RIVERSIDE REGIONAL WATER QUALITY CONTROL PLANT

LEVEE REHABILITATION PROJECT

Initial Study and Mitigated Negative Declaration (IS/MND)

City of Riverside, Public Works Department
Water Quality Control Plant Engineering Section
5950 Acorn Street
Riverside, CA 92504

WO# 1412206

PREPARED BY:

TETRA TECH

MAY 2017

This page left blank intentionally

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

This page left blank intentionally

1 INTRODUCTION

1.1 PROJECT BACKGROUND

The City of Riverside Regional Water Quality Control Plant (RWQCP) is constructing the Plant Rehabilitation/Expansion Project in the city of Riverside, CA (Figure 1). The RWQCPs' National Pollutant Discharge Elimination System (NPDES) permit requires that the adjacent levee, located on the north side of the RWQCP (Figure 2), be upgraded to provide protection for a 100-year storm event.

Improvements needed to raise the levee are constrained by the plant expansion project. These constraints impact a straightforward design solution of raising the earthen levee embankment due to the restrictions on the expansion of the levee footprint. Additionally, these constraints impact the design alternatives to mitigate the embankment protection improvements required to protect the levee foundation from scour during flood events. The project consists of raising the levee between 1 and 6 feet (ft) by constructing a levee embankment and maximum 4-foot high floodwall.

This design focuses on the construction of a floodwall along the top of the levee to provide the hydraulic protection needed. Using the results of the refined hydraulics, two floodwall sections (for various heights) were reviewed and preliminarily calculated.

The purpose of the proposed project is to raise the existing levee in a cost effective manner that can be designed, permitted and constructed during the summer of 2017, and show compliance with the RWQCP's NPDES permit requirements. The project is needed to provide flood protection to valuable infrastructure within the RWQCP and to reduce the potential for impaired operational capacity due to extreme high flows in the Santa Ana River. The RWQCP provides vital services for the surrounding community, including treating up to 40 million gallons of effluent per day.

1.2 PROJECT DESCRIPTION

A Preliminary Design Report was prepared to explore floodwall alternatives for the proposed levee rehabilitation (Tetra Tech April 2016). Four alternatives where explored as part of the analysis. The alternatives included floodwalls placed along the south side (Alternative 1) of the Santa Ana River Trail (SART), so that the public can view the river, or along the north side (Alternative 2) so that the public would view the RWQCP. In addition to these alternatives, the design report explored a partial levee raise of 6 ft with a smaller floodwall, up to 4 ft, place along the south side (Alternative 3) or the north side (Alternative 4) of the SART. Alternative 3 was selected as the proposed project.

The selected plan calls for raising the existing levee by up to 6 ft and installing a floodwall on the plant side of the newly raised levee. The floodwall height varies from 0 to 4 ft high with the top of footing flush with the top of new levee elevations. The new slopes would require paving to be placed as slope protection at the top of the bank on the river side. After completion of the raised levee and new floodwall, a bike trail and security fence would be installed. The proposed project also requires the installation of a 5-foot high retaining wall in two sections within the plant area to increase access road widths and offsets from proposed buildings as part of the plant expansion. A typical cross section is provided in Figure 3.

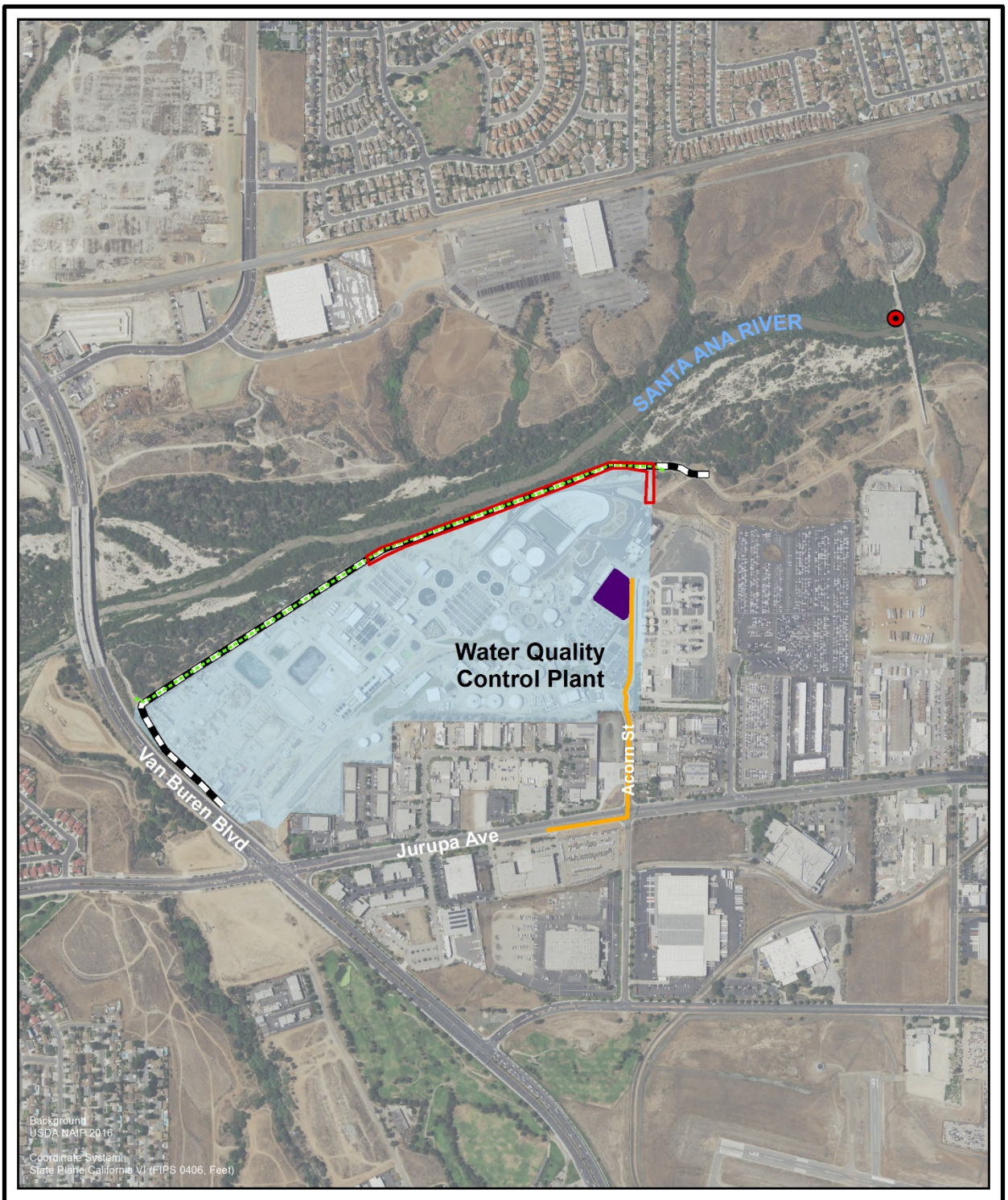
Riverside Regional Water Quality Control Plant
Initial Study/Mitigated Negative Declaration

FIGURE 1
REGIONAL LOCATION
OF PROJECT SITE

Legend

Project Site
(Riverside Water Quality Control Plant)

Project Vicinity



Riverside Regional Water Quality Control Plant Initial Study/Mitigated Negative Declaration

FIGURE 2
PROJECT SITE

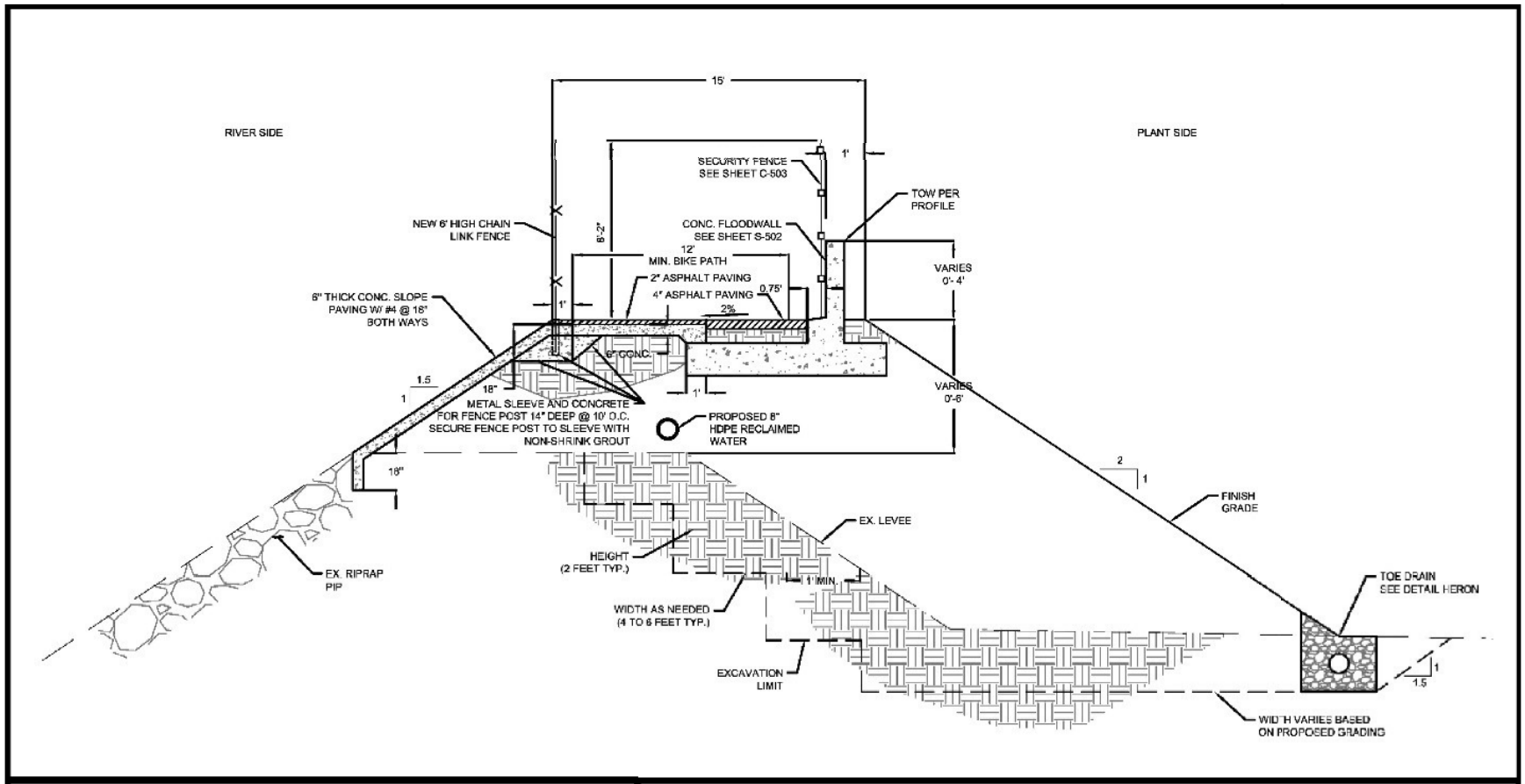
Legend

- Existing Levee
- Footprint of Work Area
- Construction Staging Area
- Construction Machinery Access Route
- Bike Path Repaving Area
- USGS Gage 11066460 - Santa Ana River at MWD Crossing

0 250 500 1,000 Feet

1 inch = 1,000 feet

This page left blank intentionally



Riverside Regional Water Quality Control Plant
Initial Study/Mitigated Negative Declaration

FIGURE 3
PLANNED CROSS-SECTION OF THE REHABILITATED LEVEE

This page left blank intentionally

1.3 CONSTRUCTION

1.3.1 Construction Features

The proposed project includes the following components:

1. Levee Raise: The levee would be raised between 1 and 6 ft along a 2,108 foot reach. This action would include placement of approximately 22,000 cubic yards (cy) of soils that onto the top of the levee, and expanding the levee base inwards towards the plant. This soil is already stockpiled at the site, therefore no truck trips would be generated to bring this soil to the RWQCP. It is assumed that each truck delivering soil from the stockpile area to the levee has capacity of 10 cy, therefore approximately 2,200 truck trips would be needed within the plant. These truck trips would not affect conditions outside of the plant. Up to 145 concrete truck trips would be needed to bring in approximately 1,450 cy of concrete to build the floodwall. An additional 120 truck trips would be needed to haul an estimated 1,200 cy of asphalt, concrete, and scrap metal to area landfills or recycling facilities. These trucks would use Jurupa Avenue and Acorn Street to access the site.

2. A floodwall approximately 1 foot thick would be installed along the top of most of the levee. The height of the floodwall would vary from 1 foot to 4 ft depending on the height needed to provide the desired level of flood protection.

3. A 6-inch reclaimed water line would be relocated vertically within the levee to account for the levee raise. The final location of this water line would be 3 ft below the top of the levee.

4. The chain link fence currently found along the river side of the levee access road will be removed and replaced with in kind security fencing.

5. New lights will be installed to replace the existing lights. Light poles will be installed approximately 100 - 150 ft apart. Light structures have been designed to be directional so that direct light would be restricted to the levee or the interior of the RWQCP. The design does not allow direct light into the riparian area or the stream channel.

6. The SART, which is a popular bike and walking trail along the top of the levee, would be temporarily closed for the duration of construction. A signed detour route would be provided around the RWQCP during the construction period. At the beginning of the project, asphalt would be removed from the existing trail and stockpiled onsite for later reuse. After the levee raise and floodwall were constructed, the SART would be reconstructed as a 4-inch thick, 10-ft wide, striped asphalt trail. Since the levee embankment is raised by approximately 6 ft, the profile of the SART at the upstream end of the levee improvements would be regraded to join the existing trail just before the high pressure gas line crossing.

7. Due to encroachment into the prism of the existing plant, two 5-ft high retaining walls would be installed on the plant side of the levee. The retaining walls are intended to retain soils and ensure that the raised levee footprint does not encroach more than 24 ft into the plant.

8. The upper 6 ft of the river side of the levee would be paved with a 6-inch thick concrete slope to prevent hydraulic scour. The bottom of the slope will tie directly into the levee approximately 2 ft below the 100-year water surface elevation.

9. Repave bike path along northern edge of RWQCP.

10. Construction of the proposed project would begin in June 2017, and would last approximately 3 months. Work would occur Monday through Friday during normal working hours. Approximately 20 workers would be onsite on an average construction day. Equipment used on a typical construction day would including the following:

Type of Equipment	**Number of Pieces**
Excavator	2
Dump Truck	4
Backhoe	2
Water Truck	1
Front End Loader	2
Generator	2
Crane	1
Cement truck	10
Semi-truck and trailer	5
Paver	1

1.3.2 Staging Areas

Staging would occur at various locations along the base of the levee, within the plant. All potential staging locations are in previously disturbed areas with either a dirt or asphalt base. Staging areas would be restored to their previous condition after completion of construction. See figure 2.

1.4 OPERATIONS

Operations would be limited to maintenance of the levee and associated facilities. Actions may include periodic inspection of the levee for scour or other types of structural failure, maintenance of the lights, and inspection and removal of sediment from storm drains.

2 ADJACENT AND NEARBY LAND USES

The RWQCP is located in a heavily urbanized and built-out area, with a mix of residential and commercial/industrial land uses. Riverside has an industrial and commercial core, centered on the Riverside Municipal Airport, located south of the project area, and dense residential areas to the west, south, and east of the airport. Land adjacent to the river and west of the project area is primarily open space and includes the SART on the north side of the project site. The project site, including the treatment plant, is zoned as "Public Facilities/Institutional". Lands to the south and east are zoned "Business and Office Park" and "Industrial". There are no residential communities within the immediate vicinity of the construction area, with the nearest dwellings located approximately 2,000 ft away.

This page left blank intentionally

3 PERMITS AND APPROVALS REQUIRED

Approvals and permits that may be needed for the proposed project are described in this section.

Pre-project coordination with U.S. Army Corps of Engineers (USACE), and the Santa Ana Regional Water Quality Control Board (RWQCB) occurred during a telephone conference on April 6, 2016, and in previous phone calls. Both the USACE and the RWQCB indicated that neither a Section 404 permit nor a Section 401Water Quality Certification would be required for this project, since there would be no effect to jurisdictional waters. The RWQCB recommended that the Initial Study evaluate effects to beneficial uses, particularly Warm, Wild, and Rare beneficial uses. These beneficial uses are evaluated in Section 6.9.3 of this Initial Study, and it was found that they would not be adversely affected.

City of Riverside. The City of Riverside is the land use authority for this project and the lead agency for the California Environmental Quality Act (CEQA) process and approval. The City will lead the design review to allow for the proposed construction. No variances, zoning changes, plan amendments, or map revisions are anticipated to be required for the proposed project.

Riverside County. It is expected that the County of Riverside Airport Land Use Commission (ALUC) will review the proposed project for consistency with the Riverside Municipal Airport Land Use Compatibility Plan. Coordination with the Riverside County Flood Control and Water Conservation District will also be required.

The project site lies within the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP). 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. 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.

United States Fish and Wildlife Service (USFWS). Several species of wildlife listed as threatened or endangered under the federal Endangered Species Act (ESA) are known to occur in the project area. Project actions that may affect these species may require informal consultation with USFWS.

California Department of Fish and Wildlife (CDFW). The Fish and Game Code (Section 1602) requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake. The notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. The Streambed Alteration Agreement application was prepared and submitted to CDFW for review, and on April 17, 2017, CDFW authorized the City to proceed with the project without an agreement with CDFW.

Santa Ana Regional Water Quality Control Board (SARWQCB). Construction sites disturbing one or more acres of land are required to secure a State General Permit for Construction Activity pursuant to the federal CWA. The applicant must submit a Notice of Intent (NOI) to be covered by the State Construction General Permit (CGP) and pay a fee to the SARWQCB. To comply with the permit, the applicant must implement a Stormwater Pollution Prevention Plan (SWPPP) prepared specifically for the project by a qualified individual. The applicant is required to inspect and record their observations of the site before and during storm events, submit notices to the state for ownership transfers, and notify the state when the project is complete. The SWPPP must be implemented and revised as necessary to ensure pollutants in storm water discharges are minimized.

This page left blank intentionally

4 MITIGATION MEASURES

The following mitigation measures would be implemented to keep or reduce any potential impacts to a less-than significant level.

Air Quality

AIR-1: Implement Vehicle Emissions Controls. During project construction, on-site mobile equipment shall be equipped with nitrogen oxides (NO_x) reduction equipment and/or newer NO_x limited engines would be required.

1. On-site mobile equipment would be equipped with pollution control devices for particulate matter less than 10 microns in diameter (PM_{10}) and/or newer, less polluting equipment would be required (either lower emissions diesel or alternative fuels engines).
2. On-site equipment would utilize aqueous diesel fuel.
3. The construction contractor would comply with all current and future Regulation VIII rules.
4. Diesel engines would be shut off when not in use to reduce emissions from idling.

AIR-2: Prepare and Implement a Fugitive Dust Control Plan. The City of Riverside Public Works Department (PWD) would prepare and implement a Fugitive Dust Control Plan, and, as needed, would adopt the following recommended control measures for construction emissions of PM_{10}:

1. All material excavated or graded would be sufficiently watered to prevent excessive dust. Watering would occur as needed with complete coverage of disturbed areas. Watering would occur a minimum of twice daily on unpaved/untreated roads and on disturbed areas with active operations.
2. All clearing, grading, earth moving and excavation activities would cease during periods when either wind speeds exceed 25 miles per hour (mph) or dust plumes of 20 percent or greater opacity affect public roads or occupied structures.
3. All material transported off site would be either sufficiently watered or securely covered to prevent excessive dust.
4. Areas disturbed by clearing, earth moving or excavation activities would be minimized at all times.
5. Stockpiles of dirt or other fine loose material would be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust and covered with tarps as needed.
6. When material are transported off-site, all material shall be covered, effectively wetted to limit visible dust emission, or at least six inches of freeboard space from the top of the container shall be maintained.
7. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring.

Biological Resources

BIO-1: Least Bell's Vireo Avoidance. Construction activities with the potential to generate noise levels in excess of 60 dB Leq or ambient (if ambient is greater than 60 dB Leq) within 500 feet of areas determined to support least Bell's vireo shall be restricted to periods outside of the breeding season for the species, which is defined as March 15 through September 15. All grading permits and improvement plans shall specify these restrictions.

If construction activities must occur during the breeding season, a qualified biologist shall conduct pre-construction surveys to determine if active least Bell's vireo, or other sensitive species', nests occur within 500 feet of the activities and areas that could be indirectly impacted by noise. The results of the survey shall be submitted to the City for review and approval prior to initiating any construction activities. If no active vireo nests are detected within 500 feet of the activities and areas that could be indirectly impacted by noise, construction shall be allowed to proceed with no further measures required.

If active vireo nests are detected within the areas, then construction shall be postponed until (1) all nesting (or breeding/nesting behavior) has ceased, as determined by a qualified biologist, or until after September 15; or (2) temporary noise attenuation (e.g., construction of a noise wall, noise berm, noise blankets, equipment baffles, etc.) and monitoring measures shall be implemented at the edge of the construction footprint to ensure noise levels do not exceed 60 dB Leq or ambient (if ambient is greater than 60 dB Leq), as measured from the location of the active nest(s) under the direction of a qualified biologist and acoustician. Alternatively, the duration of construction equipment operation could be controlled to keep noise levels below 60 dB Leq or ambient in lieu of or in concert with a wall or other sound attenuation barrier. If noise levels cannot be reduced below 60 dB Leq or ambient at the location of the nest(s), then the construction activities causing the excess noise shall be postponed until all nesting (or breeding /nesting behavior) has ceased, as determined by a qualified biologist.

Cultural Resources

CUL-1: Worker Cultural Resource Training. Prior to any proposed construction activities within the Project Area of Potential Effect (APE), all non-cultural resources personnel would be briefed by a qualified Project Archaeologist (retained on-call by the applicant) about the potential and procedures for the inadvertent discovery of prehistoric and historic archaeological resources. In addition, the training would include established procedures for temporarily halting or redirecting work in the event of a discovery, identification and evaluation procedures, and a discussion on the importance of, and the legal basis for, the protection of archaeological resources. Personnel would be given a training brochure regarding identification of cultural resources and protocols for reporting finds. If requested by a Native American tribe, the training would incorporate the tribal perspective regrading protecting cultural resources. An inadvertent cultural discovery plan that outlines protocols and procedures would be developed by a qualified archaeologist and the Soboba Band of Luiseno Indians prior to the worker training and any construction within the project APE.

CUL-2: Tribal Consultation. Prior to filing, per Assembly Bill (AB) 52, the lead agency would consult with individuals identified by the Native American Heritage Commission (NAHC) sacred lands file search to identify potential tribal cultural resources in order to avoid impacts on such resources. If agency lists are provided to tribes prior to construction and no notification or consultation requests are received, it would be assumed no tribal cultural resources would be impacted by the Project.

CUL-3: Inadvertent Discoveries of Archaeological Resources. If the construction staff or others observe previously unidentified archaeological resources during ground disturbing activities, they would halt work within a 200-foot radius of the find(s), delineate the area of the find with flagging tape or rope (may also include dirt spoils from the find area), and immediately notify the qualified Project Archaeologist (retained on-call by the applicant). Construction would halt within the flagged or roped-off area. The Archaeologist would assess the resource as soon as possible and determine appropriate next steps in coordination with proponent. Such finds would be formally recorded and evaluated. The resource would be protected from further disturbance or looting pending evaluation.

CUL-4: Archaeological Monitoring. If proposed project construction design changes and ground disturbing activities would reach depths containing undisturbed native soils, a qualified archaeological monitor and Native American monitor from the Soboba Band of Luiseno Indians would be present on-site during ground disturbing activities that occur within native soils. If any cultural resources are identified by the monitor(s) during ground disturbing activities, the resource would be treated as an inadvertent discovery and the protocols outlined in the inadvertent discovery plan would be followed.

CUL-5: Inadvertent Discoveries of Human Remains. If human remains and/or cultural items defined by the California Health and Safety Code (CHSC), Section 7050.5, are inadvertently discovered during

any future construction activities within the project APE, all work in the vicinity of the find would cease and the Riverside County Coroner would be contacted immediately. If the remains are found to be Native American as defined by CHSC, Section 7050.5, the coroner would contact the NAHC by telephone within 24 hours. The NAHC shall immediately notify the person it believes to be the most likely descendant (MLD) as stipulated by California Public Resources Code (PRC), Section 5097.98. The MLD(s), with the permission of the landowner and/or authorized representative, shall inspect the site of the discovered remains and recommend treatment regarding the remains and any associated grave goods. The MLD shall complete their inspection and make their recommendations within 48 hours of notification by the NAHC. Any discovery of human remains would be treated in accordance with Section 5097.98 of the PRC and Section 7050.5 of the CHSC.

Hazards

HAZ-1: Prepare and Implement a Construction-Specific Hazardous Materials Management Plan and a Site-Specific Health and Safety Plan. To ensure the routine transport, use, or disposal of hazardous materials is done in compliance with federal, state, and local laws, ordinances, and regulations, and to help avoid and minimize potential accidents or spills during construction, a construction-specific hazardous materials management plan and site-specific health and safety plan would be prepared by the construction contractor(s) prior to construction.

The plans would conform to applicable federal, state, and municipal laws, ordinances, and regulations and detail relevant Best Management Practices (BMPs). They would be implemented for the duration of the construction. The plans would be on-site during construction and distributed to all workers and managers prior to the start of construction.

The construction-specific hazardous materials management plan would contain these elements, at a minimum:

- Responsible personnel and clearly defined roles and responsibilities, including employee training requirements
- Emergency preparedness and prevention, including emergency contacts, emergency response equipment and procedures, procedures for responding to unanticipated soil contamination, contingency plans, spill prevention and containment, and spill response equipment and procedures
- Hazardous materials and petroleum products management including inventory, inventory control procedures, storage details, hazard communication requirements, and reporting requirements
- Waste management procedures including anticipated waste streams, waste minimization practices, criteria and process for characterizing hazardous waste, and waste storage, transport, and disposal procedures
- BMPs to be employed to reduce the risks associated with petroleum, oil, lubricants, paint, asphalt, and other potentially hazardous materials transport, storage, and use

The site-specific health and safety plan would contain these elements, at a minimum:

- Responsible personnel and clearly defined roles and responsibilities, including a description of the work to be done
- Emergency contacts and emergency response procedures, including the address and contact information for the nearest hospital and a map showing the location of the nearest hospital and the route to it
- Types of safety issues that could be encountered (e.g., slips, trips, falls, heat) and description of safe work practices
- List of chemicals used or stored on the site
- Employee training and personal protective equipment requirements

- Health and safety tailgate documentation form

Hydrology and Water Quality

WAT-1: Prepare and Implement a Stormwater Pollution Prevention Plan. Because soil surface disturbance for the proposed project would be greater than 1 acre, specific erosion control measures would be identified as part of the CGP and SWPPP required for construction. The construction contractor would prepare a SWPPP that details measures to control erosion, contain sediments, and prevent turbidity and leakage of vehicle and equipment fluids during construction. The SWPPP would be approved by the project sponsors and would ensure compliance with the plan throughout the construction process. Measures from the SWPPP would be incorporated into the contractor's work plan and would be implemented prior to groundbreaking activities. The project sponsors would comply with requirements, including preparation and implementation of the SWPPP and the NPDES General Permit for Stormwater Discharges from Construction and Land Disturbing Activities issued by the State Water Resources Control Board (SWRCB).

WAT-2: Prepare and Implement a Rain Event Action Plan. The Riverside PWD would require the construction contractor to implement the following measures. Construction activities would be suspended and a project-specific Rain Event Action Plan (REAP) would be implemented if substantial rainfall, defined as 0.5 inch or greater precipitation, is forecast by the National Weather Service in their 72-hour forecast for the project area. The REAP would be prepared by a qualified SWPPP practitioner and would comply with standards of the California Stormwater Quality Association BMPs Handbook. The REAP would include measures to prevent adverse effects of water flows at construction areas, such as removal of equipment, vehicles, and materials from the channel; protection of exposed and disturbed areas; and isolation of uncured concrete from water flows. Additionally, start of construction phases taking more than 72 hours to complete would not occur if substantial rainfall is forecast.

5 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Agriculture and Forest Resources	☐	Air Quality
☒	Biological Resources	☒	Cultural/Paleo Resources	☐	Geology/Soils
☐	Greenhouse Gas Emissions	☒	Hazards & Hazardous Materials	☒	Hydrology/Water Quality
☐	Land Use/Land use Planning	☐	Mineral Resources	☒	Noise
☐	Population/Housing	☐	Public Services	☐	Recreation
☐	Transportation/Circulation	☐	Utilities/Service Systems	☒	Mandatory Findings of Significance

5.1 DETERMINATION

☐	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, nothing further is required.

Signature _____ Date 5/24/2017

Craig Justice _____ Deputy Public Works Dir.

Print Name Title

This page left blank intentionally

6 EVALUATION OF ENVIRONMENTAL IMPACTS

This chapter describes resources that are found in the study area and describes the effects that implementation of the proposed project may have on those resources. Impacts to resources may typically result from the construction of the proposed project, or the operation and maintenance of the project. For each resource area, the potential impacts resulting from implementation of the proposed project are evaluated for their level of significance.

The categories used to designate impact significance are described below:

- *No Impact* A project is considered to have no impact if there is no potential for impacts, or if the environmental resource does not exist within the project area or the area of potential effect. For example, there would be no impacts related to wastewater disposal if the project would not involve the production of wastewater.
- *Less than Significant* This determination applies if there is some impact, but not one that qualifies under the significance criteria as a significant impact.
- *Less than Significant with Mitigation* This determination applies to impacts that exceed significance criteria, but for which feasible mitigation is available to reduce the impacts to a less than significant level.
- *Potentially Significant* This determination applies to impacts that are significant but for which: (1) no feasible mitigation has been identified to reduce the impact to a less than significant level, or (2) feasible mitigation has been identified but the residual impact remains significant after mitigation is applied. Therefore, the impact is considered significant and unavoidable.

Determination of impact is driven by the application of significance criteria. These are the thresholds which trigger a determination of impact significance. In turn, significance criteria are determined through evaluation of the regulatory setting of the area from a Federal, State, and local standpoint. When no regulatory guidelines are available, generalized criteria can be substituted.

In cases where impacts are expected, but can be reduced with adequate mitigation, those mitigation measures are described. A revised level of significance may result from mitigation. In some cases, less than significant determinations are made, but application of mitigation may still be warranted to further reduce potential impacts (CEQA Section 15021).

Impact assessment takes into consideration construction and operational impacts. Construction impacts are those that may occur during implementation of construction actions, and are compared to baseline conditions under which no project would occur. Operational impacts are those that may occur after the project has been completed.

The analysis of potential impacts and mitigation measures is based on pre-determined significance criteria. The significance criteria used in this IS are taken from the Appendix: Environmental Checklist Form included in the CEQA Guidelines (CEQA Guidelines, Appendix G).

(1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (for example, the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (for example, the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

(2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
(3) Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an environmental impact report (EIR) is required.
(4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level [mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced].
(5) Earlier analyses may be used where, pursuant to tiering, programmatic EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
(6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts. Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
(7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
(8) This form is only suggested, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
(9) The explanation of each issue should identify:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any, to reduce the impact to less than significant.

6.1 AESTHETICS (AES)

Aesthetics (AES)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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 day or nighttime views in the area?	☐	☐	☒	☐

6.1.1 Environmental Setting

A visual quality/aesthetic analysis is subjective and considers the project design in relation to the surrounding visual character, heights, and building and structure types, its potential to obstruct scenic views or vistas, and its potential for light and glare. The proposed project's specific design would be considered to have a significant adverse environmental effect on visual quality only if it were to cause a substantial, demonstrable, negative change.

Visual conditions within the project area are dominated by the RWQCP and the Santa Ana River, between which the levee would be raised and the floodwall would be constructed. The developed area is industrial in appearance, contrasting with the natural vegetated corridor of the Santa Ana River. The RWQCP is surrounded to the south and east by business parks, to the west by Van Buren Boulevard, and to the north by the Santa Ana River. The visual character of the treatment plant and business park are dominated by paved surfaces, low buildings, roadways, and parking lots. The existing levee between the treatment plant and river has a paved bike path with cyclone fence on both sides.

The river corridor passes through a constriction as it nears the treatment plant, causing banks on both sides of the river to rise steeply. Along the low banks, riparian vegetation forms an intermittent screen, meaning that the river is sometimes visible from the bike trail and sometimes obscured. Most of the land visible from the treatment plant on the north bank of the river are open space designated. Open space here is dominated by grass and scrub-shrub, with dirt trails crisscrossing the site.

Views of the proposed levee and floodwall are available from the open space north of the river, the SART and Hidden Valley Wildlife Area (located south of Van Buren Boulevard), from within the treatment plant, and from Van Buren Boulevard. Viewer groups therefore include recreational trail users, open space visitors, treatment plant employees and visitors, and motorists using Van Buren Boulevard.

6.1.2 Regulatory Setting

The California Scenic Highway Program, governed by the Streets and Highways Code, §260 et seq., is intended to preserve and protect highway corridors in areas of outstanding natural beauty from changes that would diminish the aesthetic value of the adjacent lands. There are no California Department of Transportation (Caltrans)-designated scenic highways in the project area or vicinity (Caltrans 2009). Construction and operation of the project would not be subject to the requirements of the Scenic Highway Program.

Applicable policies and objectives from the City of Riverside General Plan (2007) include:

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

Objective OS-4: Preserve designated buffers between urban and rural uses for their open space and aesthetic benefits.

6.1.3 Potential Impacts

AES (a): Would the proposed project have a substantial adverse effect on a scenic vista?

The proposed project would result in temporary visual changes to the water treatment plant during the construction period. However, there are no designated federal or state scenic vistas in the region, but the City of Riverside General Plan 2025 identifies Van Buren Boulevard as a scenic parkway (City of Riverside 2007). However, the construction area would begin approximately 1,800 ft away from Van Buren Boulevard, so most motorists would be unlikely to notice the construction. Furthermore, construction actions that were visible from Van Buren Boulevard would be temporary. Therefore, impacts to scenic vistas would be less than significant.

AES (b): Would the proposed project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Proposed construction activities and operational conditions would not affect any resources within a state scenic highway, as the area is not designated as such. No trees, rock outcroppings, historic buildings, or other scenic resources would be affected by the project, and there would be no impact.

AES (c): Would the proposed project substantially degrade the existing visual character or quality of the site and its surroundings?

Visual impacts would result from the temporary presence of equipment during the construction period, changes to accessibility and aesthetics of the bike path during construction, and from the permanent changes of raising the levee and adding a floodwall.

Temporary impacts could result to visual resources during the construction of the project. The presence of construction equipment, land clearing and earth moving, and increased generation of dust from exposed soils could all contribute to diminished aesthetic appeal of the project area. However, due to ongoing construction of the plant expansion program, visual conditions of the project area are already similar to the visual conditions that would be expected during construction of the levee project. Because visual impacts due to construction would be temporary and would only be incrementally more observable than ongoing practices at the site, impacts to visual character or quality due to construction would be less than

significant. Compliance with Policy OS-2.3 would ensure that grading activities did not result in aesthetic compromise.

During construction the bike path would be temporarily closed and alternate routes would need to be used. This would reduce the visual impacts of potential viewer groups that would normally use the bike path. Following construction, the bike path would be reopened, having an increased elevation. Although the presence of the floodwall would permanently alter the visual landscape for those using the bike path, the floodwall would be low and would not block the outward view of the surrounding area by people biking or walking on the levee.

The project would result in 2,108 ft of wall being raised by 1 to 6 ft, which would potentially obscure the view of riparian vegetation from within the treatment plant. However, views from the plant into the Santa Ana River are already largely obscured by existing infrastructure. Furthermore, due to the industrial nature of the plant, this negligible effect in view of the river corridor is considered less than significant.

AES (d): Would the proposed project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Security lighting would be installed on the plant side of the levee to replace the existing lighting. Lights would be installed at intervals of 100 - 150 ft. Lights would be installed either at the base of the levee or in mid-slope, and would be elevated to 5 ft above the top elevation of the levee. The lights are directional and designed and situated to illuminate the top of the levee and the slope facing the plant. This light design and elevation were selected to minimize light interference in the riparian zone. Light would also be blocked from all but the top of the riparian zone by the presence of the floodwall. Lights would be visible from across the river to the north, but would be consistent with the developed, industrial nature of the area, and visibility from residential areas would be minimal. Therefore, effects related to light or glare would be less than significant.

6.1.4 Mitigation

No mitigation is required.

6.2 AGRICULTURAL AND FOREST RESOURCES (AFR)

Agricultural and Forest Resources (AFR)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

6.2.1 Environmental Setting

The proposed project area is highly developed as municipal infrastructure. There are no agricultural or forestry uses of the site, and there is no opportunity for such uses in the future. Riparian forest is found north of the levee along the Santa Ana River, but does not contain timber resources and would not be affected by the proposed project.

6.2.2 Regulatory Setting

There are no regulations relevant to agriculture or forestry that apply to the project area.

6.2.3 Potential Impacts

AFR (a): Would the proposed project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

and,

AFR (b): Would the proposed project conflict with existing zoning for agricultural use or a Williamson Act contract?

A review of Figure OS-2 of Riverside's General Plan Open Space Element indicates that there are no areas considered Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in the project area or the vicinity of the project. According to Figure OS-3 of the Open Space Element, there are no Williamson Act preserves or contracted lands. Therefore, there would be no impact.

AFR (b): Would the proposed project conflict with existing zoning for agricultural use or a Williamson Act contract?

and,

AFR (c): Would the proposed project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

and,

AFR (e): Would the proposed project involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?

The project area and surrounding lands are zoned as "Public Facilities", "Business and Industrial", and "Industrial". There are no areas zoned for agricultural uses or forest land, and no areas bound under a Williamson Act contract. There would be no impact.

AFR (d): Would the proposed project result in the loss of forest land or conversion of forest land to non-forest use?

There are no forest lands in the area other than the riparian zone, which would not be affected by the proposed project. There would be no impact.

6.2.4 Mitigation

No mitigation is recommended.

6.3 AIR QUALITY (AIR)

Air Quality (AIR)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 in non-attainment under an applicable federal, state, or regional 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?	☐	☐	☐	☒

6.3.1 Environmental Setting

The project site lies within the South Coast Air Basin (SCAB). The Basin 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 SCAB's air pollution problems are a consequence of the combination of emissions from the nation's second largest urban area, meteorological conditions, and the mountainous terrain surrounding the Basin, which traps pollutants as they are pushed inland with the sea breeze. 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. The average wind speed for Los Angeles is the lowest of the nation's 10 largest urban areas. Southern California also has abundant sunshine, which drives the photochemical reactions that form pollutants such as ozone (O_3) and a significant portion of fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$).

The South Coast Air Quality Management District (SCAQMD) maintains an air quality monitoring network to assess the air quality throughout the Basin. There are two air quality monitoring stations near the project site; the Mira Loma station is located approximately 3 ¾ miles to the southeast at 7002 Magnolia Avenue in Riverside. The Riverside-Rubidoux Station is located approximately 3 ¾ miles to the northeast at 5888 Mission Boulevard in Riverside County. A three-year summary (2013 to 2015) of data collected at these stations is shown in Table 1, and is compared with the corresponding state ambient air quality standards.

Table 1. Air Quality Summaries

Riverside-Rubidoux Station								
Pollutant	Period	Concentration			Standard	Days Above Standard		
		2013	2014	2015		2013	2014	2015
Ozone (O_3)	Max. 1-hr (ppm)	0.123	0.141	0.132	State = 0.09	13	29	31
	Max. 8-hr (ppm)	0.103	0.104	0.105	State = 0.07	38	69	59
					Federal = 0.07	NA	66	55
Carbon Monoxide (CO)	Max 1-hr (ppm)	NA	2	2.5	State = 20	NA	0	0
					Federal = 35	NA	0	0
	Max. 8-hr (ppm)	2.0	1.9	1.7	State = 9.0	0	0	0
					Federal = 9.0	0	0	0
Nitrogen Dioxide (NO_2)	Max. 1-hr (ppb)	58.2	59.9	57.4	State = 180	0	0	0
					Federal = 10	0	0	0
	Ann Average (ppb)	14.4	15.1	14.4	Federal = 53	0	0	0
Suspended Particulate Matter (PM10)	Max. 24-hr ($\mu g/m^3$)	135	100	91	Federal = 150	0	0	0
					State = 50	8%	28%	19%
	Ann. Ave. ($\mu g/m^3$)	33.8	42.0	36.8	State= 20	NA	NA	NA
Fine Particulate Matter (PM2.5)	Max. 24-hr ($\mu g/m^3$)	60.3	48.9	54.7	Federal = 35	1.4%	2.6%	2.6%
	Ann. Ave. ($\mu g/m^3$)	12.5	12.48	11.89	State= 12	NA	NA	NA
					Federal =12	NA	NA	NA

Mira Loma Station								
Pollutant	Period	Concentration			Standard	Days Above Standard		
		2013	2014	2015		2013	2014	2015
Ozone (O_3)	Max. 1-hr (ppm)	0.118	0.138	0.127	State = 0.09	11	17	31
	Max. 8-hr (ppm)	0.096	0.102	0.104	State = 0.07	32	55	59
					Federal = 0.07	NA	52	55
Carbon Monoxide (CO)	Max 1-hr (ppm)	NA	2	2.3	State = 20	NA	0	0
					Federal = 35	NA	0	0
	Max. 8-hr (ppm)	1.9	1.4	1.6	State = 9.0	0	0	0
					Federal = 9.0	0	0	0
Nitrogen Dioxide (NO_2)	Max. 1-hr (ppb)	58.2	57.7	68.1	State = 180	0	0	0
					Federal = 10	0	0	0
	Ann Average (ppb)	14.4	13.7	13.4	Federal = 53	0	0	0
Suspended Particulate Matter (PM10)	Max. 24-hr ($\mu g/m^3$)	147	145	131	Federal = 150	0	0	0
					State = 50	24%	58%	45%
	Ann. Ave. ($\mu g/m^3$)	41.1	54.9	48.8	State= 20	NA	NA	NA
						NA	NA	NA
Fine Particulate Matter (PM2.5)	Max. 24-hr ($\mu g/m^3$)	37.5	73.6	56.6	Federal = 35	2.5%	2.6%	5%
	Ann. Ave. ($\mu g/m^3$)	14.12	14.48	13.34	State= 12	NA	NA	NA
					Federal =12	NA	NA	NA

Source: AQMD Historical Data by Year, http://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year, accessed December 30, 2016.Units of concentration: parts per million (ppm), parts per billion (ppb), and micrograms per cubic meter ($\mu g/m^3$). NA indicates that the data were not available.

6.3.2 Regulatory Setting

Clean Air Act (CAA). The CAA (42 USC 7401, et seq.) is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants. One of the goals of the Act was to set and achieve NAAQS in every state by 1975 in order to address the public health and welfare risks posed by certain widespread air pollutants. The setting of these pollutant standards was coupled with directing the states to develop State Implementation Plans (SIPs), applicable to appropriate industrial sources in the state, in order to achieve these standards. The Act was amended in 1977 and 1990 primarily to set new goals (dates) for achieving attainment of NAAQS since many areas of the country had failed to meet the deadlines. The CAA calls for state, local, tribal and federal governments to work in partnership to clean the air.

California Clean Air Act (CCAA). The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the CCAA. The CCAA, which was adopted in 1988, required CARB to establish California Ambient Air Quality Standards (CAAQS). The standards for criteria pollutants established by CARB are generally more restrictive than the NAAQS. CARB has also established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the criteria air pollutants. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the State endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and area wide emission sources, and provides districts with the authority to regulate indirect sources (i.e., sources that are not stationary or regulated as a stationary source, such as construction sources).

South Coast Air Quality Management District. SCAQMD is responsible for preparing the portion of the SIP applicable to its boundaries, which include the SCAB; adoption of control regulations for stationary sources; and implementation of indirect source and transportation control measures (e.g. employee ridesharing rules). The SCAQMD has established various rules to manage air quality in the Basin, including Rules 402 and 403. Rule 402 (Nuisance) states that a person should not emit air contaminants which cause a nuisance. Rule 403 (Fugitive Dust) controls fugitive dust through various requirements including applying water to disturbed soils.

For areas that do not attain the NAAQS, the CAA requires the preparation of a SIP, detailing how the State will attain the NAAQS within mandated timeframes. In response to this requirement, the SCAQMD developed the 2012 Air Quality Management Plan (AQMP) (SCAQMD 2012). The Final Plan demonstrates attainment of the federal 24-hour $PM_{2.5}$ standard by 2014 in the Basin through adoption of all feasible measures.

While the 2012 AQMP focused on attainment of the 24-hour $PM_{2.5}$ standard, it has since been determined, primarily due to unexpected drought conditions, that it was impracticable to meet the standard by the original attainment year. Since that time, the USEPA has approved a re-classification to "serious" nonattainment for the 24-hour $PM_{2.5}$ standard, which requires a new attainment demonstration with a new attainment deadline. To address these issues, the SCAQMD began development of the 2016 AQMP and has issued a Draft Final Plan (SCAQMD 2016), which demonstrates compliance with the 24-hour $PM_{2.5}$ standard by 2019.

6.3.3 Potential Impacts

AIR (a): Would the proposed project conflict with or obstruct implementation of an applicable air quality plan?

There are two criterion to demonstrating consistency with the AQMP. The first is demonstrating that the proposed project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP. The second is demonstrating the proposed project would not exceed any of the assumptions in the AQMP for the year of the project buildout.

The first criterion would be met for the following reasons;

- The proposed project has no associated operational emissions. The proposed project would not alter any aspect of the operation of the facility. Construction emissions for the proposed project would be temporary and would not have a long-term impact on the region's ability to meet State and federal air quality standards. The project would comply with all State and local air pollution control regulations, including SCAQMD Rule 403 for fugitive dust.
- The SCAQMD has set construction significance thresholds to protect regional air quality and ensure the attainment of air quality standards consistent with the AQMP. As shown on Table 2, the proposed project would not exceed any of these thresholds.

The second criterion would be met because the proposed project, as stated above, would not alter any aspect of the operation. Therefore the proposed project would not impact any of the assumptions in the AQMP, including population, trip generation or inducement of growth. No impact will, therefore, be experienced.

AIR (b): Would the proposed project violate or contribute to the violation of an air quality standard?

Project construction would have minor impacts to air quality in the region and the immediate project vicinity through the earth moving and construction activities required to build the levee. These emissions include the import of various materials including concrete and other construction materials, and emissions from trucks and employee vehicles, as well as the movement of 24,000 cy of soil currently stockpiled on-site. The CalEEMod, Version 2016.3.1, was used to estimate construction emissions. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations. It is the SCAQMD's recommended model for evaluating emissions. The estimated construction emissions are shown on Table 2. Detailed emissions calculations from CalEEMod are given in Appendix 1.

The SCAQMD developed regional significance thresholds for mass daily emission rates of criteria pollutants for both construction and operational sources as well as localized significance threshold (LST) methodology as a way of demonstrating compliance with State and federal ambient air quality standards in the project vicinity. LSTs only apply to NO_x, CO, PM_{10}, and $PM_{2.5}$.

As shown in Table 2 there would be no violations of federal or local air quality standards in constructing the project. Therefore, the proposed project would not violate or contribute to the violation of an air quality standard, and impacts would be less than significant.

Table 2. Summary of Daily Emissions

Emissions Component	Criteria Pollutant Emissions					
	ROG	**NO_x**	**PM_{10}**	**$PM_{2.5}$**	**SO_x**	**CO**
Estimated Construction Emissions[1]	5.0 lbs./dy	53.0 lbs./dy	5.5 lbs./dy	2.8 lbs./dy	0.1 lbs./dy	32.7 lbs/dy
Regional Threshold[2]	75 lbs./dy	100 lbs./dy	150 lbs./dy	55 lbs./dy	150 lbs./dy	550 lbs./dy
Localized Threshold[3]	NA	488 lbs./dy	96 lbs./dy	31 lbs./dy	NA	6,860 lbs./dy
Above Threshold?	No	No	No	No	No	No

[1]: CalEEMod emission estimations, Appendix 1
[2] SCAQMD Air Quality Significance Thresholds, http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf
[3] Localized Significance Thresholds, 5-Acre Site, 200 meter receptor distance. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2.

AIR (c): Would the proposed project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard?

The primary other project within the project area would be the expansion of the RWQCP, which is ongoing. Most components of the plant expansion have been completed, and substantial overlap of construction actions is not anticipated. Furthermore, the levee rehabilitation project would result in emissions of criteria pollutants well below critical thresholds during construction, and would have no operational emissions, so cumulatively significant impacts are not anticipated.

AIR (d): Would the proposed project's emissions expose sensitive receptors to substantial pollutant concentrations?

The project site is located in a generally industrial/commercial area. The nearest residential locations are 0.5 mile away. The nearest sensitive receptors include Indian Hills Elementary School, approximately one mile to the northeast; Terrace Elementary School, approximately one mile to the south; and LifeHouse Riverside Healthcare Center, approximately one mile to the north. The distance to these potential receptors would result in greatly reduced pollutant concentrations, therefore the proposed project's emissions would not expose sensitive receptors to substantial pollutant concentrations and there would be no impact.

AIR (e): Would the proposed project create objectionable odors affecting a substantial number of people?

The potential for the project to create objectionable odors would be limited to tailpipe emissions from construction equipment. These emissions would be of a limited time duration and affect a very narrow range and short distance downwind of the construction, therefore there would be no impact.

6.3.4 Mitigation

Although mitigation is not needed for compliance with applicable air quality standards, the best available measures for fugitive dust control would be implemented to reduce fugitive dust emissions to the lowest possible levels.

AIR-1: Prepare and Implement a Fugitive Dust Control Plan. Riverside PWD would prepare and implement a Fugitive Dust Control Plan, and, as needed, would adopt the following recommended control measures for construction emissions of PM_{10}:

1. All material excavated or graded would be sufficiently watered to prevent excessive dust. Watering would occur as needed with complete coverage of disturbed areas. Watering would occur a minimum of twice daily on unpaved/untreated roads and on disturbed areas with active operations.
2. All clearing, grading, earth moving and excavation activities would cease during periods when either wind speeds exceed 25 mph or dust plumes of 20 percent or greater opacity affect public roads or occupied structures.
3. All material transported off site would be either sufficiently watered or securely covered to prevent excessive dust.
4. If more than 5,000 cy of fill material would be imported or exported from the site, then all haul trucks would be required to exit the site via an access point where a gravel pad or grizzly has been installed.
5. Areas disturbed by clearing, earth moving or excavation activities would be minimized at all times.
6. Stockpiles of dirt or other fine loose material would be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust and covered with tarps as needed.
7. When material are transported off-site, all material shall be covered, effectively wetted to limit visible dust emission, or at least six inches of freeboard space from the top of the container shall be maintained.
8. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring.

6.4 BIOLOGICAL RESOURCES (BIO)

Biological Resources (BIO)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Wildlife 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 Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
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?	☐	☐	☐	☒

6.4.1 Environmental Setting

Biological resources encompass the natural setting of the study area, including vegetation, wildlife, and special habitats such as rivers and wetlands. The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) provides the most comprehensive survey of habitat conditions within Riverside County, and along the project area adjacent to the Santa Ana River (WRCRCA 2004). The MSHCP serves as a Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the federal ESA of 1973, as well as a Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001. Existing data regarding biological resources in the area comes primarily from the MSHCP and the City's General Plan (City of Riverside 2007).

According to the MSHCP, the habitat along the Santa Ana River generally falls into the Riverside Lowlands Bioregion, where vegetation is "Riparian Scrub, Woodland, Forest" (WRCRCA 2004). Clarke describes the project area as the inland valley segment of the Santa Ana River, which extends from Colton to Yorba Linda, and supports a rich cottonwood and willow forest and many other plants requiring a high water table (Clarke 2007).

Vegetation communities north of the RWQCP and within the Santa Ana River corridor are riparian scrub, woodland, and forest habitats. According to the MSHCP, these habitats may include arundo/riparian forest, mulefat scrub, riparian forest, riparian scrub, southern cottonwood/willow riparian, southern sycamore/alder riparian woodland, southern willow scrub, and tamarisk scrub. During a site visit on November 2, 2016, components of many of these habitats were observed. In particular, willow, cottonwood, and mulefat were present, with significant stands of invasive tamarisk and arundo interspersed.

To the east of the treatment plant, the Riverside Lowlands Bioregion encompasses areas that are not riparian habitat. This bioregion is characterized by Riversidian sage scrub and annual grasslands (WRCRCA 2004). The region is noted as being highly disturbed, with habitats that have been highly developed and fragmented. Between the treatment plant outer wall and Van Buren Boulevard is a small strip of landscaping intended to beautify this scenic boulevard. Vegetation within the plant grounds is manicured landscaping or ruderal/highly disturbed areas. There are no natural vegetation habitats within the RWCQP land.

6.4.1.1 Wildlife

Over one hundred thirty-five species of birds either completely depend upon the riparian habitats of the Santa Ana River or use it at some stage of their life history (City of Riverside 2007). Ninety species of mammals, reptiles, invertebrates and amphibians also depend on the river, which provides food, nesting habitat, cover and migration corridors (City of Riverside 2007). The Santa Ana River is a migratory corridor for wildlife, permanently protected as open space by the County of Riverside Regional Parks and Open Space District. Wildlife species which inhabit the project area are typical of urban river habitats and are expected to occur within the Santa Ana River corridor and its adjacent open spaces.

A list of wildlife species that are commonly present in the study area is compiled from the City's General Plan, adopted in 2007 and updated in 2012 (City of Riverside 2007), the County's MSHCP (WRCRCA 2004), and an EIR prepared in 2010 for the proposed Integrated Master plan for Wastewater Collection and Treatment Facilities (RPWD 2010).

Larger mammals that may use the corridor include coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), striped skunk (Mephitis mephitis), Virginia opossum (*Didelphis virginiana*), and raccoon (*Procyon lotor*). Rarer large mammals that may venture into the area include bobcat (*Lynx rufus*) and mountain lion (*Puma concolor*). Common small mammals may include ground squirrels (*Spermophilus* sp.), Audubon cottontail (*Sylvilagus audobonii*), pocket gopher (*Thomomys bottae*), western harvest mouse (*Reithrodontomys megalotis*), deer mouse (*Peromyscus keeni*), dusky-footed woodrat (*Neotoma fuscipes*), California mouse (*Peromyscus californicus*), California pocket mouse (*Chaetodipus californicus*), California vole (*Microtus californicus*), and Pacific kangaroo rat (*Dipodymus agilis*). Common reptiles include western fence lizard (*Sceloporus occidentalis*), side blotched lizards (Uta sp.), alligator lizard (*Elgaria multicarnata*), gopher snake (*Pituophis catenifer catenifer*), and garter snakes (*Thanmophis* sp.). Common amphibians include tree frog (*Hyla cinerea*), western toad (*Anaxyrus boreas*), and bullfrog (*Lithobates catesbeianus*).

Common birds in the area may include California quail (*Callipepla californica*), mourning dove (*Zenaida macroura*), red-winged blackbird (*Agelaius phoeniceus*), brewer's blackbird (*Euphagus cyanocephalus*),

European starling (*Sturnus vulgaris*), scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), western kingbird (*Tyrannus verticalis*), American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), American robin (*Turdus migratorius*), and house finch (*Haemorhous mexicanus*). Additional species of migrating birds may be present in the spring and fall. Prior to the expansion project, wintering or migratory waterfowl and shorebirds were reported using the equalization ponds within the RWQCP (RPWD 2010). Species observed included the cinnamon teal (*Anas cyanoptera*), blue-winged teal (*Anas discors*), green-winged teal (*Anas carolinensis*), northern shoveler (*Anas clypeata*), American wigeon (*Anas americana*), American coot (*Fulica americana*), black-necked stilt (*Himantopus mexicanus*), unknown sandpiper species (Scolopacidae), Bonaparte's gull (*Chroicocephalus philadelphia*), and ring-billed gull (*Larus delawarensis*).

6.4.1.1 Sensitive Species and Habitats in the Project Area

Presence of sensitive plant and wildlife species in the project area was assessed via query to the California Natural Diversity Database (CNDDB) (CDFW 2016). Table 3 shows there are 24 sensitive species that may occur in the study area. Eight species are federally threatened or endangered, including 2 plants, 2 mammals, 3 birds, and 1 fish.

In addition, there were three sensitive habitats reported to occur in the vicinity. This included two vegetation communities, Southern Cottonwood Willow Riparian Forest and Southern Willow Scrub, and one stream habitat, the Southern California Arroyo Chub/Santa Ana Sucker Stream.

Table 3. CNDDB Query Results for Riverside West Quadrangle

Scientific Name	Common Name	Taxonomic Group	Status	Habitat	Likelihood of Occurrence in Project Area
Federally Protected Species					
Ambrosia pumila	San Diego ambrosia	dicot plant	FE	Chaparral, Coastal Scrub, Valley and Foothill Grassland	Not present (E)
Catostomus santaanae	Santa Ana sucker	fish	FT	Aquatic, South Coast Flowing Waters	Likely
Coccyzus americanus	western yellow-billed cuckoo	bird	FT, SE, S, BCC	Riparian Forest	Not likely (PE)
Dipodomys merriami parvus	San Bernardino kangaroo rat	mammal	FE, SSC	Coastal Scrub, Grassland	Not likely
Dipodomys stephensi	Stephens' kangaroo rat	mammal	FE, ST	Coastal Scrub, Valley and Foothill Grassland, Grassland	Not likely
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	dicot plant	FE, SE	Chaparral, Coastal Scrub	Not likely
Polioptila californica	coastal California gnatcatcher	bird	FT, SCC	Coastal Bluff Scrub, Coastal Scrub	Not likely
Vireo bellii pusillus	least Bell's vireo	bird	FE, SE	Riparian Forest, Riparian Scrub, Riparian Woodland	Likely

Scientific Name	Common Name	Taxonomic Group	Status	Habitat	Likelihood of Occurrence in Project Area
State Protected Species					
Agelaius tricolor	tricolored blackbird	bird	ST Candidate, SSC, BCC	Freshwater Marsh, Marsh and Swamp, Swamp, Wetland	Not likely
Buteo swainsoni	Swainson's hawk	bird	ST, BCC	Riparian Forest, Riparian Woodland, Valley and Foothill Grassland	Not likely (PE)
CDFG or USFWS Sensitive Species					
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	bird	WL	Coastal Sage Scrub, Chaparral	Possible
Anniella pulchra pulchra	silvery legless lizard	reptile	SSC, S	Chaparral, Coastal Dune, Coastal Shrub	Possible
Artemisiospiza belli belli	Bell's sage sparrow	Bird	WL, BCC	Chaparral, Coastal Sage Scrub	Possible
Aspidoscelis hyperythra	orange-throated whiptail	reptile	WL, S	Chaparral, Cismontane Woodland, Coastal Scrub	Possible
Aspidoscelis tigris stejnegeri	coastal whiptail	reptile	SSC	Riversidian Sage Scrub, Saltbush Scrub, Non-native grasses	Possible
Athene cunicularia	burrowing owl	bird	SSC, BCC	Coastal Prairie, Coastal Scrub, Great Basin Grassland, Valley and Foothill Grassland	Possible
Crotalus ruber	red-diamond rattlesnake	reptile	SSC, S	Chaparral	Not likely
Eumops perotis californicus	western mastiff bat	mammal	SSC	Chaparral, Cismontane Woodland, Coastal Scrub, Valley and Foothill Grassland	Not likely
Gila orcuttii	arroyo chub	fish	SSC, S	Aquatic, South Coast Flowing Waters	Likely
Icteria virens	yellow-breasted chat	bird	SSC	Riparian Forest, Riparian Scrub, Riparian Woodland	Likely
Lasiurus xanthinus	western yellow bat	mammal	SSC	Desert Wash, Valley Foothill Riparian, Palm Oasis	Possible
Lepus californicus bennettii	San Diego black-tailed jackrabbit	mammal	SSC	Coastal Scrub	Possible
Nyctinomops femorosaccus	pocketed free-tailed bat	mammal	SSC	Riparian Scrub, Pine-Juniper Woodlands, Palm Oasis	Possible
Phrynosoma blainvillii	coast horned lizard	reptile	SSC	Chaparral, Cismontane Woodland, Coastal Bluff Scrub, Coastal Scrub, Desert Wash, Riparian Scrub, Riparian Woodland, Valley and Foothill Grassland	Possible

Scientific Name	Common Name	Taxonomic Group	Status	Habitat	Likelihood of Occurrence in Project Area
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	fish	SSC, S	Aquatic, South Coast Flowing Waters	Possible
Setophaga petechia	yellow warbler	bird	SSC, BCC	Riparian Forest, Riparian Scrub, Riparian Woodland	Likely
Spinus lawrencei	Lawrence's goldfinch	bird	BCC	Broadleaved Upland Forest, Chaparral, Riparian Woodland	Likely
Sensitive Habitats					
Southern California Arroyo Chub/Santa Ana Sucker Stream					Present
Southern Cottonwood Willow Riparian Forest					Likely
Southern Willow Scrub					Not likely
Source: CDFW 2016. Federal ESA Status: (FE) Endangered, (FT) Threatened. State CESA Status: (SE) Endangered, (ST) Threatened. CDFW Status: (SSC) Species of special concern, (WL) Watch List. USFWS Status: (S) Sensitive, (BCC) Birds of Conservation Concern. Occurrence: (PE) Possibly Extirpated, (E) Extirpated.					

Of the species returned from the CNDDB query, some are known to occur in or near the project area and others have the potential to occur in the project area where suitable habitat is available (Table 3). Species listed as "Not Likely" to occur in the project area have either not been observed in the area for many years, are noted as potentially extirpated, or would not find suitable habitat in the project area. Species listed as "Possible" occurring in the project area have also not been observed in the immediate project vicinity or have not been observed for many years, but may still be present since suitable habitat is available. Those "Likely" to occur are species that have been observed in or around the project vicinity in recent years, as well as those that have been observed previously, may be in the area, and would be expected to use available habitat.

Two federally protected species are known to occur in the project area, including the least Bell's vireo (*Vireo bellii pusillus)* and Santa Ana sucker (*Catostomus santaanae)*. One species of special concern (SSC) is also known to be present, the arroyo chub (*Gila orcutti*).

The project area is within designated critical habitat for the Santa Ana sucker and also includes the segment of the stream that is designated as Southern California Arroyo Chub/Santa Ana Sucker Stream by the state (USFWS 2010, CDFW 2016). This part of the river is noted in the CNDDB as having more perennial and stable flows due to groundwater forced to the surface, providing suitable habitat for Santa Ana suckers and arroyo chub (CDFW 2016).

6.4.2 Regulatory Setting

Endangered Species Act. The USFWS and National Marine Fisheries Service (NMFS) have jurisdiction over species listed as threatened or endangered under the Federal ESA of 1973, as amended, and candidate species proposed for listing. The ESA protects listed species from harm, or "take," which is broadly defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." For any project with a Federal nexus (funding, permitting, or other approvals) that affects a listed species, the Federal agency must consult with the USFWS and/or NMFS Fisheries under Section 7 of the ESA. For projects without a Federal nexus, the lead agency must consult with USFWS and/or NMFS under Section 10 of the ESA. Under the ESA, critical habitat may be formally designated by the USFWS or NMFS for survival and recovery of listed species. Critical habitat

designations are specific areas within a geographic region that are occupied by a species and determined to be critical to its survival in accordance with the ESA.

Migratory Bird Treaty Act (MBTA). The MBTA of 1918 implements a series of international treaties that provide for migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds. The act provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird…" (16 United States Code (USC) 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds. Permits for take of non-game migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health, safety, and personal property.

Bald and Golden Eagle Protection Act. The Bald and Golden Eagle Protection Act (16 USC 668-668c) prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

California Endangered Species Act. Pursuant to CESA, a permit from CDFW is required for projects that could result in the "take" of a plant or animal species that is State-listed as threatened or endangered. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species. The CESA definition of take does not include "harming" or "harassing," as the federal ESA definition does. Therefore, the threshold for take is higher under CESA than under ESA. A State or local public agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the program area and determine whether the project would have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project that could affect a candidate species. For the potential taking of individual animals listed under CESA, Fish and Game Code Sections 2080.1 and 2081 provide for issuance of an incidental take permit. CDFW would issue an incidental take permit only if: (1) the authorized take is incidental to an otherwise lawful activity; (2) the impacts of the authorized take are minimized and fully mitigated; and (3) adequate funding is provided to implement the minimization and mitigation measures.

California Fish and Game Code Sections 1600-1616. Under Sections 1600-1616, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream or lake, which support fish or wildlife (i.e., bed to bank). The CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." The CDFW has interpreted the term "streambed" to encompass all portions of the bed, banks, and channel of any stream, including intermittent and ephemeral streams, extending laterally to the upland edge of riparian vegetation. Construction and maintenance actions that may affect the streambed would be subject to creation of a Streambed Alteration Agreement under Section 1602. This agreement would include measures to protect fish, wildlife, and vegetation that may be affected during construction in the streambed.

California Fish and Game Code Sections 3500 – 3516. Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section

3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders falconiformes and strigiformes), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction. This statute does not provide for the issuance of any type of incidental take permit.

California Fish and Game Code Fully Protected Species. Statutes for fully protected species are described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take of fully protected species.

County of Riverside General Plan 2025 (2007). Applicable policies and objectives that are included in the General plan include:

- Policy OS-1.1: Protect and preserve open space and natural habitat wherever possible.
- Policy OS-7.1: Focus river improvements on the following areas: Fairmount Park and Mt. Rubidoux, Tequesquite Avenue and the Old Landfill, Martha McLean Park, Van Buren Bridge and the Hidden Valley Wildlife Area.
- Policy OS-7.3: Preserve and expand open space along the Santa Ana River to protect water quality, riparian habit and recreational uses.
- Policy OS-7.6: Partner with other jurisdictions, including the Regional Water Quality Control Board (RWQCB) and the U.S. Army Corps of Engineers (USACE), to minimize the impact of new development on the river and bring about some of the enhancements envisioned by the Santa Ana River Task Force.

County of Riverside Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP allows for habitat loss from development within its boundaries when developers pay a mitigation fee to establish and manage regional habitat conservation areas (WRCRCA 2004). The USFWS and CDFW issue their permits for regional development impacts to federally- and state-listed species instead of on a project by project basis, reducing delays in development and resulting in a network of conservation areas that benefit species the most.

6.4.3 Potential Impacts

BIO (a): Would the project 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 Wildlife or U.S. Fish and Wildlife Service?

Increased noise and light resulting from the construction and operations of the proposed project could disturb wildlife, if present in the project area. Disturbance to fish species is unlikely, since construction would be entirely conducted out of the water and above the Ordinary High Water Mark (OHWM).

Any disturbance to sensitive wildlife would most likely be to nesting bird species. Most construction work is on the side of the levee facing away from the river, reducing the potential for disturbance of wildlife in the riparian zone. However, the endangered least Bell's vireo has been reported as nesting in the riparian area north of the plant, and may be present during construction. Effects to this species during construction could arise from noise, generation of dust, and human presence, and may include abandonment of nests and failure to produce a brood. This effect would be a violations of the state and federal ESAs, and would be significant. To offset the potential for these types of effects, Riverside PWD would implement mitigation measure BIO-1, which includes performing pre-construction surveys for

nesting sensitive bird species, including those protected under the MBTA, and, if they are identified within 500 feet of the construction area, developing measures to ensure that noise levels at the nesting location(s) are below 60 dB, which is considered the threshold for significant disturbance. If mitigation measures could not reduce the level of noise to less than the threshold value, some aspects of construction may be delayed until the end of the nesting season, generally September 15. This impact would be less than significant with implementation of mitigation measure BIO-1.

Effects during operations could arise from light intrusion into the riparian zone and if increased lighting disturbed the ability of bats to forage. Lighting impacts would be minimized to the degree possible, since the project designs call for installing directional lighting that would not shine directly into the riparian zone, lowering the elevation of the lights as much as possible, using low-wattage and low-glare lights, and spacing lights approximately 100 - 150 feet apart. Since bats primarily forage over aquatic areas, in this case the Santa Ana River, lighting effects on bats are expected to be minimal. Effects to birds and nocturnal wildlife in the riparian area are expected to be minimal since any residual light entering the riparian area would be indirect and of low luminescence.

During construction, increased erosion or stormwater runoff into the Santa Ana River could increase turbidity, having an impact on Santa Ana sucker and arroyo chub. The majority of the proposed project work would occur on the side of the levee embankment facing away from the river. During construction, runoff over disturbed soils during storm events could introduce sediments into the stormwater drainage system, leading to turbidity. This effect is expected to be minimal, since any discharge that occurs during construction activities would not run off directly into the Santa Ana River, but would be detained according to the project-specific Stormwater Pollution Prevention Plan (SWPPP), and then into onsite stormwater drainage systems. Furthermore, the proposed project would be constructed during the dry season, when precipitation is unlikely. This impact would be less than significant.

Following construction, the higher levee could result in changes to hydrology at high flows in the Santa Ana River. The project-specific hydraulics and hydrology models, which are attached as Appendix 2, indicate that flow velocities could increase by up to 0.1 and 5.3 feet/second in 5 sections of the stream near the project area. Increased velocities increase the potential for direct harm to the Santa Ana sucker and arroyo chub, both of which prefer slow-moving waters (less than 2.4 fps). These increases would only occur in a short stretch (approximately 300 feet) of the river near the RWQCP, downstream of which they would return to velocities that are found under current conditions. Furthermore, these flow velocities are estimated to last for less than 5 hours, after which they are projected to return to pre-project conditions. Given that the potential for occurrence of these flows in any given year is between 1 and 2 percent, and the affected reach of river is short, this effect is not likely to directly affect the Santa Ana sucker or the arroyo chub, and would be less than significant. Furthermore, given that both the sucker and the chub require velocities much lower than those occurring at high flows even under the without-project condition (Saiki 2000), it is likely that they would have found high-flow refugia elsewhere in the stream long before flows increased to the 50-year and 100-year levels and would not be affected by the project.

BIO (b): Would the project 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 Wildlife or U.S. Fish and Wildlife Service?

During construction, there would be no impacts to riparian habitat. No riparian trees or vegetation would be removed. At high rates of discharge, riparian areas in or near the streambed may experience scour or loss of vegetation. This effect, although adverse, occurs under current conditions, and would not be substantially increased under the with-project condition due to the relatively short period of time during which velocities would be elevated and the short stretch of river in which they would occur. This impact would be less than significant.

BIO (c): Would the project 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?

Wetlands are present downstream of Van Buren Bridge and in a narrow strip along the edges of the Santa Ana River north of the project area. Construction and operation of the proposed project would not result in direct or indirect changes to wetlands within or downstream of the study area. Hydraulic modeling shows that operation of the raised levee and floodwall would not raise water velocities of less than the 50-year flood event. At the 50-year and 100-year discharges, water velocities would increase along the central portion of the newly raised levee. However, once flows reached the lower expansion reach, velocities would not be greater than under current conditions. Therefore, wetlands downstream of the lower expansion reach would experience no change in hydrology.

Construction efforts could potentially release eroded particulates into the stream. However, most construction work is planned for the levee slope facing away from the river corridor. Coupled with the implementation of a SWPPP (WAT-1), this would ensure that discharges into the river were controlled to levels that were less than significant. Construction activities on the levee slope facing the river corridor would be completed quickly, would not occur below the OHWM, and would not impact wetlands. This impact would be less than significant.

BIO (d): Would the project 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?

The Santa Ana River is considered an important corridor for fish and wildlife species in the area. Construction or operation of the proposed project could result in temporary changes to the use or availability of the corridor. During the three-month construction period, noise may temporarily deter species from passing through the area during construction hours. While construction occurs along the levee, which acts as a buffer between the river corridor and treatment plant, there could be an increase in the disturbance of wildlife within the corridor. The effect would be that some wildlife may elect to temporarily leave the area. Temporary effects to wildlife are consistent with the Western Riverside County MSHCP.

The operation of the newly raised levee and reconstruction of the bike trail atop the levee would not result in changes to the movement or fish and wildlife in the area. The bike trail is already fenced off from the corridor, facilitating movement within the corridor, and not outward from the corridor, and there would be no change in that condition.

Overall, this impact would be temporary, and would be less than significant.

BIO (e): Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The project is in compliance with the MSHCP. The project would not trim, prune, or remove any existing vegetation other than weedy species that may be found on the levee, and does not conflict with any local policies or ordinances protecting biological resources. No impacts would occur.

BIO (f): Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The proposed project is subject to and complies with the Riverside County MSHCP. The MSHCP is a comprehensive multi-species habitat planning effort intended to maintain biological and ecological diversity in a rapidly urbanizing region (WRCRCA 2004). It was prepared in order to streamline the process of conservation during County wide development efforts. The proposed project would not alter any habitats protected under the MSHCP or have a significant effect on any protected species. The preparation of this CEQA document fulfills the requirements of the MSHCP in providing an environmental review and statement of impact for each resource required. There are no other applicable local, regional, or state habitat conservation plans. No impact would occur.

6.4.4 Mitigation

BIO-1: Least Bell's Vireo Avoidance. Construction activities with the potential to generate noise levels in excess of 60 dB Leq or ambient (if ambient is greater than 60 dB Leq) within 500 feet of areas determined to support least Bell's vireo shall be restricted to periods outside of the breeding season for the species, which is defined as March 15 through September 15. All grading permits and improvement plans shall specify these restrictions.

If construction activities must occur during the breeding season, a qualified biologist shall conduct pre-construction surveys to determine if active least Bell's vireo, or other sensitive species', nests occur within 500 feet of the activities and areas that could be indirectly impacted by noise. The results of the survey shall be submitted to the City for review and approval prior to initiating any construction activities. If no active vireo nests are detected within 500 feet of the activities and areas that could be indirectly impacted by noise, construction shall be allowed to proceed with no further measures required. If active vireo nests are detected within the areas, then construction shall be postponed until (1) all nesting (or breeding/nesting behavior) has ceased, as determined by a qualified biologist, or until after September 15; or (2) temporary noise attenuation (e.g., construction of a noise wall, noise berm, noise blankets, equipment baffles, etc.) and monitoring measures shall be implemented at the edge of the construction footprint to ensure noise levels do not exceed 60 dB Leq or ambient (if ambient is greater than 60 dB Leq), as measured from the location of the active nest(s) under the direction of a qualified biologist and acoustician. Alternatively, the duration of construction equipment operation could be controlled to keep noise levels below 60 dB Leq or ambient in lieu of or in concert with a wall or other sound attenuation barrier. If noise levels cannot be reduced below 60 dB Leq or ambient at the location of the nest(s), then the construction activities causing the excess noise shall be postponed until all nesting (or breeding/nesting behavior) has ceased, as determined by a qualified biologist.

6.5 CULTURAL RESOURCES (CUL)

Cultural Resources (CUL)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?	☐	☒	☐	☐
d) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
e) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

6.5.1 Environmental Setting

The project site is located adjacent to the southern (left) bank of the Santa Ana Rivers and the existing RWQCP facility, upstream of Van Buren Boulevard in the City of Riverside, California. The project APE is a total of 11.54 acres and is relatively flat with surface elevations ranging from approximately 700 to 706 ft above mean sea level. Based on previous geotechnical studies (CHJ 2011, Tetra Tech 2015), the likelihood of encountering archaeological and paleontological resources in the Project APE is considered low because the Project APE has been extensively altered by previous ground disturbance. Within the project APE, the 1978 record drawings of the levee indicate that the slope was armored with ungrouted riprap with thickness ranging 3 to 6 ft. In addition, the entire project area was previously graded and filled with imported levee fill soils that are comprised of silty sands with gravel inclusions and ranging in depth from approximately 19 to 24 ft below the levee crest (CHJ 2011, Tetra Tech 2015). Below the levee fill is alluvium to depths 48 to 64 ft to bedrock. Ground disturbing subsurface construction activities would extend to a maximum depth of 5 ft below surface grade (within the levee fill).

The goals of the initial study are to identify and describe cultural resources located within the project APE and identify and assess any effects that may occur as a result of the proposed Project; and develop recommendations to resolve adverse effects to historic resources, if any. As part of this Initial Study, a cultural resources record and literature search was conducted for the project APE and a 1-mile radius (study area) at the Eastern Information Center (EIC) of the California Historical Resources Information System at the California State University, Riverside, California (IC File Number EIC-RIV-ST-#3914). In addition, a sacred lands file search was conducted by the NAHC on November 15, 2016, and outreach letters regarding the proposed project were sent to the Native American individuals and organization on January 6, 2017, as recommended by the NAHC (Appendix 3). An archeological survey has not been conducted at this time as the project APE has been extensively disturbed by pavement and previous

grading with 19 to 24 ft of artificial levee fill material across the entire project APE, hence the native ground surface is not visible.

6.5.1.1 Historic Setting

The project is located within the northwest portions of the Peninsular Ranges geomorphic province and is located within a large structural block known as the Perris Block. The Perris Block is bounded by the San Jacinto and Elsinore fault zones to the northeast and southwest, respectively. The east-west trending Sierra Madre-Cucamonga fault system forms the northern boundary. This fault-bounded block is a tectonically stable, internally unfaulted, eroded mass of Cretaceous and older granitic rocks of the Southern California Batholith and metasedimentary basement rocks that are overlain by relatively thin mantled and discontinuously sedimentary units. The levee site is situated on an alluvial outwash complex shedding from the southern flank of the San Bernardino Mountains to the north and the Santa Ana River complex to the northeast.

Cultural Setting. The cultural chronology of Southern California and the Northern California Bight and adjacent Transverse Ranges have been developed by Wallace 1955, Moratto 1984, Warren 1968, Moriarty 1967, King 1990, Byrd and Raab 2007, and others. Chronological patterns are generalized in Table 4 below.

Table 4. A Generalized Chronology of the Southern Bight and adjacent Transverse Ranges

Time Periods and Patterns	Date	Characterization
Paleo-Coastal Tradition	Pre 11,700 B.P.	Clovis complex and big game hunting.
Early Holocene: San Dieguito Tradition	10,000-8,000 B.P.	This period is characterized by large fluted points (Western Stemmed), crescents, domed scrapers, flake tools of local chert, and a lack of ground stone tools. Archaeological evidence indicates subsistence consisted of shellfish, hunting and gathering. There are very few recorded sites for this time period.
Middle Holocene: Milling Stone Horizon (also Encinitas Tradition)	6000 to 2000 cal B.C.	This period is characterized by abundant basin shaped milling slabs and well-shaped handstones (indicative of seed or nut processing), hammerstones from cores or core tools and scrapers, -convex cores and core tools, bone tools, and Olivella shell bead increase use of watercrafts, subsistence consist of plant/seed gathering and marine resource hunting.
Middle to Late Holocene Transition	Post-2000 cal B.C. to A.D. 1	Characterized by mortars, pestles, circular shell fishhooks, flaked tools, notched stone sinkers or net weights, shell beads, pipes, charm stones, bone whistles, and quartz crystals. Subsistence consist of plant/seed gathering and terrestrial and marine resources hunting. Also, an increased coastal settlements and fishing.
Late Holocene: Intensive Technological and Social Developments	Cal A.D. 1 to 1000	Introduction of the plank canoe, harpoons, and bow and arrow, and leaf-shaped projectile points (convex base) in form. Also characterized by milling and handstones, flaked tools, fishhooks, shell beads, bone and stone ornaments, ritual items, complex society, large settlements, and the presence of well-developed large cemeteries. Subsistence consist of plant/seed gathering and terrestrial and marine resources foraging.
Late Period	Cal A.D. 1000 to Historic	Characterized by milling and handstones, flaked tools, concave base projectile points (cottonwood triangular types) microblade production (triangular forms), microblade drills, production of shell beads, fishhooks, bone and stone ornaments, ritual items, complex sociopolitical and economic system, large coastal villages and smaller inland settlements near the confluence of watercourses and habitats. Subsistence consist of plant/seed gathering and terrestrial and marine resources hunting and fishing.

Ethnographic Context. The project area within the ethnographic territory and home of the Gabrieliño (Tongva). The Gabrieleno occupied most of Los Angeles and Orange Counties including the watersheds of the Los Angeles, San Gabriel, and Santa Ana Rivers, the Los Angeles basin to the Santa Monica and Santa Ana mountains, and along the coast from Aliso Creek in the south to Topanga Creek in the north, and the islands of San Clemente, San Nicolas, and Santa Catalina (Bean and Smith 1978). An area rich in marine and terrestrial floral and faunal resources. Gabrieliño was one of the Cupan languages in the Takic family, part of the Uto-Aztecan linguistic stock. There were up to six different dialects spoken throughout the Gabrieliño territory. The name Gabrieliño was derived from the San Gabriel Spanish mission located along the coast within Gabrieliño territory. Settlement patterns on the mainland were located near water sources and exhibit a logistical mobility with large villages and smaller satellite camps occupied seasonally. Structures were domed, circular structures with tule, fern, or Carrizo thatching and sweathouses were small, semicircular, earth-covered buildings. Although it is unknown exactly how many people inhabited the area, it is estimated that at least 50 to 100 villages occupied the mainland with village populations ranging from 50 to 200 individuals (Bean and Smith 1978). The Gabrieliño would move seasonally throughout the region, between mountain and coastal locales, to hunt terrestrial and sea mammals and to collect terrestrial flora and intertidal species. The most important subsistence resources included several species of oak trees, grasses, sage bushes, rabbits, deer, fish, shellfish, and other terrestrial and marine mammals and fish (Kroeber et al. 2002:64). In 1771, the San Gabriel mission was established and the Spanish begin to integrate the Gabrieliño into the mission system. By 1800, most of the Gabrieliño were missionized and many had died (due to introduced diseases or conflicts) or fled the area.

Historic Context. In California, the historic era is generally divided into three periods: the Spanish Mission Period (1769-1821), the Mexican Rancho Period (1821-1848), and the American Period (1848-present).

The Spanish Mission Period is between 1769 and 1821 and designates the time when the Spanish established mission along the California coast. The first recorded contact between California natives and Europeans occurred in 1542, when the Ron Rodriguez Cabrillo expedition arrived at Santa Catalina Island. Between the spring and summer of 1769 the Spanish founded twenty-one missions from San Diego, north to San Francisco bay area (Presidio). In 1771, Mission San Gabriel was the first Spanish mission established west of the project area. The transition between the Spanish releases of the northwest coast of California to Mexico occurred from1821 to 1823.

The period from 1821 to 1848 is referred to here as the Mexican Rancho Period. In 1821, Mexico gained independence from Spain and the secularization of the Missions was completed in 1834. It was during this period that large tracts of land called ranchos were granted by the various Mexican Governors of Alta California, usually to individuals who had worked in the service of the Mexican Government. The Rancho Jurupa encompassed over 40,000 acres and was located along the Santa Ana River (within the project area).

Following the end of hostilities between Mexico and the U.S. in January 1847, the U.S. officially obtained California from Mexico through the Treaty of Guadalupe Hidalgo on February 2, 1848 (Hoover et al. 1962). In 1850, California was accepted into the Union of the United States (U.S.), primarily due to the population increase created by the Gold Rush of 1849. The City of Riverside was founded in 1870 and Riverside County was established in 1893. The area developed through two primary economies that include farming, and irrigated orchards (specifically navel oranges). The citrus industry continued to be economically beneficial to the county into the 21st century.

Cultural Resources Records Searches and Historic Map Reviews Conducted for the Project. On December 13, 2016 a literature and records search was conducted of the cultural resource site and project

file collection at the EIC of the California Historical Resources Information System, at the California State University, Riverside, California (IC File Number EIC-RIV-ST-#3914). As part of this record search, the EIC database of survey reports and overviews as well as documented cultural resources, cultural landscapes, and ethnic resources was consulted. Additionally, the search included a review of the following publications and lists: California Office of Historic Protection (OHP) Historic Properties Directory/National Register of Historic Places (NRHP), OHP Archaeological Determinations of Eligibility, California Inventory of Historical Resources/California Register of Historic Resources (CRHR), *California Points of Historical Interest*, *California Historical Landmarks*, Caltrans Bridge Survey, ethnographic information, historical literature, historical maps, and local historic resource inventories. The record search focused specifically on the proposed project APE and the project study area, a 1-mile buffer around the APE.

Previously Conducted Surveys and Previously Recorded Cultural Resources. The records search revealed a total of 40 previous cultural resources investigations have been conducted within the Project study area. Of these surveys, 12 investigations have been conducted within the proposed project's APE. In addition, the project APE was previously monitored for cultural resources as part of the *Archaeological Monitoring* for the *Riverside RWQCP Phase I Expansion Project* (Report Number-RI-9268, George 2014) project. The result of the monitoring did not identify any cultural resources. The EIC search also revealed 39 previously recorded sites within the study area. Of these, two previously recorded historic archaeological sites are within/adjacent to the APE, site P33-16848 (Santa Ana River Trunk Sewer) and site P33-022304 (Santa Ana River Trail Road). Both sites were found not eligible for listing to the CRHR/NRHP.

No NRHP eligible or listed historic properties have been documented within the project's APE. All previous surveys are summarized in Table 5 and sites are summarized in Table 6.

Table 5. Cultural Resources Surveys Conducted within 1-mile of the APE.

IC Report No.	Year	Author(s)	Title	Within APE or 1-mile radius
RI-00117	1973	Philip J. Wilke and Stephen Hammond	*LA Loma-Mira Loma Transmission Line: Expected Impact on Archaeological Values.*	APE
RI-00125	1974	James P. Barker	*Letter Report: Archaeological Survey of Proposed Conveyance Alignments and Treatment Plant Site, Riverside, Rubidoux, and Jurupa.*	APE
RI-00126	1977	Donald Lipp	*Environmental Impact Assessment: Archaeological Survey for the Proposed Sewage Pipeline Near Rubidoux, Riverside County, California*	APE
RI-02131	1995	Bruce Love	*Archaeological Survey Report for Santa Ana River Bikeway Phase IIIA Landscaping Project, City and County of Riverside, California*	APE
RI-02133	1997	Bruce Love	*Negative Archaeological Survey Report: Santa Ana River Bikeway PHASE IIIA Landscaping Project*	APE
RI-02133	1997	Bruce Love	*Negative Archaeological Survey Report: Santa Ana River Bikeway PHASE IIIA Landscaping Project*	APE
RI-02207	1988	Parr, Robert E.	*AN ARCHAEOLOGICAL ASSESSMENT OF THE PROPOSED RUBIDOUX COMMUNITY SERVICES DISTRICT WASTEWATER TREATMENT FACILITIES, RIVERSIDE COUNTY, CALIFORNIA*	APE

IC Report No.	Year	Author(s)	Title	Within APE or 1-mile radius
RI-02307	1988	R. Paul Hampson, Jerrel et al.	*Cultural Resources Survey, Upper Santa Ana River, California*	APE
RI-03893	1995	Brian D. Dillon	*Archaeological Assessment of the Riverside Cogeneration Project on the Santa Ana River, Riverside County, California*	APE
RI-08268	2009	Antonina Delu	*Letter Report: Results of the Cultural Resource Assessment for the Galena 12kV Project, Riverside County, California*	APE
RI-08403	2009	Joan George	*Letter Report: Phase-I Cultural Resources Addendum for the Santa Ana River Trunk Sewer Replacement Project, Riverside County, CA*	APE
RI-09214	2014	Robin D Turner	*Cultural Resources and Paleontological Resources Monitoring Report for Phase 1 of the Santa Ana River Trunk Sewer Replacement Project, City of Riverside and Unincorporated Riverside County, California.*	APE
RI-09268	2014	Joan George	*Archaeological Monitoring for the Riverside RWQCP - Phase 1 Plant Expansion Project, Bid No. 6983, City of Riverside, Riverside County, California*	Covers entire APE
RI-00141	1974	Sarah H. Schlanger	*Environmental Impact Evaluation: Archaeology of Proposed Additions to the Indian Hills Housing Development, City of Pedley, Riverside County, California, UCRARCU #119*	1-mile
RI-00269	1977	Donald Lipp	*Results of Surface Collection at CA-Riv-494, Riverside County, California*	1-mile
RI-00270	1977	Donald Lipp	*Environmental Impact Evaluation: Archaeological Survey of the Proposed Interceptor Facility to City of Riverside Water Quality Control Plant, Riverside County, California*	1-mile
RI-03274	1991	Everson Dicken et al.	*CULTURAL RESOURCES ASSESSMENT, PARCEL MAP 21017, PEDLEY AREA OF RIVERSIDE COUNTY, CALIFORNIA*	1-mile
RI-03395	1991	Patricia Jertberg et al.	*CULTURAL AND BIOLOGICAL RESOURCES ASSESSMENT OF JURUPA AVENUE EXTENSION, APPROXIMATELY 1 MILE, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA*	1-mile
RI-03981	1996	John Alexandrowicz	*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*	1-mile
RI-03982	1997	Bruce Love	*Historic Property Survey Report for the Santa Ana River Bike Trail Phase IIIB Project City and County of Riverside, CALIFORNIA*	1-mile
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*	1-mile
RI-04631	2003	Jones and Stokes Associates Inc.	*PHASE I CULTURAL RESOURCES STUDY OF FOUR VACANT PARCELS WITHIN THE CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA*	1-mile

IC Report No.	Year	Author(s)	Title	Within APE or 1-mile radius
RI-05325	2002	Riordan Goodwin	*Historic Property Survey Report: Van Buren Boulevard Bridge Replacement Class II Project.*	1-mile
RI-05900	2002	Bruce Love et al.	*HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, RIVERSIDE GATEWAY PROJECT, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CA*	1-mile
RI-06277	2006	Jay Sander	*CULTURAL RESOURCES INVENTORY OF 26.3 ACRES, ASSESSOR'S PARCEL NUMBERS 163-400-010, -012, -013, -014, - 016, AND -017, RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA*	1-mile
RI-06418	2005	Bai "Tom" Tang et al.	*HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, THE DE ANZA PROJECT, IN THE COMMUNITY OF PEDLEY, RIVERSIDE COUNTY, CA*	1-mile
RI-06492	2004	Patrick Maxon and James Steely	*CULTURAL RESOURCES LITERATURE REVIEW AND PEDESTRIAN RECONNAISSANCE FOR THE PROPOSED RIVERSIDE ENERGY RESOURCE CENTER, RIVERSIDE COUNTY, CA*	1-mile
RI-07239	1998	Deborah McLean	*Letter Report: Archaeological Assessment for Pacific Bell Mobil Services, Telecommunications Facility CM 153-08, 6974 Ed Perkie Street, City of Riverside, Riverside County, California*	1-mile
RI-07267	2007	Bai Tom Tang and Michael Hogan	*Historical/Archaeological Resources Survey Report: Assessor's Parcel Nos. 189-140-008 and -009 in City of Riverside, Riverside County, California*	1-mile
RI-07813	2007	Nationwide Infrastructure Support Technical Assistance Consultants	*Cultural Resources Technical Report: Upper Feeder Bridge, The Metropolitan Water District of Southern California, FEMA-1585- DR-CA, PW #873*	1-mile
RI-08243	2009	Jeanette A. Mc Kenna	*A Phase I Cultural Resources Investigation For The Proposed Jurupa Avenue Extension, Between Van Buren Boulevard and Tyler Avenue In The City of Riverside, Riverside County, California.*	1-mile
RI-08165	2007	Nancy Stikes et al.	*Cultural Resources Monitoring for the Riverside Energy Resource Center Project, City of Riverside, Riverside County, California*	1-mile
RI-08401	2010	Bai "Tom" Tang et al.	*Historical / Archaeological Resources Survey Report: Assessor's Parcel Nos. 189-180-003,- 007, and -010; 189-190-004 and -005, City of Riverside, Riverside County California.*	1-mile
RI-08444	2009	Michael H. Dice	*Letter Report: Cultural Resource Compliance Report Associated with the Clay Street Business Park Conceptual Plan, Community of Pedley, County of Riverside, California.*	1-mile
RI-08551	2010	Bai "Tom" Tang et al.	*Assessor's Parcel No.s 189-180-003,-007, and -010; 189-190,004, and -005*	1-mile

IC Report No.	Year	Author(s)	Title	Within APE or 1-mile radius
RI-08601	2009	Jeanette A. McKenna	*Addendum Report: A CULTURAL RESOURCES INVESTIGATION AND EVALUATION OF IDENTIFIED RESOURCES ALONG THE PROPOSED JURUPA AVE. EXTENSION AT VAN BUREN BOULEVARD*	1-mile
RI-08649	2011	Wayne H. Bonner and Sarah A. Williams	*Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate IE25785-A*	1-mile
RI-08919	2013	Bai "Tom Tang and Michael Hogan	*Archaeological Monitoring Report, Assessor's Parcel Nos. 189-180-003, -007, and -010; 189-190-004 and -005, City of Riverside, Riverside County, California*	1-mile
RI-09007	2014	Pat Moloney	*Riverside County Transportation Department - Cultural Resources Monitoring for the Clay St. Grade Separation Project*	1-mile
RI-09301	2002	Curt Duke	*Cultural Resource Assessment: AT&T Wireless Services Facility No. 03027A-01 Riverside County, California*	1-mile
RI-09527	2014	Brian F. Smith and Jennifer R. Kraft	*Phase I Cultural Resources Survey for the Clay Street Parcel Project City of Jurupa Valley, County of Riverside*	1-mile

Table 6. Cultural Resources Recorded within 1 mile of the APE

Primary Site No.	Time Period	Site Type	CRHR/NRHP Eligibility	Within APE or 1-mile radius
P-33-016848	Historic	Santa Ana River Trunk Sewer	Not Eligible	APE
P-33-022304	Historic	Santa Ana River Trail Road	Not Eligible	APE
P-33-000494	Prehistoric	AH04 (Privies/dumps/trash scatters); AP02 (Lithic scatter)	Destroyed	1-mile
P-33-000560	Prehistoric	Lithic Scatter	Not evaluated	1-mile
P-33-000561	Prehistoric	Lithic Scatter	Not evaluated	1-mile
P-33-000619	Prehistoric	Lithic Scatter	Not evaluated	1-mile
P-33-000621	Prehistoric	Lithic Scatter	Not evaluated	1-mile
P-33-000622	Prehistoric	Feature	Not evaluated	1-mile
P-33-000679	Prehistoric	Feature	Not evaluated	1-mile
P-33-000700	Historic	Feature	Not evaluated	1-mile
P-33-000884	Historic	Feature	Not evaluated	1-mile
P-33-003325	Prehistoric	Feature	Not evaluated	1-mile
P-33-003357	Historic	Riverside Power Company Canal	Not evaluated	1-mile
P-33-003359	Historic	Refuse Scatter	Not evaluated	1-mile
P-33-003361	Historic	Union Pacific Railroad Bridge	Not evaluated	1-mile
P-33-003363	Prehistoric	Feature	Not evaluated	1-mile
P-33-004270	Historic	Refuse Scatter	Not evaluated	1-mile

Primary Site No.	Time Period	Site Type	CRHR/NRHP Eligibility	Within APE or 1-mile radius
P-33-007539	Historic	Dam	Not evaluated	1-mile
P-33-007541	Historic	Building foundation	Not evaluated	1-mile
P-33-009652	Prehistoric	Feature	Not evaluated	1-mile
P-33-011397	Prehistoric	Lithic Scatter	Not evaluated	1-mile
P-33-011398	Historic	Foundations	Not evaluated	1-mile
P-33-011592	Prehistoric	Isolate	Not Eligible	1-mile
P-33-012735	Historic	Isolate glass	Not Eligible	1-mile
P-33-013531	Prehistoric	Feature	Not evaluated	1-mile
P-33-016020	Historic	Structure	Not Eligible	1-mile
P-33-016021	Historic	Foundation	Not Eligible	1-mile
P-33-016079	Prehistoric	Feature	Not Evaluated	1-mile
P-33-016737	Prehistoric	Feature	Not Evaluated	1-mile
P-33-016850	Historic	Foundation	Not Evaluated	1-mile
P-33-018650	Historic	Structure	Not Eligible	1-mile
P-33-022302	Historic	Refuse Scatter	Not Eligible	1-mile
P-33-003361	Historic	Building	Not Evaluated	1-mile
P-33-009651	Historic	Hole Lake Complex	Not Evaluated	1-mile
P-33-011633	Historic	Building	Not Evaluated	1-mile
P-33-013252	Historic	Building	Not Evaluated	1-mile
P-33-013253	Historic	Building	Not Evaluated	1-mile
P-33-015968	Historic	Other	Not Evaluated	1-mile
P-33-015969	Historic	Other	Not Evaluated	1-mile
*Oakland Alliance Heritage Resources (OAHR): Designated Landmarks, Heritage Properties, and Preservation Districts				

Native American Outreach. On November 14, 2016, the NAHC was contacted to request a Sacred Lands file search. The NAHC responded on November 15, 2016 that no Native American cultural resources were identified by their search as within the proposed project APE or study area. A list of thirty-five Native American contacts was also provided. A Project outreach letter was sent to each of the individuals listed by the NAHC on January 6, 2017. To date, no responses have been received. The letter provided information regarding the Project and a request regarding any known cultural resources in the Project study area. The outreach letters are for informational purposes only and do not take the place of formal government consultation under AB 52 between the lead agency and tribes. Outreach to these contacts and meaningful discussions may reveal tribal cultural resources that could be impacted by the proposed project, or provide community concerns regarding the Project's treatment of cultural resources.

Pursuant to state requirements, Native American consultations should be initiated early in the planning process and should be conducted by the lead state/public agency, if agency consultation has been requested by a California Native American tribe (per AB 52, PRC 210803., see section 1.2).

6.5.1.2 Regulatory Setting

California Environmental Quality Act. CEQA applies to discretionary projects causing a significant effect on the environment and a substantial adverse change in the significance of a historical or

archaeological resource. Resources listed on or determined to be eligible for listing on the CRHR [PRC §5024.1; Title 14, §4852 et seq., California Code of Regulations (CCR)] are those that must be given consideration in the CEQA process.

Assembly Bill 52. AB 52 provides for the consideration of tribal cultural resources during the CEQA process by adding or amending the PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 5097.94. This bill specifies that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. The bill requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project prior to determining whether a negative declaration, mitigated negative declaration (MND), or EIR is required for a project. This requirement is applicable if the tribe has requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation. The bill also specifies examples of mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources. These provisions are applicable to projects that have a notice of preparation or a notice of negative declaration filed or MND on or after July 1, 2015 and are therefore applicable to this project.

California Public Resource Code. In addition to the PRC sections affected by AB 52, several other sections regulate cultural resources. California PRC Section 5020-5029.5 establishes the criteria for the CRHR, creates the California Historic Landmarks Committee, and authorizes the Department of Parks and Recreation to designate Registered Historical Landmarks and Registered Points of Historical Interest. It also establishes criteria for the protection and preservation of historic resources. Several other sections of the California Public Resource Code also provide protection of cultural resources. Section 5097-5097.6 provides guidance for state agencies in the management of archaeological, paleontological, and historical sites affected by major public works project on state land. Subsections 5097.9-5097.991 establish regulations for the protection of Native American religious places and establishes the NAHC. They also require that California Native American remains and associated grave artifacts be repatriated and that notification of discovery of Native American human remains be made by the NAHC to a MLD.

Senate Bill 922. Senate Bill 922 exempts from California Public Records Act information pertaining to Native American graves, cemeteries, archaeological sites, and sacred places in the possession of the California NAHC and other state or local agencies.

Senate Bill 18. Senate Bill 18 provides protection and preservation of Native American Traditional Cultural Places during city and county general plan development. The bill is not applicable to the Project as there are no General Plan amendments or development required.

Senate Concurrent Resolution Number 87. Senate Concurrent Resolution Number 87 provides for the identification and protection of traditional Native American resource gathering sites on state land. The resolution is not applicable to the Project since there are no state lands involved.

Administrative Code, Title 14, Section 4307. Administrative Code, Title 14, Section 4307 prohibits individuals from removing, injuring, defacing, or destroying any object of paleontological, archaeological, or historical interest or value.

Government Code, Sections 6253, 6254, and 6254.10. Government Code, Sections 6253, 6254, and 6254.10 states that disclosure of archaeological site information is not required for records that relate to archaeological site information maintained by the Department of Parks and Recreation, the State Historical Resources Commission, or the State Lands Commission.

California Health and Safety Code. Several sections of the CHSC provide protection of human remains. Section 7050.5 requires construction or excavation to be stopped near human remains until a coroner determines whether the remains are Native American; requires the coroner to contact the NAHC if the remains are Native American. Section 7051 establishes removal of human remains from interment, or from a place of storage while awaiting interment or cremation, with the intent to sell them or to dissect them with malice or wantonness as a public offense punishable by imprisonment in a state prison. Section 7052 states that willing mutilation of, disinterment of, removal from a place of disinterment of, and sexual penetration of or sexual contact with any remains known to be human are felony offenses.

California Code of Regulations, Section 1427. CCR, Section 1427 recognizes that California's archaeological resources are endangered by urban development and that these resources need preserving. This section establishes as a misdemeanor the willful injury, disfigurement, defacement, or destruction of any object or thing of archaeological or historical interest or value by someone who is not the owner, whether situated on private lands or within any public park or place. It also states that it is a misdemeanor to alter any archaeological evidence found in any cave, or to remove any materials from a cave.

Senate Concurrent Resolution Number 43. Senate Concurrent Resolution Number 43 requires all state agencies to cooperate with programs of archaeological survey and excavation, and to preserve known archaeological resources whenever reasonable.

Penal Code, Title 14, Section 622.5. Penal Code, Title 14, Section 622.5 establishes as a misdemeanor offense for any person, other than the owner, who willfully damages or destroys archaeological or historic features on public or privately-owned land.

Significance Criteria

CEQA, as amended by the requirements of AB 52, states that a project may have a significant effect on the environment if it will cause a substantial adverse change in the significance of a historical resource or have a significant effect on a unique archaeological resource or a tribal cultural resource. Appendix C, Environmental Checklist Form, of CEQA addresses significance criteria with respect to cultural resources (PRC Sections 21000 et seq.). Under CEQA an impact on cultural resources would be considered significant if a project would either directly or indirectly:

- Cause a substantial adverse change in the significance of a historical resource;
- Cause a substantial adverse change in the significance of an archaeological resource;
- Cause a substantial adverse change in the significance of a tribal cultural resource, as defined; or
- Disturb any human remains, including those interred outside of formal cemeteries.

Historical resources are those cultural resources that are considered eligible or listed on the CRHR (PRC 21084.1). Criteria for CRHR listing and eligibility are defined in PRC 5024.1, and CCR Title 14, Section 4850.3. Specifically, a resource may be eligible for the CRHR if it:

a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
b. Is associated with the lives of persons important in our past;
c. 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
d. Has yielded, or may be likely to yield, information important in prehistory or history.

If an archaeological resource does not fall within the definition of a historical resource, it may meet the definition of a "unique archaeological resource" (PRC 21083.2(g)). Unique archaeological resources includes archaeological artifacts, objects, or sites that:

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

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

Tribal cultural resources are significant resources with cultural value to a California Native American tribe. PRC 21074 defined tribal cultural resources as either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    A. Included or determined to be eligible for inclusion in the California Register of Historical Resources.
    B. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

When determining if a resource merits CRHR-eligibility, the lead agency must consider the value of the resource to the applicable tribe (i.e. is the resource associated with the lives of persons important *to the relevant tribe's* past?).

A cultural landscape that meets the above criteria is also considered a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms to the above criteria.

If an archaeological resource does not meet the definitions of a unique archaeological resource, tribal cultural resource, or historical resource, the effects of the project on those resources are not considered a significant effect on the environment (CEQA Guidelines (15064.5 (c)(4)).

Significant effects on historical resources, unique archaeological resources, and tribal cultural resources can be eliminated by pursuing an alternative course of action or mitigating to less than significant levels. Preservation in-place (avoidance) is the preferred manner for mitigating impacts to all cultural resources (CCR 15126.4(b)(3)(A)). If preservation in-place is not feasible, data recovery excavation of archaeological resources is generally an acceptable alternative pursuant to the provisions of CCR 15126.4(b)(3)(C). Significant effects to tribal cultural resources are preferably resolved via mitigation measures identified through consultation with the relevant tribe. If none are identified through consultation, recommended mitigation measures may include 1) treating the resource with culturally appropriate dignity by protecting the cultural character and integrity of the resource, protecting the traditional use of the resource, and/or protecting the confidentiality of the resource. Other measures may include permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

Direct effects from a project could result from: demolition or alteration of historic buildings or structures, vegetation clearing, grading, excavation or trenching for canals and ditches, and any other earth-moving activity that disturbs previously undisturbed or unevaluated cultural resources such as prehistoric objects or sites, making those objects and their cultural resources unavailable for future scientific investigation. These activities may also impact tribal cultural resources by affecting their integrity and sacred nature.

6.5.2 Potential Impacts

CUL (a) Would the project a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

The EIC identified two previously recorded historic archaeological sites are within/adjacent to the APE, site P33-16848 (Santa Ana River Trunk Sewer) and site P33-022304 (Santa Ana River Trail Road). Both sites were found not eligible for listing to the CRHR. No CRHR eligible or listed historic resources have been documented within the project's APE that may be adversely impacted by the proposed project. Therefore, the project would not have an adverse effects on known historic resources within the APE.

Based on previous geotechnical studies (CHJ 2011, Tetra Tech 2016), the likelihood of encountering archaeological resources is considered low because the project APE has been extensively altered by previous ground disturbance. Within the project APE, the 1978 record drawings of the levee indicate that the slope was armored with ungrouted riprap with thickness ranging 3 to 6 ft. In addition, the entire project area was previously graded and filled with imported levee fill soils that are comprised of silty sands with gravel inclusions and the fill ranges in depth from approximately 19 to 24 ft below the levee crest (CHJ 2011, Tetra Tech 2016). The lowest elevation for project construction is anticipated to be no more than 5 ft below the existing grade; therefore, it is unlikely that ground disturbing construction would encounter native soils. If project design changes and construction ground disturbance depths range within native soils, there would be a potential to impact previously unrecorded subsurface cultural resources. In addition, Native American tribal consultation (under AB 52) may result in the request for protocols in the event of an unanticipated cultural resource discovery. Therefore, worker environmental training and stop-work mitigation measures is necessary; however, with mitigation incorporated, a less then significant impact is anticipated. Mitigation measures CUL -1 through CUL -4 are described below.

CUL b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

On November 14, 2016, the NAHC was contacted to request a Sacred Lands file search. The NAHC responded on November 15, 2016 that no Native American tribal cultural resources were identified by their search as within the proposed project APE or study area. Native American tribal consultation (under AB 52) may result may result in the identification of tribal resources and a request for protocols in the event of an unanticipated cultural resource discovery. Therefore, worker environmental training and stop-work mitigation measures is necessary; however, with mitigation incorporated, a less then significant impact is anticipated. Mitigation measures CUL-2 and CUL -4 are described in the "Mitigation" section, below.

CUL c) Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?

On November 14, 2016, the NAHC was contacted to request a Sacred Lands file search. The NAHC responded on November 15, 2016 that no Native American tribal cultural resources were identified by their search as within the proposed project APE or study area. Native American tribal consultation (under AB 52) may result in the identification of tribal resources and a request for protocols in the event of an unanticipated cultural resource discovery. Therefore, worker environmental training and stop-work mitigation measures is necessary; however, with mitigation incorporated, a less then significant impact is anticipated. Mitigation measures CUL-2 and CUL-4 are described below.

CUL (d): Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Based on previous geotechnical studies (CHJ 2011, Tetra Tech 2016), the likelihood of encountering archaeological resources is considered low because the project APE has been extensively altered by previous ground disturbance. Therefore, native soils containing paleontological resources would not be disturbed as ground disturbing construction activities would not extend into native soils. The proposed project would not cause a substantial adverse change in significance to a paleontological resource, and mitigation measures for paleontological resources would not be required. No impact would be experienced.

CUL e) Disturb any human remains, including those interred outside of formal cemeteries?

Results of the EIC records search revealed there are no known burials within the Project APE. Native American tribal consultation (under AB 52) may result may result in the identification of tribal resources and a request for protocols in the event of an unanticipated cultural resource discovery. As described under a) and b), it is not anticipated that project construction ground disturbing activities would reach depths within native soils. If such resources are encountered during construction excavation and grading activities, all work would cease in that area. Therefore, a specific stop-work mitigation measure is necessary to result in a less than significant impact. Mitigation measures CUL-2 and CUL-4 are described below.

6.5.3 Mitigation

CUL-1: Worker Cultural Resource Training. Prior to any proposed construction activities within the Project Area of Potential Effect (APE), all non-cultural resources personnel would be briefed by a qualified Project Archaeologist (retained on-call by the applicant) about the potential and procedures for the inadvertent discovery of prehistoric and historic archaeological resources. In addition, the training would include established procedures for temporarily halting or redirecting work in the event of a discovery, identification and evaluation procedures, and a discussion on the importance of, and the legal basis for, the protection of archaeological resources. Personnel would be given a training brochure regarding identification of cultural resources and protocols for reporting finds. If requested by a Native American tribe, the training would incorporate the tribal perspective regrading protecting cultural resources. An inadvertent cultural discovery plan that outlines protocols and procedures would be developed by a qualified archaeologist and the Soboba Band of Luiseno Indians prior to the worker training and any construction within the project APE.

CUL-2: Tribal Consultation. Prior to filing, per Assembly Bill (AB) 52, the lead agency would consult with individuals identified by the Native American Heritage Commission (NAHC) sacred lands file search to identify potential tribal cultural resources in order to avoid impacts on such resources. If agency lists are provided to tribes prior to construction and no notification or consultation requests are received, it would be assumed no tribal cultural resources would be impacted by the Project.

CUL-3: Inadvertent Discoveries of Archaeological Resources. If the construction staff or others observe previously unidentified archaeological resources during ground disturbing activities, they would halt work within a 200-foot radius of the find(s), delineate the area of the find with flagging tape or rope (may also include dirt spoils from the find area), and immediately notify the qualified Project Archaeologist (retained on-call by the applicant). Construction would halt within the flagged or roped-off area. The Archaeologist would assess the resource as soon as possible and determine appropriate next steps in coordination with proponent. Such finds would be formally recorded and evaluated. The resource would be protected from further disturbance or looting pending evaluation.

CUL-4: Archaeological Monitoring. If proposed project construction design changes and ground disturbing activities would reach depths containing undisturbed native soils, a qualified archaeological monitor and Native American monitor from the Soboba Band of Luiseno Indians would be present on-site during ground disturbing activities that occur within native soils. If any cultural resources are identified by the monitor(s) during ground disturbing activities, the resource would be treated as an inadvertent discovery and the protocols outlined in the inadvertent discovery plan would be followed.

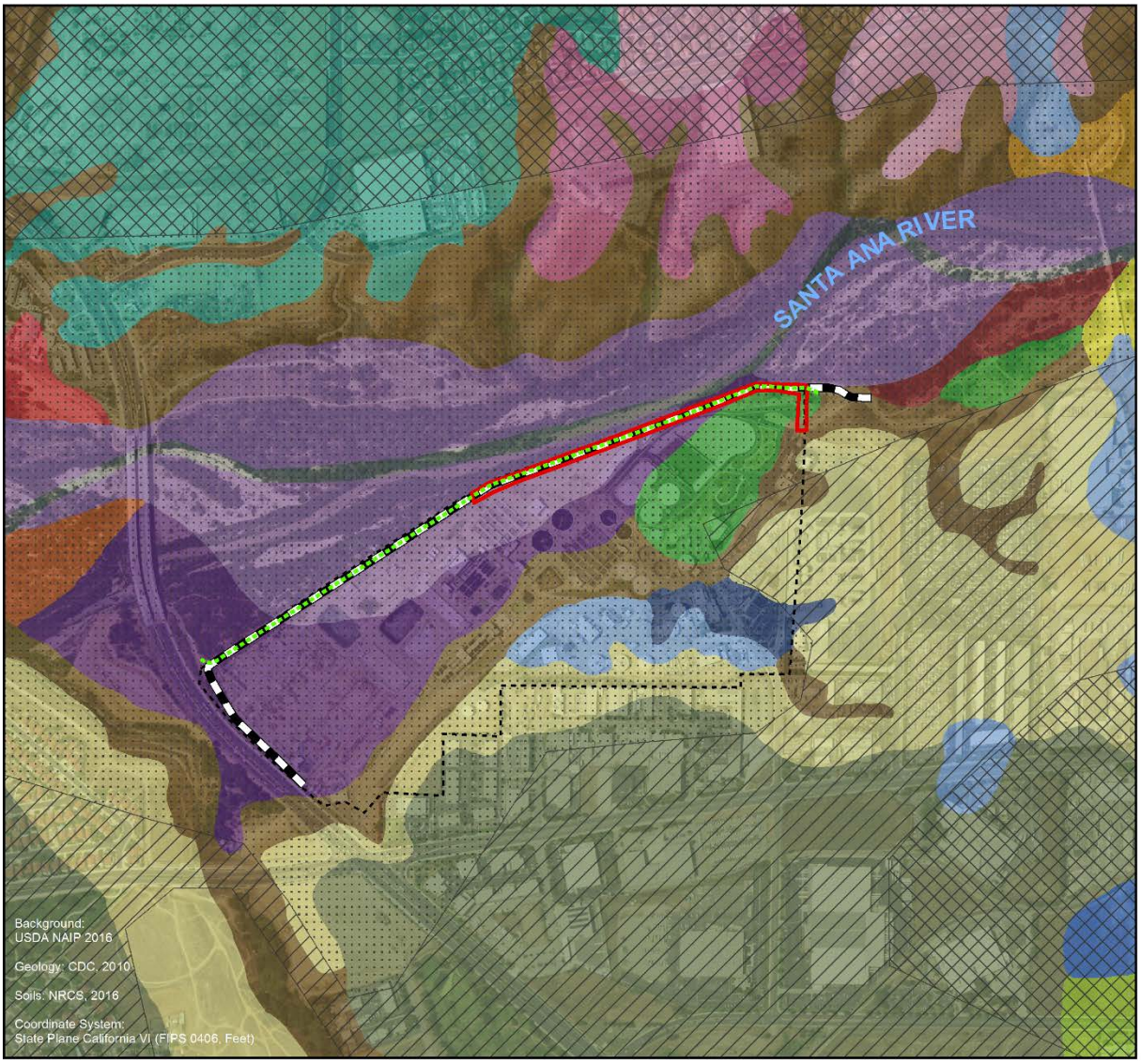
CUL-5: Inadvertent Discoveries of Human Remains. If human remains and/or cultural items defined by the CHSC, Section 7050.5, are inadvertently discovered during any future construction activities within the project APE, all work in the vicinity of the find would cease and the Riverside County Coroner would be contacted immediately. If the remains are found to be Native American as defined by CHSC, Section 7050.5, the coroner would contact the NAHC by telephone within 24 hours. The NAHC shall immediately notify the person it believes to be the MLD as stipulated by California PRC, Section 5097.98. The MLD(s), with the permission of the landowner and/or authorized representative, shall inspect the site of the discovered remains and recommend treatment regarding the remains and any associated grave goods. The MLD shall complete their inspection and make their recommendations within 48 hours of notification by the NAHC. Any discovery of human remains would be treated in accordance with Section 5097.98 of the PRC and Section 7050.5 of the CHSC.

6.6 GEOLOGY AND SOILS (GEO)

Geology and Soils (GEO)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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 a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, 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?	☐	☐	☐	☒

6.6.1 Environmental Setting

The project area is underlain by the Quaternary Geologic Units Q and Qoa, which include unconsolidated and semi-consolidated alluvium, lake, playa, and terrace deposits (CDC 2010). The alluvium in the unit classified as Qoa is older than the alluvium in the unit classified as Q. Adjacent geologic units (located north of the Santa Ana River in Jurupa, and southeast of the Water Quality Control Plant) are composed of Mesozoic granite, quartz monzonite, granodiorite, and quartz diorite (Figure 4, CDC 2010).



Riverside Regional Water Quality Control Plant
Initial Study/Mitigated Negative Declaration

FIGURE 4
PROJECT SITE GEOLOGY AND SOILS

Legend

Natural Resource Conservation Service soil types

- Buchenau loam, 2-8% slopes
- Gorgonio loamy sand, 0-8% slopes
- Grangeville fine sandy loam, 0-5% slopes
- Grangeville loamy fine sand, 0-5% slopes
- Cieneba sandy loam, 15-50% slopes
- Cieneba rocky sandy loam, 15-50% slopes
- Buren fine sandy loam, 2-8% slopes
- Hanford coarse sandy loam, 8-15% slopes
- Fallbook fine sandy loam, 2-8% slopes
- Fallbrook sandy loam, 8-15% slopes
- Fallbrook sandy loam, 15-35% slopes
- Dello loamy sand, 0-2% slopes
- Dello loamy sand, 0-5% slopes
- Madera fine sandy loam, 2-8% slopes
- Porterville clay, 0-5% slopes
- Monserate sandy loam, 0-5% slopes
- Monserate sandy loam, 5-8% slopes
- Terrace escarpments

- Water Quality Control Plant
- Existing Levee
- Footprint of Work Area
- Bike Path Repaving Area

Geologic Unit

- Mesozoic granite, quartz monzonite, granodiorite, and quartz diorite
- Older Quaternary alluvium
- Quaternary alluvium

0 250 500 1,000 Feet
1 inch = 1,000 feet

The U.S. Department of Agriculture Natural Resource Conservation Service Soil Service Geographic Database has classified soils in the study footprint area as loamy sands, coarse sandy loam, and terrace escarpments (Figure 4, Table 7, NRCS 2014). Soils adjacent to the project area include these same soils, other loamy sands, loam, sandy loam, and fine sandy loam (Figure 4, Table 7, NRCS 2014). The physical properties of these soils indicate that they contain much larger percentages of sand than of silt or clay, with the exception of the Porterville Clay soil type located south of the Riverside Water Quality Control Plant (Table 7, NRCS 2014). The soils that immediately underlie the project footprint are particularly sandy (Table 7, NRCS 2014). In the immediate project vicinity, 19 to 24 ft of levee fill (fine to coarse-grained silty sand with gravel) overlies these surface soils (Tetra Tech 2016).

Expansive (swelling) soils or soft bedrock are those that increase in volume as they get wet and shrink as they dry. They are known as shrink-swell, bentonite, expansive, or montmorillinitic soils. Swelling soils contain high percentages of certain kinds of clay particles that are capable of absorbing large quantities of water, expanding up to 10 percent or more as the clay becomes wet. The force of expansion is capable of exerting pressures of 20,000 pounds per square foot or greater on foundations, slabs, and other confining structures. Soils composed only of sand and gravel have no potential for volume changes. Soils are generally classified into three expansive soils classes with low, moderate, and high potential for volume changes:

- **Low**. This soils class includes sands and silts with relatively low amounts of clay minerals. Sandy clays may also have low expansion potential, if the clay is kaolinite. Kaolinite is a common clay mineral.
- **Moderate**. This class includes silty clay and clay textured soils, if the clay is kaolinite, and also includes heavy silts, light sandy clays, and silty clays with mixed clay minerals.
- **High**. This class includes clays and clay with mixed montmorillonite, a clay mineral which expands and contracts more than kaolinite.

Damage caused by expanding and shrinking soils can include severe structural damage, cracked driveways and sidewalks, heaving of roads and highway structures, and disruption of pipelines and other utilities. Destructive forces may be upward, horizontal, or both. Building in and on swelling soils can be done successfully, although more expensively, as long as appropriate construction design and mitigation measures are followed.

Table 7: Characteristics of soils in the project footprint and the surrounding vicinity

Soil Name	Slope percentage	Geomorphic position	Drainage	Percent Sand[1]	Percent Clay[1]	Percent Silt[1]	Linear Extensibility[1, 2] / Shrink-Swell Potential[3]
Project Footprint							
Dello loamy sand, poorly drained	0 – 2 %	Flood plains	Poorly drained	90.6 %	4.0 %	3.3 %	1.5 % / Low
Dello loamy sand, poorly drained	0 – 5 %	Alluvial fans	Somewhat poorly drained	91.7 %	5%	5.4 %	1.5 % / Low
Hanford coarse sandy loam	8 – 15 %	Alluvial fans	Somewhat excessively drained	73.9 %	11.7 %	14.4 %	1.5 % / Low
Terrace escarpments	---	Terraces	---	---	---	---	---

Soil Name	Slope percentage	Geomorphic position	Drainage	Percent Sand[1]	Percent Clay[1]	Percent Silt[1]	Linear Extensibility[1, 2] / Shrink-Swell Potential[3]
Project Vicinity							
Buchenau Loam	2 – 8 %	Alluvial fans	Moderately well drained	37.1 %	28.1 %	34.8 %	3.9 % / Moderate
Gorgonio loamy sand	0 – 8 %	Alluvial fans	Somewhat excessively drained	78.5 %	5 %	16.5 %	1.5 % / Low
Grangeville fine sandy loam	0 – 5 %	Alluvial fans	Poorly drained	68.3 %	13 %	19.6 %	1.5 % / Low
Grangeville loamy fine sand	0 – 5 %	Alluvial fans	Moderately well drained	71.8 %	11.4 %	16.7 %	1.5 % / Low
Buren fine sandy loam	2 – 8 %	Alluvial fans	Moderately well drained	48.8 %	20.8 %	30.2 %	2.8 % / Moderate
Madera fine sandy loam	2 – 8 %	Alluvial fans	Moderately well drained	46.0 %	19.1 %	34.9 %	4.0 % / High
Monserate sandy loam	0 – 5 %	Alluvial fans	Well drained	66.6 %	18.9 %	14.5 %	2.8 % / Moderate
Monserate sandy loam	5 – 8 %	Alluvial fans	Well drained	66.6 %	18.9 %	14.5 %	2.8 % / Moderate
Porterville Clay	0 – 5 %	Alluvial fans	Well drained	10.9 %	45.6 %	43.5 %	7.5 % / High
Cieneba sandy loam	15 – 50 %	Hills/ Backslope	Somewhat excessively Drained	67.9 %	12.5 %	19.6 %	1.5 % / Low
Cieneba rocky sandy loam	15 – 50 %	Hills/ Backslope	Somewhat excessively drained	67.9 %	12.5 %	19.6 %	1.5 % / Low
Fallbrook fine sandy loam	2 – 8 %	Hills/ Backslope	Well drained	65 %	18.1 %	16.9 %	2.7 % / Moderate
Fallbrook sandy loam	8 – 15 %	Hills/ Backslope	Well drained	63.3 %	18.1 %	18.6 %	2.7 % / Moderate
Fallbrook sandy loam	15 – 35 %	Hills/ Backslope	Well drained	62.3 %	19.2 %	18.4 %	3.2 % / Moderate

[1] Weighted average of all soil layers. [2] Reported as percent change in volume of the whole soil as moisture content is decreased from a moist to a dry state. [3] Data from Riverside 2007. Source NRCS 2014.

The physical soil properties of the soils listed in the table above indicate a much larger percent of sand-sized mineral particles than fines or clays. Soil drainage in the project area varies from poorly drained to somewhat excessively drained, with a majority of soil type drainage being moderately well drained.

Regional Faults and Seismic Hazards. The closest faults to the site which are considered active are the San Jacinto fault, mapped approximately 10 miles northeast of the site, the Chino fault, mapped approximately 11 miles southwest of the site, and the Whittier-Elsinore fault, mapped 11.5 miles southwest of the site. The San Andreas Fault is located about 17.5 miles to the northeast of the site. Other nearby active faults meeting the State of California definition include the Sierra Madre-Cucamonga fault, located approximately 17.5 miles north-northwest of the site.

6.6.2 Regulatory Setting

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act of 1971 provides regulations meant to reduce loss of life and property associated with surface fault rupture throughout the State of California. The act requires earthquake faults to be identified and zoned to ensure public safety. Safety is protected by prohibiting building most structures for human occupancy across active faults that are a potential hazard (CDC 2010).

Seismic Hazards Mapping Act. The Seismic Hazards Mapping Act of 1990 directs the State of California Department of Conservation (CDC), California Geological Survey, Seismic Hazards Zonation Program, to "identify and map areas prone to liquefaction, earthquake-induced landslides and amplified ground shaking." The purpose of the act is to mitigate damage to property and loss of life by identifying, evaluating, and minimizing seismic hazards (CDC 2010).

6.6.3 Potential Impacts

GEO (a): Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of known earthquake fault, ground shaking, liquefaction, or landslides?

Earthquake hazards in California can include ground shaking, surface fault rupture, liquefaction, landslides, tsunamis and seiches. Within the project area there is no potential for tsunami or seiche hazards, as the project area is not near the ocean or any sizeable water body.

The project area is in Riverside, California, a city in Riverside County. Riverside County is reported as being affected by Earthquake Fault Zones (EFZ) as of June 30, 2014 (SMGB 2014). Cities surrounding Riverside, including San Bernardino, Corona, Redlands, and Moreno Valley are listed as affected by EFZs, but Riverside itself is not (SMGB 2014). There are no earthquake fault zones within the limits of the City of Riverside, CA (Riverside 2007). As such, the project area is not within an Alquist-Priolo EFZ (CDC 2007, CDC 2016). Accordingly, there is very little chance of surface fault rupture within the project area, and no impact would be experienced.

Although the project area is not within an EFZ, earthquakes generated from the movement of nearby faults, or high magnitude earthquakes at more distant faults, could impact the project area. The primary potential hazard associated with nearby earthquakes is ground shaking, which could induce ground failure and liquefaction (Riverside 2007). The potential for both low and high frequency ground shaking is low to moderate within the vicinity of the project area (CGS 2008). The intensity of the ground acceleration is dependent upon the proximity and magnitude of a given earthquake. Estimates of the peak ground acceleration (PGA) that would occur within the project area during earthquakes with a range of return periods are shown in Table 8.

Table 8. Estimated Peak Ground and Spectral Accelerations

Earthquake Return Period	PGA	Spectral Acceleration		
		0.2 second period (high frequency)	0.3 second	1 second period (low frequency)
108 years	0.27g	0.59g	0.58g	0.32g
144 years	0.30g	0.66g	0.64g	0.36g
475 years	0.45g	0.97g	0.96g	0.56g
949 years	0.54g	1.18g	1.17g	0.70g
PGA is measured in units of g, the acceleration due to gravity. Source: Tetra Tech 2016.				

Ground shaking has the potential to induce liquefaction in water-saturated soils. Soil materials and depth of the water table contribute to potential for liquefaction; those areas with sandy soils, high water table (less than 30 ft below the surface), and high potential for ground shaking will be the most susceptible to liquefaction. The project area is immediately adjacent to the Santa Ana River, within a zone classified as having very high liquefaction potential (Riverside 2007). In October 2014, groundwater depths within the project area ranged from 24 to 27 ft below the levee crest (Tetra Tech 2016). Seismic analysis indicated that significant liquefaction potential exists for the on-site alluvial soils (Tetra Tech 2016).

In the event that the rupture of a regional fault causes ground shaking in the project area, liquefaction is expected to occur. However, the proposed project would not include the construction of structures which would cause injury or loss of life in the event of failure, nor would they increase the potential for liquefaction. If the levee failed due to liquefaction during an extreme high flow event, flooding of the RWQCP could occur; however, this scenario is very unlikely to occur, and this impact would be less than significant.

Settlement can occur in poorly consolidated soils during ground shaking. During settlement, the soil materials are physically rearranged by the shaking to result in a less stable alignment of the individual minerals. Settlement of sufficient magnitude to cause significant structural damage is normally associated with rapidly deposited alluvial soils or improperly founded or poorly compacted fill. An estimate of potential ground settlement caused by ground shaking and soil liquefaction is presented below in Table 9.

Table 9. Results of Liquefaction Analyses

Boring No.	Assumed Groundwater Depth	Liquefiable Zone Depth	Factor of Safety FS_{liq}	Liquefaction Settlement	Settlement of Dry Sands	Combined Seismic Settlement
	(ft)	(ft)	–	(inch)	(inch)	(inch)
B-1	20	24 – 40	0. 36 –0.73	4.1	0.1	4.2
B-2		25 – 39	0.35 – 0.60	3.7	0.1	3.8
B-3		25 – 50 55 - 62	0.42 – 0.86	5.9	0.1	6.0
B-4		25 - 48	0.33 – 0.64	6.2	0.5	6.7
Source: Tetra Tech 2016. Based on 475-year return period, PGA = 0.45g. Borings located at project site.						

Riverside is within a region classified as having low landslide incidence (USGS 2011). Within the project area slopes are generally shallow, ranging from 0–10percent (Riverside 2007). As a result, there is expected to be low susceptibility to seismically induced landslides within the project area, and there would be no impact.

GEO (b): Would the project result in substantial soil erosion or the loss of topsoil?

During construction, no soils would be removed from the site. The project calls for raising the existing levee by up to 6 ft and installing a floodwall on top of the newly raised levee on the plant side (RPWD 2016). The City of Riverside has stockpiled approximately 24,000 cy of suitable fill material at the plant, which would be used in raising the levee embankment (RPWD 2016). This material would be placed on the top of the levee and the landward side of the levee and stabilized with a concrete slope, which would greatly reduce its exposure to erosive forces. The balance of the construction area is very flat and contained by the levee and surrounding hills, so erosion caused by precipitation runoff would be minimal.

In general, changes to flood protection structures may alter flow and erosion patterns in the water bodies that they protect against by changing the hydrograph. These types of changes may include increased velocities, scour, changes to the direction of flow, and headcutting. However, hydraulic modeling performed for this project indicates that changes to the levee prism would have minimal effects on flow or erosion patterns, and downstream scour would not be a significant effect from this project. Construction and operation of the project would not result in substantial soil erosion or the loss of topsoil.

Measures to control soil loss and erosion are described in Mitigation Measure WAT-1, under which the construction contractor would prepare a SWPPP. This impact would be less than significant.

GEO (c): Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The proposed project area and the surrounding area are flat (primarily 0-10 percent slopes) and are not prone to landslides. The proposed project would not destabilize any hillsides. Therefore there would be no impacts associated with landslides.

Liquefaction is a phenomenon where the shear strength and stiffness of a soil is reduced by earthquake shaking or other rapid loading. Liquefaction is generally known to occur in saturated or near-saturated soils at depths shallower than about 50 ft. Depth to groundwater in the project area is approximately 25 ft. In the event that the rupture of a regional fault causes ground shaking in the project area, liquefaction is expected to occur. However, the proposed project would not include the construction of structures which would cause injury or loss of life in the event of failure, nor would they increase the potential for liquefaction.

Subsidence occurs where the water table has been lowered due to excessive groundwater pumping or drought. The project area is not found in an area that is prone to subsidence, and this effect would not be exacerbated by the proposed project.

Lateral spreading occurs where sloping ground starts to move downhill, causing cracks to open up. It is often associated with cut and fill failure along road cuts and building excavations. The project area is low-relief and cut and fill on slopes would only occur on a very minor basis, on the plant side of the levee. This disturbance would be minor and is unlikely to result in lateral spreading, therefore impacts would be less than significant.

The levee design is very stable and not prone to collapse. It is not weight-bearing, not constructed on collapsible structures such as wooden footings or scaffolding, is comprised primarily of consolidated soils, and has a very low center of gravity. Therefore, the risk of collapse under any circumstances is very low, and would not be exacerbated by the proposed project.

Question GEO (d): Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?

Expansive soils are soils that expand and contract due to changes in moisture content. The soils in the project footprint are loamy sand and coarse sandy loam, and are composed primarily of sand, with low percentages (4 – 12 percent) of clay (Table 7, NRCS 2014). In addition, the linear extensibility of these soils is low, at 1.5 percent (Table 7, NRCS 2014). The City of Riverside General Plan 2025 EIR assessed the distribution of expansive soils within the City of Riverside. The only nearby soils classified as having high shrink-swell potential are the Porterville Clay soil type, located south of the Water Quality Control Plan near the intersection of Van Buren Avenue and Jurupa Rd, and the Madera fine sandy loam, located across the Santa Ana River in Jurupa (Table 7, Figure 4, Riverside 2007). These soils are well outside the project area. The soil types that underlie the project footprint (Table 7) are classified as having low shrink-swell potential (Riverside 2007).

For this reason, soils in the project area are expected to fall within a soils expansion index of less than 20, as determined in accordance with ASTM D4829 as referenced in the International Building Code, indicating that the project area is not located on expansive soils. Furthermore, the project does not involve construction of habitable structures or structures whose failure would create substantial risk to life or property. Therefore, there would be no related substantial risks to life or property created by the project and there would be no impacts.

GEO (e): Would the project area 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?

The proposed project does not include installation or use of septic tanks. Minor discharge of wastewater would occur during construction when portable sanitation facilities used by workers are emptied. Such temporary facilities would be taken to an appropriate wastewater management facility that is licensed and equipped to accept such wastewater. There would be no other discharge of wastewater associated with the proposed project and there would be no impacts.

6.6.4 Mitigation

No mitigation is necessary for geology and soil resources.

6.7 GREENHOUSE GAS EMISSIONS (GHG)

Greenhouse Gas Emissions (GHG)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

6.7.1 Environmental Setting

GHGs trap heat in the atmosphere. Of the four main types of GHGs; carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases with high global warming potentials (GWPs). CO_2 constituted over 84 percent of the total for the California in 2014 (CARB 2016). CO_2 is produced by the burning of fossil fuels such as coal, natural gas, and oil, solid waste, trees and wood products. CO_2 also results from manufacture of cement as well as certain other chemical processes. CO_2 is absorbed by plants and is thus removed from the atmosphere, though not in sufficient quantities to not cause a build-up of GHG in the atmosphere.

The CARB estimated total CO_2 equivalent emissions (CO_2e) in 2014 at 441.5 million tons, down from 493 million tons in 2004 but up from 451 tons in 2011. Of the 2014 total, 37 percent came from transportation sources, 20 percent from power generation, 24 percent from industrial use, 8 percent from agriculture, 11 percent from commercial and residential use, and less than 1 percent from other sources. CO_2 emissions constitutes 85 percent of the total GHGs (CARB 2016).

6.7.2 Regulatory Setting

Under the provisions of the CAA, the USEPA has the authority to regulate GHGs should a finding be made that GHGs have the potential to create adverse impacts. USEPA has enacted a number of GHG regulations and other environmental regulations that will impact GHG emissions.

On August 1, 2016, the Council for Environmental Quality issued its "Final Guidance on Considerations of Greenhouse Gas Emissions and the Effects of Climate Change" as National Environmental Policy Act (NEPA) Guidance (CEQ 2016.) The NEPA Guidance is applicable to all Federal actions subject to NEPA. This guidance does not establish any particular quantity of GHG emissions as “significantly” affecting the quality of the human environment or give greater consideration to the effects of GHG emissions and climate change over other effects on the human environment (CEQ 2016).

The CARB is responsible for the development, implementation, and enforcement of California’s motor vehicle pollution control program, GHG statewide emission estimates and goals, and development and enforcement of GHG emission reduction rules.

The SCAQMD convened a "Greenhouse Gas CEQA Significance Threshold Working Group" to consider a variety of benchmarks and potential significance thresholds to evaluate GHG impacts. On December 5, 2008, the SCAQMD adopted an interim CEQA GHG Significance Threshold for projects where SCAQMD is the lead agency (SCAQMD 2008). This GHG interim threshold is set at 10,000 metric tons (MT) of CO_2e per year (MT/year). Projects with incremental increases below this threshold will not be cumulatively considerable.

6.7.3 Potential Impacts

GHG (a): Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

and,

GHG (B): Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Significant changes in global climate patterns have recently been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming. State law defines GHGs to include the following: CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (CHSC §38505(g)). The most common GHG that results from human activity is CO_2, followed by CH_4 and N_2O.

Traditionally, GHGs and other global warming pollutants are perceived as solely global in their impacts and that increasing emissions anywhere in the world contributes to climate change anywhere in the world. A study conducted on the health impacts of CO_2 "domes" that form over urban areas cause increases in local temperatures and local criteria pollutants, which have adverse health effects.

The analysis of GHGs is a different analysis than the analysis of criteria pollutants for the following reasons:

- Criteria pollutants, the significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards.
- Ambient air quality standards are based on relatively short-term exposure effects on human health (e.g., one-hour and eight-hour standards). Since the half-life of CO_2 is approximately 100 years, for example, the effects of GHGs occur over a longer term which means they affect the global climate over a relatively long time frame.
- GWP assigned to calculations will determine the GHG CO_2e.

As a result, the trend in the south coast region is to evaluate the effects of GHGs over a longer timeframe than a single day (i.e., annual emissions). GHG emissions are typically considered to be cumulative impacts because they contribute to global climate effects. As a result, the GHG emission impacts from implementing proposed project were calculated at the project-specific level during construction and operation.

Table 10 summarizes the GHG analysis which shows the proposed project to generate 352.6 MT/year of CO_2e emissions during construction, which is less than the SCAQMD significance threshold. To amortize GHGs from temporary construction activities over a 30-year period (est. life of the project/ equipment), the amount of CO2e emissions during construction are calculated and then divided by 30.As stated

previously, there are no operational impacts for the proposed project. The detailed calculations of project GHG emissions can be found in Appendix 1.

Table 10. GHG Emissions from Construction.

Activity	**CO_2e (MT/year [1])**
Annual Construction Emissions	197.4
Amortized over 30 Years [2]	6.6
Significance Threshold	10,000
Significant?	No
[1]1 metric ton = 2,205 pounds. [2]GHGs from short-term construction activities are amortized over 30 years.	

As shown in Table 10, the GHG significance threshold for the proposed project would not be exceeded. For this reason, implementing the proposed project is not expected to generate significant adverse cumulative GHG air quality impacts. Further, the proposed project is not expected to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG gases.

Based upon these considerations, significant air quality and GHG emissions impacts are not expected from implementing the proposed project.

6.7.4 Mitigation

No mitigation measures are necessary.

6.8 HAZARDOUS MATERIALS (HAZ)

Hazardous Materials (HAZ)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 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?	☐	☐	☐	☒
i. Generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste.	☐	☐	☐	☒

6.8.1 Environmental Setting

Known and potential sources of hazardous materials in the project vicinity were assessed by conducting a computerized search of environmental databases. Environmental Data Resources, Inc. (EDR) searched 118 federal, state, local, tribal, and proprietary environmental databases and record sources for the project site and all properties within 1 mile of the project site and provided a report of findings (Appendix 4).

The RWQCP is listed in multiple environmental databases. The majority of these listings are not indicative of a release to soil or groundwater. A release did occur from a leaking underground storage tank (UST) containing; however, the affected soil was remediated and the case was closed in 1998. According to the database listings, the RWQCP is a Resource Conservation and Recovery Act (RCRA) large quantity generator, indicating that it generates over 1,000 kilograms of hazardous waste, or over 1 kilogram of acutely hazardous waste per month. Like all wastewater treatment plants, the RWQCP's operations involve air emissions and disposal of treated effluent and several of the database listings are associated with regulatory compliance for these activities (EDR 2016).

Six additional sites within 1 mile of the project site are listed in environmental databases (Figure 5). One of the sites is the Pedley landfill on the southwest corner of the intersection of Jurupa Avenue and Van Buren Boulevard. The landfill is no longer active; however, previously disposed waste remains buried at the site. Three of the remaining sites are leaking USTs; they are located at a private residence, Kolmar Laboratories, and Fleetwood Homes of California. All three cases are closed and no further action is needed and had no effect on the project site. The two remaining sites are hazardous materials release sites; one is at United Concrete Pipe Corporation and the other is at Riverside Agricultural Park. Both of these sites are over 0.5 mile from the project site and the releases have not migrated to the project site (EDR 2016).

6.8.2 Regulatory Setting

Hazardous materials and waste are regulated at the federal, state, and local levels. At the federal level, major regulations include; (1) the Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC §§ 9601-9627, for cleanup of hazardous materials sites, (2) the RCRA, 42 USC §§ 6901-6991i, which regulates hazardous waste from "cradle to grave," and (3) the Toxic Substances Control Act, 15 USC §§ 2601-2682, which involves hazard assessment, labeling, and use restrictions relating to toxics. The primary federal agencies with regulatory responsibility for hazardous materials and waste and associated safety management are: (1) the USEPA for management and cleanup of hazardous materials and waste, (2) the U.S. Department of Labor, Occupational Safety and Health Administration for occupational safety and health, and (3) the U.S. Department of Transportation (DOT) for transportation of hazardous materials and waste.

Implementation and enforcement of federal regulations often occurs at the state or local level. For example, the USEPA has granted the State of California primary oversight responsibility to administer and enforce its own hazardous waste program under RCRA. California's hazardous waste program is at least as strict as, and in some aspects stricter than, RCRA.

Riverside Regional Water Quality Control Plant
Initial Study/Mitigated Negative Declaration

FIGURE 5

POTENTIALLY CONTAMINATED SITES LISTED IN ENVIRONMENTAL DATABASES

Legend

Existing Levee

Approximate Location of Sites Listed in Environmental Databases

0 375 750 1,500 Feet

1 inch = 1,500 feet

At the state level, California's primary regulations for hazardous materials and waste are found in CCR, Title 22, Division 4.5, *Environmental Health Standards for the Management of Hazardous Waste*, and CHSC, Division 20, Chapter 6. The California Environmental Protection Agency (CalEPA) is California's unified environmental authority. The CalEPA oversees and coordinates the activities of multiple environmental entities the implement and enforce state and federal regulations:

- Air Resources Board, which regulates air pollutants
- Department of Resources Recycling and Recovery, which manages recycling and protection of the state's natural, historical, and cultural resources
- Department of Pesticide Regulation, which regulates pesticide sale and use
- Department of Toxic Substances Control (DTSC), which regulates hazardous waste, conducts and oversees site cleanups, and promotes pollution prevention
- Office of Environmental Health and Hazard Assessment, which evaluates the risks posed by hazardous substances
- SWRCB, which maintains records of and regulates releases of hazardous substances and petroleum-based materials that could affect groundwater or surface water

California's Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) provides for local implementation of the following six regulatory programs:

- Aboveground storage tank program (reference CHSC, Division 20, Chapter 6.67)
- Hazardous materials inventory and reporting requirements program (reference CHSC, Division 20, Chapter 6.95), which includes requirements for developing hazardous materials business plans
- California accidental release prevention program (reference CHSC, Division 20, Chapter 6.95, Article 2)
- Uniform Fire Code hazardous materials management plan and inventory statement preparation program (reference California Fire Code, Section 8001.3)
- UST program (reference CHSC, Division 20, Chapter 6.7, Article 2 and CCR, Title 23, Chapter 16, Division 3)
- Hazardous waste generator and onsite hazardous waste treatment program (reference CHSC, Division 20, Chapter 6.5, *Hazardous Waste Control Law* and CCR, Title 22, Division 4.5)

The local implementing agencies for the Unified Program are known as certified unified program agencies or participating agencies.

State occupational health and safety regulations related to hazardous materials and waste are found in CCR, Title 8, Chapter 3.2 and the California Labor Code and are implemented and enforced by the California Occupational Safety and Health Administration. State regulations related to the transport of hazardous materials and waste are found in the CCR, Title 22, CHSC, and California Vehicle Code and are implemented and enforced by the DTSC and California Highway Patrol.

At the local level, Title 8 of Riverside County's Code of Ordinances contains multiple ordinances related to hazardous waste, solid waste, and USTs. The Riverside County Environmental Health Department is responsible for implementing and enforcing these ordinances and many state regulations governing hazardous substance generation and storage, in addition to implementing environmental health programs such as the vector control program. The Riverside County Environmental Health Department regulates the use, storage, and disposal of hazardous substances in the county by issuing permits, monitoring regulatory compliance, and conducting enforcement activities. Its Hazardous Materials Branch is the certified unified program agency for Riverside County and the City of Riverside Fire Department is a participating agency under the state's Unified Program.

6.8.3 Potential Impacts

HAZ (a): Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
and,
HAZ (b): 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?

Construction and some future maintenance activities would require petroleum, oil, lubricants, paint, asphalt, and other potentially hazardous materials to be transported to, temporarily stored on, and used at the project site, and would generate waste. The routine transport, use, or disposal of these materials and petroleum products would carry some risk compared to situations not involving these materials.

The construction contractor(s) would be responsible for the proper handling, storage, use, transport, disposal, and cleanup of hazardous substances, petroleum products, and waste. The construction contractor(s) would be responsible for appropriately and accurately characterizing waste to determine whether it meets the criteria for hazardous waste. Safety Data Sheets (formerly known as Material Safety Data Sheets) for all relevant chemicals would be kept on-site and available for review by all site personnel, and all hazardous materials would be used and stored in accordance with the manufacturer's instructions and applicable regulations.

To minimize the risk of upset and accident conditions, ensure proper management of hazardous materials and waste, and protect people and the environment from associated hazards, the construction contractor(s) would implement mitigation measure HAZ-1: Prepare and Implement a Construction-Specific Hazardous Materials Management Plan and a Site-Specific Health and Safety Plan. These plans would detail relevant industry standard best management practices and procedures to comply with federal, state, and local legal requirements regarding hazardous materials and waste. With implementation of this mitigation measure, potential impacts would be less than significant.

HAZ (c): Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no schools within ¼ mile of the proposed project area; therefore, no impact would occur.

HAZ (d): Would the project be located on a site 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?

The project site is not listed in the EnviroStor database, which is a list of hazardous materials release sites compiled pursuant to Government Code Section 65962.5. However, the project site is listed in several other environmental databases, as described in Section 6.8.1, including those related to effluent releases and releases from leaking USTs. None of the database listings indicate a condition that, when combined with the proposed project, would create a significant hazard to the public or the environment, so effects would be less than significant.

HAZ (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?

a***nd***

HAZ (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?

The proposed project is 0.7 mile north-northwest of the Riverside Municipal Airport. According to the *Riverside County Airport Land Use Compatibility Plan* (Mead & Hunt, Inc. and Coffman Associates, Inc. 2004) and *Airport Master Plan for Riverside Airport* (Coffman Associates, Inc. 2009), the project area is not in a runway safety zone. Therefore, the project would not result in a safety hazard for people residing or working in the project area. Therefore, there would be no impact associated with these criteria.

HAZ (g): Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No roadways or evacuation routes would be affected during project construction or operations aside from minor and short-term increases in traffic associated with construction. Therefore, there would be no impairment of emergency response plans or emergency evacuation plans and no impacts would occur.

HAZ (h): Would the project 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?

The project area is adjacent to the Santa Ana River. Although there are some undeveloped lands in the vicinity, according to the City of Riverside *General Plan 2025*, the project site is not in an area with an elevated fire hazard potential (City of Riverside 2007). Thus, there would be no impact associated with this criterion.

HAZ (i): Would the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste?

The project would involve placing soil and concrete to raise the levee. The project would not generate disease vectors such as mosquitoes, flies, or rodents and does not have a component that includes agricultural waste. Thus, there would be no impact associated with this criterion.

6.8.4 Mitigation

HAZ-1. Prepare and Implement a Construction-Specific Hazardous Materials Management Plan and a Site-Specific Health and Safety Plan. To ensure the routine transport, use, or disposal of hazardous materials is done in compliance with federal, state, and local laws, ordinances, and regulations, and to help avoid and minimize potential accidents or spills during construction, a construction-specific hazardous materials management plan and site-specific health and safety plan would be prepared by the construction contractor(s) prior to construction.

The plans would conform to applicable federal, state, and municipal laws, ordinances, and regulations and detail relevant BMPs. They would be implemented for the duration of the construction. The plans would be on-site during construction and distributed to all workers and managers prior to the start of construction.

The construction-specific hazardous materials management plan would contain these elements, at a minimum:

- Responsible personnel and clearly defined roles and responsibilities, including employee training requirements
- Emergency preparedness and prevention, including emergency contacts, emergency response equipment and procedures, procedures for responding to unanticipated soil contamination, contingency plans, spill prevention and containment, and spill response equipment and procedures
- Hazardous materials and petroleum products management including inventory, inventory control procedures, storage details, hazard communication requirements, and reporting requirements
- Waste management procedures including anticipated waste streams, waste minimization practices, criteria and process for characterizing hazardous waste, and waste storage, transport, and disposal procedures
- BMPs to be employed to reduce the risks associated with petroleum, oil, lubricants, paint, asphalt, and other potentially hazardous materials transport, storage, and use

The site-specific health and safety plan would contain these elements, at a minimum:

- Responsible personnel and clearly defined roles and responsibilities, including a description of the work to be done
- Emergency contacts and emergency response procedures, including the address and contact information for the nearest hospital and a map showing the location of the nearest hospital and the route to it
- Types of safety issues that could be encountered (e.g., slips, trips, falls, heat) and description of safe work practices
- List of chemicals used or stored on the site
- Employee training and personal protective equipment requirements
- Health and safety tailgate documentation form

6.9 HYDROLOGY AND WATER QUALITY (WAT)

HYDROLOGY AND WATER QUALITY (WAT)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which 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?	☐	☐	☐	☒

6.9.1 Environmental Setting

6.9.1.1 Surface Water

The Santa Ana River flows immediately adjacent to the project site, along the north edge of the RWQCP facility. The headwaters of the Santa Ana River are in the southern portion of the San Bernardino Mountains, northeast of the project site. The river flows southwest through San Bernardino, Riverside, Orange, and Los Angeles Counties, draining an area of 2,650 square miles. The watershed is largely arid and precipitation throughout the drainage area varies considerably in response to large-scale climate patterns (e.g., El Niño – Southern Oscillation, general circulation patterns) and intermittent precipitation events (e.g., atmospheric rivers). As a result, regional streams and rivers have historically had flashy hydrologic regimes. However, dam construction in the 19th and 20th centuries has dampened the hydrologic regime of most higher-order rivers in this area.

In the Santa Ana River basin, baseflow and stormflow, as well as a smaller amount of non-tributary flow contribute to the total streamflow. Baseflow is composed of groundwater discharge, effluent from wastewater treatment plants, and inputs from non-point sources. Stormflow is composed of surface runoff from upstream basins, and occurs primarily during the rainy season (December – April). Non-tributary flow consists of imported water that is released in the upper portion of the watershed to increase groundwater recharge in the lower watershed (SARWQCB 2016).

The Santa Ana passes the project area immediately below a United State Geological Survey (USGS) gage station (USGS gage 11066460, Figure 2). Water that flows to this segment of the Santa Ana drains from an area of 652 square miles (USGS 2016). Streamflow at this site is affected by upstream irrigation diversions, irrigation return flows, discharge of treated effluent, ground-water withdrawals, and releases from two upstream reservoirs including the Seven Oaks Dam on the main stem of the Santa Ana River, and farther upstream, the Big Bear Lake reservoir on Bear Creek, a tributary to the Santa Ana River (USGS 2016).

In the last 15 water years (2002-2016), the annual average streamflow in this section of the Santa Ana River has ranged from a low of 56.5 cubic feet per second (cfs) in WY 2016 to a high of 491 cfs in WY 2005. Streamflow is generally highest in winter months (December, January, February) and lowest in mid to late summer (July, August, September), but peaks or wanes during the shoulder season in some years, likely in response to substantial annual variation in regional precipitation patterns and to upstream dam operations. From WY 2000 to WY 2015, the record maximum streamflow observed for 9 of 12 months occurred in 2005, while the record minimum streamflow observed for all 12 months occurred in 2013-2015, illustrating the impact of the current California drought on flows in the Santa Ana River (USGS 2016).

6.9.1.2 Groundwater

All groundwater is considered suitable, or potentially suitable, for municipal or domestic use unless otherwise designated by the SWRCB. The SWRCB seeks to maintain a high-quality drinking groundwater resource wherever it is present by limiting bacteria, organic and inorganic chemical constituents, and maintaining acceptable taste and odor so that potential beneficial uses are not adversely affected. Depth to groundwater is approximately 25 ft below ground surface in the vicinity of the project site (Tetra Tech 2016).

6.9.2 Regulatory Setting

Clean Water Act. The CWA established water quality standards for surface waters and the basis for regulating the discharge of pollutants into the waters of the U.S. Under the CWA the USEPA has

implemented pollution control programs including wastewater standards for industry and water quality standards for contaminants in surface water. It became unlawful to discharge any pollutant from a point source (a discrete conveyance such as a pipe or man-made ditch) under the CWA, unless a permit was obtained. The USEPA NPDES controls discharges of pollutants to navigable waters by requiring permits that help regulate point source discharges from industry, municipalities, and other facilities.

USACE permit authorization is required to work within the navigable waters of the U.S. under Section 404 of the CWA. Section 404 establishes a program to regulate the discharge of dredge or fill material into waters of the U.S., including wetlands. Activities in waters of the U.S. regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the U.S., unless the activity is exempt from Section 404 regulation.

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act was enacted in the State of California in 1969 to protect water resources, including groundwater. Through this legislation, the California SWRCB and its nine Regional Boards were given authority to preserve and enhance water resources in the state. The legislature "finds and declares that the people of the state have a primary interest in the conservation, control, and utilization of the water resources of the state, and that the quality of all the waters of the state shall be protected for use and enjoyment by the people of the state" (SWRCB 2016a).

The SWRCB carries out its duties under the Porter-Cologne Water Quality Control Act through regional, water basin plans. The project area is under SARWQCB jurisdiction. The *Updated Water Quality Control Plan for the Santa Ana River Basin* (Basin Plan) is the master document for protecting water resources in the region (SARWQCB 2008).

Any construction activities more than 1 acre would require coverage under the SWRCB NPDES General Permit for Discharges from Construction Activities, Order No. 2010-0014-DWQ, NPDES No. CAS000002 (CGP). This general permit requires the development of a SWPPP and the implementation of BMPs to minimize offsite sedimentation during construction projects.

Antidegradation Policy. In instances where existing water quality is better than that prescribed by the objectives, the State Antidegradation Policy applies (State Board Resolution 68-16: Statement of Policy with Respect to Maintaining High Quality of Waters in California). The Antidegradation Policy states that "whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality would be maintained until it has been demonstrated to the State that any change would be consistent with maximum benefit to the people of the State, would not unreasonably affect present and anticipated beneficial use of such water, and would not result in water quality less than that prescribed in the policies." 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 would be required to meet waste discharge requirements. These requirements would result in the best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance would not occur. Furthermore, the requirements would assure that the highest water quality consistent with maximum benefit to the people of the State would be maintained.

California Department of Fish and Wildlife. The CDFW is responsible for conserving, protecting, and managing the state's fish, wildlife, and native plant resources. Fish and Game Code, Section 1602, requires that the agency be notified of proposed actions that may substantially modify a river, stream, or lake, including ephemeral streams, desert washes, and watercourses. If it is determined that the proposed

activity may adversely affect fish and wildlife resources, then a Streambed Alteration Agreement would be prepared. The proposed action would proceed in accordance with the agreement.

Santa Ana Basin Plan. The SARWQCB adopts and administers the Basin Plan for the Santa Ana system and freshwater tributaries and groundwater resources (SARWQCB 2008). In addition to establishing water quality standards, the basin plan contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (California Water Code, §13240-13247).

In this basin plan, and pursuant to the CWA, water quality standards are composed of two parts: (1) the designated beneficial uses of water (Table 11) and criteria or objectives to protect those uses from pollution and degradation. Beneficial uses are defined for surface waters and groundwater. Beneficial uses that apply to the project area are summarized in the following table, and definitions are contained in the Basin Plan (SARWQCB 2008).

Table 11. Beneficial Uses.

Beneficial Uses of Waters		Surface Waterbody	Groundwater Management Zone
ABBR.	Name	Santa Ana River – Reach 3	Chino South
REC1	Water Contact Recreation	X	
REC2	Non-contact Water Recreation	X	
WARM	Warm Freshwater Habitat	X	
WILD	Wildlife Habitat	X	
AGR	Agricultural Supply	X	X
IND	Industrial Service Supply		X
MUN	Municipal and Domestic Supply		X
PROC	Industrial Process Supply		X
GWR	Groundwater Recharge	X	
RARE	Rare, threatened, and endangered species	X	
SPWN	Spawning, reproduction, and development	X	
Source: SARWQCB, 2008			

The section of the Santa Ana River that is adjacent to the project site falls within Reach 3 of the Santa Ana River in the Upper Santa Ana River basin (Prado Dam to Mission Boulevard in Riverside), as designated by the CalEPA SARWQCB. The existing beneficial uses for this reach of the river are agricultural supply (AGR); groundwater recharge (GWR); rare, threatened, or endangered species (RARE); water contact recreation (REC1); non-contact water recreation (REC2); spawning, reproduction and development (SPWN); warm freshwater habitat (WARM); and wildlife habitat (WILD) (SARWQCB 2008). This reach is not used as a municipal or domestic supply of water.

Water Quality Objectives (WQOs) to protect beneficial uses are both narrative and numerical. Narrative objectives are general descriptions of water quality that must be attained through pollutant control measures and watershed management. Numerical objectives typically describe pollutant concentrations, physical/chemical conditions of the water itself, and the toxicity of the water to aquatic organisms. These objectives represent the maximum amount of pollutants that can remain in the water column without causing any adverse effect on organisms using the aquatic system as habitat, on people consuming those organisms or water, and on other current or potential beneficial uses. Together, the narrative and numerical objectives define the level of water quality that shall be maintained within the region. Representative applicable WQOs for surface waters in the project area are shown in Table 12. Specific

water quality objectives have been assigned for Reach 3 of the Santa Ana River for the following parameters: total dissolved solids (TDS) (700 milligrams per liter (mg/L), hardness (350 mg/L as calcium carbonate), sodium (110 mg/L), chloride (140 mg/L), total inorganic nitrogen (10 mg/L), sulfate (150 mg/L), chemical oxygen demand (30 mg/L), and boron (0.75 mg/L) (SARWQCB 2008).

The 2010 CalEPA 202(d) List/ 305(b) Assessment Report lists the 26-mile long Reach 3 of the Santa Ana River as impaired for copper (during the wet season only), lead, and pathogens (SWRCB 2016b). The source of the copper and lead contamination is unknown, but upstream dairies have been identified as the source of pathogens. The Total Maximum Daily Load (TMDL) for Pathogens was approved by the USEPA in 2007 (SWRCB 2016b). TMDLs for copper and lead are still being developed (SWRCB 2016b).

Table 12. Water Quality Objectives for Surface Waters

Factor	Objective	Applicability	Notes
Ammonia	Acute (1-hour): dependent upon pH and temperature Chronic: 0.093 mg/L as Nitrogen	Surface waters	Waters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia (NH3) to exceed 0.093 mg/l (as N) as a 4-day average in receiving waters.
Bacteria	400 colonies/100 milliliters (mL)	Surface waters	In waters designated REC-1, the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200 colonies /100 mL, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400 colonies /100 mL.
Biostimulatory Substances	None	Surface waters	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
Chemical Constituents	Less than maximum contaminant levels (MCLs) specified in Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. of Title 22 of the CCR	Surface waters	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
Color	None	Surface waters	Waters shall be free of discoloration that causes nuisance or adversely affects beneficial uses.
Dissolved Oxygen	5.0 mg/l minimum	Warm water habitat	A general index of the state of the health of receiving waters
Floating Material	none	Surface waters	Includes solids, liquids, foams, scum, in concentrations that cause nuisance or adversely affect beneficial uses.

Factor	Objective	Applicability	Notes
Oil and Grease	No visible film	Surface waters	No visible film on the surface or on objects in the water that cause nuisance or adversely affect beneficial uses.
pH	6.5 – 8.5	Surface waters	The pH of water shall not be depressed below 6.5, raised above 8.3, or changed at any time more than 0.3 units from normal ambient pH.
Pesticides	Less than MCLs specified in Table 64444-A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations	Surface waters	Waters shall not contain pesticides in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses.
Radioactivity	Less than MCLs specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations	Surface waters	Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor which result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
Salinity	No increase	Surface waters	Waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use of the water resources.
Sediment	Not altered	Surface waters	The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Settleable Material	No nuisance	Surface waters	No substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Suspended Material	No nuisance	Surface waters	No suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
Temperature	Not raised above 90 degrees Fahrenheit (°F) June through October or above 78 °F during the rest of the year	Warm water habitat	Natural temperatures of waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.
Toxicity	None	Surface waters	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Turbidity	Natural Turbidity (Maximum Increase): 0-50 Nephelometric turbidity units (NTU) (20percent) 50-100 NTU (10 NTU) Greater than 100 NTU (10percent)	Surface waters	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

The project site overlies the Chino South groundwater management zone. This zone and adjacent groundwater management zones (Arlington, Riverside zones A-E) have designated beneficial uses for agricultural supply, industrial service supply, municipal and domestic supply, and industrial process supply (Table 11, SARWQCB 2008).

Protection of groundwater is regulated by the SARWQCB. The primary water quality objective for groundwater is maintenance of the existing high quality of groundwater (i.e., ″background″). In addition, at a minimum, groundwater shall not contain concentrations of bacteria, chemical constituents, radioactivity, or substances producing taste and odor in excess of the objectives described above unless naturally occurring background concentrations are greater. For all groundwater in California designated for use in municipal and domestic supplies there are established exceedance criteria for arsenic, fecal coliform, barium, boron, chloride, cyanide, fluoride, hardness, metals, methylene blue-activated substances, nitrate-nitrogen (NO_3-N), pH, radioactivity, sodium, sulfate, TDS, and taste and odor compounds (SARWQCB 2008). WQOs for ground waters in the Santa Ana Basin are provided in Chapter 4 of the Santa Ana Basin Plan (SARWQCB 2008). In addition, in designated management zones, zone-specific NO_3-N and TDS criteria have been set. In the Chino South groundwater management zone, the TDS criteria is 680 mg/L and the NO_3-N criteria is 4.2 mg/L (SARWQCB 2008).

Under existing law, the Water Board regulates waste discharges to land that could affect water quality, including both groundwater and surface water quality. Waste discharges that reach groundwater are regulated to protect both groundwater and any surface water in continuity with groundwater. Waste discharges that affect groundwater that is in continuity with surface water cannot cause violations of any applicable surface water standards.

6.9.3 Potential Impacts

WAT (a): Would the project violate any water quality standards or waste discharge requirements? and,
WAT (f): Otherwise substantially degrade water quality?

Project construction is timed to occur during the dry season to decrease the potential for erosion and discharge of sediment, pollutants bound to sediment, and other pollutants associated with construction, such as trash, solvents, sanitary waste from portable restrooms or sewage treatment facilities, and concrete curing compounds. The discharge of these pollutants during construction could impair the quality of any surface water that they flow into. The proposed project is subject to the requirements of an NPDES CGP because project area construction exceeds 1 acre. To obtain coverage under the CGP, the project proponent must provide a NOI, a SWPPP, and other documents required by Attachment B of the CGP. Activities subject to the CGP include clearing, grading, and disturbances to the ground. Construction activities covered under the CGP are regulated at the local level by the Santa Ana Region of the California Regional Water Quality Control Board.

As described for Mitigation Measure WAT-1, the construction SWPPP would be prepared by a qualified SWPPP developer to meet the certification requirements in the CGP. The SWPPP would require that:

- All pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction be controlled;
- Where not otherwise required to be under a Regional Board permit, all discharges unrelated to stormwater be identified and eliminated, controlled, or treated;
- Site BMPs be effective and would reduce or eliminate pollutants in stormwater discharges and authorized discharges unrelated to stormwater from construction to the Best Available Technology/Best Conventional Technology standard;

- Calculations and design details, and BMP controls for site run-on, be complete and correct; and
- Stabilization BMPs be installed after construction to reduce or eliminate pollutants.

The SWPPP would also include BMPs for:

- Erosion control (including wind erosion) and tracking controls to minimize tracking of mud from the site,
- Sediment control,
- Controls for water discharges unrelated to stormwater (such as water from vehicle and equipment cleaning), and
- Waste management and materials pollution control.

Surface water and groundwater beneficial uses that apply to the project area are identified in Table 11, and surface water WQOs are shown in Table 12. These beneficial uses and WQOs would not be adversely affected by construction or operations, due to the location of project work and the implementation of BMPs and mitigation measure WAT-1. Surface water beneficial uses are primarily associated with the Santa Ana River, which would not be affected by construction of the project as construction would only occur on the top and landward side of the levee. Groundwater beneficial uses would not be affected since grading would not intersect the groundwater table and since the area of new impermeable surface would be minimal, would not affect infiltration into aquifers.

As currently designed, the project would avoid impacts to jurisdictional waters and wetlands subject to regulation by the USACE and RWQCB. The extent of potential USACE and RWQCB jurisdiction is expected to extend across the active floodplain for the Santa Ana River, from the toe-of-slope on the northern embankment to the toe-of-slope on the southern embankment. The project includes levee rehabilitation at the very top of the southern embankment for the Santa Ana River. No activities would occur down at the toe-of-slope or across the active floodplain areas for the Santa Ana River. As such, no fill, discharge, or dredge activities would occur within potential USACE and RWQCB jurisdiction. The extent of potential CDFW jurisdiction is expected to extend across the bankfull width of the Santa Ana River, from the top-of-slope on the northern embankment to the top-of-slope on the southern embankment. Potential CDFW jurisdiction would extend beyond the top-of-slope where riparian vegetation occurs. The project would build onto the top-of-slope on the southern embankment for the Santa Ana River.

Upon implementation of the SWPPP, impacts would be less than significant.

WAT (b): Would the project 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?

If the project removed an existing groundwater recharge area or substantially reduced runoff that results in groundwater recharge, a potentially significant impact could occur. The project does not require use of groundwater supplies and would not substantially interfere with groundwater recharge in the project area. Excavation for the proposed project would occur to a maximum depth of 5 ft below the current ground surface, which is well above the water table, found approximately 25 ft below the current ground surface. The project area is already developed and not managed as a groundwater recharge area, and the proposed project would add less than one-quarter acre of impermeable surface materials, so impacts to groundwater infiltration would be minimal. The project is expected to have no impact on the volume of water in the underlying aquifer or on the local groundwater table level.

WAT (c): Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?

A site drainage plan is required by the City of Riverside and would be reviewed by the City Engineer. The final grading and drainage plan would be approved by the City Engineer during plan check review. Erosion and siltation reduction measures would be implemented during construction consistent with an approved SWPPP, which would demonstrate compliance with the City's NPDES permit. The proposed project would raise the existing levee and would install a floodwall along a portion of the levee crest. Hydraulic modeling of the site and the downstream reach demonstrated that these modifications would not substantially increase the potential for erosion or siltation to occur on-site or immediately downstream of the project site and impacts would be less than significant.

WAT (d), WAT (h) and WAT (i): Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? Place within a 100-year flood hazard area structures that would impede or redirect flood flows? Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

The RWQCP's NPDES permit requires the levee on the north side of the plant to provide the plant protection for a 100-year storm event. This would require installation of a structure that would redirect flood flows within the 100-year floodplain. This action is intended to redirect Santa Ana River flows and keep them from entering the plant by keeping them contained within the river banks. The levee raise is being designed to provide freeboard and embankment protection FEMA and standard flood control engineering design requirements (Tetra Tech 2016). The proposed project would raise the height of the existing levee and result in installation of a floodwall along a portion of the levee crest. This rehabilitation work would improve on-site flood protection, but would not increase the potential for flooding downstream. Appendix B, Table 2, shows that although flow patterns would be altered along the raised levee portion of the river, existing flow patterns return approximately 1,000 ft upstream of the Van Buren bridge. The proposed project could raise stream velocities by up to 4.6 feet per second (fps) at the upstream end of the project area under the 50-year peak flow of 83,000 cfs, and by 5.3 fps under the 100-year peak flow, but would not affect flow velocities downstream of the Van Buren bridge under either scenario. Water surface elevations under the 50-year flood event could increase by up to 0.14 feet, and under the 100-year flood event by up to 3.42 feet in the reach upstream of the RWQCB. However, these increases in water surface elevations are not anticipated to increase the potential for flooding, as floodwaters would remain within the 100-year floodplain limits (Appendix B, Figure 4), and this impact would be less than significant. Under these scenarios, scour is likely to occur on the north bank of the river; however, this effect would occur under existing conditions as well, and would not be exacerbated by the proposed project and impacts would be less than significant.

Under normal circumstances, the increased flood protection provided by the rehabilitated levee would reduce the risk to people or structures within the 100-year flood hazard of loss, injury, or death as a result of flooding. If the heightened levee were to fail during a 100-year flood event, the resulting flooding would be no worse than would occur under current conditions and no impacts would occur.

WAT (e): Would the project 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?

Minor increases in runoff may occur due to construction of a 1- acre concrete slope at the top of the river side of the levee. This slope would be constructed where there is currently rip rap and cobble, so permeability is already low, therefore any increases in runoff at this location would be minor. There would be no impacts to the stormwater drainage system at the plant since this runoff would be on the river side of the levee.

In order for the levee rehabilitation work to be completed, two RWQCP storm drains would need to be relocated. The capacity of the storm drains would not change, and they would remain functional during construction.

The proposed project work would occur on the plant side of the levee embankment. Any discharge that occurs during construction activities would not run-off into the Santa Ana River, but into onsite stormwater drainage systems. During construction, runoff over disturbed soils during storm events could introduce sediments into the toe ditches and stormwater drainage system, leading to turbidity and loss of fill material and/or topsoil. This impact is potentially significant, but the potential for such an impact would be reduced by implementation of Mitigation Measure WAT-1, under which the project proponent or construction contractor would prepare and implement a SWPPP. The PWD would also prepare a REAP to prevent adverse effects of water flows at the construction site if substantial rainfall, defined as 0.5 inch or more, is predicted. The REAP is described as mitigation measure WAT-2. The impact would be less than significant with mitigation.

WAT (g): Would the project 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?

No housing would be constructed as part of the proposed project, therefore there would be no impacts.

WAT (j): Would the project expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?

The proposed project area is located well inland of any area that could be reached by a tsunami or seiche, and mudflows are unlikely to occur as the site is relatively flat, with slopes ranging from 0 to 10 percent. Therefore, there would be no impacts associated with tsunami, seiche, or mudflows.

6.9.4 Mitigation

WAT-1. Prepare and Implement a Stormwater Pollution Prevention Plan. Because soil surface disturbance for the proposed project would be greater than 1 acre, specific erosion control measures would be identified as part of the CGP and SWPPP required for construction. The construction contractor would prepare a SWPPP that details measures to control erosion, contain sediments, and prevent turbidity and leakage of vehicle and equipment fluids during construction. The SWPPP would be approved by the project sponsors and would ensure compliance with the plan throughout the construction process. Measures from the SWPPP would be incorporated into the contractor's work plan and would be implemented prior to groundbreaking activities. The project sponsors would comply with requirements, including preparation and implementation of the SWPPP and the NPDES General Permit for Stormwater Discharges from Construction and Land Disturbing Activities issued by the SWRCB.

WAT-2. Prepare and Implement a Rain Event Action Plan (REAP). The PWD would require the construction contractor to implement the following measures. In-channel construction activities would be suspended and a project-specific REAP would be implemented if substantial rainfall, defined as 0.5 inch or greater precipitation, is forecast by the National Weather Service in their 72-hour forecast for the project area. The REAP would be prepared by a qualified SWPPP practitioner and would comply with standards of the California Stormwater Quality Association BMPs Handbook. The REAP would include measures to prevent adverse effects of water flows at construction areas, such as removal of equipment, vehicles, and materials from the channel; protection of exposed and disturbed areas; and isolation of uncured concrete from water flows. Additionally, start of construction phases taking more than 72 hours to complete would not occur if substantial rainfall is forecast.

6.10 LAND USE AND PLANNING (USE)

Land Use and Planning (USE)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

6.10.1 Environmental Setting

This section documents land uses in the vicinity of the project, identifies governmental policies, regulations, and guidelines that apply to land use in the area, and evaluates the consistency of both construction and operation of the project with the land use regulations.

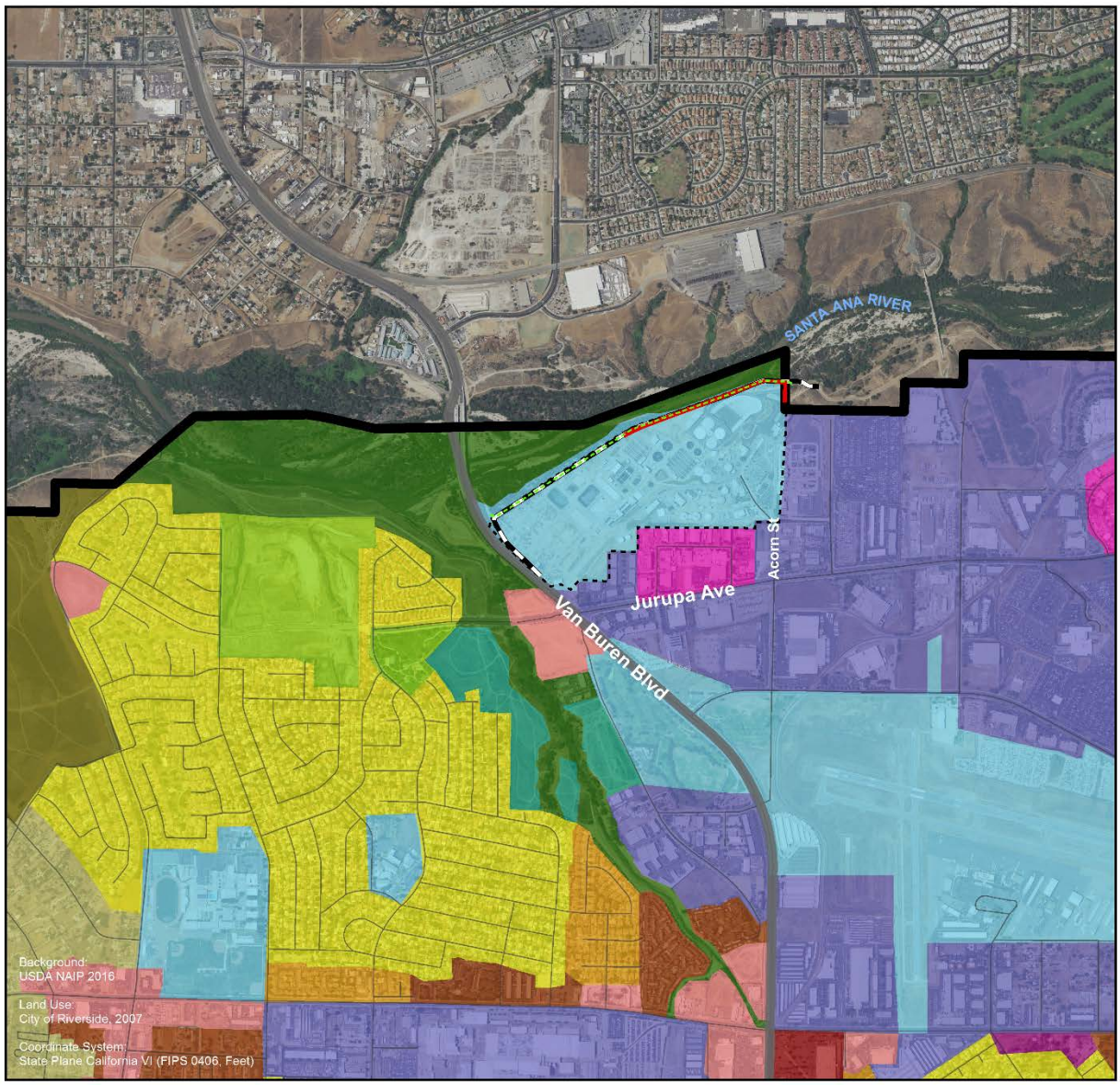
The project site is located within the City of Riverside, California. The Santa Ana River forms the northern boundary of the site and forms the jurisdictional boundary between Riverside and the City of Jurupa Valley in the vicinity of the project. An open space parcel on the south side of the current river channel just east of the site is in unincorporated Riverside County.

The RWQCP is located in a heavily urbanized area, with a mix of residential and commercial/industrial land uses. Riverside has an industrial and commercial core, centered on the Riverside Municipal Airport, located south of the project area, and dense residential areas to the west, south, and east of the airport. Land adjacent to the river is primarily open space and includes the SART on the south side of the river.

The plant extends from Van Buren Boulevard on the west to Acorn Street (extended) to the east, and borders the open space and the SART on the north. Property south of the treatment plant is largely industrial and commercial.

6.10.2 Regulatory Setting

Riverside General Plan 2025. Riverside's General Plan 2025, as adopted by the City in 2007, is used to guide decisions and actions concerning land use and City growth priorities (Riverside 2007). A Land Use Zoning Map is a key component of the plan. The map shows that the project site, located within the boundary of the treatment plant, is classified as "PF" (Public Facilities/Institutional).The primary components of this map are shown in Figure 6.



Riverside Regional Water Quality Control Plant
Initial Study/Mitigated Negative Declaration

FIGURE 6
LAND USE

Legend

City of Riverside Boundary

City of Riverside Zoning

- Agricultural/Rural Residential
- Semi Rural Residential
- Medium Density Residential
- Medium High Density Residential
- High Density Residential
- Commercial
- Mixed Use-Village
- Business/Office Park
- Office
- Industrial
- Public Facilities/Institutional
- Private Recreation
- Public Park
- Open Space/Natural Resources
- Water Quality Control Plant
- Existing Levee
- Footprint of Work Area
- Bike Path Repaving Area

0 500 1,000 2,000 Feet
1 inch = 2,000 feet

The Open Space and Conservation Element of the General Plan includes several objectives related to the project:

- Objective 5 - Protect biotic communities and critical habitats for endangered species throughout the General Plan area.
- Objective 6 - Preserve and maintain wildlife movement corridors.
- Objective 7 - Turn the Santa Ana River Task Force "Vision" into reality.

Jurupa Area Plan. While the County of Riverside has a General Plan, only a very small portion of unincorporated land is located adjacent to the project site. Of most relevance to this project is the County's Jurupa Area Plan (County of Riverside 2015). While this plan covers a large geographic area, only 903 acres of the planning area remain unincorporated and, therefore, under the Plan's jurisdiction (City of Jurupa Valley 2011). This includes 116 acres of unincorporated county land south of the Santa Ana River and just east of the project site. A 76-acre parcel of land adjacent to the river is classified as "OS-W" (Open Space Water Land Use). The unincorporated land also includes 26 acres of "LI" (Light Industrial Land Use) and 14 acres of "OS-R" (Open Space Recreation Land Use). The Area Plan recognizes the importance of the Santa Ana River and its value in terms of "drainage, flood control, water conservation, and natural habitat conservation/restoration (County of Riverside 2015).

Riverside County Multiple Species Habitat Conservation Plan. The Western Riverside County MSHCP is a comprehensive, multi-jurisdictional HCP focusing on the conservation of species and their associated habitats in western Riverside County (WRCRCA 2004). The MSHCP encompasses all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line, as well as the jurisdictional areas of the fifteen cities including Riverside and Jurupa Valley. It covers 146 species and a half-million acres of habitat within a diverse landscape, from urban centers to undeveloped foothills and montane forests, all under multiple jurisdictions.

The Western Riverside County Regional Conservation Authority (RCA) acquires, administers, operates, and maintains land and facilities for ecosystem conservation and habitat reserves for rare, threatened, and endangered species listed in the MSHCP. Members of the RCA include Riverside County, all cities within the MSHCP boundaries (including Riverside), plus Riverside County Flood Control and Water Conservation District, Riverside County Parks and Open Space District, Riverside County Waste Management Department, Riverside County Transportation Commission, Caltrans, and California Department of Parks and Recreation (RCA 2016).

6.10.3 Potential Impacts

USE (a): Would the project physically divide an established community?

The project site is adjacent to the Santa Ana River, which separates the cities of Riverside and Jurupa Valley. Current roadway and pedestrian links between the two communities would not change and there would be no new physical divides brought about by the project. Therefore, there would be no impacts.

USE (b): Would the proposed project be consistent with applicable land use plans, policies, and regulations of an agency with jurisdiction over the project adopted for avoiding or mitigating an environmental effect?

In the Riverside General Plan, the site where the levee would be raised is classified as PF – Public Facilities/Institutional. The Santa Ana riverside has prominence in the Plan, with seven specific objectives related to Land Use and Urban Design as mentioned in section 6.10.2.

Objective 1. Increase the prominence of the Santa Ana River by providing better connections and increased recreational opportunities. The project, once complete, would restore the SART in this segment, allowing continued connections along the river for pedestrians and bicyclists. During construction, a signed detour route would be provided for both pedestrians and bicycles. The detour, via existing roadways and sidewalks, would take the pedestrian and bicyclists away from the river in this segment for up to three months. This would represent a temporary and less than significant impact.

Objective 2. Recognize and enhance the Santa Ana River's multiple functions: a place of natural habitat, a place for recreation and a conveyance for stormwater runoff. Work would occur on top of the existing levee and the treatment plant side of the levee so there would be no encroachment into the river or the riparian zone alongside the river.

Objective 7. Preserve and protect significant areas of native wildlife and plant habitat, including endangered species. The proposed project has been specifically designed to avoid and minimize impacts to sensitive biological resources. The current design restricts the proposed levee improvements to disturbed and developed upland areas on the RWQCP side of the existing levee structure. As such, direct impacts to sensitive resources on the Santa Ana River corridor side of the levee would be completely avoided post-construction (Tetra Tech 2016). However, during construction, there would be disturbance impacts to wildlife in the riparian area. These impacts would occur for a period of up to three months. The temporary impacts would be less than significant.

The levee would be enhanced for greater flood protection of the public facility. Once complete the SART would be restored; the levee and trail design maintains river views from the trail and would be an extension of any improvements implemented in and around the Van Buren Bridge. The bank on the north side of the river in Jurupa Valley, directly across from the project site, would remain in its natural state.

Since the project is focused on the landside of the south side of the Santa Ana River, Riverside County's Jurupa Area Plan covering the land on the north side of the Santa Ana River, is only applicable for a 116-acre parcel of riparian open space south of the river and immediately to the east of the project. The project, once complete, does not detract from the open space on the either side of the river, and would result in no impact.

USE (c): Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

The goals of the MSHCP include conserving covered species and their habitats, streamlining the regulatory process, and providing for permanent open space and recreation for western Riverside County. The proposed project involving maintenance and improvements to an existing levee on public lands would fall within the jurisdiction of the MSHCP.

The proposed project has been specifically designed to avoid and minimize impacts to sensitive biological resources. The current design restricts the proposed levee improvements to disturbed and developed upland areas on the RWQCP side of the existing levee structure. Construction would be preceded by surveys for listed bird species that may occur in the riparian zone and construction would be avoided if it would disturb nesting pairs. Lights have been designed to avoid light pollution of the riparian area and the river corridor. The proposed project complies with and follows the terms of the MSHCP, therefore impacts would be less than significant.

6.10.4 Mitigation

No mitigation is necessary for land use and planning.

6.11 MINERAL RESOURCES (MIN)

MINERAL RESOURCES (MIN)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

6.11.1 Environmental Setting

Riverside County extends approximately 180 miles east to west, from the eastern border of California to the eastern edge of Orange County, just short of the Pacific Ocean. The county spans several distinct geographic regions, including the eastern desert, the central Santa Rosa Mountains, and the inland valley of western California. As a result, there are a wide range of mineral resources in Riverside County. Historically, commercial operations within the county mined the following valuable minerals: Gold, lead, silver, zinc, arsenic, copper, iron, tin, antimony, fluorite, mica, gypsum, coal, magnesite, tungsten, feldspar, quartz, silica, wollastonite, rare earth elements (e.g., monazite and xenotine), and gemstones (e.g., tourmaline, agate, and beryl) (Riverside County 2015). In today's economy, commercial extraction focuses on minerals that can be used directly as building materials or for industrial production of those materials, such as clay, limestone, sand and gravel aggregates, specialty sands, broken and crushed stone products, and slab stone products (Riverside County 2015).

6.11.2 Regulatory Setting

Sections 2761(a) and (b) and 2790 of the Surface Mining and Reclamation Act (SMARA) provide for a mineral lands inventory process termed classification-designation. The California Division of Mines and Geology and the State Mining and Geology Board (SMGB) are the state agencies responsible for administering this process. The primary objective of the process is to provide local agencies with information on the location, need, and importance of minerals within their respective jurisdictions. It is also the intent of this process that this information be considered in future land-use decisions planning decisions. Under SMARA, local land use jurisdictions are the enforcing lead agencies for mineral resource issues, which state agencies guide and regulate city and county enforcement of SMARA.

6.11.3 Potential Impacts

MIN (a): Would the project 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?

Mineral Land Classification (MLC) studies prepared by the State Geologist, as specified by SMARA (PRC 2710 et seq) of 1975, have been prepared for Riverside County. The project area falls within the boundary of three MLC study areas. The first, conducted in 1981 classified sand and gravel resource areas within the Orange County – Temescal Valley Production-Consumption Region (CDMG 1981). The project area is along the northern border of this region, and falls within a portion of the production-

consumption region that was classified as a Mineral Resource Zone (MRZ)-3, indicating that the significance of known mineral deposits could not be determined based on available subsurface data, although valley alluvium generally contains sand and gravel (CDMG 1981, Riverside County 2015). A second MLC study classified multiple types of mineral resources within the Temescal Valley area of Riverside County (CDC 1991). This study indicated that the project area was underlain by both young and old alluvium composed of unconsolidated and poorly consolidated sand, gravel, and silt (CDC 1991). It classified the region surrounding and including the project area as a MRZ-4 (an area where there is no known occurrence of mineral resources due to insufficient geologic information) for hydrothermal deposits, clay resources, and industrial minerals, and as MRZ-3a (area containing known mineral resources of undetermined significance) for sand and gravel resources (CDC 1991). A 2014 updated MLC study for aggregate resources in the Temescal Valley area also classified the region surrounding and including the project area as MRZ-3 (CGS 2014). In all three of the MLC studies, no land in or immediately adjacent to the study area was classified as containing significant mineral resources or has been deemed available for mining by the SMGB (CDMG 1981, CDC 1991, CGS 2014). Therefore, implementation of the project would not result in a loss of known mineral resources and there would be no impact.

MIN (b): Would the project result in the loss of availability of locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

The City of Riverside general plan indicates that there are no state-classified MRZ-2 mineral resources zones containing significant mineral deposits within the project area or in the nearby vicinity (Riverside 2007). The project area does not fall within the areas covered by any of the specific or neighborhood plans (Riverside 2007). The implementation of the project would not result in a loss of available or potential mineral resource recovery activities and there would be no impact.

6.11.4 Mitigation

No mitigation is necessary for mineral resources.

6.12 NOISE

Noise	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Expose people to or generate excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) Create 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 or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

6.12.1 Environmental Setting

Noise is generally defined as unwanted or excessive sound. The City of Riverside Municipal Code Section 7.10.115, defines noise as any sound which exceeds the appropriate actual or presumed ambient noise level or which annoys or tends to disturb humans or which causes or tends to cause an adverse psychological or physiological effect on humans (City of Riverside 2016a). (Ord. 6273 § 1 (part), 1996). The City General Plan's Noise Element explains that sound is created when an object vibrates and radiates part of its energy as acoustic pressure waves through a medium such as air, water or a solid (City of Riverside 2007). The ear, the hearing mechanism of humans and most animals, receives these sound pressure waves and converts them to neurological impulses which are transmitted to the brain for interpretation. Two parameters are used to technically describe the sound environment at any instant in time: amplitude (or sound power) and frequency (or pitch). These two characteristics affect the way people respond to sound. Amplitude of a sound is a measure of the pressure or force that a sound can exert. This sound pressure is measured in the logarithmic units of decibels (dB). A "weighting" is then added to the dB to reflect that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency mid-range. This is called "A" weighting, and the decibel level so measured is called the A-weighted sound level (dBA). Although the A-weighted noise level may

adequately indicate the level of environmental noise at any instant, community noise levels vary continuously. Noise levels can be measured at a specific moment in time or over a long period of time. The descriptors for the weighted 24-hour noise level are called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level. Table 13 below shows the common noise sources for indoor and outdoor peak noise levels.

Table 13. Representative Noise Sources and Levels

Common Outdoor Activities	Noise Levels (dbA)	Common Indoor Activities
	110	Rock Band
Jet Fly-over at 1000 ft	105	
	100	
Gas Lawnmower at 3 ft	95	
	85	Food Blender at 3 ft
Diesel Truck going 50 mph at 50 ft	80	Garbage Disposal at 3 ft
Noisy Urban Area during Daytime	75	
Gas Lawnmower at 100 ft	70	Vacuum Cleaner at 10 ft
Commercial Area	65	Normal Speech at 3 ft
Heavy Traffic at 300 ft	60	
	55	Large Business Office
Quiet Urban Area during Daytime	50	Dishwasher in Next Room
Quiet Urban Area during Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime	35	
	30	Library
Quiet Rural Area during Nighttime	25	Bedroom at Night, Concert Hall (background)
	15	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing
Source: City of Riverside 2007.		

Acoustical energy at frequencies above the range of human hearing is referred to as ultrasonic, or ultrasound. Acoustical energy at frequencies below the range of human hearing is referred to as infrasonic, or infrasound and is experienced as vibration (City of Riverside 2007). Groundborne vibrations are typically produced by roadway traffic including large trucks, trains, and construction equipment. Such vibrations may cause damage to structures or adversely affect scientific equipment and may disturb residents (Caltrans 2013). The peak particle velocity (PPV), defined as the maximum instantaneous peak of the vibration signal, is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude, defined as the average of the squared amplitude of the signal, is most frequently used to describe the effect of vibration on the human body. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. The threshold of architectural damage for conventional sensitive structures is 0.2 inches/second PPV and the threshold of human annoyance to ground-borne vibration is 80 RMS (Harris, Miller, Miller & Hanson, Inc. 2006).

6.12.1.1 Existing Noise Sources

The City of Riverside General Plan 2025 Noise Element (2007a) states that transportation activity represents the principal ambient noise source in Riverside. These sources include traffic on major arterial roadways within the City, traffic on the State Route (SR)-91, SR-60 and Interstate-215 freeways, train movement on nearby railroad lines, and flight activity associated with Riverside Municipal Airport, Flabob Airport, and March Air Reserve Base/March Inland Port.

The project site is located in the City's Built Environment/Activity Center designated as "Airport Business Park" or "Airport Industrial Park" (City of Riverside 2013a). The land use and zoning of the Project site, where the RWQCP is located, is designated Public Facilities/Institutional (PF) (City of Riverside 2013a). Land use in the vicinity of the project site includes Open Space/Natural Resources (OS) directly to the north and west, where the adjacent Santa Ana River and wildlife area are located; Industrial (I) and Business/Office Park (B/OP) to the east and to the south, including the Riverside Municipal Airport, located south of Central Avenue (approximately 0.65 miles south of the Project site); Open Space/Natural Resources (OS), where Santa Ana River Wildlife Area and Hole Lake are located west, and Medium Density Residential (MDR) where Alanza Community is located also to the west (City of Riverside 2013a).

Major sources of noise in the general vicinity of the Project site include roadways, railways, and nearby airports. Roads in the area contributing to ambient noise levels include Van Buren Boulevard, which is a major Parkway ranging from four to eight lanes in the vicinity of the Project site, and Jurupa Avenue, a four-lane arterial running south of the site (City of Riverside 2007). During peak travel hours, heavy traffic on Riverside's streets causes higher noise levels compared to noise levels during non-peak hours. The City's General Plan 2025 Noise Element (2007b) lists Van Buren Boulevard as one of the most heavily traveled roadways with a CNEL ranging from 60 to 70. The Riverside Metrolink Line is located north and east of the site and a freight rail system less than a mile to the southeast.

The City of Riverside Municipal Airport is located less than 1 mile south of the project site. It operates as a reliever airport (Coffman Associates, Inc. 2009). The project site is located within Land Use Compatibility Zones C and D. Zone C is defined as "Extended Approach/ Departure": Parcels should average more than 5 acres in size with at least 20 percent open space and a density of no more than 150 persons per acre. Zone D is defined as "Primary Traffic Patterns and Runway Buffer Area": Parcels should average more than 5 acres in size with 10 percent open space provided. No noise-sensitive land uses. No more than 300 persons per acre. The current land use is compatible with the 65 CNEL of this area.

The Final Program EIR for the City of Riverside Integrated Master Plan for Wastewater Collection and Treatment Facilities (RPWD 2010) states that 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 southwestern portion of the RWQCP property is located within the airport's 60 dB CNEL noise contour and the northeastern portion of the RWQCP property, where the levee project site is located, is within the airport's 55 dB CNEL noise contour.

6.12.1.2 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 RWQCP are residences approximately 1,500 ft to the west (RPWD 2010). No schools, hospitals, or other sensitive receptors are located in the project area (City of Riverside 2009). The closest school is an elementary school located approximately 1 mile to the north in Jurupa Valley and the closest hospital is located over 2.5 miles to the south of the RWQCP.

6.12.2 Potential Impacts

NOI (a): Would the project expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

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, which can be annoying to receptors. Table 15 shows typical noise levels during different construction stages. Table 16 shows typical noise levels produced by various types of construction equipment. All construction equipment would be required to be in proper operating condition with well-maintained exhaust and intake mufflers, consistent with manufacturers' standards. Additionally, no impact tools are planned to be used.

Table 14. Typical Construction Activity Noise Levels

Construction Phase	Noise Level (dBA, Leq)
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89
Average noise levels correspond to a distance of 50 ft from the noisiest piece of equipment associated with a given phase of construction and 200 ft from the rest of the equipment associated with that phase.	
Source: USEPA 1971	

Table 15. Typical Construction Equipment Noise Levels

Construction Equipment	Noise Level (dBA, Leq at 50 ft)
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 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 can be assumed (RPWD 2010). The nearest sensitive receptors are located approximately 1,500 ft to the west. Table 16 shows that excavation can generate noise levels of 89 dBA at 50 ft. Accordingly attenuated at 1,500 ft, 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 ft and 3,000 ft 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 Boulevard, a 55-mph 4-lane road, and the train tracks (RPWD 2010).

Riverside Municipal Code Section 7.35.010(B)(5) regulates the allowable hours of construction activity to 7:00 A.M. to 7:00 P.M. on weekdays and 8:00 A.M. to 5:00 P.M. on Saturdays, with no construction activities allowed on Sundays or Federal holidays. Construction of the proposed project would only last approximately 3 months. Construction would only occur within the allowable days and hours. Construction noise levels up to 52 dBA equivalent continuous level (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 ft south of the treatment plant. In these areas, construction-generated noise may reach levels of approximately 65 dBA. However, these levels would comply with the City noise ordinance for industrial and commercial land uses (Table 14). Therefore, impacts from construction would be less than significant.

NOI (b): Would the project expose people to or generate excessive groundborne vibration or groundborne noise levels?

The proposed project would result in a significant impact if buildings would be exposed to the Federal Transit Administration (FTA) building damage groundborne vibration threshold level of 0.2 PPV or if sensitive individuals would be exposed to the FTA human annoyance response groundborne vibration threshold level of 80 RMS. As shown in Table 17, 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 ft. The nearest structure to the Project site is within the RWQCP facilities and the nearest off-site structure to the RWQCP is approximately 600 ft to the south. Heavy equipment activity on the site could result in vibration levels of approximately 0.001 PPV and 44.6 RMS or less 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. Therefore, this impact would be less than significant.

Table 16. Construction Equipment Vibration Velocities

Equipment Activity	PPV at 25 Feet (inches/second)[1]	RMS at 25 Feet (VdB)[2]
Large Bulldozer	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
[1]Buildings can be exposed to ground-borne vibration levels of 0.2 PPV without experiencing structural damage. [2]The human annoyance response level is 80 RMS. The RMS amplitude is given in units of velocity decibels (VdB)		
Source: FTA 2006		

NOI (c and d): Would the project create a substantial temporary, periodic, or permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Nearly all of the noise effects of the proposed project are construction-related, which are short-term effects. The proposed project would not result in construction of any facilities that would generate noise during operations. Therefore, there would be no permanent noise increases from construction or during operation. The levee and bike path may require periodic maintenance, which would be infrequent and short-term in nature and would not result in a permanent increase in noise levels in the project area. Therefore, no permanent impacts would occur.

Table 17 shows that excavation and finishing activities can generate noise levels of 89 dBA at 50 ft, the loudest of construction activities that would occur. Most of the project construction would occur at distances from sensitive receptors far greater than 50 ft. Construction of the proposed project would require the use of heavy equipment that would temporarily increase noise levels at the project site. Construction activity noise levels at the project site would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment and would result in short-term, periodic increases in ambient noise levels in the immediate project vicinity. Construction-generated noise may reach levels of approximately 65 dBA. However, these levels would comply with the City Noise Ordinance for industrial and commercial land uses (Table 14) and thus would not be considered substantial. Furthermore, noise impacts would be reduced by implementation of mitigation measure BIO-1, which would require noise monitoring during construction in the event that sensitive wildlife species were identified in the adjacent riparian zone. Therefore, with implementation of mitigation measure BIO-1, construction would not result in a substantial temporary or periodic increase in ambient noise levels and impacts would be less than significant.

NOI (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 expose people residing or working in the project area to excessive noise levels?

The City of Riverside Municipal Airport is located less than 1 mile south of the project site. The project site is located within the Airport Master Plan for this airport (Coffman Associates, Inc. 2009), specifically within Land Use Compatibility Zones C and D. The closest sensitive receptors include the open space and Santa Ana River Wildlife Area to the north and west, businesses to the east and to the south, and Medium Density Residential (MDR) in the Alanza Community located approximately 1 mile west, west of Van Buren Boulevard. No schools, hospitals, or other sensitive receptors are located in the project area.

Any construction noise effects would be short-term and largely confined to the RWQCP itself. Although the project site is located within an airport land use planning area, construction of the project would not substantially increase noise levels in the surrounding communities, therefore this effect would be less than significant.

NOI (f): For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

There are no private airstrips in the vicinity of the proposed project site. Therefore, there would be no impact.

6.12.3 Mitigation

Mitigation measure BIO-1 would be implemented to reduce noise impacts to less than significant. This measure is described in Section 6.4.4.

6.13 POPULATION AND HOUSING (POP)

Population and Housing (POP)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Include 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, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

6.13.1 Environmental Setting

The project area is located along the left bank of the Santa Ana River in the central portion of the city of Riverside. Directly across the river to the north is the city of Jurupa Valley. Land use in the immediate vicinity of the project is non-residential. The nearest residential area is located directly across the river and north of the project area about one third of a mile, in the neighboring city of Jurupa Valley. The nearest residential area in Riverside is located a half-mile to the southwest of the project area, across Van Buren Boulevard. Some local residents may pass through the project area along the SART, which runs along the existing levee at the northern boundary of the treatment plant.

6.13.2 Regulatory Setting

Riverside General Plan 2025. Riverside's General Plan is used to guide decisions and actions concerning housing and city growth priorities (Riverside 2007). The plan's Housing Element includes objectives, policies, and implementation programs to address the development, improvement, and conservation of housing in Riverside.

6.13.3 Potential Impacts

POP (a): Would the proposed project induce substantial population growth in an area, either directly or indirectly?

The project is not likely to affect trends in population and housing growth because the project does not affect the capacity of the treatment plant and does not remove additional land from the floodplain. However, without implementation of the project, the risk of flood damage to the plant would remain. Were the plant incapacitated during or following a flood, sewage treatment would be compromised for the City of Riverside, as well as for the communities of Edgemont, Jurupa, and Rubidoux. There would be no direct or indirect inducements for population growth and therefore no impact.

During the construction phase, daytime population at the plant may increase marginally due to the presence of contractors and crew. No additional housing or facilities are needed to accommodate construction crews, either temporarily or permanently.

POP (b): Would the proposed project displace substantial numbers of housing units necessitating the construction of replacement housing?

and,

POP (c): Would the proposed project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The project footprint is located within existing boundaries of the treatment plant, resulting in no impact.

6.13.1 Mitigation

No mitigation is needed for population and housing resources.

6.14 PUBLIC SERVICES (PUB)

Public Services (PUB)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 public services such as fire protection, police protection, schools, parks, or other services?	☐	☐	☐	☒

6.14.1 Regulatory Setting

Federal and State governments provide guidelines for construction noise in regard to worker protection. California cities and counties have noise elements in their general plans; the noise elements are planning guides to ensure that noise levels are compatible with adjacent land uses. Most jurisdictions also have noise ordinances, which serve as enforcement mechanisms for controlling noise.

The City's Noise Control Code (Title 7) attempts to minimize noise levels and mitigate the effects of noise to provide a safe and healthy living environment by establishing exterior noise standards for land use categories (City of Riverside 2016a). These standards are shown on Table 14.

Table 17. City of Riverside Exterior Noise Standards

Land Use Category	Time Period	Noise Level
Residential	Night (10 P.M. to 7 A.M.) Day (7 A.M. to 10 P.M.)	45 dBA 55 dBA
Office/commercial	Any time	65 dBA
Industrial	Any time	70 dBA
Community support	Any time	60 dBA
Public recreation facility	Any time	65 dBA
Nonurban	Any time	70 dBA
Source: City of Riverside 2016a.		

For construction activities, operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, grading or demolition work between the hours of 7:00 P.M. and 7:00 A.M. on weekdays and between 5:00 P.M. and 8:00 A.M. on Saturdays or at any time on Sunday or Federal holidays is prohibited.

The City General Plan's Noise Element provides policies and plans that work with the other elements to protect existing and planned land uses from significant noise impacts. Most importantly, the Land Use

and Urban Design Element establishes land use patterns that respond to noise conditions, particularly noise associated with industrial areas, the freeways, the many rail lines that traverse the community and Riverside Municipal Airport, Flabob Airport and March Air Reserve Base/March Inland Port (City of Riverside 2007). The Noise Element contains policies and programs to achieve and maintain noise levels compatible with various types of land uses. The element addresses noise which affects the community at large, rather than noise associated with site-specific conditions. However, the programs in this element do address effective strategies to reduce and limit community exposure to loud noise sources. The following policies are relevant to the proposed project:

- Policy LU-22.5: Review all proposed projects within the airport influence areas of Riverside Municipal Airport, Flabob Airport, or March Air Reserve Base/Inland Port Airport for consistency with all applicable airport land use compatibility plan policies adopted by the Riverside County ALUC and the City of Riverside, to the fullest extent the City finds feasible.
- Policy LU-22.9: All development proposals within an airport influence area and subject to ALUC review will also be submitted to the manager of the affected airport for comment.
- 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–2.1: Ensure that new development can be made compatible with the noise environment by using noise/land use compatibility standards and the airport noise contour maps (found in the Riverside County Airport Land Use Compatibility Plans) as guides to future planning and development decisions.

According to the General Plan, the project site is located within the Riverside Municipal Airport Land Use Compatibility Zone and Influence Area. Therefore, the project would be subject to the policies and requirements of the Riverside County Airport Land Use Compatibility Plan adopted by the Riverside County ALUC in 2004 and the policies specific to the Riverside Municipal Airport, which were adopted in 2005 (Mead & Hunt, Inc. and Coffman Associates, Inc. 2004, 2005).

6.14.2 Environmental Setting

The City of Riverside has jurisdiction over the RWQCP and there are many public services in the area, listed in Table 18 below. Police services are provided by the Riverside Police Department. The City of Riverside Fire Station provides emergency fire services to the area. Both facilities are located 5.7 miles from the RWQCP, a 13 minute drive. The Riverside County Sheriff headquarters are located in the Jurupa Valley, and operate three dispatch facilities throughout the county. The RWQCP is located in the West section of the County. Emergency dispatch is provided through dialing 911. A non-emergency phone number is also provided. The Riverside Community Hospital provides 24-hour emergency services and is located 4.9 miles or a 10 minute drive from the project area. Emergency ambulance services are provided by several businesses within 6 miles of the project area, including American Medical Response, Ace Medical Transportation and Radiant Medtrans, which are employed as most efficient by 911 dispatch.

Other non-emergency public services in the area include libraries, schools, and community centers. The nearest library branch is located approximately 4 miles from the project area. Several elementary, middle, and high schools surround the project area, though none are within one mile. The Arlington Regional Learning Center is south of the Riverside Municipal Airport, both about two miles or six minutes away from the RWQCP.

Table 18. Public Services

Service	Location	Phone Number
Sheriff-Coroner	Administration 4095 Lemon Street Riverside, CA 92501	General Information: 951-955-2400 Non-Emergency Services: 951-766-1099 Emergency: 911
Police Department	4102 Orange Street Riverside, CA 92501	General Information: 951-826-5700 Non-Emergency Services: 951-354-2007 Emergency: 911
Fire Department	Administration 3401 University Avenue Riverside, CA 92501	General Information: 951-826-5321 Emergency: 911
	Fire Station 3 Magnolia Center 6935 Riverside Avenue Riverside, CA 92501	General Information: 951-826-5321 Emergency: 911
Emergency Medical	Riverside Community Hospital 4445 Magnolia Avenue Riverside, CA 92501	General Information: 951-788-3000 Emergency: 911
Library	Main Library 3581 Mission Inn Avenue Riverside, CA 92501	General Information: 951-826-5201
	Marcy Library 6927 Magnolia Avenue Riverside, CA 92501	General Information: 951-826-2078
City Hall	3900 Main Street Riverside, CA 92501	General Information: 951-826-5311

6.14.3 Regulatory Setting

City of Riverside General Plan policies that apply to public services provide for continued access and availability of police, fire, and medical response teams to all areas of the City. In particular, the following policies apply:

- Policy PS-6.2: Endeavor to meet/maintain a response time of five minutes for Riverside's urbanized areas.

- Policy PS-7.5: Endeavor to provide minimum response times of seven minutes on all priority 1 calls and twelve minutes on all Priority 2 calls.

6.14.4 Potential Impacts

PUB (a): Would the project result in 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 public services such as fire protection, police protection, schools, parks, or other services?

The proposed project is intended to provide increased flood protection to the RWQCP. Hydrologic modeling indicates that the existing levee does not provide adequate 100-year protection, as required by the plants' NPDES permit. Raising the levee using fill and installing a floodwall would ensure that floods up to the 100-year event level would not overtop the levees and enter the RWQCP or the City of Riverside. Modeling also shows that no downstream effects would result to flooding (Appendix 2). As a result of these levee modifications, the need for emergency flood response services would be reduced and beneficial effects would be provided.

The proposed project would not change the need for public services because it will not increase population in the area substantially, or create hazards requiring an on-going public service response. Therefore, no changes to public service availability would be needed as a result of the project. There is a potential for construction-related accidents to require public emergency service personnel. However, construction activities are considered to be almost continually ongoing throughout the City of Riverside, and construction within the RWQCP would not increase the overall potential for construction related injuries over the usual levels. Therefore, need for emergency medical services would not be increased. Finally, per the General Plan policies, there would be no increase in traffic on roadways which might impede fire or police response times and there would be no impact.

6.14.5 Mitigation

No mitigation is needed to protect public services.

6.15 RECREATION (REC)

Recreation (REC)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

6.15.1 Environmental Setting

The project area is located within the City of Riverside along the Santa Ana River. The river corridor adjacent to the project area is part of the Santa Ana River Wildlife Area, which is accessed by the SART. The trail runs along the left bank of the river throughout most of Riverside, connecting developed park facilities (Riverside 2013b). Near the project site, most trail users are passing through the area. The nearest recreational facility to the project area is Rutland Park, which is downstream of the project area, across Van Buren Boulevard, about 0.5 mile away. Upstream of the project area, the nearest facility is the Martha Mclean/Anza Narrows Park, about 1.5 miles away. The Santa Ana River Wildlife Area and trail provide opportunities for nature viewing, walking, hiking, and biking along the river.

Because the SART is located atop the levee in the project area, construction of the proposed project would affect the trail. The affected portion of the trail would be temporarily closed for three months, and a detour would be provided for trail users. This detour would likely utilize Acorn Street, Jurupa Avenue, and Van Buren Boulevard. The trail would be reconstructed atop the new levee and would not otherwise be substantially altered. The transition between the existing trail and the reconstructed segment may require minor regrading due to the higher elevation of the modified levee segment.

6.15.2 Regulatory Setting

Riverside Park System Master Plan. The Park System Master Plan evaluates the City's park and recreation facilities and identified future needs and opportunities, and makes recommendations to the trails system as it pertains to park, recreation, and open space connections (City of Riverside 2003). These recommendations informed the development of the Recreation Element of the General Plan.

Riverside General Plan 2025. The plan's Parks and Recreation Element (Riverside 2007) includes objectives and policies which focus on defining appropriate use and enhancement of existing facilities, as well as potential new facilities, in order to meet the needs of the community.

6.15.3 Potential Impacts

REC (a): Would the proposed project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The proposed project does not substantially alter the function or capacity of the SART. Construction of the project would require a temporary closure of a short section of the trail, but would not result in substantial use of another bike route, such that deterioration of the facility would occur. The project would result in the permanent elevation of a portion of the trail, but it would not alter the capacity of the trail and would not deteriorate its quality. There would be no impact.

REC (b): Would the proposed project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The proposed project would include the reconstruction of a portion of the SART, located at the top of the levee to be rehabilitated and elevated. The modified levee would have a higher top elevation, and as such, the reconstructed trail would be at a higher elevation in this area. However, the trail would be reconstructed in-kind, and would not be expanded. There would be no impact to the environment because no new construction or expansion of recreational facilities would occur.

6.15.4 Mitigation

No mitigation is needed to protect recreational resources.

6.16 TRANSPORTATION AND CIRCULATION (TRA)

Transportation and Circulation (TRA)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels, obstructions to flight, or a change in location, that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

6.16.1 Environmental Setting

The project area can be accessed by vehicle from Acorn Street. Acorn Street is a local street that connects to the arterial Jurupa Avenue. Jurupa Avenue connects to Van Buren Boulevard, a principal arterial, 0.4 mile west of Acorn Street. City of Riverside 24-hour traffic counts for intersections near the project area are provided in Table 19.

Because it is an important regional transportation link, Van Buren Boulevard is an identified street segment in Riverside County's Congestion Management Program (CMP). According to the CMP, the level of service (LOS), a calculation of traffic volume versus roadway capacity, of Van Buren Boulevard is LOS C north of Jurupa Avenue and LOS E south of Jurupa Avenue (Riverside County Transportation Commission 2011). Jurupa Avenue and Acorn Street are not CMP streets and operate at LOS C or better (City of Riverside 2016b, 2016c).

Van Buren Boulevard is the primary route for oversize trucks in the city of Riverside. The portion of Jurupa Avenue from Van Buren Boulevard to Acorn Street is an alternate oversize truck route (City of Riverside 2016d).

Table 19: Traffic counts for key project area intersections.

Street	Cross-street	24-hour traffic count
Acorn Street	Jurupa Avenue	2,340
Jurupa Avenue	Acorn Street	11,752
Jurupa Avenue	Wilderness Avenue	14,256
Van Buren Boulevard	Jurupa Avenue	56,479
Source: City of Riverside 2016b		

Other modes of transportation available near the project site include the 21 bus line, which runs along Van Buren Boulevard with a stop at Jurupa Avenue, and bikeways. Both Jurupa Avenue and Van Buren Boulevard are Class II bikeways, meaning they provide a restricted right-of-way on a roadway's shoulder designated for the exclusive or semi-exclusive use of bicycles. The SART, a popular biking and walking trail, runs along the top of the levee through the project area. The SART is a Class I bikeway, meaning it provides a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians.

6.16.2 Regulatory Setting

The U.S. Department of Transportation (DOT) is the primary federal department concerned with transportation regulation. The DOT is composed of multiple agencies with regulatory responsibilities for different types of transportation such as the Federal Highway Administration (FHA) (federal highways and roads), FTA (public transit assistance), and Federal Motor Carrier Safety Administration (buses and motor carriers). Federal transportation regulations are primarily found in Code of Federal Regulations 23 and 49.

Caltrans is the primary agency responsible for implementing regulations on the state's highways and freeways. State regulations are primarily found in California's Streets and Highways Code and Vehicle Code, and regulate many aspects of transportation such as truck operation and truck routes. Caltrans recently released the *California Transportation Plan 2040*, a new long-range plan that provides a policy framework to address the state's multi-modal transportation needs (Caltrans 2016).

The *Regional Transportation Plan/Sustainable Communities Strategy 2012-2035*, prepared by the Southern California Association of Governments (SCAG), is required by federal transportation law and is an important transportation planning document for the six county region of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura counties. The plan includes over 4,000 multi-modal transportation projects that would help reduce traffic congestion and expand transportation options.

Every county in California is required to develop a CMP that looks at the links between land use, transportation, and air quality and meets meet federal Congestion Management System guidelines as well as state CMP legislation. The SCAG is required by federal planning regulations to determine that county CMPs within its region are consistent with the *Regional Transportation Plan/Sustainable Communities Strategy 2012-203*5. The Riverside County Transportation Commission is the county's Congestion Management Agency and the prepared Riverside County's CMP, the *2011 Riverside County CMP*. The CMP identifies those street segments that are important regional transportation links. The County's adopted minimum LOS for these street segments is E. When a CMP street or highway segment falls to LOS F, a deficiency plan must be prepared.

The Circulation Element of Riverside County's General Plan provides a policy framework for the future of the county's multi-modal transportation system. Sections relevant to the proposed project include Section 16, which discussed multipurpose trails, Section 17, which discusses bikeways, and Section 18, which discusses the maintenance and management of multipurpose trails.

The City of Riverside has two relevant plans, the *General Plan 2025* (2007) and the *Bicycle Master Plan* (2007). The general plan provides a blueprint for the city to achieve its vision for the future, which includes objectives and policies for a well-functioning multi-modal transportation system. Relevant policies within the plan are Policies CCM-2.3 and CCM-2.4, which state that the city strives to maintain LOS D on arterial streets and minimize the occurrence of streets operating at LOS F; LOS E is acceptable at key intersections on a case-by-case basis.

The *Bicycle Master Plan* provides a blueprint for bicycle transportation and recreation in the city including existing conditions, recommended improvements, and goals, objectives, and policies for bicycling. The plan includes an appendix with specific recommendations to maintain bicycle traffic flow to minimize inconveniences to riders in construction zones.

City of Riverside traffic management regulations include Chapter 10.56, which, among other provisions, prohibits heavy commercial vehicles from using certain streets.

6.16.3 Potential Impacts

TRA (a): Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and nonmotorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

and,

TRA (b): Would the project conflict with an applicable congestion management program, including LOS standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?

The proposed project would not change any existing roadways or cause a long-term increase in traffic on area roadways. During construction, there would be some additional traffic on area roadways, primarily due to trucks transporting concrete and other construction materials to and from the project area and from commute trips by construction workers. Construction would not require roadway traffic modifications such as detours, lane closures, or flagging; however, the SART biking and walking trail would be rerouted during construction.

Vehicle Travel. Most construction vehicle movements would be internal to the project area. The project proponent has 22,000 cy of soil stockpiled at the RWQCP. Therefore, trips to bring soil from the stockpile to the project site would be internal to the RWQCP and would not use or impact the public road network.

Approximately 270 truck trips would occur during the 3-month construction period. The number of truck trips per day would peak near the middle of the construction period for approximately 20 days. During this peak truck trip period, up to 25 truck trips would occur per day. These trucks would be delivering concrete for the retaining wall, delivering other materials, or exporting excavated materials. Trucks would use the City of Riverside's established truck routes, which in the project area include Jurupa Avenue from Acorn Street to Van Buren Boulevard and Van Buren Boulevard. Trucks would not need to travel on any

roads where truck travel is prohibited per Riverside Municipal Code Chapter 10.56. To the extent possible, truck trips would be timed to avoid morning and evening peak travel times.

An estimated 20 workers would access the construction area on any given day, and assuming each of them drove alone, this would add up to 20 vehicles on area roads each morning and evening. Most workers would be expected to access the site via Van Buren Boulevard to Jurupa Avenue eastbound, although some trips may access the site via Jurupa Avenue westbound. Although the 21 bus line stops at the intersection of Van Buren Boulevard and Jurupa Avenue less than 1 mile from the project area, this analysis assumes no workers would use public transit.

Assuming a worst-case scenario where all of the workers drove alone and all of the truck trips occurred during peak travel hours, the project would add up to 25 truck trips and 20 private vehicle trips to area roads during peak travel hours. The LOS of Van Buren Boulevard north of Jurupa Avenue, which is currently operating at LOS E, would not be expected to degrade to LOS F. The other streets in the project area are operating at LOS C or above, and LOS would not degrade to a lower LOS. Therefore, the short-term impact on performance of the circulation system would be less than significant and there would be no long-term impact.

Bicycling and Walking. The SART, a popular biking and walking trail, runs along the top of the levee through the project area. This portion of the SART would be closed for the duration of construction and a detour route would be provided. In accordance with guidance provided in Appendix C of the *City of Riverside Bicycle Master Plan* (Alta Planning + Design 2007), fences would be placed across the closed section of the SART and the detour route would be clearly signed. The detour would route users along Jurupa Avenue for less than 1 mile and would rejoin the SART at the intersection of Jurupa Avenue and Van Buren Boulevard. The City would restripe the portion of Jurupa Avenue that would be part of the detour route as a Class II bikeway prior to project construction to promote safe and efficient biking along the detour route. This portion of Jurupa Avenue already has sidewalks for pedestrian access. Because an appropriately-marked detour route would be provided for bicyclists and pedestrians, impacts from the temporary closure of this section of the SART would be less than significant.

After the levee raise and floodwall were constructed, the SART would be reconstructed atop the levee as a 4-inch thick, 10-foot wide, striped asphalt trail. Since the levee embankment would be raised by approximately 6 ft, the profile of the SART at the upstream end of the levee improvements would be regraded to join the existing trail just before the high pressure gas line crossing. Therefore, there would be no long-term impact on the SART.

Conclusions. The project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system [TRA (a)]. As described above, there would be no long-term impacts on any mode of transportation. There would be short-term less than significant impacts from adding a small number of trucks and passenger cars to area roads; however, this additional traffic would not degrade LOS and trucks would follow established truck routes. There would be short-term, less than significant impacts from rerouting the SART around the construction area; however, an appropriately-marked detour route would be provided for bicyclists and pedestrians and a Class II bikeway would be provided on Jurupa Avenue to facilitate bicycling.

The project would not conflict with the Riverside County CMP [TRA (b)]. As described above, construction traffic on Van Buren Boulevard, the only affected CMP street segment, would be minimal and LOS would not degrade during construction. There would be no effect on CMP travel demand measures or other CMP standards. There would be no long-term impacts on Van Buren Boulevard or any other street or mode of transportation.

TRA (c): Would the project result in a change in air traffic patterns, including either an increase in traffic levels, obstructions to flight, or a change in location, that results in substantial safety risks?

The proposed project is 0.7 mile north-northwest of the Riverside Municipal Airport. The project is not in the flight path of either of the airport's runways. The project would not cause a change in air traffic levels, introduce flight obstructions, or have any other effects that would impact air safety. Therefore, there would be no impacts.

TRA (d): Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?

There would be no changes in roadways as a result of the project. Construction traffic would follow designated truck routes to minimize potential safety hazards on area roadways. The SART would be reconstructed atop the raised levee as described in TRA (a) and TRA (b). Since the levee embankment would be raised by approximately 6 ft, the profile of the SART at the upstream end of the levee improvements would be regraded to join the existing trail just before the high pressure gas line crossing. This modification to the SART design would not introduce hazards such as sharp curves or dangerous intersections. Therefore, there would be no impacts.

TRA (e): Would the project result in inadequate emergency access?

No roadways or evacuation routes would be affected during project construction or operations aside from minor and short-term increases in traffic associated with construction. Therefore, there would be no impairment of emergency access and no impacts would occur.

TRA (f): Would the project conflict with adopted policies, plans, or programs regarding public transit or bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

As described under TRA (a) and TRA (b), the SART biking and walking trail would temporarily be rerouted around the project during project construction. The SART would be reconstructed with a minor profile change and would reopen when construction was complete, so there would be no long-term impact. The project would have no short- or long-term impact on public transit such as buses or light rail.

The *Regional Transportation Plan/Sustainable Communities Strategy 2012-2035, 2011*, *Riverside County CMP*, *Riverside County General Plan*, *City of Riverside General Plan 2025*, and *City of Riverside Bicycle Master Plan* contain multi-modal transportation policies applicable in the project area. Most of the policies in these documents address long-term changes to or objectives for the multi-modal circulation system. The proposed project would have no long-term effects on public transit, or bicycle or pedestrian facilities and would not conflict with the policies in these documents.

Policy 3.1 of the *City of Riverside Bicycle Master Plan* is to "minimize disruption to bicycle facilities during capital improvement and private development construction as well as maintenance activities to facilitate bicyclist safety at all times, and provide alternate routes if required." The proposed project would comply with this policy by providing a signed detour route for the SART during construction. Appendix C of the *City of Riverside Bicycle Master Plan* provides planning level guidance for the accommodation of bicycles in construction zones. The proposed project would employ applicable measures in this guidance, such as signage standards, to promote safe and efficient bicycling along the SART detour route. Impacts would be less than significant.

6.16.4 Mitigation

No mitigation is necessary for protecting transportation and circulation.

6.17 UTILITIES AND SERVICE SYSTEMS (UTL)

Utilities and Service Systems (UTL)	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Exceed 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) Have sufficient water supply available to serve the project from existing entitlements and resources, or 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 inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

6.17.1 Environmental Setting

Utilities in the project area or which could be affected by the proposed project include landfills, water supply, wastewater collection facilities, electrical lines, telephone lines, the levee itself, natural gas conveyance structures, stormwater drains, and the SART.

A 6-inch water supply line, operated by The Toro Company, is built into the existing levee. The water supply line provides reclaimed water from the RWQCB to irrigation users upstream of the RWQCP. Overhead electrical lines operated by Riverside Public Utility are found in the area and provide energy to the RWQCP. These lines do not directly intersect the project area and would not be affected by the proposed project. Natural gas is provided to the area through a high-pressure, 20-inch gas main located east of the construction. The gas main is buried, except where it is suspended over the Santa Ana River. Overhead telephone lines are found in the area, but are not found in areas that would be affected by the project.

6.17.2 Regulatory Setting

California Integrated Waste Management Act of 1989. The California Integrated Waste Management Act of 1989 (PRC, Division 30), enacted through AB 939 and modified by subsequent legislation, requires all California cities and counties to implement programs to reduce, recycle, and compost at least 50 percent of wastes by the year 2000 (PRC §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. The actual determination of the diversion rate in subsequent years is arrived at through deduction, not direct measurement; rather than counting the amount of material recycled and composted, the County tracks the amount of material disposed of at landfills, and then subtracts the disposed amount from the base-year amount (PRC §41780.2).

Title 8, Section 1541 of the California Code of Regulations. This requires excavators to determine the approximate locations of subsurface installations such as sewer, telephone, fuel, electric, and water lines (or any other subsurface installations that may reasonably be encountered during excavation work) prior to excavation.

California Government Code §4216 et seq. This law requires owners and operators of underground utilities to become members of and participate in a regional notification center. Underground Service Alert (USA) Southern California covers Southern California, including Riverside County. USA South receives planned excavation reports from public and private excavators, and transmits that information to all participating members who may have underground facilities at the location of excavation. The USA South members mark or stake their facility, provide information, or give clearance to dig.

City of Riverside General Plan 2025. The Public Facility Element and Open Space Element of the City's General Plan include the following policy that is related to the proposed project (City of Riverside General Plan 2025, adopted November 2007):

- Policy PF-5.1: Develop innovative methods and strategies to reduce the amount of waste materials entering landfills. The City should aim to achieve 100percent recycling citywide for both residential and non-residential development.

6.17.3 Potential Impacts

UTL (a): Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The proposed project would not result in the generation of wastewater during construction or operations, other than minor amounts related to use of portable toilets by constructions crews, or occasional rinsing of construction surfaces. Any runoff water would be contained by implementation of measures that would be specified in the project-specific SWPPP. These impacts would be less than significant.

UTL (b): Would the project 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?

The proposed project would result in enhanced wastewater treatment facilities by providing additional flood protection compared to current conditions. The footprint of the RWQCP would not be expanded as a result of this project, and the project would not result in significant impacts.

UTL (e): Would the project result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Minimal amounts of wastewater would be generated during construction through use of portable toilets by construction workers. This wastewater would be taken to an appropriate wastewater processing facility. The amounts generated would be well within the operational capacity of this facility.

Operations of the proposed project would not generate wastewater and its projected demand is equal to its current demand, therefore there would be no impacts associated with wastewater treatment requirements and there would be no need for new or expanded wastewater treatment facilities.

UTL (c): Would the project 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?

A minimal amount of impervious surface would be constructed as a concrete slope on the river side of the levee. Runoff from this, which would cover approximately 0.25 acre above the ordinary high water mark, would run into the Santa Ana River and be carried downriver. The amount of runoff from this surface would be minimal and is not expected to increase flood flows or require new measures to contain stormwater runoff. Interior storm drains and stormwater collection features would not be altered as a result of the project. There would be no other features that would affect storm water drainage and there would be no impact.

UTL (d): Would the project have sufficient water supply available to serve the project from existing entitlements and resources, and would not require new or expanded water supply resources or entitlements?

Neither construction nor operation of the proposed project would be water-consumptive, and would not require new or expanded water supplies or entitlements so there would be no impact.

UTL (f): Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Site clearing would include the removal of soil, asphalt, metal fencing material, and concrete. Construction would include excavation of up to 10,000 cy of materials, including soils that would be stockpiled on site and reused to raise the levee. Approximately 950 cy of asphalt, concrete, and metal would be sent to one or more area landfills or to recycling plants. The construction contractor would be required to comply with solid waste reduction and recycling of solid waste during construction to achieve the 50 percent landfill diversion rate required by AB 939. Both El Sobrante landfill and Lamb Canyon landfill have ample capacity to accept this amount of material, so disposal would result in less than significant impacts to area landfill capacity.

UTL (g): Would the project comply with federal, state, and local statutes and regulations related to solid waste?

The small amount of solid waste generated during construction would be disposed of in accordance with all statutes and regulations related to solid waste. Most excavated materials would be reused as part of the project, and concrete, asphalt, and metal would be sent to a recycling facility to the degree feasible. Therefore, impacts associated with this criterion would be less than significant.

6.17.4 Mitigation

No mitigation is recommended.

This page left blank intentionally

7 MANDATORY FINDINGS OF SIGNIFICANCE (MFS)

MFS (a): Does the project 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?

The proposed project would not degrade the quality of the environment. While the project could have significant impacts on biological resources, cultural resources, hydrology and water quality, and hazards and hazardous materials, the Riverside PWD would implement the mitigation measures identified in this Initial Study to reduce all potentially significant project-related impacts to a less than significant level. Therefore, the project's impacts would be less than significant, with mitigation.

MFS (b): Does the project have impacts that are 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)?

The project's impacts would not be cumulatively considerable. Construction impacts would be temporary and mitigable, and operations impacts would be either beneficial or less than significant; therefore, any potential cumulative impacts would be less than significant. No other projects are currently proposed in the vicinity of the project that, when combined with the effects of the proposal, would result in significant impacts. The project would have beneficial impacts by reducing the risk of flooding of the RWQCP, and ensuring its ability to fulfill its purpose of providing wastewater treatment. Additionally, with incorporation of mitigation measures, any adverse impacts from the project would be less than significant.

MFS (c): Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

As identified and described in this Initial Study, the project would have potentially-significant impacts on biological resources, cultural resources, hydrology and water quality, and hazards and hazardous materials that would be mitigated from potentially significant to less than significant. The project would have less than significant impacts on aesthetics, GHGs, geology and soils, recreation, air quality, mineral resources, noise, population and housing, transportation and circulation, utilities and service systems, and public services. The project would have no impact on population and housing, agriculture and forest resources, land use and planning, and mineral and energy resources. As a result, the proposed project would have no environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

This page left blank intentionally

8 REFERENCES

Alta Planning + Design. 2007. City of Riverside Bicycle Master Plan. Berkeley, CA.

AQMD. 2016. Historical Data by Year. Available at http://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year. Accessed December 30, 2016.

California Division of Mines and Geology (CDMG). 1981. Special Report 143, Mineral Land Classification of the Greater Los Angeles Area, Part III Classification of Sand and Gravel Resource Areas, Orange County-Temescal Valley Production-Consumption Region. Available at ftp://ftp.conservation.ca.gov/pub/dmg/pubs/sr/SR_143/PartIII/SR_143_partIII_Text.pdf. Accessed on November 16, 2016.

California Department of Conservation (CDC). 1991. Division of Mines and Geology Special Report 165, Mineral Land Classification of the Temescal Valley Area, Riverside County, California. Available at ftp://ftp.conservation.ca.gov/pub/dmg/pubs/sr/SR_165/SR_165_Text.pdf. Accessed on November 16, 2016.

_____. 2007. California Geological Survey Special Publication 42. Interim Revision 2007. Fault-Rupture Hazard Zones in California. Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps. Available at ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sp/Sp42.pdf. Accessed on January 1, 2017.

_____. 2010. Geologic Map of California. Department of Conservation. Available at quake.ca.gov/ gmaps/GMC/stategeologicmap.html. Accessed on December 22, 2016.

_____. 2016. Alquist-Priolo Fault Zone and Seismic Hazard Zone Maps. Online Viewer. Available at http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps. Accessed on January 3, 2017.

California Department of Fish and Wildlife (CDFW). 2016. California Natural Diversity Database. Query December 12, 2016.

California Department of Transportation (Caltrans). 2009. Scenic Highway System Lists. Available at http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html. Accessed January 2017.

_____. 2011. California Airport Land Use Planning Handbook. Division of Aeronautics. October. Available at http://dot.ca.gov/hq/planning/aeronaut/ documents/alucp/AirportLandUse PlanningHandbook.pdf. Accessed December 2016.

_____. 2013. Transportation and Construction Vibration Guidance Manual. September. Sacramento, CA. Available at http://www.dot.ca.gov/hq/env/noise/pub/tcvgm_sep13_verb.pdf.

_____. 2016. California Transportation Plan 2040. Available at http://www.dot.ca.gov/hq/tpp/ californiatransportationplan2040/index.shtml. Accessed December 2016.

California Division of Mines and Geology (CDMG). 1981. Special Report 143, Mineral Land Classification of the Greater Los Angeles Area, Part III Classification of Sand and Gravel Resource Areas, Orange County-Temescal Valley Production-Consumption Region. Available at ftp://ftp.conservation.ca.gov/pub/dmg/pubs/sr/SR_143/PartIII/SR_143_partIII_Text.pdf. Accessed on November 16, 2016.

California Geological Survey (CGS). 2008. Earthquake Shaking Potential for California. Available at http://www.conservation.ca.gov/cgs/information/publications/ms/documents/ms48_revised.pdf . Accessed on January 3, 2017.

_____. 2014. Special Report 231, update of Mineral Land Classification for Portland Cement Concrete-Grade Aggregate in the Temescal Valley Production Area, Riverside County, California. Available at ftp://ftp.conservation.ca.gov/pub/dmg/pubs/sr/SR_231/Temescal_Valley_Rpt %20Final_11-04-14-a.pdf. Accessed on November 16, 2016.

California State Mining and Geology Board (SMGB). 2014. State Mining and Geology Board Annual Report 2013-2014. Department of Conservation Natural Resources Agency. Available at http://www.conservation.ca.gov/smgb/reports/Annual%20Reports/Documents/SMGB_AR_13-14.pdf. Accessed on January 3, 2017.

C.H.J. Incorporated (CHJ). 2011. Geotechnical Investigation, Proposed Riverside Regional Water Quality Control Plant Levee, Van Buren Boulevard, Riverside County, California, Project No. 11708-3.

City of Jurupa Valley. 2011. General Plan Land Use Map. Available at http://jurupavalley.org/ Departments/City-Documents-and-Forms?folderId=537. Accessed December 2016.

City of Riverside. 2003. City of Riverside Park and Recreation Master Plan Update, Park System Master Plan. Available online at http://www.riversideca.gov/park_rec/plans.asp.

_____. 2007. City of Riverside General Plan 2025. Adopted November 2007, updated 2012. Available at http://www.riversideca.gov/planning/gp2025program/general-plan.asp. Accessed December 2017.

_____. 2009. Environmental Mitigation Monitoring and Reporting Program for the City of Riverside 2025 General Plan, Zoning Code Revision, Subdivision Code Revision, Noise Code Amendment, Citywide Design and Sign Guidelines, and Magnolia Avenue Specific Plan Adopted by the City of Riverside November 20, 2007 Resolution No. 21535 Addendum – February 24, 2009 Resolution No. 21790. Available at http://www.riversideca.gov/planning/2008-0909/FPEIR/Volume_1/Chapter_5_MMRP.pdf.

_____. 2013a. City of Riverside Zoning Map. Available at http://www.riversideca.gov/planning /pdf/maps/zoning.pdf. Map generated on December 16, 2013.

_____. 2013b. Map – Sana Ana River Trail and Parkway. Available at https://riversideca.gov/public works/traffic/bicycleprogram/pdf/santa-ana-river-trail-map.pdf. Accessed December 2016.

_____. 2016a. Riverside Municipal Code, Riverside, California. Available at https://www.riversideca. gov/municode/. Accessed December 2016.

_____. 2016b. 24 Hour Volume Counts. http://riversideca.gov/traffic/. Accessed December 21.

_____. 2016c. Traffic Impact Analysis Preparation Guide. Public Works Department. Riverside, CA.

_____. 2016d. Oversized Truck Routes. Public Works Department. Available at http://www.riversideca. gov/publicworks/pdf/OversizedTruckRoutesSmall.pdf. Accessed December 21, 2016.

City of Riverside Public Works Department (RPWD). 2010. City of Riverside Integrated Master Plan for Wastewater Collection and Treatment Facilities Final Program Environmental Impact Report. State Clearinghouse No. 2009041054. Prepared by ESA Consultants. Available at http://www.riversideca.gov/ pworks/pdf/masterplan-wastewater/FEIR_Riverside_IMP_101012. pdf. Accessed December 2016.

_____. 2016. Riverside Regional Water Quality Control Plant Levee Rehabilitation, Riverside, California. 100% Design Report. Prepared by Tetra Tech, March 2016.

Clarke, O.F. 2007. Flora of the Santa Ana River and Environs. Heydey Books, Berkeley, California.

Coffman Associates, Inc. 2009. Airport Master Plan for Riverside Airport, Riverside, California. Final January 2010. Available at https://www.riversideca.gov/airport/pdf/2011-RiversideAirportMaster Plan.pdf. Accessed December 2016.

County of Riverside. 2015. Jurupa Area Plan. Available at http://planning.rctlma.org/Portals/0/genplan/general_plan_2016/ area_plans/JURAP_120815m.pdf?ver=2016-04-01-100953-960. Accessed December 2016.

Environmental Data Resources, Inc (EDR). 2016. Radius Report with GeoCheck. Riverside WQCP, Inquiry Number 4808710.2s. Shelton, CT.

Harris, Miller, Miller & Hanson Inc. 2006. Transit and Vibration Impact Assessment. Final Report FTA-VA-90-1003-06. Prepared for the U.S. Federal Transit Administration (FTA), Office of Planning and Environment. May. Available at https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf. Accessed December 2016.

Mead & Hunt, Inc. and Coffman Associates, Inc. 2004. Riverside County Airport Land Use Compatibility Plan Policy Document. Adopted by Riverside County Airport Land Use Commission October 14, 2004. Available at http://www.rcaluc.org/Plans/New-Compatibility-Plan.

_____. 2005. Riverside County Airport Land Use Compatibility Plan, Individual Airport Policies and Compatibility Maps, File 20-Riverside Municipal Airport. Adopted March 2005. Available at http://www.rcaluc.org/Plans/New-Compatibility-Plan.

Natural Resources Conservation Service (NRCS). 2014. SSURGO database. ESRI SSURGO Downloader. Available at http://landscapeteam.maps.arcgis.com/apps/SimpleViewer/index.html?appid=4dbfecc52f1442eeb368c435251591ec. Accessed on December 22, 2016.

Riverside County Transportation Commission. 2011. 2011 Riverside County Congestion Management Program. Riverside, CA.

Riverside County. 2015. Draft Environmental Impact Report No. 521, Volume 1 Part 1, Section 04-14 Mineral Resources. Available at http://planning.rctlma.org/Portals/0/genplan/general_plan_2015/DEIR%20521/04-14_MineralResources.pdf. Accessed on November 16, 2016.

Saiki, M.K. 2000. Water quality and other environmental variables associated with variations in populations densities of the Santa Ana sucker. Unpublished report to SAWPA from USGS/BRD, Western Fisheries Research Center. 117p.

Santa Ana Regional Water Quality Control Board (SARWQCB). 2008. Santa Ana Region Basin Plan Available at http://waterboards.ca.gov/santaana/water_issues/programs/basin_plan/. Accessed on November 16, 2016.

Santa Ana River Task Force. 2006. Santa Ana River Vision Plan. Available at http://www.ci.santa-ana.ca.us/parks/documents/AcknowledgementsandTableofContents.pdf. Accessed December 2016.

South Coast Air Quality Management District (SCAQMD). 2006. Localized Significance Thresholds. Available at http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed December 2016.

_____. 2012. Air Quality Management Plan. Available at www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan. Accessed December 2016.

_____. 2015. SCAQMD Air Quality Significance Thresholds. Available at http://www.aqmd.gov/docs/ default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. Accessed December 2016

_____. 2016. Air Quality Management Plan. Available at www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan. Accessed December 2016.

State Water Resources Control Board (SWRCB). 2016a. State Water Resources Control Board, Porter-Cologne Water Quality Control Act. Available at http://www.waterboards.ca.gov/laws_ regulations/docs/portercologne.pdf. Accessed on January 3, 2017.

_____. 2016b. Impaired Water Bodies. 2010 Integrated Report (Clean Water Act Section 303(d) List/ 305(b) Report) – Statewide. Available at http://www. waterboards.ca.gov/water_issues/ programs/tmdl/integrated2010.shtml. Accessed on January 5, 2017.

_____. 2016. Geotechnical Engineering Report Levee and Floodwall Evaluation Riverside Water Quality Control Plant City of Riverside, California. Prepared for the City of Riverside Water Quality Control Plant, Riverside, California.

Tetra Tech. 2016. 100 Percent Design Report for the City of Riverside Regional Water Quality Control Plant Levee Rehabilitation Project. Prepared for the City of Riverside Public Works Department.

University of California Department of Agriculture and Natural Resources (UCANR). 2017. California Fish Website. California Fish Species: Arroyo Chub Gila orcutti. Available at calfish.ucdavis. edu/species/:uid=5&ds=241. Accessed January 2017.

_____. 2014. Draft Supplemental Environmental Assessment/Negative Declaration. Seven Oaks Dam. Updated Water Control Manual. May 2014. Available at http://www.spl. usace.army.mil/ Portals/17/docs/publicnotices/Draft%20Public%20Review%20WQS%20SEA%20w%20IS_MAY%202014.pdf. Accessed on November 8, 2016.

U.S. Environmental Protection Agency (USEPA). 1971. Bolt, Beranek, and Newman, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. NTID300.1. December 31. Accessed online at https://nepis.epa.gov/Exe/ZyPDF.cgi/ 9101NN3I.PDF?Dockey=9101NN3I.PDF. Accessed December 2016.

U.S. Fish and Wildlife Service (USFWS). 2010. 50 CFR Part 17 Endangered and Threatened Wildlife and plants; Revised Critical Habitat for Santa Ana Sucker, Final Rule. Federal Register 75 (239) 77962-78027.

U.S. Geological Survey (USGS). 2011. Landslide Susceptibility within the conterminous U.S. Available at http://www.arcgis.com/home/item.html?id=b3fa4e3c494040b491485dbb7d038c8a. Accessed on January 3, 2017.

_____. 2016. National Water Information System data available on the World Wide Web (USGS Water Data for the Nation). USGS 11066460 Santa Ana R A MWD Crossing CA. Available at https://waterdata.usgs.gov/nwis/dv/?site_no=11066460&referred_module=sw. Accessed on November 16, 2016.

Webb, Albert and Associates. 2011. Levee Deficiency Analysis: Water Quality Control Plant. Prepared for City of Riverside. WO: 2010-0216.

Western Riverside County Regional Conservation Authority (RCA). 2004. Western Riverside County Multiple Species Habitat Conservation Plan. Available at

http://www.rctlma.org/Portals/0/mshcp /volume1/index.html. Accessed December 2016 and January 2017.

_____. 2016. FAQS: Questions About MSHCP. Available at http://wrc-rca.org/faqs/. Accessed December 2016 and January 2017.

This page left blank intentionally

9 ACRONYMS

AB	Assembly Bill
ALUC	Airport Land Use Commission
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
BMP	Best Management Practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEPA	California EPA
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cfs	Cubic feet per second
CGP	Construction General Permit
CH_4	Methane
CHSC	California Health and Safety Code
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	CO_2 equivalent emissions
CRHR	California Register of Historical Resources
CWA	Clean Water Act
cy	Cubic Yard
dB	Decibel
dBA	A-weighted Decibel
DOT	Department of Transportation
DTSC	Department of Toxic Substances Control
EFZ	Earthquake Fault Zone
EIC	Eastern Information Center
EIR	Environmental Impact Report
ESA	Endangered Species Act
°F	Degrees Fahrenheit
FEMA	Federal Emergency Management Agency
fps	Feet per second
ft	Feet
FTA	Federal Transit Administration
g	Acceleration due to Gravity
GHG	Greenhouse Gas
GWP	Global warming potential

HCP	Habitat Conservation Plan
lbs./dy	Pounds per day
Leq	Equivalent Continuous Level
LOS	Level of Service
LST	Localized significance threshold
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
mg/L	Milligrams per liter
mL	Milliliter
MLC	Mineral Land Classification
MLD	Most Likely Descendant
MND	Mitigated Negative Declaration
mph	Miles per hour
MRZ	Mineral Resource Zone
MSHCP	Multiple Species Habitat Conservation Plan
MT	Metric tons
NA	Not available
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Communities Conservation Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
N_2O	Nitrous oxide
NOI	Notice of Intent
NO_3-N	Nitrate-nitrogen
NO_x	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTU	Nephelometric turbidity unit
O_3	Ozone
OHP	Office of Historic Preservation
PGA	Peak Ground Acceleration
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
PM_{10}	Particulate matter less than 10 microns in diameter
ppb	Parts per billion
ppm	Parts per million
PPV	Peak particle velocity
PRC	Public Resources Code
PWD	Public Works Department
RCA	Regional Conservation Authority
RCRA	Resource Conservation and Recovery Act
REAP	Rain Event Action Plan
RMS	Root mean square
RWQCB	Regional Water Quality Control Board
RWQCP	Regional Water Quality Control Plant
SART	Santa Ana River Trail
SARWQCB	Santa Ana Regional Water Quality Control Board
SCAB	South Coast Air Basin

SCAG	Southern California association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act
SMGB	State Mining and Geology Board
SO_x	Oxides of sulfur
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TDS	Total dissolved solids
TMDL	Total Maximum Daily Load
$\mu g/m^3$	Micrograms per cubic meter
Unified Program	California's Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
U.S.	United States
USA	Underground Service Alert
USACE	United Sates Army Corps of Engineers
USC	United States Code
USEPA	Unites States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground storage tank
VdB	Velocity decibel
WQO	Water Quality Objectives

This page left blank intentionally