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.36	2.22	1.32	0.00	0.00	0.20	0.20	0.00	0.18	0.18	184.40
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
Paving Worker Trips	0.01	0.02	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.38
Building 01/04/2010-01/02/2012	0.59	2.77	5.29	0.01	0.02	0.18	0.21	0.01	0.17	0.17	759.81
Building Off Road Diesel	0.44	2.04	1.41	0.00	0.00	0.15	0.15	0.00	0.14	0.14	210.76
Building Vendor Trips	0.05	0.53	0.45	0.00	0.00	0.02	0.03	0.00	0.02	0.02	112.40
Building Worker Trips	0.11	0.20	3.43	0.00	0.02	0.01	0.03	0.01	0.01	0.02	436.66
Coating 01/04/2010-01/02/2012	2.26	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.27
Architectural Coating	2.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.27
Fine Grading 01/04/2010-01/02/2012	0.38	3.17	1.73	0.00	12.59	0.16	12.74	2.63	0.14	2.77	326.40
Fine Grading Dust	0.00	0.00	0.00	0.00	12.58	0.00	12.58	2.63	0.00	2.63	0.00
Fine Grading Off Road Diesel	0.37	3.05	1.55	0.00	0.00	0.15	0.15	0.00	0.14	0.14	292.15
Fine Grading On Road Diesel	0.01	0.12	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	18.08
Fine Grading Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.17
Trenching 01/04/2010-01/02/2012	0.26	2.14	1.18	0.00	0.00	0.11	0.11	0.00	0.10	0.10	239.07
Trenching Off Road Diesel	0.25	2.13	1.05	0.00	0.00	0.11	0.11	0.00	0.10	0.10	222.90
Trenching Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.17

5/15/2009 4:20:35 PM

2012	0.01	0.04	0.04	0.00	0.05	0.00	0.05	0.01	0.00	0.01	5.97
Asphalt 01/04/2010-01/02/2012	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
Building 01/04/2010-01/02/2012	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.92
Building Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43
Building Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68
Coating 01/04/2010-01/02/2012	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Architectural Coating	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Fine Grading 01/04/2010-01/02/2012	0.00	0.01	0.01	0.00	0.05	0.00	0.05	0.01	0.00	0.01	1.26
Fine Grading Dust	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
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	0.07
Fine Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Trenching 01/04/2010-01/02/2012	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92
Trenching Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06

Phase Assumptions

Phase: Demolition 1/1/2010 - 2/1/2010 - Default Demolition Description

5/15/2009 4:20:35 PM

Building Volume Total (cubic feet): 118370.8

Building Volume Daily (cubic feet): 0

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 1/4/2010 - 1/2/2012 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 19.38

Maximum Daily Acreage Disturbed: 4.84

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 32.82

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: Trenching 1/4/2010 - 1/2/2012 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 1/4/2010 - 1/2/2012 - Default Paving Description

Acres to be Paved: 4.84

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

5/15/2009 4:20:35 PM

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 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 1/4/2010 - 1/2/2012 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 1/4/2010 - 1/2/2012 - 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 C

California Natural Diversity Database (CNDDB) Records Search

ESA

ELMTYPE	SNAME	CNAME	ELMCODE	OCCNUMBE	PRESENCE	OCCTYPE	OCCRANK	SENSITIVE	FEDLIST	CALLIST
1	Abronia villosa var. aurita	chaparral sand-verbena	PDNYC010P1	26	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Abronia villosa var. aurita	chaparral sand-verbena	PDNYC010P1	25	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Accipiter cooperii	Cooper's hawk	ABNKC12040	44	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Actinemys marmorata pallida	southwestern pond turtle	ARAAD02032	34	Possibly Extirpated	Natural/Native occurrence	X	Y	None	None
2	Actinemys marmorata pallida	southwestern pond turtle	ARAAD02032	257	Presumed Extant	Natural/Native occurrence	U	Y	None	None
2	Actinemys marmorata pallida	southwestern pond turtle	ARAAD02032	148	Presumed Extant	Natural/Native occurrence	B	Y	None	None
2	Actinemys marmorata pallida	southwestern pond turtle	ARAAD02032	49	Possibly Extirpated	Natural/Native occurrence	X	Y	None	None
2	Actinemys marmorata pallida	southwestern pond turtle	ARAAD02032	272	Presumed Extant	Natural/Native occurrence	U	Y	None	None
2	Agelaius tricolor	tricolored blackbird	ABPBXB0020	365	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Agelaius tricolor	tricolored blackbird	ABPBXB0020	414	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Agelaius tricolor	tricolored blackbird	ABPBXB0020	217	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	121	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	124	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	47	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	46	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	120	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	119	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	45	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	137	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	109	Presumed Extant	Natural/Native occurrence	A	N	None	None
1	Allium munzii	Munz's onion	PMLIL022Z0	1	Extirpated	Natural/Native occurrence	X	N	Endangered	Threatened
1	Allium munzii	Munz's onion	PMLIL022Z0	20	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
1	Allium munzii	Munz's onion	PMLIL022Z0	2	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
1	Allium munzii	Munz's onion	PMLIL022Z0	16	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
1	Allium munzii	Munz's onion	PMLIL022Z0	23	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
1	Allium munzii	Munz's onion	PMLIL022Z0	5	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Threatened
1	Allium munzii	Munz's onion	PMLIL022Z0	9	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Threatened
1	Ambrosia pumila	dwarf burr ambrosia	PDAST0C0M0	50	Extirpated	Natural/Native occurrence	X	N	Endangered	None
1	Ambrosia pumila	dwarf burr ambrosia	PDAST0C0M0	54	Presumed Extant	Natural/Native occurrence	U	N	Endangered	None
2	Amphispiza belli belli	Bell's sage sparrow	ABPBX97021	36	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Amphispiza belli belli	Bell's sage sparrow	ABPBX97021	9	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Amphispiza belli belli	Bell's sage sparrow	ABPBX97021	34	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Amphispiza belli belli	Bell's sage sparrow	ABPBX97021	33	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Anaxyrus californicus	arroyo toad	AAABB01230	5	Presumed Extant	Natural/Native occurrence	U	N	Endangered	None
2	Aquila chrysaetos	golden eagle	ABNKC22010	125	Presumed Extant	Natural/Native occurrence	A	Y	None	None
1	Arenaria paludicola	marsh sandwort	PDCAR040L0	8	Extirpated	Natural/Native occurrence	X	N	Endangered	Endangered
2	Asio otus	long-eared owl	ABNSB13010	35	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Asio otus	long-eared owl	ABNSB13010	36	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	43	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	47	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	56	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	358	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	82	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	53	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	75	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	77	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	72	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	78	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	84	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	209	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	295	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	6	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	121	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	240	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	325	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	348	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	133	Presumed Extant	Natural/Native occurrence	A	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	191	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	120	Presumed Extant	Natural/Native occurrence	D	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	181	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	187	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	217	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	194	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	258	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	92	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	331	Presumed Extant	Natural/Native occurrence	B	N	None	None

2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	91	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis hyperythra	orange-throated whiptail	ARACJ02060	326	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis tigris stejnegeri	coastal western whiptail	ARACJ02143	83	Presumed Extant	Natural/Native occurrence	U	Y	None	None
2	Aspidoscelis tigris stejnegeri	coastal western whiptail	ARACJ02143	33	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis tigris stejnegeri	coastal western whiptail	ARACJ02143	34	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Aspidoscelis tigris stejnegeri	coastal western whiptail	ARACJ02143	2	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Astragalus hornii var. hornii	Horn's milk-vetch	PDFAB0F421	1	Extirpated	Natural/Native occurrence	X	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	35	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	335	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	561	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	439	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	882	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1044	Presumed Extant	Natural/Native occurrence	A	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1070	Presumed Extant	Natural/Native occurrence	A	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	565	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	441	Presumed Extant	Natural/Native occurrence	D	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	838	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	929	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	957	Presumed Extant	Natural/Native occurrence	A	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	636	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	273	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1076	Extirpated	Natural/Native occurrence	X	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	664	Extirpated	Natural/Native occurrence	X	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	956	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	890	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	940	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1206	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1045	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1199	Presumed Extant	Natural/Native occurrence	D	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1069	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1198	Presumed Extant	Natural/Native occurrence	D	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1071	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1074	Extirpated	Natural/Native occurrence	X	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1073	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Athene cunicularia	burrowing owl	ABNSB10010	1072	Presumed Extant	Natural/Native occurrence	C	N	None	None
1	Berberis nevinii	Nevin's barberry	PDBER060A0	47	Presumed Extant	Transplant Outside of Native H	U	N	Endangered	Endangered
1	California macrophylla	round-leaved filaree	PDGER01070	81	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	California macrophylla	round-leaved filaree	PDGER01070	15	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Callitropsis forbesii	Tecate cypress	PGCUP040C0	2	Presumed Extant	Transplant Outside of Native H	U	N	None	None
1	Calochortus plummerae	Plummer's mariposa-lily	PMLIL0D150	93	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Calochortus plummerae	Plummer's mariposa-lily	PMLIL0D150	94	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Calochortus plummerae	Plummer's mariposa-lily	PMLIL0D150	91	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Calochortus plummerae	Plummer's mariposa-lily	PMLIL0D150	57	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Calochortus weedii var. intermedius	intermediate mariposa-lily	PMLIL0D1J1	37	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Calochortus weedii var. intermedius	intermediate mariposa-lily	PMLIL0D1J1	61	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Calochortus weedii var. intermedius	intermediate mariposa-lily	PMLIL0D1J1	62	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Calochortus weedii var. intermedius	intermediate mariposa-lily	PMLIL0D1J1	60	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Carduelis lawrencei	Lawrence's goldfinch	ABPBY06100	3	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Carex comosa	bristly sedge	PMCYP032Y0	1	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
2	Carolella busckana	Busck's gallmoth	IILEM2X090	1	Extirpated	Natural/Native occurrence	X	N	None	None
2	Carolella busckana	Busck's gallmoth	IILEM2X090	3	Extirpated	Natural/Native occurrence	X	N	None	None
2	Catostomus santaanae	Santa Ana sucker	AFCJC02190	21	Presumed Extant	Natural/Native occurrence	C	N	Threatened	None
2	Catostomus santaanae	Santa Ana sucker	AFCJC02190	27	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Catostomus santaanae	Santa Ana sucker	AFCJC02190	22	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Catostomus santaanae	Santa Ana sucker	AFCJC02190	17	Presumed Extant	Natural/Native occurrence	D	N	Threatened	None
2	Catostomus santaanae	Santa Ana sucker	AFCJC02190	18	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Catostomus santaanae	Santa Ana sucker	AFCJC02190	19	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Catostomus santaanae	Santa Ana sucker	AFCJC02190	25	Presumed Extant	Natural/Native occurrence	D	N	Threatened	None
2	Catostomus santaanae	Santa Ana sucker	AFCJC02190	31	Presumed Extant	Natural/Native occurrence	C	N	Threatened	None
2	Catostomus santaanae	Santa Ana sucker	AFCJC02190	30	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
1	Caulanthus simulans	Payson's jewel-flower	PDBRA0M0H0	17	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Caulanthus simulans	Payson's jewel-flower	PDBRA0M0H0	16	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Centromadia pungens ssp. laevis	smooth tarplant	PDAST4R0R4	4	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Centromadia pungens ssp. laevis	smooth tarplant	PDAST4R0R4	2	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Centromadia pungens ssp. laevis	smooth tarplant	PDAST4R0R4	3	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Centromadia pungens ssp. laevis	smooth tarplant	PDAST4R0R4	8	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Centromadia pungens ssp. laevis	smooth tarplant	PDAST4R0R4	88	Presumed Extant	Natural/Native occurrence	U	N	None	None

1	Centromadia pungens ssp. laevis	smooth tarplant	PDAST4R0R4	30	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Centromadia pungens ssp. laevis	smooth tarplant	PDAST4R0R4	7	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Centromadia pungens ssp. laevis	smooth tarplant	PDAST4R0R4	62	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Ceratochrysis longimala	A cuckoo wasp	IIHYM71040	1	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	82	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	22	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	83	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	65	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	84	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	61	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	81	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	80	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	51	Presumed Extant	Natural/Native occurrence	D	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	59	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	86	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	54	Presumed Extant	Natural/Native occurrence	D	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	85	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	13	Presumed Extant	Natural/Native occurrence	D	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	17	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	60	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	16	Presumed Extant	Natural/Native occurrence	D	N	None	None
2	Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	2	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Charina trivirgata	rosy boa	ARADA01020	4	Presumed Extant	Natural/Native occurrence	D	N	None	None
2	Charina umbratica	southern rubber boa	ARADA01011	1	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	59	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	5	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	4	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	13	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	65	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	66	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	12	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	9	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	15	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	14	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	60	Presumed Extant	Natural/Native occurrence	B	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	53	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	10	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	16	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	11	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
2	Charina umbratica	southern rubber boa	ARADA01011	8	Presumed Extant	Natural/Native occurrence	U	Y	None	Threatened
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	3	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	29	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	2	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	28	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	81	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	86	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	6	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	23	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	76	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	77	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	11	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe parryi var. parryi	Parry's spineflower	PDPGN040J2	27	Presumed Extant	Natural/Native occurrence	A	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	19	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	18	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	60	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	58	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	21	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	24	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	26	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	29	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	59	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	28	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	22	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	27	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	25	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	23	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	20	Presumed Extant	Natural/Native occurrence	B	N	None	None

1	Chorizanthe xanti var. leucotheca	white-bracted spineflower	PDPGN040Z1	9	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Cicindela tranquebarica viridissima	greenest tiger beetle	IICOL02201	1	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Cladium californicum	California saw-grass	PMCYP04010	3	Extirpated	Natural/Native occurrence	X	N	None	None
2	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	36	Presumed Extant	Natural/Native occurrence	U	N	Candidate	Endangered
2	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	169	Presumed Extant	Natural/Native occurrence	U	N	Candidate	Endangered
2	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	79	Possibly Extirpated	Natural/Native occurrence	X	N	Candidate	Endangered
2	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	35	Presumed Extant	Natural/Native occurrence	U	N	Candidate	Endangered
2	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	168	Presumed Extant	Natural/Native occurrence	B	N	Candidate	Endangered
2	Coleonyx variegatus abbotti	San Diego banded gecko	ARACD01031	5	Presumed Extant	Natural/Native occurrence	C	N	None	None
1	Cordylanthus maritimus ssp. maritimus	salt marsh bird's-beak	PDSCR0J0C2	16	Possibly Extirpated	Natural/Native occurrence	X	N	Endangered	Endangered
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	34	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	64	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	72	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	67	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	60	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	59	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	33	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	49	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	95	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	43	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	21	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	89	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	57	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	42	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	40	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	41	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	88	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	12	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	26	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	25	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	70	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	71	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Crotalus ruber ruber	northern red-diamond rattlesnake	ARADE02091	11	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Dendroica petechia brewsteri	yellow warbler	ABPBX03018	75	Presumed Extant	Natural/Native occurrence	A	N	None	None
2	Diadophis punctatus modestus	San Bernardino ringneck snake	ARADB10015	5	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Dipodomys merriami parvus	San Bernardino kangaroo rat	AMAFD03143	1	Presumed Extant	Natural/Native occurrence	U	Y	Endangered	None
2	Dipodomys merriami parvus	San Bernardino kangaroo rat	AMAFD03143	2	Presumed Extant	Natural/Native occurrence	B	Y	Endangered	None
2	Dipodomys merriami parvus	San Bernardino kangaroo rat	AMAFD03143	15	Presumed Extant	Natural/Native occurrence	C	N	Endangered	None
2	Dipodomys merriami parvus	San Bernardino kangaroo rat	AMAFD03143	23	Presumed Extant	Natural/Native occurrence	U	N	Endangered	None
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	52	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	11	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	106	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	54	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	69	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	70	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	13	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	105	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	115	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	107	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	77	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	84	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	4	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	96	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	60	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	85	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	219	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	73	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	27	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	80	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	76	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	128	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	141	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	75	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	113	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	215	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	98	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	101	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened

2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	104	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	97	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	99	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	207	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	33	Extirpated	Natural/Native occurrence	X	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	147	Possibly Extirpated	Natural/Native occurrence	X	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	24	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	110	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	67	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	86	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	95	Extirpated	Natural/Native occurrence	X	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	23	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	72	Presumed Extant	Natural/Native occurrence	D	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	121	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	78	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	16	Presumed Extant	Natural/Native occurrence	D	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	166	Extirpated	Natural/Native occurrence	X	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	82	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	114	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	74	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	193	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	102	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	204	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	108	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	111	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	200	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	222	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	129	Presumed Extant	Natural/Native occurrence	D	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	130	Presumed Extant	Natural/Native occurrence	D	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	109	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	100	Presumed Extant	Natural/Native occurrence	D	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	199	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	87	Presumed Extant	Natural/Native occurrence	D	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	198	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	131	Presumed Extant	Natural/Native occurrence	D	N	Endangered	Threatened
2	Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	112	Presumed Extant	Natural/Native occurrence	D	N	Endangered	Threatened
1	Dodecahema leptoceras	slender-horned spineflower	PDPGN0V010	4	Extirpated	Natural/Native occurrence	X	N	Endangered	Endangered
1	Dudleya multicaulis	many-stemmed dudleya	PDCRA040H0	9	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Dudleya multicaulis	many-stemmed dudleya	PDCRA040H0	138	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Dudleya multicaulis	many-stemmed dudleya	PDCRA040H0	137	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Dudleya multicaulis	many-stemmed dudleya	PDCRA040H0	56	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Elanus leucurus	white-tailed kite	ABNKC06010	61	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	34	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Endangered
2	Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	35	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Endangered
2	Eremophila alpestris actia	California horned lark	ABPAT02011	44	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Eremophila alpestris actia	California horned lark	ABPAT02011	62	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Eremophila alpestris actia	California horned lark	ABPAT02011	61	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	PDPLM03035	20	Presumed Extant	Natural/Native occurrence	D	N	Endangered	Endangered
1	Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	PDPLM03035	24	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Endangered
1	Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	PDPLM03035	25	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Endangered
1	Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	PDPLM03035	23	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Endangered
1	Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	PDPLM03035	22	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Endangered
1	Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	PDPLM03035	30	Presumed Extant	Natural/Native occurrence	D	N	Endangered	Endangered
1	Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	PDPLM03035	27	Extirpated	Natural/Native occurrence	X	N	Endangered	Endangered
1	Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	PDPLM03035	29	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Endangered
1	Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	PDPLM03035	21	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Endangered
1	Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	PDPLM03035	31	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Endangered
2	Eumops perotis californicus	western mastiff bat	AMACD02011	172	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Eumops perotis californicus	western mastiff bat	AMACD02011	83	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Eumops perotis californicus	western mastiff bat	AMACD02011	189	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Eumops perotis californicus	western mastiff bat	AMACD02011	211	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Eumops perotis californicus	western mastiff bat	AMACD02011	127	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Eumops perotis californicus	western mastiff bat	AMACD02011	134	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Eumops perotis californicus	western mastiff bat	AMACD02011	31	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Euphydryas editha quino	quino checkerspot butterfly	IILEPK405L	34	Presumed Extant	Natural/Native occurrence	U	N	Endangered	None
1	Galium californicum ssp. primum	Alvin Meadow bedstraw	PDRUB0N0E6	2	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Gila orcuttii	arroyo chub	AFCJB13120	6	Presumed Extant	Natural/Native occurrence	B	N	None	None

2	Gila orcuttii	arroyo chub	AFCJB13120	26	Presumed Extant	Natural/Native occurrence	D	N	None	None
2	Gila orcuttii	arroyo chub	AFCJB13120	8	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Gila orcuttii	arroyo chub	AFCJB13120	15	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Gila orcuttii	arroyo chub	AFCJB13120	27	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Gila orcuttii	arroyo chub	AFCJB13120	41	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Haliaeetus leucocephalus	bald eagle	ABNKC10010	233	Presumed Extant	Natural/Native occurrence	U	N	Delisted	Endangered
2	Haliaeetus leucocephalus	bald eagle	ABNKC10010	2	Presumed Extant	Natural/Native occurrence	U	N	Delisted	Endangered
2	Haliaeetus leucocephalus	bald eagle	ABNKC10010	1	Presumed Extant	Natural/Native occurrence	U	N	Delisted	Endangered
2	Haliaeetus leucocephalus	bald eagle	ABNKC10010	235	Presumed Extant	Natural/Native occurrence	U	N	Delisted	Endangered
2	Haliaeetus leucocephalus	bald eagle	ABNKC10010	236	Presumed Extant	Natural/Native occurrence	U	N	Delisted	Endangered
1	Harpagonella palmeri	Palmer's grapplinghook	PDBOR0H010	7	Presumed Extant	Natural/Native occurrence	A	N	None	None
1	Harpagonella palmeri	Palmer's grapplinghook	PDBOR0H010	35	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Harpagonella palmeri	Palmer's grapplinghook	PDBOR0H010	34	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Helianthus nuttallii ssp. parishii	Los Angeles sunflower	PDAST4N102	5	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Horkelia cuneata ssp. puberula	mesa horkelia	PDROS0W045	11	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Horkelia cuneata ssp. puberula	mesa horkelia	PDROS0W045	10	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Horkelia cuneata ssp. puberula	mesa horkelia	PDROS0W045	9	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Horkelia cuneata ssp. puberula	mesa horkelia	PDROS0W045	7	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Horkelia cuneata ssp. puberula	mesa horkelia	PDROS0W045	20	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
2	Icteria virens	yellow-breasted chat	ABPBX24010	30	Presumed Extant	Natural/Native occurrence	A	N	None	None
2	Icteria virens	yellow-breasted chat	ABPBX24010	82	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Icteria virens	yellow-breasted chat	ABPBX24010	83	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Icteria virens	yellow-breasted chat	ABPBX24010	96	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Imperata brevifolia	California satintail	PMPOA3D020	7	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
2	Lampropeltis zonata (pulchra)	Califonia mountain kingsnake (San Diego population)	ARADB19063	7	Presumed Extant	Natural/Native occurrence	U	Y	None	None
2	Lampropeltis zonata (pulchra)	Califonia mountain kingsnake (San Diego population)	ARADB19063	15	Presumed Extant	Natural/Native occurrence	A	Y	None	None
2	Lanius ludovicianus	loggerhead shrike	ABPBR01030	2	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lasiurus xanthinus	western yellow bat	AMACC05070	15	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lasiurus xanthinus	western yellow bat	AMACC05070	31	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lasiurus xanthinus	western yellow bat	AMACC05070	28	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lasiurus xanthinus	western yellow bat	AMACC05070	33	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lasiurus xanthinus	western yellow bat	AMACC05070	34	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lasiurus xanthinus	western yellow bat	AMACC05070	23	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lasiurus xanthinus	western yellow bat	AMACC05070	35	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lasiurus xanthinus	western yellow bat	AMACC05070	39	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Lasthenia glabrata ssp. coulteri	Coulter's goldfields	PDAST5L0A1	11	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Lepechinia cardiophylla	heart-leaved pitcher sage	PDLAM0V020	5	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Lepechinia cardiophylla	heart-leaved pitcher sage	PDLAM0V020	4	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Lepechinia cardiophylla	heart-leaved pitcher sage	PDLAM0V020	12	Presumed Extant	Natural/Native occurrence	C	N	None	None
1	Lepechinia cardiophylla	heart-leaved pitcher sage	PDLAM0V020	11	Presumed Extant	Natural/Native occurrence	A	N	None	None
1	Lepechinia cardiophylla	heart-leaved pitcher sage	PDLAM0V020	13	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Lepidium virginicum var. robinsonii	Robinson's pepper-grass	PDBRA1M114	25	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Lepidium virginicum var. robinsonii	Robinson's pepper-grass	PDBRA1M114	52	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Lepidium virginicum var. robinsonii	Robinson's pepper-grass	PDBRA1M114	20	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Lepidium virginicum var. robinsonii	Robinson's pepper-grass	PDBRA1M114	9	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Lepidium virginicum var. robinsonii	Robinson's pepper-grass	PDBRA1M114	26	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Lepidium virginicum var. robinsonii	Robinson's pepper-grass	PDBRA1M114	53	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Lepidium virginicum var. robinsonii	Robinson's pepper-grass	PDBRA1M114	16	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lepus californicus bennettii	San Diego black-tailed jackrabbit	AMAEB03051	67	Presumed Extant	Natural/Native occurrence	U	Y	None	None
2	Lepus californicus bennettii	San Diego black-tailed jackrabbit	AMAEB03051	37	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lepus californicus bennettii	San Diego black-tailed jackrabbit	AMAEB03051	17	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lepus californicus bennettii	San Diego black-tailed jackrabbit	AMAEB03051	54	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Lepus californicus bennettii	San Diego black-tailed jackrabbit	AMAEB03051	36	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Lepus californicus bennettii	San Diego black-tailed jackrabbit	AMAEB03051	34	Presumed Extant	Natural/Native occurrence	A	N	None	None
1	Lilium parryi	lemon lily	PMLIL1A0J0	37	Presumed Extant	Natural/Native occurrence	U	Y	None	None
1	Lycium parishii	Parish's desert-thorn	PDSOL0G0D0	4	Extirpated	Natural/Native occurrence	X	N	None	None
1	Lycium parishii	Parish's desert-thorn	PDSOL0G0D0	3	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Monardella pringlei	Pringle's monardella	PDLAM180J0	2	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Monardella pringlei	Pringle's monardella	PDLAM180J0	1	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Muhlenbergia californica	California muhly	PMPOA480A0	1	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Myosurus minimus ssp. apus	little mousetail	PDRAN0H031	10	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Myotis yumanensis	Yuma myotis	AMACC01020	121	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Nasturtium gambelii	Gambel's water cress	PDBRA270V0	4	Extirpated	Natural/Native occurrence	X	N	Endangered	Threatened
1	Navarretia prostrata	prostrate vernal pool navarretia	PDPLM0C0Q0	15	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
2	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	52	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
2	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	43	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	55	Presumed Extant	Natural/Native occurrence	D	N	None	None

2	Nyctinomops femorosaccus	pocketed free-tailed bat	AMACD04010	23	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Nyctinomops femorosaccus	pocketed free-tailed bat	AMACD04010	18	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Nyctinomops femorosaccus	pocketed free-tailed bat	AMACD04010	22	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Nyctinomops femorosaccus	pocketed free-tailed bat	AMACD04010	20	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Nyctinomops femorosaccus	pocketed free-tailed bat	AMACD04010	44	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Onychomys torridus ramona	southern grasshopper mouse	AMAFF06022	35	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Onychomys torridus ramona	southern grasshopper mouse	AMAFF06022	30	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Perognathus longimembris brevinasus	Los Angeles pocket mouse	AMAFD01041	12	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Perognathus longimembris brevinasus	Los Angeles pocket mouse	AMAFD01041	45	Presumed Extant	Natural/Native occurrence	A	N	None	None
2	Perognathus longimembris brevinasus	Los Angeles pocket mouse	AMAFD01041	20	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Perognathus longimembris brevinasus	Los Angeles pocket mouse	AMAFD01041	15	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Perognathus longimembris brevinasus	Los Angeles pocket mouse	AMAFD01041	41	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Perognathus longimembris brevinasus	Los Angeles pocket mouse	AMAFD01041	46	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Perognathus longimembris brevinasus	Los Angeles pocket mouse	AMAFD01041	36	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Perognathus longimembris brevinasus	Los Angeles pocket mouse	AMAFD01041	42	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Perognathus longimembris brevinasus	Los Angeles pocket mouse	AMAFD01041	44	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Perognathus longimembris brevinasus	Los Angeles pocket mouse	AMAFD01041	19	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Perognathus longimembris brevinasus	Los Angeles pocket mouse	AMAFD01041	33	Presumed Extant	Natural/Native occurrence	B	N	None	None
1	Phacelia suaveolens ssp. keckii	Santiago Peak phacelia	PDHYD0C4G1	2	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	430	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	5	Extirpated	Natural/Native occurrence	X	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	227	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	45	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	248	Presumed Extant	Natural/Native occurrence	X	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	252	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	223	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	38	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	378	Presumed Extant	Natural/Native occurrence	A	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	119	Presumed Extant	Natural/Native occurrence	A	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	441	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	338	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	336	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	322	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	389	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	17	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	320	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	432	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	491	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	437	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	451	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	541	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	533	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	315	Presumed Extant	Natural/Native occurrence	C	N	None	None
2	Phrynosoma coronatum (blainvillii populat	coast (San Diego) horned lizard	ARACF12021	328	Presumed Extant	Natural/Native occurrence	B	N	None	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	454	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	576	Presumed Extant	Natural/Native occurrence	B	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	38	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	813	Presumed Extant	Natural/Native occurrence	A	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	772	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	803	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	776	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	767	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	462	Presumed Extant	Natural/Native occurrence	A	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	537	Presumed Extant	Natural/Native occurrence	B	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	775	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	526	Presumed Extant	Natural/Native occurrence	C	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	525	Presumed Extant	Natural/Native occurrence	C	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	538	Presumed Extant	Natural/Native occurrence	C	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	539	Presumed Extant	Natural/Native occurrence	C	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	527	Presumed Extant	Natural/Native occurrence	C	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	182	Presumed Extant	Natural/Native occurrence	C	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	181	Presumed Extant	Natural/Native occurrence	B	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	241	Presumed Extant	Natural/Native occurrence	B	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	39	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	452	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	337	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	338	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None

2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	151	Presumed Extant	Natural/Native occurrence	C	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	152	Presumed Extant	Natural/Native occurrence	B	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	136	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	339	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	340	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	41	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	542	Presumed Extant	Natural/Native occurrence	B	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	766	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	763	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	762	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	765	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	770	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	609	Presumed Extant	Natural/Native occurrence	C	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	504	Presumed Extant	Natural/Native occurrence	D	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	503	Presumed Extant	Natural/Native occurrence	C	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	608	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	761	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	769	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	773	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	764	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	777	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	771	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	806	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	774	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	802	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	804	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	805	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	507	Presumed Extant	Natural/Native occurrence	B	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	513	Presumed Extant	Natural/Native occurrence	B	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	554	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	603	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	604	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	611	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	741	Presumed Extant	Natural/Native occurrence	A	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	876	Possibly Extirpated	Natural/Native occurrence	X	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	474	Presumed Extant	Natural/Native occurrence	B	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	467	Presumed Extant	Natural/Native occurrence	B	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	153	Presumed Extant	Natural/Native occurrence	B	N	Threatened	None
2	Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	768	Presumed Extant	Natural/Native occurrence	U	N	Threatened	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	5	Presumed Extant	Natural/Native occurrence	U	Y	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	4	Presumed Extant	Natural/Native occurrence	C	Y	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	1	Presumed Extant	Natural/Native occurrence	C	Y	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	2	Presumed Extant	Natural/Native occurrence	B	Y	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	3	Presumed Extant	Natural/Native occurrence	C	Y	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	7	Presumed Extant	Natural/Native occurrence	U	Y	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	6	Presumed Extant	Natural/Native occurrence	D	Y	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	8	Presumed Extant	Natural/Native occurrence	U	Y	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	9	Extirpated	Natural/Native occurrence	X	N	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	12	Presumed Extant	Natural/Native occurrence	U	N	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	13	Presumed Extant	Natural/Native occurrence	U	N	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	11	Presumed Extant	Natural/Native occurrence	U	N	Endangered	None
2	Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	IIDIP05021	10	Presumed Extant	Natural/Native occurrence	U	N	Endangered	None
2	Rhinichthys osculus ssp. 3	Santa Ana speckled dace	AFCJB3705K	7	Presumed Extant	Natural/Native occurrence	C	N	None	None
1	Ribes divaricatum var. parishii	Parish's gooseberry	PDGRO020F3	5	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
3	Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	CTT32720CA	3	Presumed Extant	Natural/Native occurrence	B	N	None	None
3	Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	CTT32720CA	18	Presumed Extant	Natural/Native occurrence	B	N	None	None
3	Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	CTT32720CA	17	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Senecio aphanactis	chaparral ragwort	PDAST8H060	30	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Sidalcea neomexicana	Salt Spring checkerbloom	PDMAL110J0	6	Presumed Extant	Natural/Native occurrence	U	N	None	None
4	Southern California Arroyo Chub/Santa Ar	Southern California Arroyo Chub/Santa Ana Sucker Stre	CARE2330CA	4	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	159	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	162	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	182	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	161	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	143	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	181	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	160	Presumed Extant	Natural/Native occurrence	U	N	None	None

3	Southern Cottonwood Willow Riparian For	Southern Cottonwood Willow Riparian Forest	CTT61330CA	69	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Cottonwood Willow Riparian For	Southern Cottonwood Willow Riparian Forest	CTT61330CA	99	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Cottonwood Willow Riparian For	Southern Cottonwood Willow Riparian Forest	CTT61330CA	73	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Cottonwood Willow Riparian For	Southern Cottonwood Willow Riparian Forest	CTT61330CA	74	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Cottonwood Willow Riparian For	Southern Cottonwood Willow Riparian Forest	CTT61330CA	64	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Cottonwood Willow Riparian For	Southern Cottonwood Willow Riparian Forest	CTT61330CA	68	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Cottonwood Willow Riparian For	Southern Cottonwood Willow Riparian Forest	CTT61330CA	66	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Cottonwood Willow Riparian For	Southern Cottonwood Willow Riparian Forest	CTT61330CA	67	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Interior Cypress Forest	Southern Interior Cypress Forest	CTT83230CA	20	Presumed Extant	Transplant Outside of Native H	U	N	None	None
3	Southern Riparian Forest	Southern Riparian Forest	CTT61300CA	18	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Riparian Forest	Southern Riparian Forest	CTT61300CA	19	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	42	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	199	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	205	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	179	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	175	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	209	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	211	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	197	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	196	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	174	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	186	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	185	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	214	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	182	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	173	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	198	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	206	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	176	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	210	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	172	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	171	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Sycamore Alder Riparian Woodl	Southern Sycamore Alder Riparian Woodland	CTT62400CA	181	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	37	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	35	Presumed Extant	Natural/Native occurrence	U	N	None	None
3	Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	39	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Spea hammondii	western spadefoot	AAABF02020	33	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Spea hammondii	western spadefoot	AAABF02020	230	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Spea hammondii	western spadefoot	AAABF02020	68	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Spea hammondii	western spadefoot	AAABF02020	340	Presumed Extant	Natural/Native occurrence	A	N	None	None
2	Spea hammondii	western spadefoot	AAABF02020	272	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Symphyotrichum defoliatum	San Bernardino aster	PDASTE80C0	33	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Symphyotrichum defoliatum	San Bernardino aster	PDASTE80C0	32	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Symphyotrichum defoliatum	San Bernardino aster	PDASTE80C0	20	Possibly Extirpated	Natural/Native occurrence	X	N	None	None
1	Symphyotrichum defoliatum	San Bernardino aster	PDASTE80C0	23	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Taricha torosa torosa	Coast Range newt	AAAAF02032	2	Presumed Extant	Natural/Native occurrence	B	Y	None	None
2	Taricha torosa torosa	Coast Range newt	AAAAF02032	1	Presumed Extant	Natural/Native occurrence	B	Y	None	None
2	Taxidea taxus	American badger	AMAJF04010	204	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Taxidea taxus	American badger	AMAJF04010	306	Presumed Extant	Natural/Native occurrence	U	N	None	None
1	Texosporium sancti-jacobi	woven-spored lichen	NLTEST7980	19	Presumed Extant	Natural/Native occurrence	U	N	None	None
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	144	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	58	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	59	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	206	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	199	Presumed Extant	Natural/Native occurrence	A	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	302	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	262	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	202	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	145	Presumed Extant	Natural/Native occurrence	B	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	263	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	259	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	260	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	224	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	208	Presumed Extant	Natural/Native occurrence	U	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	258	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Endangered
2	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	301	Presumed Extant	Natural/Native occurrence	C	N	Endangered	Endangered

Appendix D

Cultural Resources Records Search

ESA

EASTERN INFORMATION CENTER

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

Department of Anthropology, University of California, Riverside, CA 92521-0418

(951) 827-5745 - Fax (951) 827-5409 - eickw@ucr.edu

Inyo, Mono, and Riverside Counties

February 12, 2008
RS #4134

Mitchell Marken
ESA Associates
707 Wilshire Boulevard, Suite 1450
Los Angeles, CA 90017

Re: Cultural Resources Records Search for the Riverside Regional Water Quality Plant Project (206047)

Dear Mr. Marken,

We received your request on January 28, 2008, for a cultural resources records search for the Riverside Regional Water Quality Plant project located in Section 25, T.2S, R.6W, SBBM, in the Jurupa area of Riverside County. We have reviewed our site records, maps, and manuscripts against the location map you provided.

Our records indicate that 32 cultural resources studies have been conducted within a one-mile radius of your project area. Two of these studies involved the project area. Two additional studies provide overviews of cultural resources in the general project vicinity. All of these reports are listed on the attachment entitled "Eastern Information Center Report Listing" and are available upon request at 15¢/page plus $40/hour.

One cultural resources property is recorded within the boundaries of the project area. Our records indicate that 39 properties have been recorded within a one-mile radius of the project area. Copies of the records are included for your reference.

The above information is reflected on the enclosed map. Areas that have been surveyed are highlighted in yellow. Numbers marked in blue ink refer to the report number (RI #). Cultural resources properties are marked in red; numbers in black refer to Trinomial designations, those in green to Primary Number designations. National Register properties are indicated in light blue.

Additional sources of information consulted are identified below.

National Register of Historic Places: no listed properties are located within the boundaries of the project area.

Office of Historic Preservation (OHP), Archaeological Determinations of Eligibility (ADOE): no listed properties are located within the boundaries of the project area.

Office of Historic Preservation (OHP), Historic Property Directory (HPD): no listed properties are located within the boundaries of the project area.

Note: not all properties in the California Historical Resources Information System are listed in the OHP ADOE and HPD; the ADOE and HPD comprise lists of properties submitted to the OHP for review.

Copies of the relevant portions of the 1901 and 1942 USGS Riverside 15', and the 1901 USGS Elsinore 30' topographic maps are included for your reference.

As the Information Center for Riverside County, it is necessary that we receive a copy of all cultural resources reports and site information pertaining to this county in order to maintain our map and manuscript files. Confidential information provided with this records search regarding the location of cultural resources outside the boundaries of your project area should not be included in reports addressing the project area.

Sincerely,

Megan Rogers
Information Officer

Enclosures

Eastern Information Center Report Listing

Report No.	Year	Author(s)	Title	Affiliation	Pages	Resources	----- Acreage ----- Survey	Monitoring
RI-00031	1971	GARDNER, MICHAEL C.	THE ARLINGTON CHANNEL FLOOD CONTROL PROJECT: EXPECTED IMPACT ON ARCHAEOLOGICAL RESOURCES.	AUTHOR(S)	6	0	0	0
RI-00117	1973	WILKE, PHILIP J.; S.R. HAMMOND	LA LOMA-MIRA LOMA TRANSMISSION LINE: EXPECTED IMPACT ON ARCHAEOLOGICAL VALUES.	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	19	13	1000	0
RI-00125	1974	BARKER, JAMES P.	LETTER REPORT - ARCHAEOLOGICAL SURVEY OF PROPOSED CONVEYANCE ALIGNMENTS AND TREATMENT PLANT SITE, RIVERSIDE, RUBIDOUX AND JURUPA.	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	2	2	80	0
RI-00126	1977	LIPP, DONALD	ENVIRONMENTAL IMPACT ASSESSMENT: ARCHAEOLOGICAL SURVEY FOR THE PROPOSED SEWAGE PIPELINE NEAR RUBIDOUX, RIVERSIDE COUNTY, CALIFORNIA.	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	6	2	120	0
RI-00141	1974	SCHLANGER, SARAH H.	ARCHAEOLOGY OF PROPOSED ADDITIONS TO THE INDIAN HILLS HOUSING DEVELOPMENT, CITY OF PEDLEY, RIVERSIDE COUNTY, CALIFORNIA.	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	4	0	1000	0
RI-00253	1976	LIPP, DONALD E.	ENVIRONMENTAL IMPACT EVALUATION: ARCHAEOLOGY OF THE PROPOSED EL RIO RESIDENTIAL DEVELOPMENT, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	8	6	1000	0
RI-00269	1977	LIPP, DONALD	RESULTS OF SURFACE COLLECTION AT CA-RIV-494, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	3	1	0	0
RI-00270	1977	LIPP, DON	ARCHAEOLOGICAL SURVEY FOR THE PROPOSED INTERCEPTOR FACILITY TO CITY OF RIVERSIDE WATER QUALITY CONTROL PLANT, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	6	1	100	0
RI-01938	1985	MACK, JOANNE M.	ARCHAEOLOGICAL ASSESSMENT OF THE PROPOSED AIRPORT INDUSTRIAL STORM DRAIN PROJECT: EDA 850422-A, RIVERSIDE, CALIFORNIA	AUTHOR(S)	12	0	3	0
RI-02132	1995	LOVE, BRUCE	HISTORIC PROPERTY SURVEY REPORT FOR SANTA ANA RIVER BIKEWAY PHASE IIIA LANDSCAPING PROJECT, CITY AND COUNTY OF RIVERSIDE, CALIFORNIA	CRM TECH	12	0	0	0
RI-02133	1997	LOVE, BRUCE	NEGATIVE ARCHAEOLOGICAL SURVEY REPORT: SANTA ANA RIVER BIKEWAY PHASE IIIA LANDSCAPING PROJECT	CRM TECH	26	0	2	0

Eastern Information Center Report Listing

Report No.	Year	Author(s)	Title	Affiliation	Pages	Resources	Acreage Survey	Acreage Monitoring
RI-02207	1988	PARR, ROBERT E.	AN ARCHAEOLOGICAL ASSESSMENT OF THE PROPOSED RUBIDOUX COMMUNITY SERVICES DISTRICT WASTEWATER TREATMENT FACILITIES, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	8	3	120	0
RI-02307	1988	HAMPSON, R.P.; J. SORENSEN; S.K. GOLDBERG; M.T. SWANSON; J.ARNOLD	CULTURAL RESOURCES SURVEY, UPPER SANTA ANA RIVER, CALIFORNIA	GREENWOOD AND ASSOCIATES	158	15	3860	0
RI-03274	1991	EVERSON, DICKEN; KEVIN HALLARAN; JOAN SCHNEIDER; BRUCE LOVE	CULTURAL RESOURCES ASSESSMENT, PARCEL MAP 21017, PEDLEY AREA OF RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	23	1	10	0
RI-03395	1991	JERTBERG, PATRICIA; KAREN KIRTLAND	CULTURAL AND BIOLOGICAL RESOURCES ASSESSMENT OF JURUPA AVENUE EXTENSION, APPROXIMATELY 1 MILE, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	LSA ASSOCIATES	21	0	12	0
RI-03893	1995	DILLON, BRIAN D.	ARCHAEOLOGICAL ASSESSMENT OF THE RIVERSIDE COGENERATION PROJECT ON THE SANTA ANA RIVER, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	74	3	150	0
RI-03959	1996	MCKENNA, JEANETTE A.	A PHASE I CULTURAL RESOURCES INVESTIGATION OF THE PROPOSED VAN BUREN GOLF CENTER, LOCATED AT VAN BUREN BOULEVARD AND CENTRAL AVENUE, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	MCKENNA ET AL	22	0	40	0
RI-03979	1996	ALEXANDROWICZ, JOHN STEPHEN; RICHARD KRAUTKRAMER; SUSAN R. ALEXANDROWICZ; ARTHUR A. KUHNER	HISTORIC PROPERTY SURVEY REPORT: THE SANTA ANA RIVER TRAIL PHASE IIIB BIKEWAY PROJECT, RIVERSIDE, CALIFORNIA: A JOINT PROJECT OF THE COUNTY AND CITY OF RIVERSIDE, CALIFORNIA	ARCHAEOLOGICAL CONSULTING SERVICES	28	5	0	0
RI-03981	1996	ALEXANDROWICZ, JOHN STEPHEN; RICHARD KRAUTKRAMER; SUSAN R. ALEXANDROWICZ; ARTHUR KUHNER	ARCHAEOLOGICAL SURVEY REPORT: IDENTIFICATION OF CULTURAL RESOURCES WITHIN THE SANTA ANA RIVER TRAIL PHASE IIIB BIKEWAY PROJECT, RIVERSIDE, CALIFORNIA: A JOINT PROJECT OF THE COUNTY AND CITY OF RIVERSIDE, CALIFORNIA	ARCHAEOLOGICAL CONSULTING SERVICES	89	2	0	0

Eastern Information Center Report Listing

Report No.	Year	Author(s)	Title	Affiliation	Pages	Resources	Acreage Survey	Acreage Monitoring
RI-03982	1997	LOVE, BRUCE	HISTORIC PROPERTY SURVEY REPORT FOR THE SANTA ANA RIVER BIKE TRAIL PHASE IIIB PROJECT CITY AND COUNTY OF RIVERSIDE, CALIFORNIA	CRM TECH	74	3	0	0
RI-04039	1997	LOVE, BRUCE	CULTURAL RESOURCE PRESERVATION AND MITIGATION RECOMMENDATIONS: AN INTERIM REPORT RANCHO LA SIERRA DEVELOPMENT CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	22	5	740	0
RI-04220	1999	LOVE, BRUCE; BAI "TOM" TANG	IDENTIFICATION AND EVALUATION OF HISTORIC PROPERTIES: RANCHO LA SIERRA WATER SUPPLY FACILITY SITE, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA.	CRM TECH	28	1	~1	0
RI-04404	2000	JONES AND STOKES ASSOCIATES, INC.	FINAL CULTURAL RESOURCES INVENTORY REPORT FOR THE WILLIAMS COMMUNICATIONS, INC., FIBER OPTIC CABLE SYSTEM INSTALLATION PROJECT, RIVERSIDE TO SAN DIEGO, CALIFORNIA VOL I-IV.	JONES AND STOKES ASSOCIATES, INC.	252	20	12	0
RI-04451	1999	ALEXANDROWICZ, JOHN STEPHEN	CULTURAL RESOURCES MONITORING FOR THE TEQUESQUITE LANDFILL WELL AND GASLINE PROJECT, CITY OF RIVERSIDE, COUNTY OF RIVERSIDE, CALIFORNIA	ARCHAEOLOGICAL CONSULTING SERVICES	7	3	0	0
RI-04631	2003	JONES & STOKES	PHASE I CULTURAL RESOURCES STUDY OF FOUR VACANT PARCELS WITHIN THE CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	JONES AND STOKES	35	0	5	0
RI-04813	1993	NATIONAL PARK SERVICE, HAER	CALIFORNIA CITRUS HERITAGE RECORDING PROJECT: ARLINGTON HEIGHT CITRUS LANDSCAPE, GAGE IRRIGATION CANAL, NATIONAL ORANGE COMPANY PACKING HOUSE, VICTORIA BRIDGE, AND UNION PACIFIC RAILROAD BRIDGE	NATIONAL PARK SERVICE, HISTORIC AMERICAN ENGINEERING RECORD	307	3	0	0
RI-05325	2002	GOODWIN, RIORDAN	HISTORIC PROPERTY SURVEY REPORT: VAN BUREN BOULEVARD BRIDGE REPLACEMENT CLASS II PROJECT	CALTRANS	26	0	35	0
RI-05900	2002	LOVE, BRUCE; BAI TANG; JOSH SMALLWOOD; MARIAM DAHDUL	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, RIVERSIDE GATEWAY PROJECT, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CA	CRM TECH	29	3	70	0