DRAFT

Initial Study and Mitigated Negative Declaration

Oakmont Park Tributary Rehabilitation Project

December 2021

Lead Agency:

City of Redlands
35 Cajon Street, Suite 222
Redlands, CA 92373

Prepared by:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

215 North Fifth Street
Redlands, CA 92374

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DRAFT MITIGATED NEGATIVE DECLARATION
OAKMONT PARK TRIBUTARY REHABILIATION PROJECT

Lead Agency: City of Redlands

Project Proponent: City of Redlands

Project Location: Oakmont Creek is bounded by Tract 15469 and Sutherland Drive to the north and the Oak Ridge Trail parking lot to the west. Oakmont Creek starts at the outlet structures and continues south for approximately 3,320 feet before reaching the confluence point with Live Oak Canyon Creek.

Project Description: The City of Redlands proposes drainage and erosion control improvements to two Oakmont Stream tributaries and a 600-foot-long segment of the main Oakmont Stream. The tributaries are comprised of a 375-foot-long east segment and a 160-foot-long west segment. North of Oakmont Park, Oakmont Estate Tract 15469 was constructed in 2006. At the time, the Project constructed two outlet structures under Sutherland Drive to drain runoff from the residential tract into Oakmont Creek. The improvements included grade control structures consisting of pole check dams set at specific intervals (approximately every 120 feet) to protect the stream bed and mitigate erosion. Previous improvements to Oakmont Stream began to fail and the stream experienced geomorphic changes that include bank migration and scouring. Of particular concern is the incision of the west bank, lateral erosion of bank slopes, and failure of existing check dams. The rate of erosion threatened to compromise the trail system and wash away several Oak trees along the stream in Oakmont Park.

The proposed improvements would close the gap between the creek bed and Live Oak Canyon Road, protect the existing trail system and recreational areas of Oakmont Park, improve bank stability, and protect native vegetation. Improvements include the construction of new check dams, rip rap aprons, gabion block walls, and culverts with headwalls.

Public Review Period: December 10, 2021 – January 10, 2021

Mitigation Measures Incorporated into the Project to Avoid Significant Effects:

Biological Resources

BIO-1: If construction or other Project activities are scheduled to occur during the bird breeding season (February 1 through August 31), a pre-construction nesting bird survey shall be

conducted by a qualified biologist to ensure that active bird nests will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting bird survey shall include the Project Area and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly, due to construction activity, noise, or ground disturbance. If an active nest is identified, a qualified avian biologist shall establish an appropriate disturbance-limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance-limit buffer zones until the nest is deemed inactive by the qualified avian biologist through a minimum of weekly biological monitoring.

BIO-2: A preconstruction wildlife survey shall be conducted for the burrowing owl prior to Project-related ground disturbance. The survey shall be conducted within 14 days of initial ground disturbance (grading, grubbing, and construction) in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). Typically, if burrowing owls or active burrowing owl burrows are identified in the Project Area during the survey, these features must be completely avoided during the owl breeding season (March 1 through August 31). If impacts to those features are unavoidable then the Project proponent must also develop an owl mitigation plan in consultation with CDFW. Mitigation methods may include passive relocation conducted between September 1 and February 28 outside of the owl breeding season. If an active owl burrow is identified, and construction is to proceed, then a qualified owl biologist (with two or more years of owl experience) can establish an appropriate disturbance-limit buffer around the burrow using flagging or staking. The buffer limit size can be at the biologist's discretion based on topography of the site and other conditions. Construction activities shall not occur within any buffer zones until the burrow is deemed inactive by the qualified owl biologist through a minimum of weekly biological monitoring.

Cultural Resources

CUL-1: In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period

CUL-2: If significant pre-contact and/or post-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.

CUL-3: If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.

Geology and Soils

GEO-1: If paleontological resources (i.e., fossil remains) are discovered during excavation activities, the contractor will notify the City and cease excavation within 100 feet of the find until a qualified paleontological professional can provide an evaluation of the site. The qualified paleontological professional will evaluate the significance of the find and recommend appropriate measures for the disposition of the site (e.g. fossil recovery, curation, data recovery, and/or monitoring). Construction activities may continue on other parts of the construction site while evaluation and treatment of the paleontological resource takes place.

Tribal Cultural Resources

TCR-1: In the event that Tribal Cultural Resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease until subsequent authorization to proceed. Additionally, the Consulting Tribe(s) shall be contacted, as detailed within TCR-2, regarding any pre-contact and/or post-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment. Work on the other portions of the project outside of the buffered area may continue during the assessment period by tribal monitor(s).

TCR-2: The Consulting Tribe(s) Cultural Resources Department shall be contacted in the event of any pre-contact and/or post-contact tribal cultural resources discovered during project implementation and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a tribal cultural resources Monitoring and Treatment Plan shall be created by the archaeologist in coordination with the Consulting Tribe(s), and all subsequent finds shall be subject to this Plan. This Plan shall allow for tribal monitor(s) to be present from the Consulting Tribe(s) for the remainder of the project, should the Consulting Tribe(s) elect to place a monitor on-site.

TCR-3: Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to the Consulting Tribe(s) to the extent permitted by law. The Lead Agency and/or applicant shall, in good faith, coordinate with the Consulting Tribe(s) throughout the life of the project regarding any tribal cultural resources.

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CONTENTS

LIST OF APPENDICES

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AQMP	Air Quality Management Plan
BMPs	Best Management Practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAL FIRE	California Department of Forestry and Fire Protection
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	methane
CHRIS	California Historical Resources Information System
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
dB	decibel
dBA	decibel is A-weighted
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GHG	greenhouse gases
HELP	Home Education Learning Program
IPCC	Intergovernmental Panel on Climate Change
L_{dn}	day/night noise level
L_{eq}	equivalent noise level
LRA	Local Responsibility Area
LST	localized significance thresholds
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendent
MND	Mitigated Negative Declaration

MRZ	Mineral Resource Zone
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
ND	Negative Declaration
NIOSH	National Institute for Occupational Safety and Health
NPDES	National Pollutant Discharge Elimination System
N_2O	nitrous oxide
NO_x	nitrogen oxides
NRHP	National Register of Historic Places
O_3	ozone
OHP	Office of Historic Preservation
OPR	California Office of Planning and Research
PM_{10}	course particulate matter (less than 10 microns in diameter)
$PM_{2.5}$	fine particulate matter (less than 2.5 microns in diameter)
PPV	peak particle velocity
PRC	Public Resources Code
RISE	Redlands Independent Study Program
RMS	root mean square
ROG	reactive organic gases
RPA	Registered Professional Archaeologist
RTP	Regional Transportation Plan
RUSD	Redlands Unified School District
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SIP	State Implementation Plan
SMBMI	San Manuel Band of Mission Indians
SO_2	sulfur dioxide
SoCAB	South Coast Air Basin
SR	State Route
SRA	source receptor area
SSC	Species of Special Concern
STC	sound transmission class
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
VHFHSZ	Very High Fire Hazard Severity Zone
WEAL	Western Electro-Acoustic Laboratory, Inc.

SECTION 1.0 BACKGROUND

1.1 Summary

Project Title:	Oakmont Park Tributary Rehabilitation Project
Lead Agency Name and Address:	City of Redlands Municipal Utilities & Engineering Department P.O. Box 3005 Redlands, California 92373
Contact Person and Phone Number:	John R. Harris City of Redlands Municipal Utilities & Engineering Department (909) 798-7658 jharris@cityofredlands.org
Project Location:	The Oakmont Stream is bounded by Tract 15469 and Sutherland Drive to the north and the Oak Ridge Trail parking lot to the west. The study segment within the Oakmont Stream starts at the outlet structures and continues south for approximately 3,320 feet before reaching the confluence point with Live Oak Canyon Creek.
General Plan Designation:	Parks/Golf Courses
Zoning:	Residential Development Area, Preserved Natural Area, Agricultural District-1

1.2 Introduction

The City of Redlands is the Lead Agency for this Initial Study. The Initial Study has been prepared to identify and assess the anticipated environmental impacts of the Oakmont Park Tributary Rehabilitation Project (Proposed Project). This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Pub. Res. Code, Section 21000 *et seq.*) and State CEQA Guidelines (14 CCR 15000 *et seq.*). CEQA requires that all state and local government agencies consider the environmental consequences of Projects over which they have discretionary authority before acting on those Projects. A CEQA Initial Study is generally used to determine which CEQA document is appropriate for a Project (Negative Declaration [ND], Mitigated Negative Declaration [MND], or Environmental Impact Report [EIR]).

1.3 Surrounding Land Uses/Environmental Setting

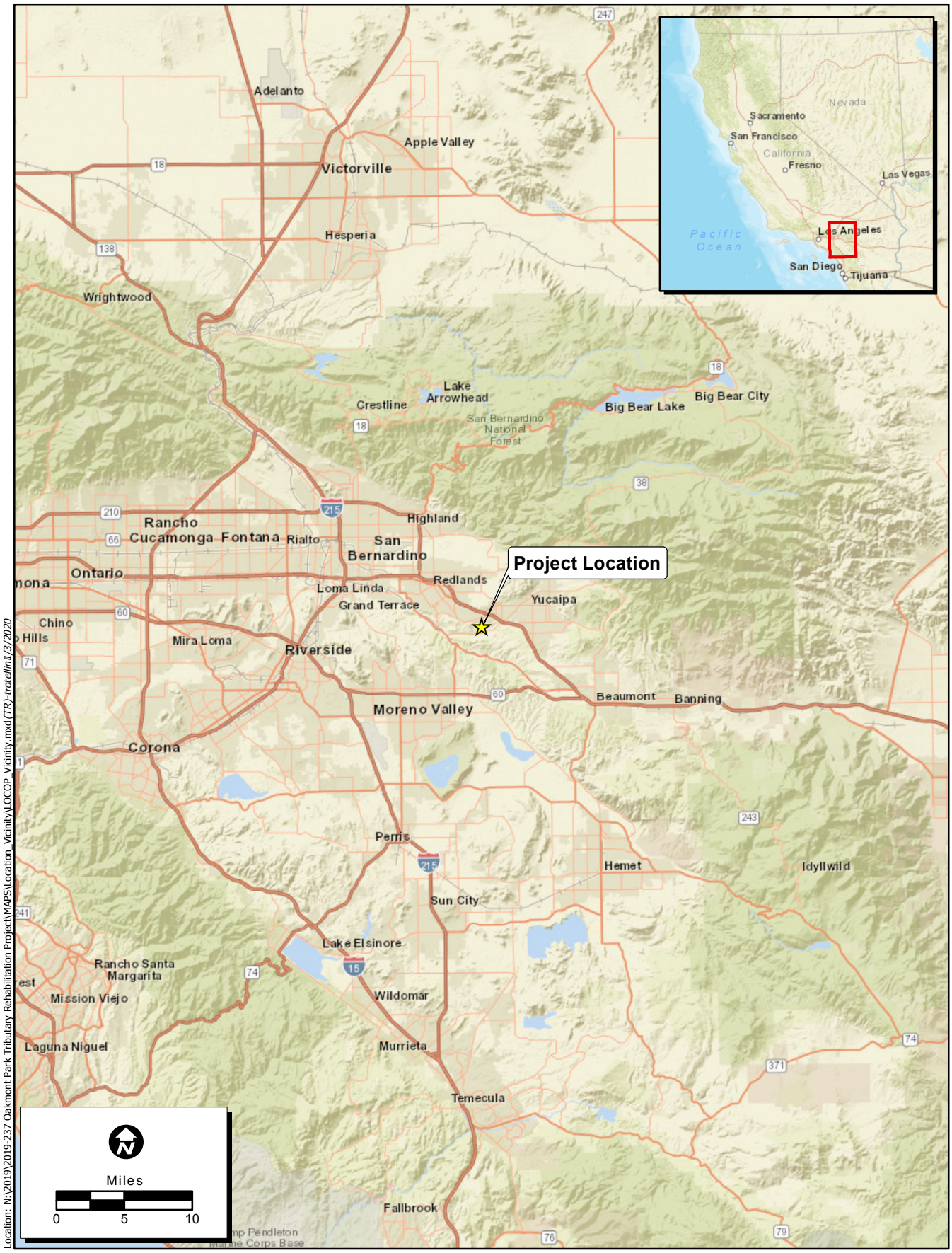
The Project is located in San Bernardino County in the City of Redlands, south of Southerland Drive and east of the Oak Ridge Trail parking lot (Figure 1). The project involves two Oakmont Stream tributaries and a 600-foot-long segment of the main Oakmont Stream. The tributaries are comprised of a 375-foot-long east segment and a 160-foot-long west segment.

The Project is bounded by Sutherland Drive with residences beyond to the north, undeveloped land to the east and south, and the Oak Ridge Trail parking lot to the west with residences beyond, as described in Table 1-1 below.

Table 1-1. Surrounding Land Uses

	Land Use Designation	Zoning Designation	Existing Land Use
Project Area	Parks/Golf Courses	Preserved Natural Area, Agricultural District-1	Park
North	Resource Preservation	Preserved Natural Area, Single Family Residential	Single Family Homes
East	Resource Preservation, Open Space	Agricultural District-1	Undeveloped Land
South	Open Space	Agricultural District-1	Undeveloped Land
West	Resource Preservation	Preserved Natural Area, Single Family Residential	Parking Lot

Source: City of Redlands 2021a, Urban Environs and Hicks and Hartwick 1993



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Map Date: 1/3/2020

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 1. Project Vicinity

2019-237 Oakmont Park Tributary Rehabilitation Project

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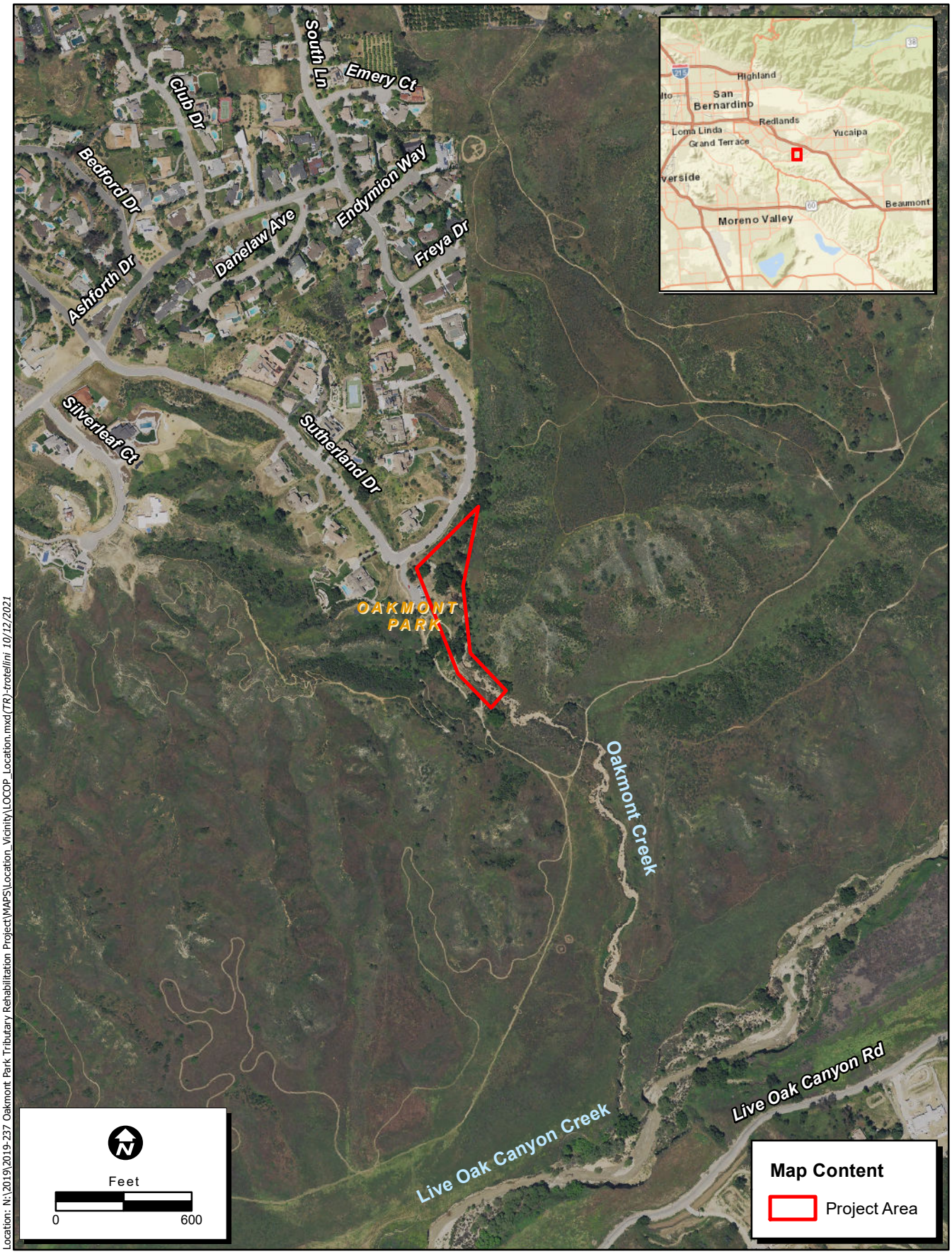

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Map Date: 10/11/2021

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, NAIP (2020)

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Figure 2. Project Location

2019-237 Oakmont Park Tributary Rehabilitation Project

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SECTION 2.0 PROJECT DESCRIPTION

2.1 Project Characteristics

The City of Redlands proposes drainage and erosion control improvements to two Oakmont Stream tributaries and a 600-foot-long segment of the main Oakmont Stream. The tributaries are comprised of a 375-foot-long east segment and a 160-foot-long west segment. North of Oakmont Park, Oakmont Estate Tract No. 15469 was constructed in 2006. At the time, the Project constructed two outlet structures under Sutherland Drive to drain runoff from the residential tract into Oakmont Creek. The improvements included grade control structures consisting of pole check dams set at specific intervals (approximately every 120 feet) to protect the stream bed and mitigate erosion. Previous improvements to the Oakmont Stream began to fail and the stream experienced geomorphic changes that include bank migration and scouring. Of particular concern is the incision of the west bank, lateral erosion of bank slopes, and failure of existing check dams. The rate of erosion threatened to compromise the trail system and wash away several oak trees along the stream in Oakmont Park.

The proposed improvements would close the gap between the creek bed and Live Oak Canyon Road, protect the existing trail system and recreational areas of Oakmont Park, improve bank stability, and protect native vegetation. Improvements include the construction of new check dams, rip rap aprons, gabion block walls, and culverts with headwalls. Please see Figures 3 and 4 for site plans of the proposed improvements.

2.2 Project Timing

It is anticipated that construction would start in April 2022 for a duration of six months.

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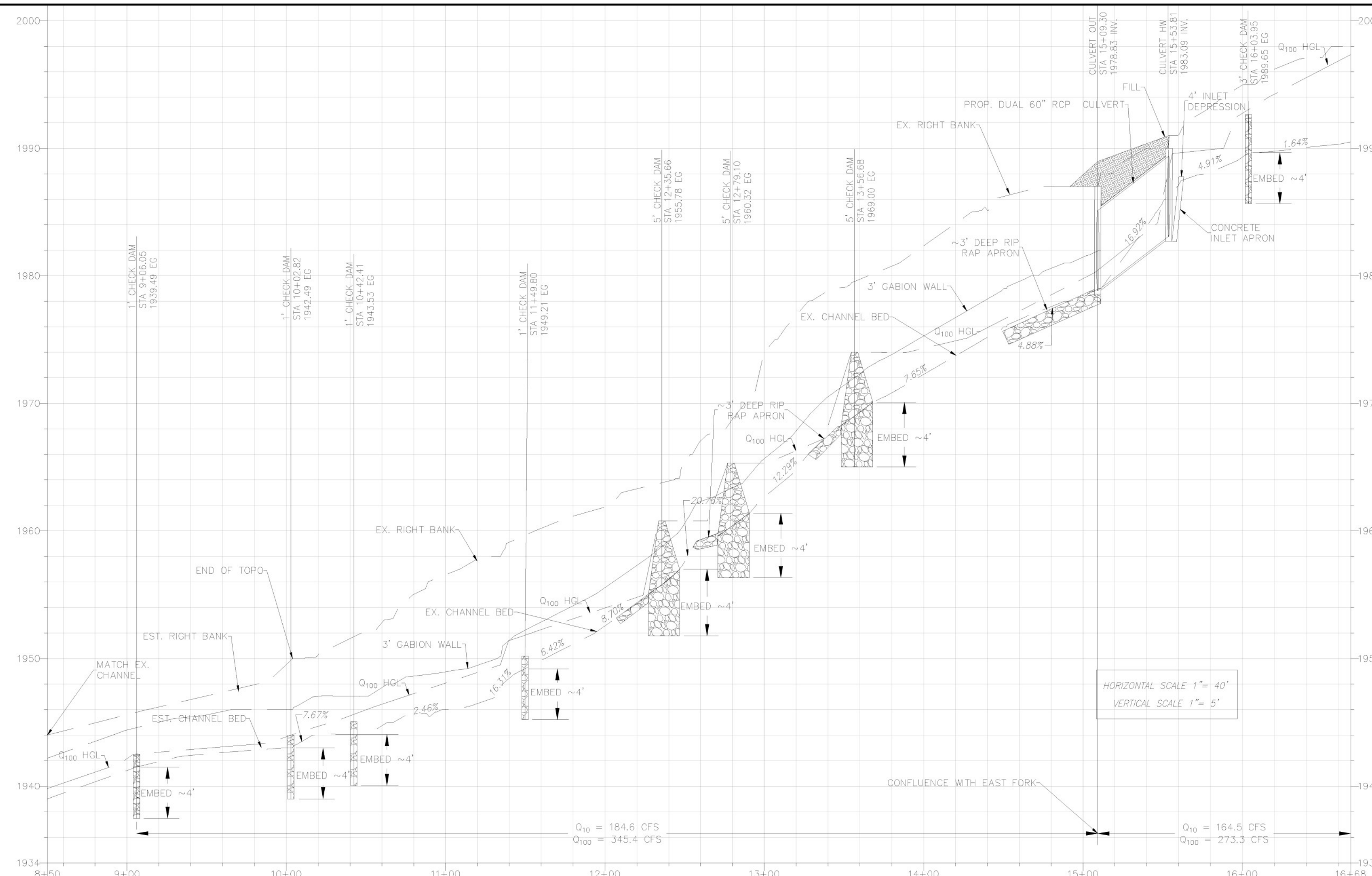

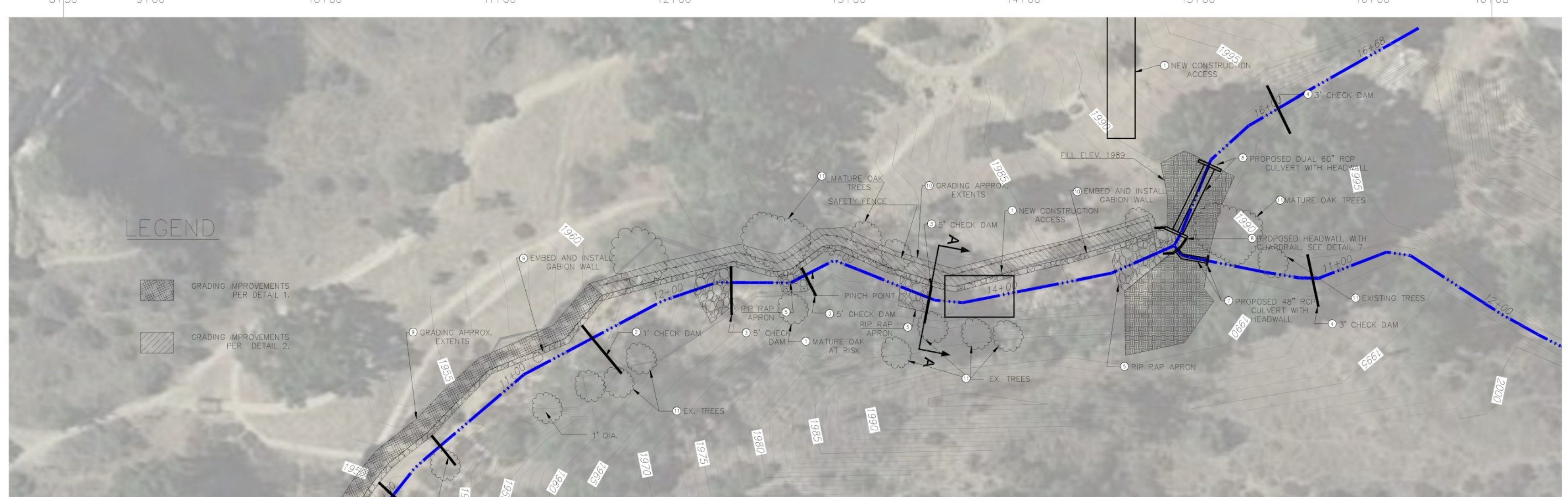

CONSTRUCTION NOTES

NO.	DESCRIPTION	QUANTITY
1	NEW CONSTRUCTION ACCESS POINT.	3 EA
2	CONSTRUCT 1' CHECK DAM PER DETAIL 3B CASE 2.	4 EA
3	CONSTRUCT 5' CHECK DAM PER DETAIL 3B CASE 1.	3 EA
4	CONSTRUCT 3' CHECK DAM PER DETAIL 3B CASE 2.	2 EA
5	CONSTRUCT RIP RAP APRON PER DETAIL 4.	4 EA
6	CONSTRUCT DUAL 60" RCP CULVERT WITH HEADWALL.	45 LF
7	CONSTRUCT 48" RCP CULVERT WITH HEADWALL.	20 LF
8	CONSTRUCT CONCRETE HEADWALL PER DETAIL 7.	1 EA
9	INSTALL GABION BLOCK WALL AND PERFORM GRADING IMPROVEMENTS PER DETAIL 1.	250 LF
10	INSTALL GABION BLOCK WALL AND PERFORM GRADING IMPROVEMENTS PER DETAIL 2.	350 LF
11	PROTECT IN PLACE EXISTING OAK TREE.	20 EA

NOTE: ELEVATIONS ARE BASED ON A CONCEPTUAL-LEVEL TOPOGRAPHIC SURVEY DATED DECEMBER 27, 2019. THE CHANNEL GEOMETRY MAY HAVE EVOLVED SINCE. DESIGN SURVEY WILL BE REQUIRED PRIOR TO FINAL ENGINEERING.

SCALE 1"= 40'

THESE PLANS WERE PREPARED IN THE OFFICE OF:
HUITT-ZOLLARS
2603 Main Street, Suite 400 - Irvine, California 92614-4250
Phone (949) 988-5815 Fax (949) 988-5820
UNDER THE SUPERVISION OF:
REGISTERED CIVIL ENGINEER NO. 61378

REGISTERED PROFESSIONAL ENGINEER MIGUEL ANGEL HERNANDEZ No. 61378 Expiration 06-30-21 CIVIL STATE OF CALIFORNIA

REVISIONS:

NO	DATE	DESCRIPTION	APPROVED:

CITY OF REDLANDS

OAKMONT PARK TRIBUTARY REHABILITATION PROJECT
35% DESIGN
MAIN REACH-PROPOSED GRADE CONTROL STRUCTURES

DATE: APRIL 2021

SHEET 3 OF SHEET 4

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Source: Huitt-Zollars

Figure 3. Main Reach—Proposed Grade Control Structures

2019-237 Oakmont Park Tributary Rehabilitation Project

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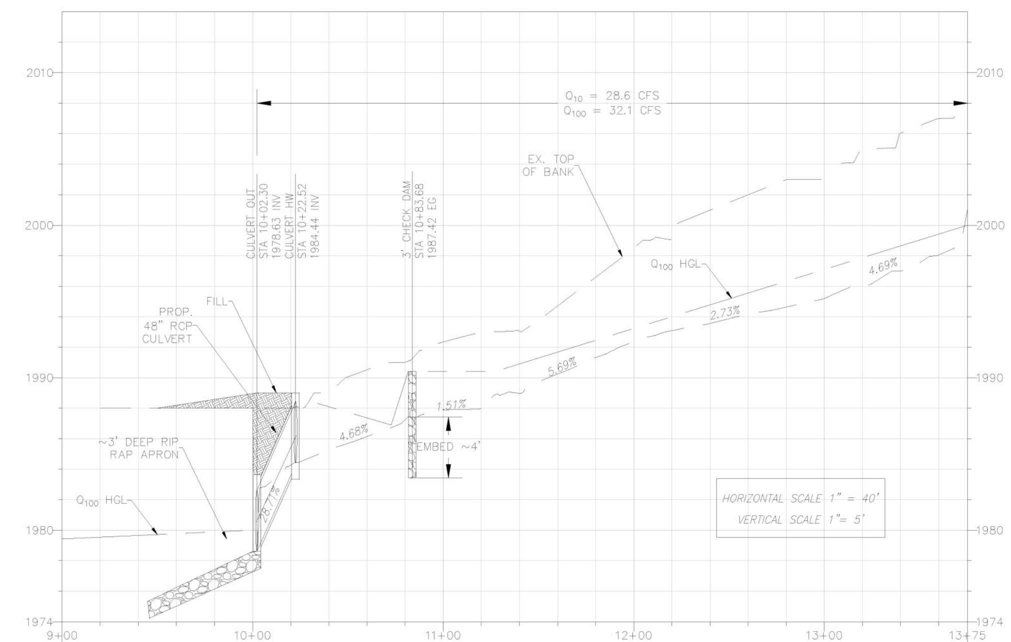

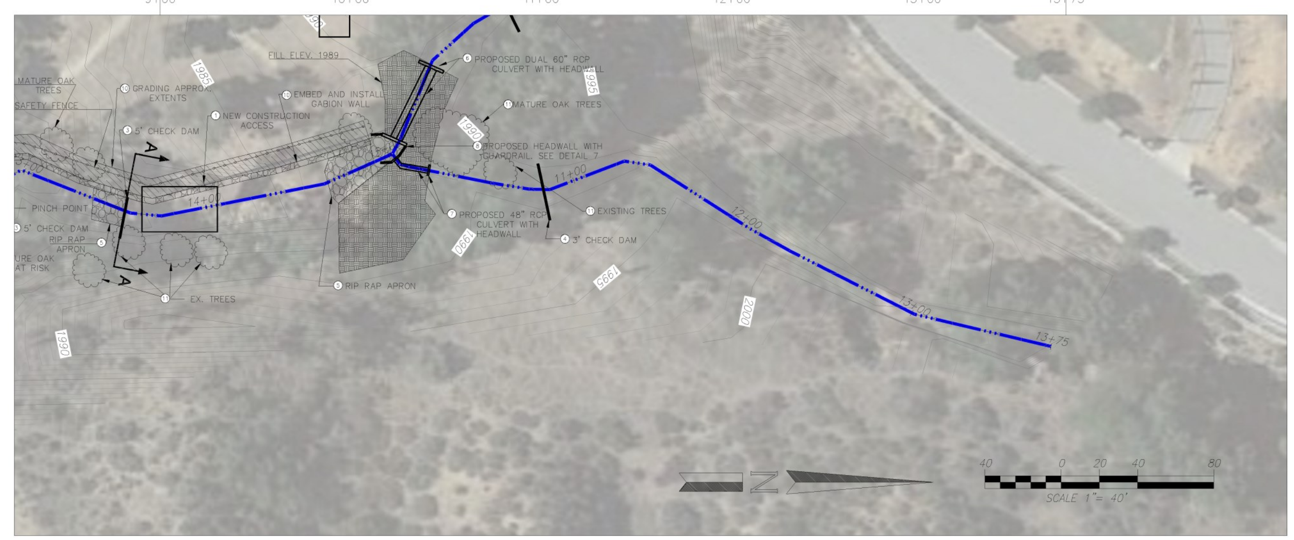

CONSTRUCTION NOTES

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2	CONSTRUCT 1' CHECK DAM PER DETAIL 3B CASE 2.	4 EA
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6	CONSTRUCT DUAL 60" RCP CULVERT.	45 LF
7	CONSTRUCT 48" RCP CULVERT.	20 LF
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11	PROTECT IN PLACE EXISTING OAK TREE.	20 EA

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REGISTERED PROFESSIONAL ENGINEER MIGUEL ANGEL HERNANDEZ No. 61378 Expiration 06-30-21 CIVIL STATE OF CALIFORNIA

REVISIONS:

NO	DATE	DESCRIPTION	APPROVED:

CITY OF REDLANDS
OAKMONT PARK TRIBUTARY
REHABILITATION PROJECT
35% DESIGN
EAST FORK-PROPOSED GRADE CONTROL STRUCTURES
DATE: APRIL 2021
SHEET 4 OF SHEET 4

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ENVIRONMENTAL CONSULTANTS

Source: Huitt-Zollars

Figure 4. East Fork—Proposed Grade Control Structures

2019-237 Oakmont Park Tributary Rehabilitation Project

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2.3 Regulatory Requirements, Permits, and Approvals

The following approvals and regulatory permits would be required for implementation of the Proposed Project:

- Santa Ana Regional Water Quality Control Board (RWQCB) (National Pollutant Discharge Elimination System [NPDES] Permit)
- Federal Clean Water Act Section 404 Pre-Construction Notification
- Federal Clean Water Act Section 401 Application for Water Quality Certification
- California Fish and Game Code Section 1600 Notification of Lake or Streambed Alteration

2.4 Consultation with California Native American Tribe(s)

On June 4, 2021, the City of Redlands sent project notification letters to five California Native American tribal representatives, which had previously submitted general consultation request letters pursuant to 21080.3.1(d) of the Public Resources Code. A full list of the notified tribes is provided in Section 4.18 of this Initial Study. The San Manuel Band of Mission Indians has requested consultation pursuant to Public Resources Code section 21080.3.1. Ultimately, the City and tribe have agreed to specific mitigation measures for tribal cultural resources. A summary of the consultation process, including the determination of significance of impacts to tribal cultural resources, is provided in Section 4.18 of this Initial Study. Documentation of the consultation is included in Appendix E.

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SECTION 3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

3.1 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	☐ Greenhouse Gas Emissions	☐ Public Services
☐ Agriculture and Forestry Resources	☐ Hazards/Hazardous Materials	☐ Recreation
☐ Air Quality	☐ Hydrology/Water Quality	☐ Transportation
☐ Biological Resources	☐ Land Use and Planning	☐ Tribal Cultural Resources
☐ Cultural Resources	☐ Mineral Resources	☐ Utilities and Service Systems
☐ Energy	☐ Noise	☐ Wildfire
☐ Geology and Soils	☐ Population and Housing	☐ Mandatory Findings of Significance

Determination

On the basis of this initial evaluation:

I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the 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 Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the 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 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 Project, nothing further is required. ☐

J. R. Harris

John R. Harris
Municipal Utilities & Engineering Department

12/3/2021

Date

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SECTION 4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 Aesthetics

4.1.1 Environmental Setting

The City of Redlands is bounded by the San Bernardino Mountains to the north, Crafton Hills to the east, and Live Oak Canyon to the south. Some of the City's Planning Area's open space is available for recreational use, including portions of San Timoteo Canyon, Live Oak Canyon, and the Crafton Hills. Open space views range from the scrubland and distant ranges along the Santa Ana River Wash, to the steep vegetated landforms of the canyons and their valleys, to scenes of wetland, riparian, grassland, and chaparral ecosystems.

Light and Glare

Light and glare sources in Redlands may result from residential, commercial, and industrial land uses such as streetlights along major streets, LED lights along State Street and Orange Street in Downtown Redlands, and signage and cars in parking lots (City of Redlands 2017a). Redlands Sports Park is a major contributor of light and glare to adjacent land uses, as are other outdoor sports fields.

State Scenic Highways

The California Scenic Highway Program protects and enhances the scenic beauty of California's highways and adjacent corridors. A highway can be designated as scenic based on how much natural beauty can be seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view.

According to the City's General Plan and the California Department of Transportation (Caltrans), there are no officially designated state scenic highways in the City (City of Redlands 2017b; Caltrans 2021). State Route 38 (SR-38), where it extends across Interstate 10 (I-10) through Redlands, is an Eligible State Scenic Highway, but has not been officially designated. The portion of this highway that is considered an Eligible State Scenic Highway is located approximately four miles northwest of the Project Area. Various urban uses are located between the Project Area and SR-38; therefore, the Project Area is not within the viewshed of SR-38.

4.1.2 Aesthetics (I) Environmental Checklist and Discussion

	Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

Less than Significant Impact.

Scenic views in the Project Area consist of views toward the San Bernardino Mountains to the northeast, which are partially obstructed by surrounding development. There are no designated scenic vistas in the vicinity of the Project.

Short-term construction activities could potentially temporarily degrade the existing visual character and quality of the site and surroundings. During the construction phase, various equipment, vehicles, building materials, stockpiles, disposal receptacles, and related activities would be visible in the Project Area. However, construction-related activities would be short-term and temporary in nature. Once completed, all general construction activities would cease, along with any construction-related aesthetic impacts. A less than significant impact would occur.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒

No Impact.

According to the City's General Plan and Caltrans, there are no officially designated state scenic highways in the City (City of Redlands 2017b; Caltrans 2021). State Route 38 (SR-38), where it extends across Interstate 10 (I-10) through Redlands, is an Eligible State Scenic Highway, but has not been officially designated. The portion of this highway that is considered an Eligible State Scenic Highway is located approximately four miles northwest of the Project Area. Various urban uses are located between the Project Area and SR-38. No impact would occur.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒

No Impact.

The Proposed Project is located south of a developed area characterized by residential land uses. Project improvements include repairs for flood control, replanting and trail repair, slope modification, and installation of retaining walls to improve the existing waterway channel and its associated hiking trail. The Proposed Project would not degrade the existing visual character or quality of the site and its

surroundings. Because there are no designated scenic views in the vicinity, the Proposed Project would not conflict with zoning or scenic quality regulations. No impact would occur.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

No Impact.

The Proposed Project would not require lighting or include sources of glare during construction or operation. No impact would occur.

4.1.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.2 Agriculture and Forestry Resources

4.2.1 Environmental Setting

"Forest land" as defined by Public Resources Code Section 12220(g) is "…land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."

"Timberland" as defined by Public Resources Code Section 4526 means "…land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis."

"Timberland zoned Timberland Production" is defined by Public Resources Code Section 51104(g) as "an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision h."

Four percent of the City's area is used for agricultural operations (City of Redlands 2017a). Historically, agriculture was the City's original economic base, with a concentration of citrus farming. Other forms of agriculture include other orchard crops, row crops, livestock, dairies, and Christmas tree farms. A portion of the Project Area is located on land designated as Agricultural District-1 (A-1). The Project is not located Prime Farmland nor is it under a Williamson Act Contract (DOC 2021).

4.2.2 Agriculture and Forestry Resources (II) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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 non-agricultural use?	☐	☐	☐	☒

No Impact.

According to the California Important Farmland Finder, the Project Area is located on land classified as Grazing Land. Therefore, the Proposed Project would not be located on land classified as prime farmland, unique farmland, or farmland of statewide importance (DOC 2021). No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

No Impact.

The Project Area is currently zoned as a preserved natural area and agricultural district (Urban Environs and Hicks and Hartwick 1993; City of Redlands 2017b). The Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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))?	☐	☐	☐	☒

No Impact.

The Project Area is located on land designated for Parks/Golf Courses and zoned as Preserved Natural Area and Agricultural District-1. It is surrounded by land designated as Resource Preservation and zoned

as Preserved Natural Area, Agricultural District-1, and Single Family Residential. The Project Area is not located on land designated for forest land, timberland, or timberland zoned timberland production. No impact would occur.

Would the project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

No Impact.

The Project Area is not zoned for forest land, timberland, or timberland production (DOC 2021). Therefore, the Proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur.

Would the project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

The proposed drainage and erosion improvements in the Project Area would not result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

4.2.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.3 Air Quality

4.3.1 Environmental Setting

The City of Redlands is located within San Bernardino County. The California Air Resource Board (CARB) has divided California into regional air basins according to topographic features. The City of Redlands portion of San Bernardino County is located in a region identified as the South Coast Air Basin (SoCAB). The SoCAB occupies the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange County. The air basin is on a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean on the southwest, with high mountains forming the remainder of the perimeter (South Coast Air Quality Management District [SCAQMD] 1993). The mountain ranges to the

east affect the diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

Both the US Environmental Protection Agency (USEPA) and CARB have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The criteria pollutants are ozone (O_3), carbon monoxide (CO), particulate matter (PM), nitrogen oxides (NO_x), and sulfur dioxide (SO_2). Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The portion of San Bernardino County encompassing the City of Redlands and the Project Area is designated as a nonattainment area for O_3, coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) under the federal standards and O_3 and $PM_{2.5}$ under the state standards (CARB 2019).

The local air quality regulating authority in San Bernardino County portion of the SoCAB is the South Coast Air Quality Management District. The SCAQMD's primary responsibility is ensuring that the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are attained and maintained in the San Bernardino County portion of the SoCAB. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

The following is a list of noteworthy SCAQMD rules that are required of construction activities associated with the proposed Project:

- **Rule 402 (Nuisance)** – This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- **Rule 403 (Fugitive Dust)** – This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible PM are prohibited from crossing any property line. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.

a) Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.

b) All onsite roads will be paved as soon as feasible or watered periodically or chemically stabilized.

c) All material transported offsite will be either sufficiently watered or securely covered to prevent excessive amounts of dust.

d) The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.

e) Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the workday to remove soil tracked onto the paved surface.

- **Rule 1113 (Architectural Coatings)** – This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce reactive organic gasses (ROG) emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.

4.3.2 Air Quality (III) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒

No Impact.

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act (CCAA) requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the NAAQS and CAAQS. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

As previously mentioned, the Project Area is located within the San Bernardino County portion of the SoCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the federal Clean Air Act (CAA), to reduce emissions of criteria pollutants for which this region is in nonattainment. In order to reduce emissions for which the San Bernardino County portion of the SoCAB is in nonattainment, the SCAQMD has adopted the 2016 Air Quality Management Plan (AQMP). The 2016 AQMP establishes programs of rules and regulations directed at reducing air pollutant emissions and achieving the NAAQS

and CAAQS. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, CARB, Southern California Association of Governments (SCAG), and the USEPA. The plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including the SCAG's 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. The Project is subject to the SCAQMD's AQMP.

According to the SCAQMD, in order to determine consistency with SCAQMD's air quality planning two main criteria must be addressed.

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) Would the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations?

As shown in Tables 4.3-1 and 4.3-2 below (see Impact (b)), the Proposed Project would result in emissions that would be below the SCAQMD regional and localized thresholds during construction. As previously stated, the Project would not be a source of operational emissions. These thresholds were developed to determine a level of individual project emissions which attainment would not be affected. Therefore, the Proposed Project would not result in an increase in the frequency or severity of existing air quality violations and would not have the potential to cause or affect a violation of the ambient air quality standards.

b) Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?

As shown in Table 4.3-1 below, the Proposed Project would be below the SCAQMD regional thresholds for construction and would not contribute to operational emissions. Since the Project would result in less than significant regional emission impacts, it would not delay the timely attainment of air quality standards or AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the SoCAB focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining Project consistency focuses on whether or not the proposed Project exceeds the assumptions utilized in preparing the forecasts presented its air quality planning documents. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the 2016 AQMP?

A project is consistent with regional air quality planning efforts in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the SCAQMD air quality plans. Generally, three sources of data form the basis for the projections of air pollutant emissions in Redlands. Specifically, SCAG's *Growth Management* Chapter of the Regional Comprehensive Plan and Guide (RCPG) provides regional population forecasts for the region and SCAG's 2016 RTP/SCS provides socioeconomic forecast projections of regional population growth. The City's General Plan is referenced by SCAG in order to assist forecasting future growth in Redlands.

The Project proposes erosion control improvements on a segment of stream bank in Live Oak Canyon Creek. It does not involve the development of new housing or employment centers. As such, the Project would not be contributing to an increase in population, housing, or employment growth. Therefore, the Project would not conflict with the land use assumptions or exceed the population or job growth projections used by SCAQMD to develop the 2016 AQMP.

b) Would the project implement all feasible air quality mitigation measures?

In order to further reduce emissions, the Project would be required to comply with emission reduction measures promulgated by the SCAQMD, such as SCAQMD Rules 402, 403, and 1113. SCAQMD Rule 402 prohibits the discharge, from any source whatsoever, in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. SCAQMD Rule 403 requires fugitive dust sources to implement Best Available Control Measures for all sources, and all forms of visible PM are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. SCAQMD Rule 1113 requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories. As such, the Proposed Project meets this consistency criterion.

c) Would the project be consistent with the land use planning strategies set forth by SCAQMD air quality planning efforts?

The AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The Proposed Project is consistent with the land use designation and development density presented in the City's General Plan and therefore would not exceed the population or job growth projections used by the SCAQMD to develop the AQMP.

In conclusion, the determination of AQMP consistency is primarily concerned with the long-term influence of a project on air quality. The Proposed Project would not result in a long-term impact on the region's

ability to meet state and federal air quality standards. The Proposed Project's long-term influence would also be consistent with the goals and policies of the SCAQMD's 2016 AQMP. There is no impact.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐

Less than Significant Impact.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulatively considerable.

Construction Emissions

Regional Construction Significance Analysis

Construction of the Project would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM), ROG, NOx, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for site preparation/excavation (e.g., clearing, excavation); truck traffic; and other miscellaneous activities. As discussed previously, the portion of the SoCAB which encompasses the Project Area is designated as a nonattainment area for federal O_3, $PM_{2.5}$ and PM_{10} and state O_3 and $PM_{2.5}$ (CARB 2019). Thus, existing O_3, $PM_{2.5}$ and PM_{10} levels in the SoCAB are at unhealthy levels during certain periods. However, as shown in Table 4.3-1, the Project would not exceed the SCAQMD's significance thresholds for construction emissions.

Construction-generated emissions are temporary and short-term but have the potential to represent a significant air quality impact. Three basic sources of short-term emissions will be generated through construction of the Proposed Project: operation of the construction vehicles (i.e., excavators, trenchers, tractors), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive dust particulate matter emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust-control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Construction activities would be subject to SCAQMD Rule 403, which requires taking reasonable precautions to prevent the emissions of fugitive dust. The following SCAQMD Rule 403 requirements were applied as mitigation measures in the California Emissions Estimator Model (CalEEMod): apply soil stabilizers to unpaved roadways, replace groundcover

on disturbed areas, water exposed soil surfaces three times per day, clean paved roadways, and reduce vehicle speeds on unpaved roads to 15 miles per hour (mph).

Predicted emissions generated during Project construction were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See Appendix A for more information regarding the construction assumptions, including construction equipment and duration, used in this analysis.

Predicted maximum daily construction-generated emissions associated with Project construction are summarized in Table 4.3-1. Construction-generated emissions would be short-term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

Table 4.3-1. Project Construction-Related Emissions

Construction Year	Pollutant (pounds per day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction in 2021	1.03	11.16	10.57	0.01	0.92	0.66
SCAQMD Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2. See Appendix A.
Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SCAQMD Rule 403. The specific Rule 403 measures applied in CalEEMod include the following: sweeping/cleaning adjacent roadway access areas daily; washing equipment tires before leaving the construction site; water exposed surfaces three times daily; and limit speeds on unpaved roads to 15 miles per hour.
Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.
Emissions were taken from season (summer or winter) with the highest output.

As shown in Table 4.3-1, emissions generated during Project construction would not exceed the SCAQMD's regional thresholds of significance. Therefore, criteria pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard. This impact is less than significant.

Localized Construction Significance Analysis

In addition to regional significance thresholds, the SCAQMD developed localized significance thresholds (LSTs) for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at new development sites (off-site mobile source emissions are not included in the LST analysis protocol). In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction. Localized significance thresholds were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with Project-specific level proposed projects.

Localized significance thresholds represent the maximum emissions that can be generated at a Project Area without expecting to cause or substantially contribute to an exceedance of the most stringent national or state ambient air quality standards. They are based on the ambient concentrations of that pollutant within the Project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects that disturb 5 acres or less on a single day.

The nearest sensitive receptors to the Project Area are the residences Sutherland Drive with the closest being approximately 70 feet (21.33 meters) distant from the northern Project Area boundary. The LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Notwithstanding, the SCAQMD Methodology explicitly states: It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters. Therefore, LSTs for receptors located at 25 meters were utilized in this analysis.

For this Project, the appropriate SRA for the localized significance thresholds is the East San Bernardino Valley, SRA 35 as this SRA includes the Project Area. The Proposed Project would disturb approximately one-acre total during construction. The SCAQMD's methodology clearly states that "offsite mobile emissions from a project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "onsite" emissions outputs were considered. Table 4.3-2 presents the results of localized emissions during Project construction. The LSTs reflect a maximum disturbance of one acre at 25 meters from the Proposed Project.

Table 4.3-2. Construction-Related Emissions (Localized Significance Analysis)

Activity	Pollutant (pounds per day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Site Preparation (clearing and miscellaneous activities)	9.44	6.49	0.39	0.35
Excavation	8.87	10.03	0.29	0.16
Building Construction (headwall and gabion wall)	7.98	7.26	0.44	0.41
Site Finalization (removal of nonnative vegetation and replacement of landscaping)	11.13	8.59	0.68	0.45
SCAQMD Localized Emissions Threshold (1 acre of disturbance)	*118*	*775*	*4*	*4*
Exceed SCAQMD Localized Threshold?	**No**	**No**	**No**	**No**

Source: CalEEMod version 2016.3.2. See Appendix A.

Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SCAQMD Rule 403. The specific Rule 403 measures applied in CalEEMod include the following: sweeping/cleaning adjacent roadway access areas daily; washing equipment tires before leaving the construction site; water exposed surfaces three times daily; watering all haul roads twice daily; applying soil stabilizers on unpaved roads; replacing groundcover on disturbed area; and limiting speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.

Table 4.3-2 shows that the emissions of these pollutants on the peak day(s) of construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, significant impacts would not occur concerning LSTs during construction activities.

Project Operational Criteria Air Quality Emissions

Regional Operational Significance Analysis

Operational emissions impacts are long-term air emissions impacts that are associated with any changes in permanent use of the Project Area by on-site stationary and off-site mobile sources that substantially increase emissions. The Project is proposing drainage and erosion control improvements in Live Oak Canyon Creek. The Project would not change the permanent use of the Project Area or contribute to on or off-site emissions. No long-term operational emission impacts would occur as a result of the Project.

Localized Operational Significance Analysis

According to the SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project only if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., warehouse or transfer facilities). The Proposed Project does not include such uses. Therefore, in the case of the Proposed Project, the operational phase LST protocol does not need to be applied. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Less than Significant Impact.

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive land use to the Project Area are single-family residences located on Sutherland Drive with the closest being approximately 70 feet distant from the northern Project boundary.

Construction-Generated Air Contaminants

Construction of the Project would result in temporary, short-term Project-generated emissions of DPM, ROG, NOx, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for site preparation/excavation (e.g., clearing, excavation); truck traffic; and other miscellaneous activities. As discussed previously, the portion of the SoCAB which encompasses the Project Area is designated as a nonattainment area for federal O_3 and PM_{10} standards and is also a nonattainment area for the state

standards for O_3, $PM_{2.5}$, and PM_{10} (CARB 2019). Thus, existing O_3, $PM_{2.5}$, and PM_{10} levels in the SoCAB are at unhealthy levels during certain periods. However, as shown in Table 4.3-1, the Project would not exceed the SCAQMD significance thresholds for construction emissions.

The health effects associated with O_3 are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in O_3 precursor emissions (ROG or NOx) in excess of the SCAQMD thresholds, the Project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

Carbon dioxide tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve construction activities that would result in CO emissions in excess of the SCAQMD thresholds. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the primary toxic air contaminant (TAC) of concern. Based on the emission modeling conducted, the maximum onsite construction-related daily emissions of exhaust $PM_{2.5}$, considered a surrogate for DPM and includes emissions of exhaust $PM_{2.5}$, would be 0.46 pounds per day (see Appendix A). Course particulate matter (PM_{10}) exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. Given the dispersed nature of the Project Area, the relatively short period of construction emission that would occur in the vicinity of the nearest sensitive receptors (approximately six months), and the negligible level of operational emissions, the overall health risks from TACs would not be significant. As with O_3 and NO_x, the Project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the SCAQMD's thresholds. Accordingly, the Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

Operational Air Contaminants

Operation of the Proposed Project would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Project; nor would the Project attract mobile sources that spend long periods queuing and idling at the site. Onsite Project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, the Project would not be a source of TACs and there would be no impact as a result of the Project during operations.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

No Impact.

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the Project Area. Therefore, odors generated during Project construction would not adversely expose a substantial number of people to odor emissions.

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not

include any uses identified by the SCAQMD as being associated with odors. The proposed drainage and erosion control improvements would not emit odors.

4.3.3 Mitigation Measures

No significant impacts were identified. Therefore, no mitigation measures are required.

4.4 Biological Resources

4.4.1 Environmental Setting

The Proposed Project is bounded by Sutherland Drive with residential housing to the north and Herngt 'Aki' Preserve to the west, east, and south. Surrounding land uses consist mainly of recreational and residential developments. The Project Area includes a more natural portion of Oakmont Park, following the creek and consisting of oak woodland habitat primarily with coast live oaks (*Quercus agrifolia*). The other vegetation within the Project Area generally consists of nonnative grasslands and ruderal areas.

Analysis in this section is based on the Biological Technical Report for the Proposed Project provided by ECORP Consulting, Inc. in September 2021 (Appendix B; ECORP 2021a).

4.4.2 Biological Resources (IV) Environmental Checklist and Discussion

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

As previously mentioned, the Project Area is surrounded by recreational and residential development. The literature review and database searches identified 31 special-status plant species and 47 special-status wildlife species that occur in or near the Project Area (ECORP 2021a). However, with the San Bernardino Mountains to the north and east as well as Moreno Valley to the southwest, many of the species that appeared in the literature review were outside of the elevation range of the Project Area and are thus presumed absent because they only occur at higher or lower elevations.

Special-Status Plants

Of the 31 special-status plants identified, one has a moderate potential to occur in the Project Area and two have a low potential to occur. The remaining twenty-eight species identified in the literature review are presumed absent from the Project Area. The sensitive plant species with a potential to occur in the area were not observed during the biological reconnaissance survey.

Plant Species with a Moderate Potential to Occur

Smooth tarplant (*Centromadia pungens ssp. laevis*)

Smooth tarplant is not a federally or state-listed species but does have a California Native Plant Society (CNPS) status of 1B.1 (plants rare, threatened, or endangered in California; CNPS 2021a). It is an annual herb that is endemic to California. This species is typically found in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland with alkaline soils. This species has been documented in San Timoteo Canyon in 2011, 2012, and 2018 (Occurrences # 142, 127, 102) within five miles of the Project Area (California Department of Fish and Wildlife [CDFW] 2021a). Based on the presence of limited riparian woodland habitat within the mulefat and willow scrub present in the Project Area and the recent documented records of the species within the Project Area, this species has been determined to have a moderate potential to occur in the Project Area.

Plant Species with a Low Potential to Occur

The following species have a low potential to occur in the Project Area because limited or marginal habitat for these species occurs within the Project Area and a recently documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Project Area; or suitable habitat strongly associated with the species occurs onsite, but no records or only historic records were found within the database search.

- Chaparral sand-verbena (*Abronia villosa* var. *aurita*), CNPS 1B.1; and
- Salt spring checkerbloom (*Sidalcea neomexicana*), CNPS 2B.2.

Special-Status Wildlife

Of the 47 special-status wildlife species identified in the literature review, two were found to have a high potential to occur, seven have a moderate potential to occur, and eight have a low potential to occur in the Project Area. The remaining 30 species are presumed absent from the Project Area. The sensitive wildlife species with a potential to occur in the area were not observed during the biological reconnaissance survey.

Wildlife Species with a High Potential to Occur

Coastal whiptail *(Aspidoscelis tigris stejnegeri)*

Coastal whiptail is a CDFW Species of Special Concern (SSC). The coastal whiptail is found primarily in hot and dry open areas with sparse vegetation in habitats including chaparral, woodlands, and dry riparian areas. It primarily feeds on small lizards and small invertebrates including spiders, scorpions, centipedes, and termites. Suitable habitat is present in the dry riparian areas along the drainage and the oak woodlands within the Project Area. The chaparral habitat in the survey buffer adjacent to the Project Area also contains suitable habitat. Three recent records of this species are documented within five miles of the Project Area with the closest record being 1.7 miles southwest in 2015 (Occurrence 120; CDFW 2021a).

The presence of suitable habitat and the recent documented records near the Project Area resulted in this species having a high potential to occur in the Project Area.

Northwestern San Diego pocket mouse *(Chaetodipus fallax fallax)*

Northwestern San Diego pocket mouse is a CDFW SSC. The northwestern San Diego pocket mouse is found in sandy herbaceous areas, usually in association with rocks or coarse gravel in southwestern California. It primarily occurs in arid coastal and desert borders and typical habitats include sandy desert fans and shrub communities such as coastal sage scrub, chaparral, sagebrush, desert wash, desert scrub, desert succulent scrub, pinyon-juniper, and annual grassland. The northwestern San Diego pocket mouse primarily feeds on seeds of forbs, grasses, shrubs with a lower to moderate preference for fob and shrub seeds, and a high preference for grass seeds. Seeds are transported within cheek pouches where they are stored in and around their burrows. The species may also feed on some insects. Suitable habitat is present in the Project Area along the banks of the drainage in the sandy loam soils and within the chaparral habitat adjacent to the Project Area in the survey buffer. Four recent records (Occurrences # 31, 92, 52, 105) of this species from 2002 and 2016 are documented within five miles of the Project Area with the closest record being 0.9 miles southeast (CDFW 2021a). The presence of suitable habitat and the recent documented records near the Project Area resulted in this species having a high potential to occur in the Project Area.

Wildlife Species with a Moderate Potential to Occur

The following species have a moderate potential to occur in the Project Area because either habitat for the species occurs onsite and a known occurrence has been reported in the database, but not within five miles of the Project Area; a historic documented observation was recorded within five miles of the Project Area; or a known recently documented occurrence has been reported within five miles of the Project Area and marginal or limited amounts of habitat occurs onsite.

California glossy snake *(Arizona elegans occidentalis)*

California glossy snake is a CDFW SSC. The California glossy snake is most commonly found in desert habitats but also found in arid scrub, rocky washes, grasslands, low elevation coastal scrub, valley-foothill hardwood, and chaparral habitats. The species prefers washes and sandy areas with patchy brush and rocks including soil loose enough for easy burrowing. Perennial plants are necessary in the habitat for a food source. The species preys mostly on sleeping diurnal lizards, but also eats small snakes, terrestrial birds, and nocturnally-active mammals. Suitable habitat occurs in the Project Area in the sandy wash of the intermittent drainage. Although no records occur within five miles of the Project Area, a recent record was documented 6.2 miles north (Occurrence 100) in 2014 (CDFW 2021a). Based on the suitable habitat within the sandy wash in the Project Area and the recent documented records of the species but not within five miles of the Project Area, this species has been determined to have a moderate potential to occur within the Project Area.

Coast patch-nosed snake *(Salvadora hexalepis virgultea)*

Coast patch-nosed snake is a CDFW SSC. The coast patch-nosed snake is found in coastal scrub and semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains in coastal Southern California. The

species requires small mammal burrows for refuge and overwintering sites. Diet consists mostly of lizards, along with small mammals. The Project Area is located within canyon headwaters. Suitable brushy habitat is present within the Project Area and marginally suitable shrubby grassland habitat is present near the intermittent drainage in the Project Area. The survey buffer adjacent to the Project Area contains suitable chaparral habitat. Many small mammal burrows were observed during the survey which could provide refuge for this species. The literature review identified one recent record within five miles of the Project Area in 2016 (Occurrence 23; CDFW 2021a). Based on the suitable habitat present on and adjacent to the Project Area, as well as the recent documented record of the species within five miles, this species has been determined to have a moderate potential to occur in the Project Area.

Red-diamond rattlesnake (*Crotalus ruber*)

Red-diamond rattlesnake is a CDFW SSC. The red-diamond rattlesnake is found in coastal chaparral, arid scrub, rocky grassland, oak and pine woodlands, desert mountain slopes, and rocky desert flats. The diet of the species consists of birds, lizards, and small mammals including ground squirrels, wood rats, and rabbits. Suitable chaparral habitat is present adjacent to the Project Area in the survey buffer. Foraging is possible in the Project Area as many small mammal burrows were observed during the survey. The literature review identified one recent record within five miles of the Project Area in 2016 (Occurrence 177; CDFW 2021a). Based on the suitable foraging habitat present in the Project Area and suitable chaparral habitat present adjacent to the Project Area, as well as the recent documented record of the species within five miles, this species has been determined to have a moderate potential to occur in the Project Area.

Loggerhead shrike *(Lanius ludovicianus)*

Loggerhead shrike is a CDFW SSC. The loggerhead shrike is found in open country, with scattered shrubs and trees or other perches for hunting in habitats including agricultural fields, deserts, grasslands, savanna, and chaparral. The species preys on both vertebrate and invertebrate animals, consisting mostly of mice but also insects, small amphibians, and even small birds. Suitable shrub and tree habitat is present in the Project Area. Although no recent CNDDB records for this species have been documented within five miles of the Project Area (CDFW 2021a), the species is often recorded in the general area through other sources such as eBird (eBird 2012). Based on the suitable habitat present in the Project Area and the frequent documented records of the species in the general area, this species has a moderate potential to occur in the Project Area.

White-tailed kite *(Salvadora hexalepis virgultea)*

White-tailed kite is a CDFW FP. The white-tailed kite is found in lowlands including savanna, open woodlands, marshes, and agricultural fields. It nests in trees, riparian scrub areas, oak woodlands, and other similar habitats. The species eats mostly lizards, especially whiptails, along with small mammals, and possibly small snakes, nestling birds, reptile eggs, and amphibians. Both low to moderately suitable nesting and foraging habitat is present in the Project Area. Two recent records from 2016 (Occurrences 166 and 167) were documented within five miles of the Project Area (CDFW 2021a). Based on the low to moderately suitable nesting and foraging habitat present in the Project Area and the two recent

documented records of the species within five miles, this species has a moderate potential to occur in the Project Area.

Los Angeles pocket mouse *(Perognathus longimembris brevinasus)*

Los Angeles pocket mouse is a CDFW SSC. The Los Angeles pocket mouse is found in lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. The species can be found in fine, sandy soils associated with washes or dunes. It may hide under weeds and dead leaves in addition to digging burrows. Suitable habitat occurs in the fine, sandy soils of the intermittent drainage wash and marginally suitable habitat is present in the grassland below the oak canopy within the Project Area. No records exist within five miles of the Project Area. The most recent record is from 2016 and is 8.6 miles southeast of the Project Area (Occurrence 61; CDFW 2021a). Based on the suitable habitat present in the Project Area and the recent documented records of the species but not within five miles of the Project Area, this species has a moderate potential to occur in the Project Area.

Pallid bat *(Antrozous pallidus)*

Pallid bat is a CDFW SSC. The pallid bat is found in chaparral, coastal scrub, desert wash, Great Basin grassland and scrub, Mojavean desert scrub, riparian woodland, Sonoran desert scrub, upper montane coniferous forest, and valley and foothill grassland habitats. The species is most commonly found in open, dry habitats with rocky areas for roosting. Although the species prefers rocky outcrops for roost, they can be found roosting in caves, rock crevices, mines, hollow trees, and buildings. The pallid bat is very sensitive to disturbance of roosting sites. The diet of the species consists mainly of large flying and ground-dwelling insects, moths, spiders, scorpions, and centipedes and will sometimes eat small lizards and mice. Suitable roosting habitat is present in the oak trees where tree holes and other cavities such as exfoliating bark is present. One historic record of the species occurs within five miles of the Project Area (CDFW 2021a). Based on the suitable roosting habitat present in the Project Area and the historic records documented within five miles, this species has been determined to have a moderate potential to occur in the Project Area.

Wildlife Species with a Low Potential to Occur

The following species have a low potential to occur on the Project Area because limited or marginal habitat for the species occurs within the site and a recently documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Project Area; or suitable habitat strongly associated with the species occurs onsite, but no records or only historic records were found within the database search.

- Crotch bumble bee (*Bombus crotchii*), Candidate for state listing;
- Coast horned lizard (*Phrynosoma blainvillii*), CDFW SSC;
- Southern California legless lizard (*Anniella stebbinsi*), CDFW SSC;
- Burrowing owl (*Athene cunicularia*), CDFW SSC;
- Golden eagle (*Aquila chrysaetos*), CDFW Fully Protected;

- Western yellow bat (*Lasiurus xanthinus*), CDFW SSC;
- American badger (*Taxidea taxus*), CDFW SSC; and
- Stephen's kangaroo rat (*Dipodomys stephensi*), federally listed (endangered), state listed (endangered).

The Project Area is generally classified as oak woodland and chaparral habitat. Disturbances on the Project Area include pedestrians, trash, an irrigation system, recreational trails, and man-made structures (picnic tables, benches, a portable toilet, and a dumpster). No special-status plant or wildlife species were observed during the biological survey. Thirty-one special-status plant species were identified in the literature review and database searches. None of the species were determined to have a high potential to occur and one species (smooth tarplant) has a moderate potential to occur. Two species (chaparral sand-verbena and salt spring checkerbloom) were determined to have low potential to occur based on the available habitat and records in the vicinity of the Project Area.

The literature review and database searches identified 47 special-status wildlife species that occur in the vicinity of the Project Area. Based on the condition of the site and the available habitat, only two species (coastal whiptail and northwestern San Diego pocket mouse) were determined to have a high potential to occur in the Project Area. These two species are of lower levels of sensitivity (species of special concern) and direct impacts to them caused by the Project are not considered to be significant under CEQA as the site is not expected to support large numbers of either species. Eight species (California glossy snake, coast patch-nosed snake, red-diamond rattlesnake, loggerhead shrike, white-tailed kite, pallid bat, and Los Angeles pocket mouse) have a moderate potential to occur andeight species (Crotch bumble bee, coast horned lizard, southern California legless lizard, burrowing owl, golden eagle, western yellow bat, American badger, and Stephen's kangaroo rat) were determined to have a low potential to occur. These moderate and low potential species are of relatively low levels of sensitivity (species of special concern and fully protected) and direct impacts caused by the Project are not considered to be significant under CEQA. The site is not expected to support large numbers of these species.

There is also one special status species that has a moderate potential to occur and is considered to be of higher sensitivity (white-tailed kite) and two special status species that have low potential to occur and are considered to be of higher sensitivity (golden eagle) or have special survey requirements (burrowing owl). For these three species, any direct or indirect impacts to them due to Project implementation would be considered significant under CEQA due to their higher level of sensitivity. Implementation of Mitigation Measures **BIO-1** and **BIO-2** will reduce impacts to a level that is less than significant.

The Project Area also contained suitable nesting habitat for bird species protected under the Migratory Bird Treaty Act (MBTA). Development of the Project Area will be required to comply with the MBTA and avoid impacts to nesting birds. It is strongly recommended that the Project construction be completed outside of nesting bird season (typically February 1 through August 31). If construction of the Project occurs during the nesting bird season, ground-disturbing construction activities could directly affect birds protected by the MBTA and their nests through the removal of habitat and indirectly through increased noise. Impacts to nesting birds would be less than significant with the implementation of Mitigation Measure **BIO-1**.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☒	☐	☐

Less than Significant Impact.

The Project Area consisted primarily of coast live oak woodland with small amounts of California sagebrush – California buckwheat scrub and California buckwheat scrub. Adjacent to the Project Area within the 500-foot buffer, native vegetation communities included chamise chaparral, sugarbush chaparral, and California buckwheat scrub. A few mulefat thickets were identified within the Project Area along the banks of the drainage and mulefat and narrowleaf willow thickets were present within the 500-foot buffer along the northern Project boundary. These species are considered to be riparian habitat and due to the low density, are not large enough to be classified as their own vegetation community.

Within the Project Area, approximately 2.4 acres of coast live oak woodland are present. Coast live oak woodland is considered a sensitive natural community and any impacts to oak trees would be considered significant. The Project will avoid all oak trees to the maximum extent possible. If any oak trees are impacted, the Project Proponent will comply with the City's Municipal Code Chapter 12.52 Trees and Tree Protection along Streets and in Public Places and Street Tree Policy and Protection Guidelines Manual (City of Redlands 2013).

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐

Less than Significant Impact.

No wetlands were identified or suspected within the Project Area. All stream flows are considered to be intermittent in nature, conveying flows immediately after storm events and then periodically throughout the rainy season. State and federally protected waters were identified in the Project Area. If the entire Project Area is developed, a total of 0.132 acre of potential Waters of the U.S./State and 0.525 acre of CDFW jurisdiction would be affected (ECORP 2021a).

If impacts to state- and/or federally protected wetlands and waters are unavoidable, coordination and/or consultation with the regulatory agencies (USACE, CDFW, RWQCB) regarding regulatory permitting will be

required. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal Clean Water Act, an Application for Water Quality Certification under Section 401 of the federal Clean Water Act, and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. Improvements include the construction of new check dams, rip rap aprons, gabion block walls, and culverts with headwalls. These improvements would not develop the total 0.657 acres of Waters of the U.S. and Waters of the State. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

The Project Area is located adjacent to areas containing existing disturbances (e.g., paved road, parking lot, and residential development). The Project Area could provide wildlife movement opportunities since it consists of open and unimpeded land and cover is provided for larger animals within the shrubs and coast live oak tree woodland. However, the Project Area's value as a corridor is lessened by the disturbances from pedestrians using the trails and picnic areas and from barbed wire that runs along portions of the drainage features. No migratory wildlife corridors or native wildlife nursery sites were identified within the Project Area. Therefore, no impacts to wildlife corridors or nursery sites are expected to occur during the development of the Project Area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐

Less than Significant Impact.

Coast live oak trees were observed in the Project Area. Street trees and other trees in public domain within the City are managed pursuant to City Municipal Code Chapter 12.52 Trees and Tree Protection along Streets and in Public Places. The Project will avoid all oak trees to the greatest extent possible. If the Project will result in impact to the oak trees in the Project Area, then approval must be obtained via a Public Tree Encroachment Permit from the City prior to removal of the trees, as outlined in the City's Street Tree Policy and Protection Guidelines Manual (City of Redlands 2013).

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

The Project Area does not lie within a proposed or adopted habitat conservation plan area. No impact or conflict would occur in regard to conservation plans and no mitigation is required.

4.4.3 Mitigation Measures

BIO-1: If construction or other Project activities are scheduled to occur during the bird breeding season (February 1 through August 31), a pre-construction nesting bird survey shall be conducted by a qualified biologist to ensure that active bird nests will not be disturbed or destroyed. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting bird survey shall include the Project Area and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly, due to construction activity, noise, or ground disturbance. If an active nest is identified, a qualified avian biologist shall establish an appropriate disturbance-limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance-limit buffer zones until the nest is deemed inactive by the qualified avian biologist through a minimum of weekly biological monitoring.

BIO-2: A preconstruction wildlife survey shall be conducted for the burrowing owl prior to Project-related ground disturbance. The survey shall be conducted within 14 days of initial ground disturbance (grading, grubbing, and construction) in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). Typically, if burrowing owls or active burrowing owl burrows are identified in the Project Area during the survey, these features must be completely avoided during the owl breeding season (March 1 through August 31). If impacts to those features are unavoidable then the Project proponent must also develop an owl mitigation plan in consultation with CDFW. Mitigation methods may include passive relocation conducted between September 1 and February 28 outside of the owl breeding season. If an active owl burrow is identified, and construction is to proceed, then a qualified owl biologist (with two or more years of owl experience) can establish an appropriate disturbance-limit buffer around the burrow using flagging or staking. The buffer limit size can be at the biologist's discretion based on topography of the site and other conditions. Construction activities shall not occur within any buffer zones until the burrow is deemed inactive by the qualified owl biologist through a minimum of weekly biological monitoring.

4.5 Cultural Resources

4.5.1 Environmental Setting

Cultural Resources

Historic resources in Redlands include properties and districts. The City's General Plan identifies 22 buildings that are historically noteworthy (City of Redlands 2017b). The General Plan identifies the following objectives, policies, and/or actions to reduce project-specific impact to cultural resources:

- Principle 2-P.17 states that archaeological and paleontological resources should be protected for their aesthetic, scientific, educational, and cultural values.
- Action 2-A.72 requires that applicants for projects identified by the South Coastal Information Center as potentially affecting sensitive resource sites hire a consulting archaeologist to develop an archaeological resource mitigation plan and to monitor the project to ensure that mitigation measures are implemented.
- Action 2-A.73 requires that areas found during construction to contain significant historic or prehistoric archaeological artifacts be examined by a qualified consulting archaeologist (Registered Professional Archeologist [RPA] certified) or historian for appropriate protection and preservation.
- Action 2-A.74 requires the coordination with the area's native tribes in the review and protection of any tribal cultural resources discovered at development sites.
- State Health and Safety Code Section 7050.5 states that no further disturbance of suspected human remains shall occur until the County Coroner has made a determination of origin and disposition pursuant to State Public Resources Code Section 5097.98.

The Project Area is located within the territory known to have been occupied by the Serrano group of Native Americans at the time of contact with Europeans, around AD 1769. The Serrano occupied an area in and around the San Bernardino Mountains and northward into the Mojave Desert. Their territory also extended west along the north slope of the San Gabriel Mountains, east as far as Twentynine Palms, north into the Victorville and Lucerne Valley areas, and south to the Yucaipa Valley and San Jacinto Valley (Cultural Systems Research 2005). The Serrano speakers in the Mojave Desert who lived along the Mojave River were known as Vanyume. Serrano is a language within the Takic family of the Uto-Aztecan language stock (ECORP 2021b).

4.5.2 Cultural Resources (V) Environmental Checklist and Discussion

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

Historic resources in Redlands include homes and civic and commercial structures. The General Plan identifies buildings that are historically noteworthy, none of which are located in the project vicinity. The Proposed Project would be located within a park/open space area of the City. The National Register Information System did not list any eligible or listed properties within the Project Area or one-mile vicinity (ECORP Consulting, Inc. [ECORP] 2021b). Additionally, no resources were identified as California Historical Landmarks and by the Office of Historic Preservation (OHP) within one-mile vicinity.

The Caltrans Bridge Local Inventory (Caltrans 2019) lists one historic bridge in the one-mile radius around the Project Area. Bridge 54C0192 is located 0.5 mile south of the Project Area on Live Oak Canyon Road. Built in 1970, this bridge is known as the Live Oak Creek Bridge and is listed as not eligible for National Register of Historic Places (NRHP) designation.

No previously recorded cultural resources were identified in the Project Area by the California Historical Resources Information System (CHRIS) records search. No pre-contact or historic-era cultural resources were identified during the field survey conducted by ECORP (ECORP 2021b).

Though no pre-contact cultural resources have been previously recorded in the Project Area, CHRIS record search results recorded four pre-contact resources within a one-mile vicinity. Therefore, the potential for subsurface cultural deposits still exists due to the presence of sediments contemporaneous with human occupation of the region, and the proximity of the Project Area to Live Oak Creek. Due to the disturbed and developed nature of the Project Area, there is a low potential for both historic-period and pre-contact resources to exist in the subsurface. Impacts would be less than significant with incorporation of Mitigation Measure **CUL-1**.

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

According to the City's General Plan, likely areas for finding archaeological artifacts include Yucaipa Creek in Live Oak Canyon, its tributary, and the canyon (City of Redlands 2017b). The Project Area includes Oakmont Park, near Live Oak Canyon. As stated above, no previously recorded cultural resources were identified in the Project Area by the CHRIS records search and no pre-contact or historic-era cultural resources were identified during the field survey conducted by ECORP (ECORP 2021b).

Due to the disturbed and developed nature of the Project Area, there is a low potential for both historic-period and pre-contact resources to exist in the subsurface. However, there always remains the potential for additional ground-disturbing activities to expose previously unrecorded cultural resources. CEQA requires the Lead Agency to address any unanticipated cultural resource discoveries during Project construction. Impacts would be less than significant with incorporation of Mitigation Measure **CUL-2**.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

No formal cemeteries are located in or near the Project Area. Most Native American human remains are found in prehistoric archaeological sites. No impacts to human remains are anticipated; however, if any are encountered during ground disturbing construction activities, existing regulations (§7050.5 of the California Health and Safety Code, §5097.98 of the California Public Resources Code, and Assembly Bill [AB] 2641) are in place which detail the actions that must be taken if such discoveries are made. Implementation of mitigation measure **CUL-3** would reduce impacts to a less than significant level.

4.5.3 Mitigation Measures

CUL-1: In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period.

CUL-2: If significant pre-contact and/or post-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.

CUL-3: If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.

4.6 Energy

4.6.1 Environmental Setting

Introduction

Energy consumption is analyzed in this Initial Study due to the potential direct and indirect environmental impacts associated with the Project. Such impacts include the depletion of nonrenewable resources (oil, natural gas, coal, etc.) and emissions of pollutants during the construction phase. The impact analysis focuses on the source of energy that is relevant to the Proposed Project: the equipment-fuel necessary for Project construction.

Environmental Setting

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear. Southern California Edison (SCE) provides electrical services to San Bernardino County through State-regulated public utility contracts. Southern California Edison, the largest subsidiary of Edison International, is the primary electricity supply company for much of Southern California. It provides 14 million people with electricity across a service territory of approximately 50,000 square miles. The Southern California Gas Company provides natural gas services to the Project Area. Southern California Gas services approximately 21.6 million customers, spanning roughly 20,000 square miles of California.

The California Public Utilities Commission (CPUC) regulates SCE and the Southern California Gas Company. The CPUC has developed energy efficiency programs such as smart meters, low-income programs, distribution generation programs, self- generation incentive programs, and a California solar initiative. Additionally, the California Energy Commission (CEC) maintains a power plant data base that describes all of the operating power plants in the state by county. San Bernardino County contains 136 power plants generating electricity, of which 102 are solar-powered, 15 are natural gas-fired, 14 are hydro-powered, three are wind-powered, one is coal-fired and one is a geothermal facility (CEC 2019).

Fuel Consumption

Fuel consumption during Project construction is analyzed in this analysis as the primary source of energy use that is relative to the Proposed Project. Automotive fuel consumption in San Bernardino County from 2016 to 2020 is shown in Table 4.6-1. Fuel consumption has increased between 2016 and 2020.

Table 4.6-1. Automotive Fuel Consumption in San Bernardino County 2016-2020

Year	Total Fuel Consumption (gallons)
2020	1,045,715,000
2019	1,171,836,000
2018	1,168,322,000
2017	1,171,367,000
2016	1,150,346,000

Source: CARB 2021

4.6.2 Energy (VI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

Less than Significant Impact.

The impact analysis focuses on the source of energy that is relevant to the Proposed Project: equipment-fuel necessary for Project construction. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use project. For the purpose of this analysis, the amount of fuel necessary for Project construction is calculated and compared to that consumed in San Bernardino County. The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1. (See Appendix C). Energy consumption associated with the Proposed Project is summarized in Table 4.6-2.

Table 4.6-2. Proposed Project Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Project Construction	8,374 gallons	0.0008 percent

Source: Climate Registry 2016. See Appendix C.
Notes: The Project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2020, the most recent full year of data.

Fuel necessary for Project construction would be required for the operation and maintenance of construction equipment and the transportation of materials to the Project Area. The fuel expenditure necessary to construct the physical infrastructure would be temporary, lasting only as long as Project construction. As shown, the Project's fuel consumption during the construction phase is estimated to be 8,374 gallons over the course of construction. This would increase the combined annual countywide fuel use by 0.0008 percent. As such, Project construction would have a nominal effect on local and regional energy supplies. No unusual Project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Proposed Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

None of the components of the Proposed Project would include the provision of new buildings or any other substantial energy consuming components. Nor would the Project instigate new gasoline-consuming vehicle trips over existing conditions. Therefore, by its nature, the Project would not cause wasteful, inefficient, and unnecessary consumption of energy from long-term operations over existing conditions.

For these reasons, this impact would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Less than Significant Impact.

As previously described, the impact analysis contained herein focuses on the fuel consumption needed for Project construction. As shown, Project fuel consumption would be negligible and would not be considered inefficient, wasteful, or unnecessary with regard to energy. The Project would comply with relevant energy conservation policies included in the City of Redlands General Plan (City of Redlands 2017), many of which are included in the Sustainability Chapter. A major overarching goal of the Sustainability Element is to ensure that development in the City aligns with the City's resource conservation goals. The Project would not conflict or obstruct any local or state plans for renewable energy or energy efficiency. For these reasons, this impact would be less than significant.

4.6.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.7 Geology and Soils

4.7.1 Environmental Setting

Geomorphic Setting

The City of Redlands lies within the geologically active Southern California region, which is subject to earthquakes of varying magnitudes. The City's Planning Area is bounded to the northeast by the San Andreas fault zone and to the southwest by the San Jacinto fault zone. It is traversed by the Crafton Hills fault zone through southern Redlands, Crafton, and Mentone. Portions of these fault zones are designated Alquist-Priolo fault zones (City of Redlands 2017a). In addition, the Reservoir Canyon fault of the Crafton Hills fault zone, which crosses the unincorporated portion of the City's Planning Area and part of southeast Redlands, is within a San Bernardino County-designated fault zone.

Due to its position among a high number of active or potentially active faults, the City of Redlands may be subject to both primary (fault rupture) and secondary effects of seismic activity, including ground shaking, liquefaction, slope collapse/landslides, and dam-related hazards.

The dominant soil series in the City of Redlands are the Hanford, Soboba, Tujunga, Ramona, and Cieneba soil series. The Hanford soil series is characterized by very deep, well drained soils formed in moderately coarse alluvium. The Soboba soil series is characterized by deep, excessively drained soils formed in alluvium from primarily granitic sources. Tujunga and Ramona soils are formed in alluvium from granitic sources and have moderate to low slopes. The Cieneba soil series are shallow, somewhat excessively drained soils formed from weathered granitic rock.

The City of Redlands sits on the Upper Santa Ana River Basin and the Bunker Hill, Yucaipa, San Timoteo, and Rialto-Colton subbasins. Groundshaking is more pronounced in areas of unconsolidated alluvium, which tend to transfer relatively greater intensities of motion to the surface during a seismic event. As much of the City is situated on alluvial deposits, there is potential for severe groundshaking impacts (City of Redlands 2017a). Ground shaking causes liquefaction, a phenomenon by which soil, due to saturation by ground water, assumes properties of a liquid, caused by ground shaking. Liquefaction causes shifting and settling of structural foundations, settling of roadways and rupture of underground pipes and cables. Portions of the City are susceptible to liquefaction, including areas along the Santa Ana River Wash and near Mentone. Since a majority of Redlands is situation on alluvial fan deposits, there may be potential for impacts related to liquefaction as a result of severe seismic shaking (City of Redlands 2017a).

Regional Seismicity and Fault Zones

An "active fault," according to California Department of Conservation, Division of Mines and Geology, is a fault that has indicated surface displacement within the last 11,000 years. A fault that has not shown geologic evidence of surface displacement in the last 11,000 years is considered "inactive." There are many active faults in and near the Redlands area, including the San Andreas, San Jacinto, and Crafton Hills fault zone; portions of these fault zones are designated Alquist-Priolo fault zones (City of Redlands 2017a). In addition, the Reservoir Canyon fault of the Crafton Hills fault zone, which crosses the

unincorporated portion of the City's Planning Area and part of southeast Redlands, is within a San Bernardino County-designated fault zone.

The City of Redlands is approximately 3 miles from the San Gorgonio Pass fault zone, 14 miles from the Banning fault zone, and 26 miles from the Cucamonga fault zone (City of Redlands 2017a).

Soils

The underlying geology of the Project Area as Quaternary sediments dated to the Holocene (Qc). This geologic deposit is described as alluvium (Qa) and Quaternary older alluvium (Qoa) dating to the Pleistocene, consisting of unconsolidated to slightly coherent, essentially undissected deposits of sand, gravel, and boulders that form active and recently active parts of alluvial fans (ECORP 2021b).

Soils within the Project Area consist of Saugus Sandy loam (ShF, 30 to 50 percent slopes), San Timoteo loam (SgF2, 30 to 50 percent slopes, eroded), and San Emigdio fine sandy loam (SgA, 2 to 9 percent slopes) (Huitt-Zollars 2021). Saugus soils are weakly consolidated and are subject to rapid runoff and present moderate to high erosion hazards on slopes greater than 30 percent (City of Redlands 2017a).

4.7.2 Geology and Soils (VII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐

Less than Significant Impact.

i) According to the U.S. Geological Survey (USGS), the San Andreas, San Jacinto, and Crafton Hills faults are the active faults in the Redlands area. Portions of these faults in the area are designated Alquist-Priolo fault zones. An unnamed portion of the Crafton Hills Fault is located south of the Project Area (City of Redlands 2017a). Though the Crafton Hills fault zone is an

active fault, the California Geological Survey does not currently have a prediction of maximum potential magnitude for this fault system. The Proposed Project does not propose the construction of habitable structures and therefore would not expose people or structures to risk of loss, injury, or death as a result of rupture of a known earthquake fault. Impacts would be less than significant.

Less than Significant Impact.

ii) Just like most of southern California, in the event of an earthquake strong ground shaking is expected to occur in the Project Area. The Proposed Project does not propose the construction of habitable structures and therefore would not expose people or structures to strong seismic ground shaking greater than what currently exists. The Proposed improvements of new check dams, rip rap aprons, gabion block walls, and culverts with headwalls would comply with current building codes and standards which would reduce the risk of loss, injury, or death resulting from strong ground-shaking. Impacts would be less than significant.

Less than Significant Impact.

iii) Liquefaction is a phenomenon where water-saturated granular soil loses shear strength during strong ground shaking produced by earthquakes. The loss of soil strength occurs when cyclic pore water pressure increases below the groundwater surface. Potential hazards due to liquefaction include the loss of bearing strength beneath structures, possibly causing foundation failure and/or significant settlements.

Portions of the City are susceptible to liquefaction, including areas along the Santa Ana River Wash and near the adjacent census-designated place, Mentone. Since a majority of Redlands is situation on alluvial fan deposits, there may be potential for impacts related to liquefaction as a result of severe seismic shaking (City of Redlands 2017b). The Project Area is located at the City's southeastern border. It is located in an area of low liquefaction susceptibility (City of Redlands 2017a). A less than significant impact would occur.

Less than Significant Impact.

iv) According to the General Plan, surface erosion and slides are not common conditions because a majority of the soils in the City's Planning Area are well-drained (City of Redlands 2017b). However, segments of Live Oak Canyon near the Project Area are exceptions as they contain weakly consolidated Saugus soils. The Project Area is located in an area with low to medium landslide susceptibility (City of Redlands 2017a). The Project Area is located within the upper portions of Live Oak Canyon and surrounding topography is mildly sloped and drops steeply to the south beyond the limits of Oakmont Park (ECORP 2021a). Accordingly, a less than significant impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Less than Significant Impact.

Implementation of the Proposed Project would require ground-disturbing activities, such as grading, that could potentially result in soil erosion or loss of topsoil. Construction of the Proposed Project would be required to comply with the Construction General Permit, either through a waiver or through preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Best Management Practices (BMPs) included in the SWPPP would minimize soil erosion during construction. The Proposed Project's grading plan would also ensure that the proposed earthwork is conducted in a manner that prevents or reduces the potential for soil erosion. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

Less than Significant Impact.

Strong ground shaking can cause settlement, lateral spreading, or subsidence by allowing sediment particles to become more tightly packed, thereby reducing pore space. The Project is being implemented to increase slope stabilization along Live Oak Canyon Creek, which has eroded slowly over time. The upper portions of Live Oak Canyon and surrounding topography is mildly sloped and drops steeply to the south beyond the limits of Oakmont Park (ECORP 2021a). The Project Area is located in an area with low to medium landslide susceptibility (City of Redlands 2017a). The Proposed Project would not construct habitable structures; therefore, it would not contribute to or expose people or structures to substantial adverse effects associates with on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒

No Impact.

Expansive soils generally result from specific clay minerals that have the capacity to shrink or swell in response to changes in moisture content. Soils within the Project Area consist of Saugus Sandy Loam (ShF, 30 to 50 percent slopes), San Timoteo Loam (SgF2, 30 to 50 percent slopes, eroded), and San Emigdio fine sandy loam (SgA, 2 to 9 percent slopes). The Live Oak Canyon Creek bed soils are mainly described as sand (70 to 84 percent) with gravel (15 to 29 percent), with clay and silt amounts that are negligible (Huitt-Zollars 2021).

All soils have low shrink-swell potential and generally do not expand or shrink enough to cause damage. Additionally, the Proposed Project does not propose any habitable structures; therefore, it would not create a substantial direct or indirect risk to life or property. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 waste water?	☐	☐	☐	☒

No Impact.

The Proposed Project would install new check dams, rip rap aprons, gabion block walls, and culverts with headwalls. No septic tanks are proposed. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

According to the City's General Plan, there is potential for paleontological finds to occur in remaining, unexcavated open space areas within and adjacent to the City (City of Redlands 2017b). Fossils have been discovered in the Redlands area, namely in the San Timoteo Canyon area.

The geologic unit underlying the Project Area is mapped entirely as alluvial fan deposits dating to the Holocene epoch with alluvial fan deposits dating to the Pleistocene beginning along the north and eastern project border. Holocene alluvial units are not typically considered to be of high paleontological sensitivity, however Pleistocene alluvial units are. Over 15,000 Pleistocene fossil specimens were found in localities with similarly mapped Holocene alluvial sediments approximately 3.5 miles southeast of the Project Area. Based on those findings, it is possible that the Holocene mapped sediments underlying the Project Area may actually be older than indicated.

There is a possibility that paleontological resources exist at sub-surface levels in the Project Area and may be uncovered during grading and excavation activities. Any fossils recovered from the Project Area would be scientifically significant, therefore any excavation activity associated with development of the area has the potential to impact the paleontologically sensitive Pleistocene alluvial units. Implementation of Mitigation Measure **GEO-1** would ensure that if any such paleontological resources are found during construction of the Proposed Project, they would be handled according to the proper regulations and any potential impacts would be reduced to less than significant levels.

4.7.3 Mitigation Measures

GEO-1: If paleontological resources (i.e., fossil remains) are discovered during excavation activities, the contractor will notify the City and cease excavation within 100 feet of the find until a qualified paleontological professional can provide an evaluation of the site. The qualified paleontological professional will evaluate the significance of the find and recommend appropriate measures for the disposition of the site (e.g. fossil recovery, curation, data recovery, and/or monitoring). Construction activities may continue on other parts of the construction site while evaluation and treatment of the paleontological resource takes place.

4.8 Greenhouse Gas Emissions

4.8.1 Environmental Setting

Certain gases in the earth's atmosphere, classified as greenhouse gasses (GHGs), play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weigh each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

The local air quality agency regulating the SoCAB is the SCAQMD, the regional air pollution control officer for the basin. To provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, SCAQMD staff convened a GHG CEQA Significance Threshold Working Group. The Working Group was formed to assist the SCAQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the State Office of Planning and Research (OPR), CARB, the Attorney General's Office, a variety of city and county planning departments in the Basin, various utilities such as sanitation and power companies throughout the Basin, industry groups, and environmental and professional organizations. The GHG CEQA Significance Threshold Working Group recommended the options of a numeric bright-line and efficiency-based threshold of 3,000 metric tons of CO_2e annually and an efficiency-based threshold of 3.0 metric tons of CO_2e per service population (defined as the people that congregate in the Project Area) per year in 2035. The numeric bright line and efficiency-based thresholds were developed to be consistent with CEQA requirements for developing significance thresholds, are supported by substantial evidence, and provide guidance to CEQA practitioners and lead agencies with regard to determining whether GHG emissions from a proposed project are significant.

In *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, Public Resources Code section 21003(f) provides it is a policy of the state that

"[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts." (Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Redlands may set a project-specific threshold based on the context of each particular project, including using the SCAQMD Working Group expert recommendation. This standard is appropriate for this Project because it is in the same air quality basin that the experts analyzed. For the Proposed Project, the SCAQMD's 3,000 metric tons of CO_2e per year threshold is used as the significance threshold in addition to the qualitative thresholds of significance set forth below from Section VII of CEQA Guidelines Appendix G. The 3,000 metric tons of CO_2e per year threshold represents a 90 percent capture rate (i.e., this threshold captures projects that represent approximately 90 percent of GHG emissions from new sources). The 3,000 metric tons of CO_2e per year value is typically used in defining small projects within this air basin that are considered less than significant because it represents less than one percent of future 2050 statewide GHG emissions target and the lead agency can provide more efficient implementation of CEQA by focusing its scarce resources on the top 90 percent. This threshold is correlated to the 90 percent capture rate for development projects within the air basin. Land use projects above the 3,000 metric tons of CO_2e per year level would fall within the percentage of largest projects that are worth mitigating without wasting scarce financial, governmental, physical and social resources (Crockett 2011). As noted in the academic study, the fact that small projects below a numeric bright line threshold are not subject to CEQA-based mitigation, does not mean such small projects do not help the state achieve its climate change goals because even small projects participate in or comply with non-CEQA-based GHG reduction programs, such as constructing development in accordance with statewide GHG-reducing energy efficiency building standards, called Cal Green or Title 24 energy-efficiency building standards (Crockett 2011).

Additionally, the Project is also evaluated for compliance with the City Climate Action Plan (CAP), which establishes an overall GHG target for the Project region consistent with long-term (beyond 2020) GHG reduction goals. Successful implementation of City CAP will enable the City to meet the standards outlined in California's 2017 Scoping Plan (City of Redlands 2017c). As previously described, the CAP has been prepared concurrently with the updated Redlands General Plan, reflecting the City's most current land use and transportation strategy, and GHG implications of various General Plan's goals and policies. Thus, according to the CAP, implementation of projects consistent with the General Plan would not

require additional GHG analysis in accordance with CEQA (City of Redlands 2017c) and would be considered less than significant.

Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Less than Significant Impact.

Construction-Generated GHG Emissions

Construction of the Project would generate GHG emissions from worker commute trips, haul trucks carrying supplies and materials to and from the Project Area, and off-road construction equipment (e.g., excavators, graders). Table 4.8-1 illustrates the specific construction generated GHG emissions that would result from construction of the Project. Once construction is complete, the generation of these GHG emissions would cease.

Table 4.8-1. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/ Year)
Construction in 2021	85
SCAQMD Screening Threshold	*3,000*
Exceed SCAQMD Threshold?	**No**

Source: CalEEMod version 2016.3.2. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.8-1, Project construction would result in the generation of approximately 85 metric tons of CO_2e over the course of construction and would have a less than significant impact. Once construction is complete, the generation of these GHG emissions would cease.

Operational GHG Emissions

Once construction is complete, the Proposed Project would not include the provision of new permanent stationary or mobile sources of GHG emissions, and therefore, by its very nature, would not generate quantifiable GHG emissions from Project operations.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Less than Significant Impact.

The City of Redlands CAP (City of Redlands 2017c) is a strategic planning document that identifies sources of GHG emissions within the City's boundaries, presents current and future emissions estimates, identifies a GHG reduction target for future years, and presents strategic programs, policies, and projects to reduce emissions from the energy, transportation, land use, water use, and waste sectors. The GHG-reduction strategies in the CAP build on inventory results and key opportunities prioritized by City staff and members of the public. The CAP strategies identify the steps the City will take to support reductions in GHG emissions. The City will achieve these reductions in GHG emissions through a mix of voluntary programs and new strategic standards. All standards presented in the CAP respond to the needs of development, avoiding unnecessary regulation, streamlining new development, and achieving more efficient use of resources.

The City CAP identifies the fact that successful implementation of the City CAP will enable the City to meet the standards outlined in California's Scoping Plan (City of Redlands 2017c). The CAP has been prepared concurrently with the updated Redlands General Plan, reflecting the City's most current land use and transportation strategy, and GHG implications of various General Plan's goals and policies. Thus, according to the CAP, implementation of projects consistent with the General Plan would not require additional GHG analysis in accordance with CEQA (City of Redlands 2017c) and would be considered less than significant.

The Proposed Project is consistent with the land use designation and development density presented in the General Plan. As previously stated, the Project Area is located in Live Oak Canyon Creek and is proposing drainage and erosion control improvements. The Project is not proposing to amend the City General Plan and is thereby consistent with all land use designation applied to the site. Additionally, the Project would not increase the number of people residing or working in Redlands. Thus, the Proposed Project is consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the General Plan. Since the Project is consistent with the City General Plan, it is consistent with the City CAP.

4.8.2 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.9 Hazards and Hazardous Materials

4.9.1 Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Less than Significant Impact.

Some hazardous materials, such as diesel fuel, would be used in the Project Area during construction. The transport of hazardous materials by truck is regulated by federal safety standards under the jurisdiction of the U.S. Department of Transportation. The use of such materials for the construction of the Proposed Project would not create a significant hazard to the public. No hazardous materials would be transported, used, or disposed of during Project operation. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

Less than Significant Impact.

During construction some hazardous materials, such as diesel fuel, would be used. A SWPPP listing BMPs to prevent construction pollutants and products from violating any water quality standard or waste discharge requirements would be prepared for the Proposed Project. The release of any spills would be prevented through the implementation of BMPs listed in the SWPPP. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

No Impact.

The nearest schools to the Project Area are a public school, Mariposa Elementary School, and a private school, Montessori Kids Land Academy, located approximately 0.9 miles northwest and northeast, respectively. The Proposed Project is located more than one-quarter mile from an existing or proposed school. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

No Impact.

A search of the Department of Toxic Substances Control's (DTSC) Hazardous Waste and Substances Site List (Cortese List) and EnviroStor online database, USEPA Enviromapper, and the State Water Resources Control Board (SWRCB) GeoTracker online database was conducted for the Project Area (DTSC 2021a and 2021b; USEPA 2021; SWRCB 2021). The searches revealed no known hazardous materials in the Project Area or immediate vicinity. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

The Project is located over 5 miles south of the Redlands Municipal Airport. The Project is not located within an airport land use plan or within two miles of a public or public use airport that is currently in operation. The Proposed Project would not include the construction of habitable structures or other structures that could pose a safety hazard. Implementation of the Proposed Project would not affect airport operations nor result in increased exposure of people working in the Project Area to aircraft noise. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

Less than Significant Impact.

Construction of the Proposed Project would result in temporary construction truck traffic; however, this would not interfere with current evacuation routes or access of emergency vehicles to all communities. According to the 2007 San Bernardino County General Plan, the designated evacuation route for Redlands is I-10. Specific evacuation routes are designated during a specific emergency; however, potential evacuation routes include Redlands Boulevard and Lugonia Avenue (City of Redlands 2017b). A Traffic Control Plan will be prepared for the Proposed Project, Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

No Impact.

The Proposed Project is located near Live Oak Canyon, where vegetation such as annual grasses and brush are low in moisture and are highly susceptible to and capable of carrying fire (City of Redlands 2017b). It is located on land ranked by California Department of Forestry and Fire Protection (CAL FIRE) as Very High and Extreme Threat Fire Threat Levels (City of Redlands 2017a). The Project does not propose the construction of habitable structures and therefore would not expose people or structures to significant risk of loss, injury, or death involving wildland fires. No impact would occur.

4.9.2 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.10 Hydrology and Water Quality

4.10.1 Hydrology and Water Quality (X) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

Less than Significant Impact.

The City is a co-permittee under Santa Ana Regional Water Quality Control Board (RWQCB) Order Number R8-2010-0036, NPDES Permit No. CAS618036, also known as the Municipal Separate Storm Sewer System or MS4 permit. The San Bernardino County Water Quality Management Plan was developed to implement compliance with the MS4 permit. Pursuant to the requirements of the NPDES permit, the Proposed Project would be required to retain any additional runoff on site and discharge it to the storm drain system at rates that do not exceed pre-project conditions.

The focus of a construction SWPPP is to manage soil disturbance, non-storm water discharges, construction materials, and construction wastes during the construction phase of a Project. Potential water quality impacts associated with the Proposed Project include short-term construction-related erosion/sedimentation from ground-disturbing activities and construction-related hazardous material discharge. Since the SWPPP is specifically prepared to manage storm water quality and quantity, and prevent discharge of polluted runoff from the site, adherence to mandated SWPPP requirements would ensure potential impacts that could cause a violation of any water quality standards or waste discharge requirements is less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒

No Impact.

Currently, the Project is within San Bernardino Valley Municipal Water District (Valley District) service area, which addresses water supplies in the San Bernardino Regional Urban Water Management Plan (RUWMP). The City of Redlands provides drinking water to the City of Redlands and Mentone areas. Redlands supplies a blend of local groundwater, local surface water, and imported water purchased from Valley District. Valley District estimated water supply and demand within the City of Redlands in its 2016 RUWMP and addresses water demand and supply throughout the City. Water supplies available to the City are

sufficient to meet all existing customer demands and anticipated future customer demands, including the Project's demands under normal, single-dry year, and extended drought conditions. The RUWMP also discloses that, in the event of a water supply shortage or water emergency, the City has in place a water conservation ordinance, which serves as a Water Shortage Contingency Plan. The plan provides for mandatory cutbacks in water use so as not to endanger health, safety, and welfare of the citizens and property owners in the City (Water Systems Consulting, Inc. [WCS] 2016).

The Proposed Project does not include withdrawal of groundwater. There would be no substantial increase in impermeable surfaces in the Project Area compared to existing conditions. No impacts to groundwater supplies or recharge are anticipated.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) 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; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐

Less than Significant Impact.

i) Construction of the Proposed Project would require ground disturbing activities, including grading. These activities have the potential to result in erosion or siltation on- or off-site. Construction impacts would be less than significant with the implementation of standard construction BMPs. Once construction has completed, the creek in the Project Area would have an improved creek bed and improved bank stability. Impacts would be less than significant.

Less than Significant Impact.

ii) The Project proposes drainage and erosion control improvements for an existing creek in Oakmont Park. Planned impervious structures within the creek include new check dams, rip

rap aprons, gabion block walls, and culverts with headwalls which would improve bank stability and reduce heavy erosion due to surface runoff. The Project proposes to alter the current drainage of the Project Area but would not increase the rate or amount of runoff in a manner that would result in onsite or offsite flooding. Impacts would be less than significant.

Less than Significant Impact.

iii) The Project proposes drainage and erosion control improvements for an existing creek in Oakmont Park. Planned impervious structures within the creek include new check dams, rip rap aprons, gabion block walls, and culverts with headwalls which would improve bank stability and reduce heavy erosion due to surface runoff. The Project proposes to alter the current drainage of the Project Area but would not 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.

As previously discussed, a SWPPP would be implemented during construction of the Proposed Project. The SWPPP is specifically prepared to manage storm water quality and quantity and prevent discharge of polluted runoff from the site. Adherence to mandated SWPPP requirements would ensure potential impacts that could cause a violation of any water quality standards or waste discharge requirements is less than significant.

Less than Significant Impact.

iv) While the Project would alter the existing drainage pattern in the Project Area through the addition of impervious surfaces, including new check dams, rip rap aprons, gabion block walls, and culverts with headwalls, the implementation of these design features would reduce current stream bank migration and scouring and improve flood control of the Project Area. Proposed drainage and erosion control improvements would reduce this impact to less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒

No Impact.

The Federal Emergency Management Agency (FEMA) digital Flood Insurance Rate Map (FIRM) Panel #06071C8740H shows that the Project Area falls within a Zone D Special Flood Hazard Area, or an area that has not been studied (FEMA 2021). Additionally, the Project Area is located approximately 50 miles northeast of the Pacific Ocean; therefore, tsunamis are not a risk for the Project Area. The Project Area is also not located near any reservoirs or lakes that could produces seiches. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

No Impact.

As discussed above, the City of Redlands has estimated water supply and demand within the San Bernardino RUWMP and addresses water demand and supply throughout the City. Water supplies available to the City are sufficient to meet all existing customer demands and anticipated future customer demands, including the Project's demands under normal, single-dry year, and extended drought conditions. The Proposed Project would construct drainage and erosion control measures and does not include withdrawal of groundwater. There would be no substantial increase in impermeable surfaces in the Project Area compared to existing conditions. No conflict with a groundwater management plan is anticipated.

Potential water quality impacts associated with the Proposed Project include short-term construction-related erosion/sedimentation from ground-disturbing activities and construction-related hazardous material discharge. Impacts associated with construction-related water quality impacts would be avoided or reduced to a level below significance through implementation of standard construction BMPs. No conflict with a groundwater quality control plan would occur.

4.10.2 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.11 Land Use and Planning

4.11.1 Environmental Setting

The Project is located in the City of Redlands, south of Southerland Drive and east of the Oak Ridge Trail parking lot. The Project is designated as Parks/Golf Courses and bounded by Sutherland Drive with residences beyond to the north, undeveloped land to the east and south, and the Oak Ridge Trail parking lot to the west with residences beyond, as described in Table 1-1 in Section 1.3, Surrounding Land Uses/Environmental Setting, of this Initial Study.

4.11.2 Land Use and Planning (XI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒

No Impact.

The Proposed Project consists of drainage and erosion control improvements to tributaries within Oakmont Park and does not propose construction of habitable structures. Due to the nature of the Proposed Project it would not physically divide an established community and no impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

No Impact.

The Proposed Project consists of drainage and erosion control improvements to tributaries in Oakmont Park, land designated as Parks/Golf Courses. Proposed improvements in the Project Area would not conflict with any applicable land use plans or policies. No impact would occur.

4.11.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.12 Mineral Resources

4.12.1 Environmental Setting

The State Mining and Geology Board establishes Mineral Resource Zone (MRZ) designations that quantify the mineral resource potential for specific locations across California. According to the City's General Plan, Redlands is located in the MRZ-1, MRZ-2, and MRZ-3 zones. The MRZ-1 Mineral Resource Zone is defined as a zone where available geologic information indicates that little likelihood exists for the presence of significant mineral resources. The MRZ-2 Mineral Resource Zone is defined as an area where geologic data indicate that significant Portland cement concrete (PCC)-Grade aggregate resources are present. The MRZ-3 Mineral Resource Zone is defined as an area containing known or inferred mineral occurrences of undetermined mineral resource significance (City of Redlands 2017b).

4.12.2 Mineral Resources (XII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

The Project is located in MRZ-3, which is defined as an area where the significance of mineral deposits cannot be determined from the available data. The Project is not located on a known important mineral resource recovery site (City of Redlands 2017b). No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

No Impact.

According to the General Plan, the Santa Ana Wash area, which is located in the MRZ-2 zone, contains high quality construction aggregates that have been mined since the 1920s. A majority of the City, including the Project Area, is in a MRZ-3 zone. There is not sufficient information available to determine whether the deposits in the MRZ-3 are significant. There is a projected 50-year demand of 476 million tons of aggregate for the San Bernardino Production-Consumption Region until the year 2037, and 10.45 billion tons are potentially available as resources within the Santa Ana Wash region. No mining activities currently exist on the Project Area and it is not zoned or available for mining (City of Redlands 2017b). Therefore, no impact to locally important mineral resources would occur.

4.12.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.13 Noise

4.13.1 Environmental Setting

Noise Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in L_{eq}) and the average daily noise levels/community noise equivalent level (in L_{dn}/CNEL). The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level (L_{eq})** is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating

scale does not vary, regardless of whether the noise occurs during the day or the night.

- **Day-Night Average (L_{dn})** is a 24-hour average L_{eq} with a 10-dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- **Community Noise Equivalent Level (CNEL)** is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 p.m. to 10:00 p.m. and a 10-dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately six dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Federal Highway Administration [FHWA] 2011). No excess attenuation is assumed for hard surfaces like a parking lot or body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of three dB per doubling of distance is assumed (FHWA 2011).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about five dBA, while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction of 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. [WEAL] 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the line of sight between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the line of sight between the source and the receiver.

The manner in which older structures in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (Caltrans 2002). The exterior-to-interior reduction of newer structures is generally 30 dBA or more (Harris Miller, Miller & Hanson Inc. [HMMH] 2006). Generally, in exterior noise environments ranging from 60 dBA Community Noise Equivalent Level (CNEL) to 65 dBA CNEL, interior noise levels can typically be maintained below 45 dBA, a typically residential interior noise standard, with the incorporation of an adequate forced air mechanical ventilation system in each residential building, and standard thermal-pane residential windows/doors with a minimum rating of Sound Transmission Class (STC) 28. Sound Transmission Class is an integer rating of

how well a building partition attenuates airborne sound. In the U.S., it is widely used to rate interior partitions, ceilings, floors, doors, windows, and exterior wall configurations.) In exterior noise environments of 65 dBA CNEL or greater, a combination of forced-air mechanical ventilation and sound-rated construction methods is often required to meet the interior noise level limit. Attaining the necessary noise reduction from exterior to interior spaces is readily achievable in noise environments less than 75 dBA CNEL with proper wall construction techniques following California Building Code methods, the selections of proper windows and doors, and the incorporation of forced-air mechanical ventilation systems.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60- to 70-dBA range, and high, above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of one dBA cannot be perceived by humans.
- Outside of the laboratory, a three dBA change is considered a just-perceivable difference.
- A change in level of at least five dBA is required before any noticeable change in community response would be expected. An increase of five dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Vibration Sources and Characteristics

Sources of earthborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or manmade causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions).

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV), another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high-noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. For instance, heavy-duty trucks generally generate groundborne vibration velocity levels of 0.006 PPV at 50 feet under typical circumstances, which is considered very unlikely to cause damage to buildings of any type. Common sources for groundborne vibration are planes, trains, and construction activities such as earth moving, which requires the use of heavy-duty earthmoving equipment.

Noise Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

As stated previously, the Project is proposing drainage and erosion control improvements on a segment of stream bank in Live Oak Canyon Creek. The nearest noise-sensitive receptors to the Project are residences located on Sutherland Drive with the closest being approximately 70 feet distant from the northern Project boundary.

Existing Ambient Noise Environment

The City of Redlands is affected by various noise sources. It is subject to typical urban noise such as noise generated by traffic, heavy machinery, and day-to-day outdoor activities. Mobile sources of noise, especially cars and trucks, are the most common source of noise in the community. Other sources of noise are the various land uses (i.e., residential, commercial, institutional, and recreational and park activities)

throughout the city that generate stationary-source noise. The Redlands Municipal Airport is located approximately five miles north of the Project.

In order to quantify existing ambient noise levels in the Project Area, ECORP Consulting, Inc. conducted four short-term noise measurements on April 29, 2021. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the Project Area (see Appendix D). The 10-minute measurements were taken between 11:40 a.m. and 12:59 p.m. Short-term (Leq) measurements are considered generally representative of the noise levels throughout the daytime. The Project's ambient recorded noise levels ranged from 39.5 dBA to 65.9 dBA in the vicinity of the Project Area (see Appendix D). The noise most commonly in the Project vicinity is produced by automotive vehicles (cars, trucks, buses, motorcycles) traveling on area roadways that surround the Project Area such as Live Oak Canyon Road and Sutherland Drive. Traffic moving along streets produces a sound level that remains relatively constant and is part of the Project Area's minimum ambient noise level. Vehicular noise varies with the volume, speed, and type of traffic. Slower traffic produces less noise than fast moving traffic. Trucks typically generate more noise than cars. Infrequent or intermittent noise also is associated with vehicles, including sirens, vehicle alarms, slamming of doors, garbage, and honking of horns. These noises add to urban noise and are regulated by a variety of agencies.

4.13.2 Noise (XIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

Less than Significant Impact.

Onsite Construction Noise

Construction noise associated with the Proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., grading, drilling, paving). Noise generated by construction equipment, including earthmovers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). Construction noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

Nearby noise-sensitive land uses consist of residences located on Sutherland Drive with the closest being approximately 70 feet distant from the northern Project Area boundary. Section 8.06.120 of the City's Municipal Code states that the noise standards shall not apply to noise sources associated with new construction, remodeling, rehabilitation, or grading of any private property provided such activities take place between the hours of 7:00 a.m. and 8:00 p.m. on weekdays, including Saturdays, with no activity taking place at any time on Sundays or federal holidays.

To estimate the worst-case onsite construction noise levels that may occur at the nearest noise-sensitive receptors in the Project vicinity and evaluate the potential health-related effects (physical damage to ear) from construction noise, the construction equipment noise levels were calculated using the Roadway Noise Construction Model for the construction process and compared against the construction-related noise level threshold established in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998 by National Institute for Occupational Safety and Health (NIOSH). A division of the US Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than eight hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than four hours per day, 92 dBA for more than one hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. NIOSH considers exposure at or above this level to be hazardous. For the purposes of this analysis, the lowest, more conservative threshold of 85 dBA L_{eq} is used as an acceptable threshold for construction noise at the nearby existing sensitive receptors.

The anticipated short-term construction noise levels generated for the necessary construction equipment are presented in Table 4.13-1.

Table 4.13-1. Construction Average (dBA) Noise Levels at Nearest Receptor

Equipment	Estimated Exterior Construction Noise Level @ 70 feet	Construction Noise Standard (dBA L_{eq})	Exceeds Standards at Nearest Sensitive Receptor?
Site Preparation (clearing and miscellaneous activities)			
Excavators (1)	73.8	*85*	**No**
Graders (1)	78.1	*85*	**No**
Tractors/Loaders/Backhoes (1)	77.1	*85*	**No**
Combined Site Preparation Equipment	81.5	*85*	**No**
Excavation			
Concrete/Industrial Saws (1)	79.7	*85*	**No**
Excavators (1)	73.8	*85*	**No**
Rubber Tired Dozers (1)	74.8	*85*	**No**
Tractors/Loaders/Backhoes (2)	77.1 (each)	*85*	**No**
Combined Excavation Equipment	**84.0**	*85*	**No**

Equipment	Estimated Exterior Construction Noise Level @ 70 feet	Construction Noise Standard (dBA L_{eq})	Exceeds Standards at Nearest Sensitive Receptor?
Building Construction (headwall and gabion wall)			
Cranes (1)	69.7	*85*	**No**
Forklifts (2)	76.5 (each)	*85*	**No**
Tractors/Loaders/Backhoes (2)	77.1 (each)	*85*	**No**
Combined Building Construction	**83.0**	*85*	**No**
Site Finalization (removal of nonnative vegetation and replacement of landscaping)			
Graders (1)	78.1	*85*	**No**
Excavators (1)	73.8	*85*	**No**
Tractors/Loaders/Backhoes (1)	77.1 (each)	*85*	**No**
Combined Site Finalization Equipment	**82.8**	*85*	**No**

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). See Appendix D.

Notes: Construction equipment used during construction derived from CalEEMod 2016.3.2. CalEEMod is designed to calculate air pollutant emissions from construction activity and contains default construction equipment and usage parameters for typical construction projects based on several construction surveys conducted in order to identify such parameters.

As shown, no cumulative or individual piece of construction equipment would exceed 85 dBA NIOSH construction noise standard at the nearby noise- sensitive receptors and no health effects from construction noise would occur. It is noted that construction noise was modeled on a worst-case basis. It is very unlikely that all pieces of construction equipment would be operating at the same time for the various phases of Project construction as well as at the point closest to residences.

Construction Worker Traffic Noise

Project construction would result in additional traffic on adjacent roadways over the period that construction occurs. According to the CalEEMod model, which is used to predict air pollutant emissions associated with Project construction, including those generated by worker commute trips, the maximum number of construction workers and haul trucks traveling to and from the Project on a single day is not expected to exceed 25 trips in total (18 construction worker trips and 7 vendor trips). According to Caltrans, *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). In addition to accommodating traffic trips to the individual residences in the neighborhood, Sutherland Drive is used to access the Oak Ridge Trail, located directly adjacent to the Project Area. There are nine residences fronting the segment of Sutherland Drive between the Oak Ridge Trail parking lot and Ashford Drive. According to the Institute of Transportation Engineers' 10th Edition Trip Generation Manual (2017), single family homes generate an average of 9.44 trips daily,

and therefore these nine residences could be expected to contribute up to 85 traffic trips daily to this segment of Sutherland Drive (9.44 x 9 = 84.9). Additionally, the Oak Ridge Trail is an easily accessible hiking trail suited for all skill levels that is open daily to the public and offers scenic views of the San Bernardino Mountains. Due to the surrounding residential neighborhood and consistent trail usage along the Oak Ridge Trail, Sutherland Drive accommodates more than 25 vehicle trips daily. Thus, the Project construction would not result in a doubling of traffic, and therefore its contribution to existing traffic noise would not be perceptible.

Project Operational Offsite Noise Impacts

The Project is proposing drainage and erosion control improvements on a segment of stream bank in Live Oak Canyon Creek. Once construction and implementation of those improvements is complete, no additional daily vehicle trips would be associated with the Project. Thus, the Project would not contribute to traffic noise levels.

Project Operational Onsite Noise Impacts

The Project is proposing drainage and erosion control improvements in Oak Canyon Creek. Upon completion of the proposed improvements, the Project's noise environment would remain unchanged from its current state.

Construction noise for the Proposed Project was determined to be less than significant following compliance with the City's construction noise standards.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

Less than Significant Impact.

Construction-Generated Vibration

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Proposed Project would be primarily associated with short-term construction-related activities. Construction in the Project Area would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is not anticipated that pile drivers would be necessary during Project construction. Vibration decreases rapidly with distance and it is acknowledged that construction activities would occur throughout the

Project Area and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment are summarized in Table 4.13-2.

Table 4.13-2. Representative Vibration Source Levels for Construction Equipment

Equipment Type	PPV at 25 Feet (inches per second)
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Hoe Ram	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: Federal Transit Administration (FTA) 2018; Caltrans 2020

The City of Redlands does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020) recommended standard of 0.2 inch per second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings. The nearest structures of concern to the construction site is a residence located on Sutherland Drive approximately 70 feet distant of the Project Area boundary.

Based on the representative vibration levels presented for various construction equipment types in Table 4.13-2 and the construction vibration assessment methodology published by the FTA (2018), it is possible to estimate the potential Project construction vibration levels. The FTA provides the following equation:

$$[PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}]$$

Table 4.13-3 presents the expected Project related vibration levels at a distance of 70 feet.

Table 4.13-3. Construction Vibration Levels at 70 Feet

Receiver PPV Levels (in/sec)[1]					Peak Vibration	Threshold	Exceed Threshold
Small Bulldozer	Jackhammer	Loaded Trucks	Large Bulldozer, Caisson Drilling, and Hoe Ram	Vibratory Roller			
0.006	0.007	0.016	0.018	0.044	**0.044**	*0.2*	**No**

Notes: [1]Based on the Vibration Source Levels of Construction Equipment included on Table 4.13-2 (FTA 2018).

As shown in Table 4.13-3, groundborne vibrations attenuate rapidly from the source due to geometric spreading and material damping. Geometric spreading occurs because the energy is radiated from the source and spreads over an increasingly large distance while material damping is a property of the friction loss which occurs during the passage of a vibration wave. Vibration as a result of construction activities would not exceed 0.2 PPV at the nearest structure. Thus, Project construction would not exceed the recommended threshold.

Operational Groundborne Vibration

Project operations would not include the use of any stationary equipment that would result in excessive vibration levels.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) For a project located within the vicinity of a private airstrip or 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?	☐	☐	☐	☒

No Impact.

The Project is located over five miles south of the Redlands Municipal Airport. The Project is not located within an airport land use plan or within two miles of a public or public use airport that is currently in operation. Implementation of the Proposed Project would not affect airport operations nor result in increased exposure of people working in the Project Area to aircraft noise. No impact would occur.

4.13.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.14 Population and Housing

4.14.1 Population and Housing (XIV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned 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)?	☐	☐	☐	☒

No Impact.

The Proposed Project would improve drainage and erosion control for the existing tributaries in Oakmont Park and would not directly or indirectly induce population growth. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact.

The Proposed Project does not include the removal or disturbance of existing housing; therefore, it would not displace people. The proposed drainage and erosion control improvements would be implemented in already existing tributaries in Oakmont Park. No impact to housing would occur.

4.14.2 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.15 Public Services

Fire Services

The Redlands Fire Department provides fire suppression, paramedic, technical rescue, hazardous materials, and lifeline services for the City of Redlands, and unincorporated portions of the City's Planning Area are served by the San Bernardino County Fire Department and CAL FIRE. There is an automatic mutual aid agreement with all surrounding fire agencies, including Loma Linda Stations 251 and 252, Mentone Station 9, and City of San Bernardino Stations 228 and 231 for the collective provision of fire, rescue, and emergency medical dispatch services (City of Redlands 2017b). Redlands Fire Department also has a mutual aid agreement with Riverside County to the south, the City of Highland to the north, and the City of Yucaipa to the east. Redlands has four fire stations that provide service to the City. The nearest fire station to the Project Area is Fire Station 262, located at 1690 Garden Street, Redlands, approximately two miles northwest of the Project.

Police Services

The Redlands Police Department provides public safety services for the City. The main police station is located at 1270 West Park Avenue, with four other divisions located citywide (City of Redlands 2017b). The nearest police station to the Project is located at 30 Cajon Street, Redlands, approximately 4.5 miles northwest of the Project Area (City of Redlands 2017a).

Schools

The Project is located within the Redlands Unified School District (RUSD). The RUSD serves the City of Redlands and the surrounding communities of Mentone and Crafton in the City's Planning Area, as well as Loma Linda and the eastern portion of Highland (City of Redlands 2017b). It encompasses 147 square miles and current enrollment in grades K-12 is 20,826 (RUSD 2021). There are a total of 18 public schools, including 16 elementary schools, four middle schools, three public high schools, and one alternative high school setting at Orangewood High School. The Redlands Independent Study (RISE) Program and the Home Education Learning Program (HELP) are also on the Orangewood campus. The RUSD also has a K-12 online school, Redlands eAcademy, that serves the counties of San Bernardino, Riverside, Inyo, Kern, Orange, and Los Angeles (RUSD 2021b). The nearest school to the Project Area is Mariposa Elementary School, located approximately 0.9-mile northwest.

Other Public Facilities

Other public facilities and services provided within the City include library services and City administrative services. Library services are provided by the A.K. Smiley Public Library, located at 125 West Vine Street in Redlands, approximately 4.5 miles northwest of the Project Area (City of Redlands 2017b).

4.15.1 Public Services (XV) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	Fire Protection?	☐	☐	☐	☒
	Police Protection?	☐	☐	☐	☒
	Schools?	☐	☐	☐	☒
	Parks?	☐	☐	☐	☒
	Other Public Facilities?	☐	☐	☐	☒

No Impact.

The Proposed Project would not create a substantial new fire or public safety hazard. The Proposed Project would also not generate new employment or population growth; therefore, no increase in the demand for schools, parks, or other public facilities would occur.

4.15.2 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.16 Recreation

Parks, open space, and recreation uses account for about 16 percent of land in Redlands, which is the third largest land use (City of Redlands 2017b). Most of the large open spaces are along the Santa Ana River Wash and in the San Timoteo and Live Oak Canyons. The Project is located in Oakmont Park, near Live Oak Canyon. Other nearby neighborhood parks are Caroline Park and Simonds Parkway, which are approximately two miles northwest. Additionally, Redlands County Club, which is designated as private open space, is located approximately 1.2 miles northwest of the Project Area (City of Redlands 2017b).

4.16.1 Recreation (XVI) Materials Checklist

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

The Proposed Project consists of the drainage improvements to Live Oak Canyon Creek and the check dams south of Sutherland Drive. This includes the construction of new check dams, rip rap aprons, gabion block walls, and culverts with headwalls. The proposed improvements would help protect the existing trail system and recreational areas of Oakmont Park. No increase in demand, or use of, existing parks or recreational facilities would result from the implementation of the Proposed Project because no population growth would occur. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

No Impact.

The Project would not change the permanent use of the Project Area and would not require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. No impact would occur.

4.16.2 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.17 Transportation

4.17.1 Transportation (XVII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐

Less than Significant Impact.

Construction Impacts

The Proposed Project would generate short-term construction related vehicle trips. However, traffic generated during construction of the Proposed Project would be temporary and would not conflict with the City of Redlands's Transit Element or Sustainable Mobility Plan. Development of the Project Area would not affect future expansion of public transit facilities and services. The Project would not impede the implementation of City programs supporting walking, bicycling, and use of buses. Impacts would be less than significant.

Operational Impacts

The Project is not anticipated to result in additional daily traffic trips once construction is complete (ECORP 2021c). No operational impact would occur.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐

Less than Significant Impact.

CEQA Guidelines section 15064.3, subdivision (b) details the use of vehicle miles traveled (VMT) to assess the significance of transportation impacts. As detailed in CEQA Guidelines section 15064.3, subdivision (c), a lead agency may elect to be governed by the provisions of this section immediately. As of July 1, 2020, the provisions of this section apply statewide.

Section 15064.3 subdivision (b) of the CEQA guidelines specify for Land Use Projects "Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major traffic stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the Project Area compared to existing conditions should be presumed to have a less than significant transportation impact."

The Project is not located within a High-Quality Transit Area nor near any High-Quality Transit Corridors (SCAG 2021). According to the Omnitrans System Map, Routes 8, 15, and 19 currently serve the northern Redlands area and connect the City to Colton, Fontana, Grand Terrace, Highland, Loma Linda, Mentone, Rialto, San Bernardino, and Yucaipa (OmniTrans 2021). There are no existing bus stops within a 0.5-mile radius of the Project Area. The Proposed Project would potentially cause temporary traffic impacts during construction but would not result in any operational transportation impacts as it would not generate new employment or population growth in the area. Therefore, the Proposed Project would not conflict with CEQA Guidelines section 15064.3, subdivision (b) and would not increase vehicle miles traveled. Impacts would be less than significant.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

No Impact.

The Proposed Project would construct new check dams, rip rap aprons, gabion block walls, and culverts with headwalls but does not propose the construction of habitable structures or transportation features. The Project does not include any component that would introduce new hazards since the Project does not propose any new roadways. Furthermore, the Project is not proposing a new use that could introduce incompatible elements to area roadways. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in inadequate emergency access?	☐	☐	☒	☐

Less than Significant Impact.

Construction of the Proposed Project would result in temporary construction truck traffic; however, this would not interfere with current evacuation routes or access of emergency vehicles to all communities. According to the 2007 San Bernardino County General Plan, the designated evacuation route for Redlands is I-10. Specific evacuation routes are designated during a specific emergency; however, potential evacuation routes include Redlands Boulevard and Lugonia Avenue (City of Redlands 2017b). A Traffic Control Plan will be prepared for the Proposed Project. Impacts would be less than significant.

4.17.2 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.18 Tribal Cultural Resources

4.18.1 Regulatory Setting

Assembly Bill 52

Effective July 1, 2015, Assembly Bill 52 (AB 52) amended CEQA to require that: 1) a lead agency provide notice to those California Native American tribes that requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include TCRs, the potential significance of project impacts, type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

Pursuant to AB 52, Section 21073 of the Public Resources Code defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non-federally recognized tribes.

Section 21074(a) of the Public Resource Code defines TCRs for the purpose of CEQA as:

1. Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), 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; and/or

    b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or

    c. 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.

Because criteria a and b also meet the definition of a historical resource under CEQA, a TCR may also require additional consideration as a historical resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies provide tribes that requested notification an opportunity to consult at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

4.18.2 Summary of AB 52 Consultation

On June 4, 2021, the City of Redlands sent project notification letters to the following California Native American tribes, which had previously submitted general consultation request letters pursuant to 21080.3.1(d) of the Public Resources Code:

- Gabrieleño Band of Mission Indians – Kizh Nation
- Moronga Band of Mission Indians
- Soboba Band of Luiseno Indians
- San Manuel Band of Mission Indians (SMBMI)
- Torres Martinez Desert Cahuilla Indians

Each recipient was provided a brief description of the project and its location, the lead agency contact information, and a notification that the tribe has 30 days to request consultation. The 30-day response period concluded on July 4, 2021.

As a result of the initial notification letters, the City of Redlands received the following responses:

- San Manuel Band of Mission Indians: Responded by email indicating the Proposed Project lies within Serrano ancestral tribal territory and accepting the consultation invitation.

No response was received from the other contacted California Native American tribes.

On August 10, 2021, the tribe responded to the City's initial notification letter via email and provided a list of mitigation measures. On September 27, 2021, the City and the tribe agreed to revised mitigation measures for tribal cultural resources and cultural resources and concluded tribal consultation under AB 52. Documentation of the consultation is included in Appendix E.

4.18.3 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
ii) 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 Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

i-ii) While there are no known tribal cultural resources (TCRs) in the Project footprint, ground-disturbing activities have the potential to result in the discovery of, or inadvertent damage to, archaeological contexts and human remains, and this possibility cannot be eliminated. Consequently, there is a potential for significant impacts on TCRs. Implementation of Mitigation Measures **TCR-1** through **TCR-3** would reduce the potential impacts to less than significant.

4.18.4 Mitigation Measures

TCR-1: In the event that Tribal Cultural Resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease until subsequent authorization to proceed. Additionally, the Consulting Tribe(s) shall be contacted, as detailed within TCR-2, regarding any pre-contact and/or post-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment. Work on the other portions of the project outside of the buffered area may continue during the assessment period by tribal monitor(s).

TCR-2: The Consulting Tribe(s) Cultural Resources Department shall be contacted in the event of any pre-contact and/or post-contact tribal cultural resources discovered during project implementation and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a tribal cultural resources Monitoring and Treatment Plan shall be created by the archaeologist in coordination with the Consulting Tribe(s), and all subsequent finds shall be subject to this Plan. This Plan shall allow for tribal monitor(s) to be present from the Consulting Tribe(s) for the remainder of the project, should the Consulting Tribe(s) elect to place a monitor on-site.

TCR-3: Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to the Consulting Tribe(s) to the extent permitted by law. The Lead Agency and/or applicant shall, in good faith, coordinate with the Consulting Tribe(s) throughout the life of the project regarding any tribal cultural resources.

4.19 Utilities and Service Systems

4.19.1 Utilities and Service Systems (XIX) Environmental Checklist and Discussion

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project is the construction of drainage and erosion control features such as new check dams, rip rap aprons, gabion block walls, and culverts with headwalls. The Project would result in the

improve existing drainage of Live Oak Canyon Creek, whose creek bank has eroded over time. No new or expanded water or wastewater treatment facilities would be required. Further, the Project would not impact natural gas, electric power, or telecommunications facilities. The environmental effects from constructing the proposed improvements are described in this Initial Study. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐

Less than Significant Impact.

The City of Redlands' estimated water supply and demand is addressed within the San Bernardino RUWMP. Water supplies available to the City are sufficient to meet all existing customer demands and anticipated future customer demands, including the Project's demands under normal, single-dry year, and extended drought conditions. The RUWMP also discloses that, in the event of a water supply shortage or water emergency, the City has in place a water conservation ordinance, which serves as a Water Shortage Contingency Plan. The plan provides for mandatory cutbacks in water use so as not to endanger health, safety, and welfare of the citizens and property owners in the City.

The Proposed Project would construct drainage and erosion control measures does not include withdrawal of groundwater. The Proposed Project would only require minimal water during construction for compaction and dust control purposes. During operation the Proposed Project would not require water. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒

No Impact.

The Project involves construction of drainage and erosion control measures within an existing creek. The Project would not produce wastewater during construction or operation. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐

Less than Significant Impact.

Minimal waste would be generated by the Proposed Project during construction. During operation the Proposed Project would not generate solid waste. As such, the Proposed Project is not anticipated to generate solid waste in excess of State or local standards. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

No Impact.

Waste generated by the Proposed Project would comply with all applicable federal, state, and local statutes and regulations related to solid waste. No impact would occur.

4.19.2 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.20 Wildfire

4.20.1 Environmental Setting

Government Code 51175-89 directs the CAL FIRE to identify areas of very high fire hazard severity zones within Local Responsibility Areas (LRAs). Mapping of the areas, referred to as Very High Fire Hazard Severity Zones (VHFHSZ), is based on data and models of potential fuels over a 30 to 50-year time horizon and their associated expected fire behavior, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure to buildings. According to the CAL FIRE Very High Fire Hazard Severity Zone Map, the Project Area is located within a VHFHSZ LRA (CAL FIRE 2021).

4.20.2 Wildfire (XX) Environmental Checklist and Discussion

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

Less than Significant Impact.

As previously stated, construction of the Proposed Project would result in temporary construction truck traffic; however, this would not interfere with current evacuation routes or access of emergency vehicles to all communities. According to the 2007 San Bernardino County General Plan, the designated evacuation route for Redlands is I-10. Specific evacuation routes are designated during a specific emergency; however, potential evacuation routes include Redlands Boulevard and Lugonia Avenue (City of Redlands 2017b). A Traffic Control Plan will be prepared for the Proposed Project. Impacts would be less than significant.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒

No Impact.

The Project Area is located near Live Oak Canyon on land with 30 to 50 percent slopes. Wildland fire is a concern in this area due to prolonged droughts coupled with sloped topography, high winds, and dry vegetation (City of Redlands 2017b). The Proposed Project would not substantially alter the slope, wind patterns, or other factors that could exacerbate wildfire risks. Additionally, the Proposed Project does not propose the construction of habitable structures and therefore would not expose people to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire. No impact would occur.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒

No Impact.

The Proposed Project would result in repairs for flood control, replanting and trail repair, slope modification, and installation of retaining walls to improve the existing waterway channel and its associated hiking trail. The repairs include the construction of new check dams, rip rap aprons, gabion block walls, and culverts with headwalls. The Proposed Project would not require the installation or maintenance of infrastructure that may exacerbate fire risk or may result in temporary or ongoing impacts to the environment. No impact would occur.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

No Impact.

The Proposed Project is located on land ranked by CAL FIRE as a VHFHSZ in LRA (CAL FIRE 2021). The Project Area is sloped, but not likely to cause downstream flooding or landslides. The Proposed Project will include flood control repairs, slope modification, retaining wall improvement, and erosion repairs (Huitt-Zollars 2021). Additionally, the Proposed Project does not propose the construction of habitable structures and the nearest downslope residence or structure is 0.6 miles south of the Project Area. No impact would occur.

4.20.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.21 Mandatory Findings of Significance

4.21.1 Mandatory Findings of Significance (XXI) Environmental Checklist and Discussion

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially 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?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

As discussed in Section 4.4, Biological Resources of this Initial Study, the Project Area contains a combination of oak woodland habitat consisting primarily of coast live oaks (*Quercus agrifolia*). The other vegetation within the Project Area generally consists of nonnative grasslands and ruderal areas. Impacts to rare plant species could occur in the form of direct take when the Project is constructed; however, a pre-construction survey will be conducted to determine the presence or absence of the special-status plant species that have a moderate or low potential to occur in the Project Area. The Project Area also contained suitable nesting habitat for bird species protected under the Migratory Bird Treaty Act (MBTA). A pre-construction nesting bird survey will be conducted in the Project Area. Implementation of Mitigation Measures **BIO-1** through **BIO-2** would reduce the potential impacts to less than significant.

As discussed in Section 4.5, Cultural Resources of this Initial Study, no cultural resources have previously been recorded in the Project Area and none were recorded during the field survey completed for the Proposed Project. In general, the archaeological sensitivity of the Project Area is considered to be low. However, unknown buried cultural resources may be present below the ground surface which may be affected during ground disturbing construction activities. Impacts to cultural resources would be less than significant with incorporation of Mitigation Measures **CUL-1** through **CUL-3**.

As discussed in Section 4.7, Geology and Soils of this Initial Study, there is a possibility that paleontological resources exist at sub-surface levels in the Project Area and may be uncovered during grading and excavation activities. Any fossils recovered from the Project Area would be scientifically significant. Impacts to paleontological resources would be less than significant with incorporation of Mitigation Measure **GEO-1**.

While there are no known TCRs in the Project footprint, ground-disturbing activities have the potential to result in the discovery of, or inadvertent damage to, archaeological contexts and human remains, and this

possibility cannot be eliminated. Implementation of Mitigation Measures **TCR-1** through **TCR-3** would reduce the potential impacts to less than significant.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) 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)?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

Cumulative impacts are defined as two or more individual (and potentially less than significant) project effects that, when considered together or in concert with other projects combine to result in a significant impact within an identified geographic area. In order for a project to contribute to cumulative impacts, it must result in some level of impact on a project specific level.

As discussed throughout this Initial Study, potentially significant impacts were identified for biological resources, cultural resources, geology and soils, and tribal cultural resources. With Mitigation Measures **BIO-1** through **BIO-2**, **CUL-1** through **CUL-3**, **GEO-1**, and **TCR-1** through **TCR-3**, the Proposed Project's contribution to cumulative impacts would not be considerable. Furthermore, other foreseeable projects would be subject to CEQA and would undergo the same level of review as the Proposed Project and include mitigation measures to minimize potentially significant impacts.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

The checklist categories of: Air Quality, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Cultural, Geology and Soils, Hydrology and Water Quality, Population and Housing, Tribal Cultural, Noise, Transportation, and Wildfire evaluate Project impacts that may have adverse effects on human beings, either directly or indirectly. All of the Project's impacts on human beings, both direct and indirect, that are attributable to the Project were identified and mitigated if necessary. Therefore, the Proposed Project would not either directly or indirectly cause substantial adverse effects on human beings because all

potentially adverse direct and indirect impacts of the Proposed Project are identified as having no impact, less than significant impact, or less than significant impact with mitigation. Direct and indirect impacts to human beings would be less than significant with the implementation of mitigation measures listed in this Initial Study.

SECTION 5.0 LIST OF PREPARERS

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SECTION 6.0 BIBLIOGRAPHY

[CAL FIRE] California Department of Forestry and Fire Protection

2021 CAL FIRE State Responsibility Area Viewer. Available at https://osfm.fire.ca.gov/media/5949/redlands.pdf. Accessed July 15, 2021.

[CARB] California Air Resources Board

2021 EMFAC2021 Web Database Emissions Inventory. https://www.arb.ca.gov/emfac/2021/.

2019 State and Federal Area Designation Maps. http://www.arb.ca.gov/desig/adm/adm.htm.

[Caltrans] California Department of Transportation

2021 Scenic Highways. Available at https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa. Accessed July 8, 2021.

2020 Transportation- and Construction-Induced Vibration Guidance Manual.

2019 Structure Maintenance & Investigations, Historical Significance – Local Agency Bridges. Available at https://dot.ca.gov/-/media/dot-media/programs/maintenance/documents/f0009165-hs-local-a11y.pdf. March 2019.

2013 Technical Noise Supplement to the Traffic Noise Analysis Protocol.

2002 California Airport Land Use Planning Handbook.

[CAPCOA] California Air Pollution Control Officers Association

2017 California Emissions Estimator Model (CalEEMod), versión 2020.4.0

[CDFW] California Department of Fish and Wildlife

2021 RareFind California Department of Fish and Game Natural Diversity Database (CNDDB). California. Sacramento, CA, California Department of Fish and Wildlife, Biogeographic Data Branch. Accessed July 2021.

[CEC] California Energy Commission

2020 California Energy Consumption Database. http://www.ecdms.energy.ca.gov/Default.aspx.

2019 Website: Annual Generation – County. https://ww2.energy.ca.gov/almanac/electricity_data/web_qfer/Annual_Generation-County_cms.php.

City of Redlands

2021a City of Redlands Zoning. Available at https://coredlands.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=7577aed247714a8ba8810c5f7357f7b2. Accessed July 8, 2021.

2021b Sustainable Mobility Plan. Available at https://www.cityofredlands.org/sites/main/files/file-attachments/sustainable_mobility_plan_2021_r.pdf?1614798259. Accessed July 13, 2021.

2017a City of Redlands General Plan Update and Climate Action Plan Environmental Impact Report, Revised Draft. Available at https://www.cityofredlands.org/sites/main/files/file-attachments/redlands_deir_compiled_lo_071917_0.pdf?1554321669. Accessed July 9, 2021.

2017b General Plan 2035. Available at https://www.cityofredlands.org/sites/main/files/file-attachments/gp2035.pdf?1554321255. Accessed July 8, 2021. December 2017.

2017c Climate Action Plan. Available at https://www.cityofredlands.org/sites/main/files/file-attachments/final_redlands_cap_with_appendices_011718.pdf. Accessed July 9, 2021.

2013 Street Tree Policy and Protection Guidelines Manual. Available at https://www.cityofredlands.org/sites/main/files/file-attachments/street_tree_policy_and_protection_guidelines_manual2013_0.pdf?1559671936. January 8, 2013.

Climate Registry

2016 General Reporting Protocol for the Voluntary Reporting Program version 2.1. January 2016. http://www.theclimateregistry.org/wp-content/uploads/2014/11/General-Reporting-Protocol-Version-2.1.pdf.

[CNPS] California Native Plant Society

2021 Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v9-01 0.0). California Native Plant Society, Sacramento, CA, http://www.rareplants.cnps.org.

2001 CNPS botanical survey guidelines. Pages 38-40 in California Native Plant Society's inventory of rare and endangered vascular plants of California (D.P. Tibor, editor). Sixth edition. Special Publication No. 1, California Native Plant Society, Sacramento, 387 pp.

Crockett, Alexander G.

2011 Addressing the Significance of Greenhouse Gas Emissions Under CEQA: California's Search for Regulatory Certainty in an Uncertain World.

Cultural Systems Research

2005 Inland Feeder Project: Final Report, Native American Ethnography and Ethnohistory. Prepared for Metropolitan Water District of Southern California, Los Angeles. Report # RI-5088 on file at the Eastern Information Center, University of California, Riverside.

[DOC] California Department of Conservation

2021 California Important Farmland Finder. Available at https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed July 8, 2021.

[DTSC] California Department of Toxic Substances Control

2021a Hazardous Waste and Substances List (Cortese List). Available at: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29. Accessed July 16, 2021.

2021b ENVIROSTOR Database. (Available at https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=redlands. Accessed July 16, 2021.

eBird

2012 eBird: An online database of bird distribution and abundance (web application). eBird, Ithaca, New York. Available at Available: http://www.ebird.org. Accessed July 2021.

[ECORP] ECORP Consulting Inc.

2021a Biological Technical Report, Oakmont Park Tributary Rehabilitation Project. December 2021.

2021b Cultural Resources Inventory, Oakmont Park Tributary Rehabilitation Project. July 2021. *(Confidential document not available for public access)*

2021c Air Quality and Greenhouse Gas Assessment, Oakmont Park Tributary Rehabilitation Project. May 2021.

[FEMA] Federal Emergency Management Agency

2021 FEMA Flood Map Service Center. Available at https://map1.msc.fema.gov/firm?id=06071C8740H. Accessed July 13, 2021.

[FHWA] Federal Highway Administration

2011 *Effective Noise Control During Nighttime Construction.* Available at https://ops.fhwa.dot.gov/wz/workshops/accessible/schexnayder_paper.htm.

2006 Roadway Construction Noise Model.

[FTA] Federal Transit Administration

2018 Transit Noise and Vibration Impact Assessment.

[HMMH] Harris Miller, Miller & Hanson Inc.

2006 Transit Noise and Vibration Impact Assessment, Final Report.

Huitt-Zollars, Inc.

2021 Oakmont Stream Geological Assessment Preliminary Design Report (PDR) for the City of Redlands. April 2021.

Institute of Transportation Engineers

2017 10th Edition Trip Generation Manual.

[IPPC] Intergovernmental Panel on Climate Change

2014 Climate Change 2014 Synthesis Report: Approved Summary for Policymakers. Available at http://www.ippc.ch/.

[NIOSH] National Institute for Occupational Safety and Health

1998 Occupational Noise Exposure.

OmniTrans

2021 Routes & Schedules. Available at https://omnitrans.org/plan-a-trip/routes-schedules/. Accessed July 13, 2021.

[RUSD] Redlands Unified School District

2021 District Profile. Available at https://www.redlandsusd.net/Page/107. Accessed July 13, 2021.

[SCAQMD] South Coast Air Quality Management District

2008 Final Localized Significance Threshold Methodology (dated June 2003 [revised 2008]).

1993 CEQA Air Quality Handbook.

[SCAG] South Coast Association of Governments

2021 High Quality Transit Areas (HQTA) 2045 – SCAG Region. https://gisdata-scag.opendata.arcgis.com/datasets/43e6fef395d041c09deaeb369a513ca1_1/explore?location=34.032567%2C-117.135671%2C13.70. Accessed July 13, 2021.

[SWRCB] State Water Resources Control Board

2021 GeoTracker database. Available at: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=redlands. Accessed July 16, 2021.

Urban Environs and Hicks and Hartwick

1993 Southeast Area General Plan Amendment, Sector 10 Specific Plan. Available at: https://www.cityofredlands.org/sites/main/files/file-attachments/specific_plan_47.pdf?1593464179. Accessed July 8, 2021. August 1993.

[USEPA] U.S. Environmental Protection Agency

2021 EnviroMapper database. Available at https://geopub.epa.gov/myem/efmap/index.html?ve=10,34.055208,-117.182590&pText=Redlands,%20California. Accessed July 16, 2021.

[WCS] Water Systems Consulting, Inc.

2016 2015 San Bernardino Valley Regional Urban Water Management Plan. Available at https://www.cityofredlands.org/sites/main/files/file-attachments/sbv_ruwmp.pdf?1554332013. June 2016.

[WEAL] Western Electro-Acoustic Laboratory, Inc.

2000 Sound Transmission Sound Test Laboratory Report No. TL 96-186.

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SECTION 7.0 LIST OF APPENDICES

Appendix A – Air Quality and Greenhouse Gas Assessment

Appendix B – Biological Technical Report

Appendix C – Fuel Consumption

Appendix D – Noise Impact Assessment

Appendix E – AB-52 Consultation