HELIX Environmental Planning

Citrus Heights Creek Erosion and Bridge Scour Protection Project

Public Review Draft
Initial Study/Mitigated Negative Declaration

May 2026 | 04339.00027.001

Prepared for:

City of Citrus Heights
6360 Fountain Square Drive
Citrus Heights, CA 95621

Prepared by:

HELIX Environmental Planning, Inc.
1180 Iron Point Road, Suite 130
Folsom, CA 95630

This page intentionally left blank

TABLE OF CONTENTS

Section			Page
INTRODUCTION			**1**
1.0	**PROJECT BACKGROUND**		**7**
2.0	**PROJECT LOCATION AND SETTING**		**7**
	2.1	Project Location	7
	2.2	Environmental Setting	8
3.0	**PROJECT DESCRIPTION**		**9**
	3.1	Indian River Bridge	9
	3.2	Matheny Bridge	10
	3.3	Sundance Bridge	11
	3.4	Patton Bridge	11
	3.5	Construction Schedule And Activities	12
	3.6	Project Operation	12
4.0	**REQUIRED APPROVALS**		**12**
	4.1	City of Citrus Heights	12
	4.2	Other Agencies	13
5.0	**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**		**14**
6.0	**DETERMINATION**		**15**
7.0	**ENVIRONMENTAL INITIAL STUDY CHECKLIST**		**16**
	I.	AESTHETICS	17
	II.	AGRICULTURE AND FORESTRY RESOURCES	20
	III.	AIR QUALITY	22
	IV.	BIOLOGICAL RESOURCES	33
	V.	CULTURAL RESOURCES	48
	VI.	ENERGY	53
	VII.	GEOLOGY AND SOILS	55
	VIII.	GREENHOUSE GAS EMISSIONS	60
	IX.	HAZARDS AND HAZARDOUS MATERIALS	65
	X.	HYDROLOGY AND WATER QUALITY	70
	XI.	LAND USE AND PLANNING	77

TABLE OF CONTENTS (cont.)

Section			Page
	XII.	MINERAL RESOURCES	78
	XIII.	NOISE	79
	XIV.	POPULATION AND HOUSING	84
	XV.	PUBLIC SERVICES	85
	XVI.	RECREATION	89
	XVII.	TRANSPORTATION	91
	XVIII.	TRIBAL CULTURAL RESOURCES	94
	XIX.	UTILITIES AND SERVICE SYSTEMS	99
	XX.	WILDFIRE	103
	XXI.	MANDATORY FINDINGS OF SIGNIFICANCE	106
8.0	**MITIGATION MONITORING AND REPORTING PROGRAM**		**107**
9.0	**PREPARERS**		**107**
10.0	**REFERENCES**		**108**

LIST OF TABLES

No.	Title	Page
1	Sacramento County – Attainment Status	24
2	Residential Sensitive Receptor Distances	26
3	Project Construction Schedule	27
4	Project Construction Equipment	27
5	SMAQMD Thresholds of Significance	29
6	Maximum Daily Construction Emissions	30
7	Construction GHG Emissions	63
8	City of Citrus Heights Acceptable Noise Levels	80
9	Exterior Noise Standards	81

LIST OF APPENDICES

A	Figures
B	CalEEMod Output Report
C	Biological Resources Assessment
D	Cultural Resources Assessment
E	Mitigation Monitoring and Reporting Program

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
amsl	above mean sea level
bcf/year	billion cubic feet per year
BMPs	Best Management Practices
CCI	Consolidated Communications, Inc.
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CHPD	Citrus Heights Police Department
City	City of Citrus Heights
CIWM	California Integrated Waste Management
County	Sacramento County
CWA	Clean Water Act
dB	decibel
DBA	A-weighted decibel
DOC	California Department of Conservation
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EQZapp	Earthquake Hazards Zone Application
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
GWh	Gigawatt hours
Hz	Hertz
In/sec	Inches per second
IS/MND	Initial Study/Mitigated Negative Declaration
LCI	Office of Land Use and Climate Innovation
LRA	Local Responsibility Area
LRT	light rail transit
MMRP	Mitigation Monitoring and Reporting Program
MRZ	Mineral Resource Zone
MUTILA	Miscellaneous Utility/Power/Sewer
NPDES	National Pollutant Discharge Elimination System

ACRONYMS AND ABBREVIATIONS (cont.)

NRCS	Natural Resources Conservation Service
OPR	Office of Planning and Research
ORPD	Orangevale Recreation and Park District
PG&E	Pacific Gas & Electric
PPV	Peak Particle Velocity
R-1-A [PD]	Single-Family Residential Zone/Planned Development
RD2	Very Low-Density Residential
RMA	Routine Maintenance Agreement
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SacRT	Sacramento Regional Transit
SASD	Sacramento Area Sewer District
SC	Shopping Center
sf	square feet
SJUSD	San Juan Unified School District
SMARA	California Surface Mining and Reclamation Act
SMFD	Sacramento Metro Fire District
SMUD	Sacramento Municipal Utility District
SPA	Special Planning Area
SRA	State Responsibility Area
SRPD	Sunrise Recreation and Parks District
SSQP	Sacramento Stormwater Quality Partnership
SUV	Sports Utility Vehicle
SWRCB	State Water Resources Control Board
TCE	Temporary Construction Easement
TCR	Tribal Cultural Resources
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
VHFHSZ	Very High Fire Hazard Severity Zone

INTRODUCTION

1.	Project title:	Citrus Heights Creek Erosion and Bridge Scour Protection Project
2.	Lead agency name and address:	City of Citrus Heights 6360 Fountain Square Drive Citrus Heights, CA 95621
3.	Contact person and phone number:	Daniel Kehrer, Principal Civil Engineer dkehrer@citrusheights.net (916) 727-4904
4.	Project location:	Indian River Bridge No. 24C0396 on Indian River Drive in the City of Citrus Heights, Sacramento County; Matheny Way Bridge No. 24C0395 on Matheny Way in the City of Citrus Heights, Sacramento County; Arcade-Cripple Creek Trail Bridge (Sundance Bridge) in Sundance Natural Area (or Sundance Park) in unincorporated Sacramento County; and the Patton Avenue Bridge No. 24C0321 on Patton Avenue in the City of Citrus Heights, Sacramento County, CA
5.	General plan designation:	Indian River Bridge and Matheny Bridge: Open Space and Medium Density Residential Sundance Bridge: Miscellaneous Utility/Power/Sewer (MUTILA) Patton Bridge: Very Low Density Residential (RD2)
6.	Zoning:	Indian River Bridge and Matheny Bridge: Special Planning Area (SPA) Sundance Bridge: Single-Family Residential Zone/ Planned Development (R-1-A [PD]) Patton Bridge: Very Low Density Residential (RD2)

7. Description of project:

The Citrus Heights Creek Erosion and Bridge Scour Project (project) would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath the Indian River Drive Bridge (Indian River Bridge), Matheny Way Bridge (Matheny Bridge), Arcade-Cripple Creek Trail Bridge (Sundance Bridge), and Patton Avenue Bridge (Patton Bridge). The project would also include the removal of an abandoned Consolidated Communications, Inc. (CCI) and Comcast joint trench with exposed conduits in the creek bed of the Indian River Bridge project impact area and would include

the relocation of existing and exposed Pacific Gas and Electric (PG&E) inactive and active gas lines in the Matheny Bridge project impact area. The project work would occur where natural erosion is impacting existing public infrastructure and inhibiting City of Citrus Heights maintenance activities. The project is proposed to extend the service life of the bridges, maintain public safety, protect critical infrastructure, and reduce long-term maintenance needs. The study area evaluated is approximately 16.76 acres; however, the total project impact area, which includes the areas of direct impacts from implementation of the proposed project, would be approximately 0.43 acre.

8. Surrounding land uses and setting:

The Indian River Bridge, Matheny Bridge, and Patton Bridge project impact areas are located within the City of Citrus Heights (City). The Sundance Bridge project impact area is located within the Sundance Natural Area (or Sundance Park), which is located just outside City limits, but within unincorporated Sacramento County. The surrounding land uses and setting of each bridge location is described in detail below.

Indian River Bridge

The Indian River Bridge project impact area is located at the bridge crossing of Arcade Creek on Indian River Drive, just north of Greenback Lane. Terrain in the project impact area is generally flat with elevations ranging from approximately 95 to 112 feet above mean sea level (amsl). The creek bed is the lowest elevation and rises sharply along the bank. The bank of the creek and surrounding lands are generally flat, with minor undulating topography across the landscape.

The existing Indian River Drive Bridge (Bridge Number 24C0396) was built by the County in 1980 and is owned and maintained by the City. The Indian River Bridge is surrounded by single-family residences in all directions.

Matheny Bridge

The Matheny Bridge project impact area is located at the bridge crossing of Arcade Creek on Matheny Way, just north of Greenback Lane. Terrain in the project impact area is generally flat with elevations ranging from approximately 100 to 110 feet amsl. The creek bed is the lowest elevation and rises sharply along the bank. The bank of the creek and surrounding lands are generally flat, with minor undulating topography across the landscape.

The existing Matheny Bridge (Bridge Number 24C0395) was built by the County in 1976 and is owned and maintained by the City. The Matheny Bridge is surrounded by single-family residences to the north, south, east, and west, and commercial businesses to the south and east.

Sundance Bridge

The Sundance Bridge project impact area is located at the Arcade-Cripple Creek Trail bridge crossing of Arcade Creek in Sundance Park, east of Fair Oaks Boulevard. The Sundance Bridge project impact area is located directly outside City limits, but within Sacramento County. Terrain in the project impact area is generally flat with elevations ranging from 160 to 175 feet amsl. The creek bed is the lowest elevation and rises sharply along the bank. The bank of the creek and surrounding lands are generally flat, with minor undulating topography across the landscape.

The existing Arcade-Cripple Creek Trail over Arcade Creek was built by the City in 2023 and is owned and maintained by the Orangevale Recreation and Park District (ORPD). The Sundance Bridge is immediately surrounded by open space within Sundance Park, and Sundance Park is surrounded by single-family residences to the north, east, and south, and Tempo Park to the west.

Patton Bridge

The Patton Bridge project impact area is located at the bridge crossing of Cripple Creek on Patton Avenue, just south of the intersection of Twin Oaks Avenue and Patton Avenue. Terrain in the project impact area is generally flat with elevations ranging from 145 to 154 feet amsl. The creek bed is the lowest elevation and rises sharply along the bank. The bank of the creek and surrounding lands are generally flat, with minor undulating topography across the landscape.

The existing Patton Avenue Bridge (Bridge Number 24C0321) was built by the County in 1960 and is owned and maintained by the City. The Patton Bridge is surrounded by single-family residences in all directions.

9. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement:

    - California Department of Fish and Wildlife (CDFW)
    - Regional Water Quality Control Board (RWQCB)
    - U.S. Army Corps of Engineers (USACE)
    - Pacific Gas & Electric (PG&E)
    - Comcast
    - Consolidated Communications, Inc. (CCI)
    - Orangevale Recreation and Park District (ORPD)

10. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Formal invitations to participate in Assembly Bill (AB) 52 consultation covering the Indian River Bridge, Matheny Bridge, and Sundance Bridge study areas were sent by the City as the Lead Agency to five tribal representatives on July 24, 2025. Follow-up letters were sent to the same five tribal representatives on December 10, 2025, covering the Patton Bridge study area. The tribal representatives included:

- Sara D. Setshwaelo, Chairwoman, Ione Bank of Miwok Indians
- Regina Cuellar, Chairwoman, Shingle Springs Band of Miwok Indians
- Anna Starkey, United Auburn Indian Community
- Daniel Fonseca, Tribal Historic Preservation Officer
- Wilton Rancheria

Each tribe was provided with a brief description of the project and its location, the contact information for the City's authorized representative, and a notification that the tribe has 30 days to request consultation.

On August 12, 2025, the City received an email response from the Shingle Springs Band of Miwok Indians requesting to be added as a consulting party in identifying any Tribal Cultural Resources (TCRs) that may exist within the study areas. The City replied electronically on August 15, 2025, noting that the Cultural Resources Assessment (CRA) and the California Environmental Quality Act (CEQA) Initial Study/Mitigated Negative Declaration (IS/MND) would be forwarded once available, and that the City would forward the request to initiate Section 106 consultation to the U.S. Army Corps of Engineers when a Section 404 permit application is submitted for the project. On October 27, 2025, the City had a virtual consultation meeting with representatives from the Shingle Springs Band of Miwok Indians. The City summarized the details of the proposed project, and the Tribe requested access to survey the study areas. The meeting culminated with the City confirming that the Tribe can access the entirety of the study areas as they are publicly accessible.

On August 19, 2025, the City received an email response from Wilton Rancheria requesting to open formal consultation. The City replied electronically on August 20, 2025, noting that the CRA and CEQA IS/MND would be forwarded once available, and that the City would forward the request to initiate Section 106 consultation to the U.S. Army Corps of Engineers when a Section 404 permit application is submitted for the project. On October 14, 2025, the City had a virtual consultation meeting with representatives from Wilton Rancheria where the City summarized the details of the proposed project. The meeting culminated with the City noting that a follow-up letter would be sent for the Patton Bridge study area and with the Rancheria stating they would conduct additional research and follow up if any subsequent concerns surfaced.

On October 13, 2025, the City received an email response from the United Auburn Indian Community (UAIC) requesting to survey the study area on October 21, 2025. The City replied electronically on October 13, 2025, noting that there are no issues with accessing site or the date of the survey. The UAIC representative replied electronically on October 13, 2025, thanking the City.

On December 23, 2025, the City received an email response from UAIC requesting formal consultation. The UAIC representative requested that although preliminary research did not identify previously recorded TCRs in the Patton Bridge study area, there are many known sites recorded along Cripple Creek. The UAIC representative requested to conduct a tribal survey for the identification of unrecorded TCRs and asked if there were any restrictions to access the area. The City replied electronically on January 2, 2026, noting that there are no restrictions to access the study area. The UAIC representative replied electronically on January 2, 2026, noting that the survey is scheduled for January 9, 2026. The City replied electronically on January 2, 2026, noting that the City had no concerns with the scheduled survey date.

The City followed up with Shingle Springs Band of Miwok Indians, Wilton Ranchera, and UAIC on February 27, 2026, to close the loop on consultation and provided the Tribes with a draft of the Cultural Resources Assessment. On February 27, 2026, the City received a response from Wilton Rancheria noting that the Tribe does not have additional comments and asked to be notified if any cultural materials appear during construction or if the project changes. On March 3, 2026, the City received a response from Shingle Springs Band of Miwok Indians noting that the Tribe is continuing to review the materials and will follow up shortly if the Tribe identifies any cultural resources within the project area or have specific mitigation and/or monitoring recommendations. On April 28, 2026, the City followed up with the Shingle Springs Band of Miwok Indians on their review of the project. The City met virtually with the Shingle Springs Band of Miwok Indians on May 5, 2026, and on May 5, 2026, the Shingle Springs Band of Miwok Indians emailed the City noting that AB 52 consultation can be closed. On March 5, 2026,

the City received a response from UAIC requesting the addition of background language and survey methodology and results in the CEQA document. UAIC also noted that the Tribe would like to close AB 52 consultation with the addition of their recommended mitigation measure. On April 16, 2026, the City sent the version of the mitigation measure in the Tribal Cultural Resources section of this IS/MND to UAIC for their review, and on April 17, 2026, UAIC responded to the City with their edits. On April 28, 2026, the City provided UAIC with the revised mitigation measure and asked for confirmation that the final edit is acceptable. On April 28, 2026, UAIC accepted the final edit and noted that AB 52 consultation can be closed. Please see Section 7.XVIII, Tribal Cultural Resources, of this IS/MND for incorporation of these requests from UAIC.

No further responses from the Shingle Springs Band of Miwok Indians, Wilton Rancheria, UAIC, or other tribes were received; therefore, the City has formally concluded consultation pursuant to PRC Sections 21080.3.2(b)(1) and 21082.3(d)(1).

This page intentionally left blank

1.0 PROJECT BACKGROUND

The Citrus Heights Creek Erosion and Bridge Scour Protection Project (proposed project or project) would include the installation of scour and erosion protection measures underneath the Indian River Drive Bridge (Indian River Bridge), Matheny Way Bridge (Matheny Bridge), Arcade-Cripple Creek Trail Bridge (Sundance Bridge), and Patton Avenue Bridge (Patton Bridge). Indian River Bridge, Matheny Bridge, and Patton Bridge are located within the City of Citrus Heights (City). Sundance Bridge is located within Sundance Park, which is located just outside City limits, but within unincorporated Sacramento County.

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared to satisfy the requirements of the California Environmental Quality Act (CEQA; Public Resources Code [PRC] Section 21000 et seq.) and the CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that State and local government agencies consider the environmental consequences of projects over which they have discretionary authority before they approve or implement those projects.

The IS/MND is a public document used by the decision-making Lead Agency to determine whether a project may have a significant effect on the environment. The City will act as the CEQA Lead Agency. The City will use the IS/MND to determine whether the proposed project has a significant effect on the environment. This IS/MND relies on CEQA Guidelines Sections 15064 and 15064.4 in its determination of the significance of the environmental impacts. Per Section 15064, the finding as to whether a project may have one or more significant impacts shall be based on substantial evidence in the record, and that controversy alone, without substantial evidence of a significant impact, does not trigger the need for an Environmental Impact Report (EIR).

2.0 PROJECT LOCATION AND SETTING

2.1 PROJECT LOCATION

The Indian River Bridge, Matheny Bridge, and Patton Bridge study areas are located within City limits. The Sundance Bridge study area is located within Sundance Park, which is located just outside City limits, but within unincorporated Sacramento County. The Indian River Bridge, Matheny Bridge, and Sundance Bridge study areas cross Arcade Creek, and the Patton Bridge study area crosses Cripple Creek.

The Indian River Bridge and Matheny Bridge study area is located within a portion of Section 33, Township 10 North, Range 6 East on the U.S. Geological Survey (USGS) Citrus Heights 7.5-minute quadrangle; the Sundance Bridge study area is located within a portion of Section 30, Township 10 North, Range 7 East on the USGS Citrus Heights 7.5-minute quadrangle; and the Patton Bridge study area is located within a portion of Sections 13 and 25, Township 10 North, Range 6 East on the USGS Citrus Heights 7.5-minute quadrangle.

The total study area evaluated encompassed approximately 16.76 acres; however, the total project impact area, or project area, which includes the areas of direct impacts from implementation of the proposed project, would be approximately 0.43 acre. The Indian River Bridge project impact area totals 0.27 acre; the Matheny Bridge project impact area totals 0.14 acre; the Sundance Bridge project impact area totals 0.04 acre; and the Patton Bridge project impact area totals 0.12 acre. See Figure 1 for the

project vicinity map and Figures 2a, 2b, and 2c for aerial maps of the study areas (Note: All figures are included as Appendix A).

2.2 ENVIRONMENTAL SETTING

A description of the existing environmental setting of each project impact area is outlined below.

Indian River Bridge

The Indian River Bridge project impact area is located at the bridge crossing of Arcade Creek on Indian River Drive, just north of Greenback Lane. The Indian River Bridge project impact area has City General Plan land use designations of Open Space and Medium Density Residential and is zoned Special Planning Area (SPA). However, all project work would take place underneath Indian River Bridge.

Terrain in the project impact area is generally flat with elevations ranging from approximately 95 to 112 feet above mean sea level (amsl). The creek bed is the lowest elevation and rises sharply along the bank. The bank of the creek and surrounding lands are generally flat, with minor undulating topography across the landscape.

The existing two-span Indian River Drive Bridge (Bridge Number 24C0396) was built by the County in 1980 and is owned and maintained by the City. The Indian River Bridge is surrounded by single-family residences in all directions.

Matheny Bridge

The Matheny Bridge project impact area is located at the bridge crossing of Arcade Creek on Matheny Way, just north of Greenback Lane. The Matheny Bridge project impact area has City General Plan land use designations of Open Space and Medium Density Residential and is zoned SPA. However, all project work would take place underneath Matheny Bridge.

Terrain in the project impact area is generally flat with elevations ranging from approximately 100 to 110 feet amsl. The creek bed is the lowest elevation and rises sharply along the bank. The bank of the creek and surrounding lands are generally flat, with minor undulating topography across the landscape.

The existing single-span Matheny Bridge (Bridge Number 24C0395) was built by the County in 1976 and is owned and maintained by the City. The Matheny Bridge is surrounded by single-family residences to the north, south, east, and west, and commercial businesses to the south and east.

Sundance Bridge

The Sundance Bridge project impact area is located at the Arcade-Cripple Creek Trail bridge crossing of Arcade Creek in Sundance Park, east of Fair Oaks Boulevard. The Sundance Bridge project impact area is located just outside City limits, but within unincorporated Sacramento County. The Sundance Bridge project impact area has a County General Plan land use designation of Low Density Residential (LDR) and is zoned Single-Family Residential Zone/ Planned Development (R-1-A [PD]). However, all project work would take place underneath Sundance Bridge.

Terrain in the project impact area is generally flat with elevations ranging from 160 to 175 feet amsl. The creek bed is the lowest elevation and rises sharply along the bank. The bank of the creek and surrounding lands are generally flat, with minor undulating topography across the landscape.

The existing Arcade-Cripple Creek Trail over Arcade Creek was built by the City in 2023 and is owned and maintained by the Orangevale Recreation and Park District (ORPD). The Sundance Bridge is immediately surrounded by open space within Sundance Park, and Sundance Park is surrounded by single-family residences to the north, east, and south, and Tempo Park to the west.

Patton Bridge

The Patton Bridge project impact area is located at the bridge crossing of Cripple Creek on Patton Avenue, just south of the intersection of Twin Oaks Avenue and Patton Avenue. The Patton Bridge project impact area has a City General Plan land use designation of Very Low Density residential and is zoned Very Low Density Residential (RD2). However, all project work would take place underneath Patton Bridge.

Terrain in the project impact area is generally flat with elevations ranging from 145 to 154 feet amsl. The creek bed is the lowest elevation and rises sharply along the bank. The bank of the creek and surrounding lands are generally flat, with minor undulating topography across the landscape.

The existing three-span Patton Avenue Bridge (Bridge Number 24C0321) was built by the County in 1960 and is owned and maintained by the City. The Patton Bridge is surrounded by single-family residences in all directions.

3.0 PROJECT DESCRIPTION

The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. The project work would occur where natural erosion is impacting existing public infrastructure and inhibiting City maintenance activities. The project is proposed to extend the service life of the bridges, maintain public safety, protect critical infrastructure, and reduce long-term maintenance needs. A detailed description of proposed project activities at each project impact area is outlined below.

3.1 INDIAN RIVER BRIDGE

Project activities at the Indian River Bridge project impact area would include deploying approximately 4,690 square feet (sf) of rock slope protection. The project would place rock slope protection in the form of Class IV[1] stones used as rip rap on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel. Rip rap would be placed on the embankments of Arcade Creek from the existing rip rap to the edge of the abutment walls. The total project impact area at Indian River Bridge would be 0.27 acre.

[1] Class IV stones refer to 300-pound weighted rocks, as designated by Caltrans Rock Slope Protection (RSP) Guidelines. Available at: https://dot.ca.gov/-/media/dot-media/programs/design/documents/f0002770-2016-07-15-implementation-of-rsp-design-a11y.pdf.

It is anticipated that 478 cubic yards (CY) of dirt and debris would be removed from this portion of the impact area and would be replaced with 444 CY of rock.

The project would also include the removal of an abandoned Consolidated Communications (CCI) and Comcast joint trench with exposed conduits in the creek bed. The proposed project would include slope restoration on the west side, or downstream, of the abandoned joint trench.

The Indian River Bridge project impact area would be accessed from Indian River Drive. Tree removal is anticipated for the proposed project activities at Indian River Bridge. See Figure 3a for the site plan of Indian River Bridge.

Construction Staging Area

Temporary construction vehicle staging for Indian River Bridge would be located on the southeastern side of the bridge and would be accessed from Indian River Drive. No permanent right-of-way (ROW) is anticipated; however, a Temporary Construction Easement (TCE) would be required for contractor access and staging. Indian River Drive is anticipated to remain open during construction. After construction is complete, the Indian River Bridge construction staging area would be re-seeded with a native seed mix and restored to its pre-project condition.

3.2 MATHENY BRIDGE

Project activities at the Matheny Bridge project impact area would include deploying approximately 1,500 sf rock slope protection. The project would place rock slope protection in the form of Class I[2], II[3], or IV stones used as rip rap on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel. Rip rap would be placed on the embankments of Arcade Creek from the existing rip rap to the edge of the abutment walls. The total project impact area at Matheny Bridge would be 0.14 acre. It is anticipated that 140 CY of dirt and debris would be removed from this portion of the impact area and would be replaced with 102 CY of rock.

The proposed project activities would also include the relocation of existing exposed inactive and active Pacific Gas and Electric (PG&E) gas lines.

The Matheny Bridge project impact area would be accessed from Matheny Way. Tree removal is anticipated for the proposed project activities at Matheny Bridge. See Figure 3b for the site plan of Matheny Bridge.

Construction Staging Area

Temporary construction vehicle staging for Matheny Bridge would be located along the eastern side of the bridge and would be accessed from the eastern side of Matheny Way. No permanent ROW is anticipated; however, a TCE would be required for contractor access and staging. Matheny Way is anticipated to remain open during construction. After construction is complete, the Matheny Bridge construction staging area would be re-seeded with a native seed mix and restored to its pre-project condition.

[2] Class I stones refer to 20-pound weighted rocks, as designated by Caltrans RSP Guidelines.
[3] Class II stones refer to 60-pound weighted rocks, as designated by Caltrans RSP Guidelines.

3.3 SUNDANCE BRIDGE

Project activities at the Sundance Bridge project impact area would include deploying approximately 200 sf of rock slope protection. The project would place rock slope protection in the form of Class I or II stones used as rip rap on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel. Rip rap would be placed on the embankments of Arcade Creek from the existing rip rap to the edge of the abutment walls. The total project impact area at Sundance Bridge would be 0.04 acre. It is anticipated that 15 CY of dirt and debris would be removed from this portion of the impact area and would be replaced with 15 CY of rock. No major earthwork would be required for the project activities at the Sundance Bridge project impact area.

The Sundance Bridge project impact area would be accessed from the existing trail in Sundance Park. Tree removal is not anticipated for the proposed project activities at Sundance Bridge. See Figure 3c for the site plan of Sundance Bridge.

Construction Staging Area

Temporary construction vehicle staging for Sundance Bridge would be located on eastern side of the bridge and would be accessed from the eastern side of the existing trail. No permanent ROW is anticipated; however, a TCE would be required for contractor access and staging. After construction is complete, the Sundance Bridge construction staging area would be re-seeded with a native seed mix and restored to its pre-project condition.

It is anticipated that Sundance Park will remain open during the majority of construction. However, temporary closures for equipment crossings and a flagging escort through the construction zone during heavy construction equipment operations may occur.

3.4 PATTON BRIDGE

Project activities at the Patton Bridge project impact area would include deploying approximately 2,177 sf of rock slope protection. The project would grade the existing conditions to expose three encompassed existing piers adjacent to the right abutment and fill the existing erosion on the left abutment. The project would also grade the slope of the embankments and place Class I or II stones as rip rap along the embankments. The soil would be replaced with Class IV stones used as rip rap and placed on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel. The total project impact area at Patton Bridge would be 0.12 acre. It is anticipated that 295 CY of dirt and debris would be removed from this portion of the impact area and would be replaced with 185 CY of rock.

The Patton Bridge project impact area would be accessed from Patton Avenue. Tree removal is not anticipated for the proposed project activities at Patton Bridge. See Figure 3d for the site plan of Patton Bridge.

Construction Staging Area

Temporary construction vehicle staging for Patton Bridge would be located on the shoulders of Patton Avenue within the City ROW. No permanent ROW is anticipated; however, a TCE would be required for contractor access and staging. Patton Avenue is anticipated to remain open during construction. After

construction is complete, the Patton Bridge construction staging area would be re-seeded with a native seed mix and restored to its pre-project condition.

3.5 CONSTRUCTION SCHEDULE AND ACTIVITIES

Construction of the project activities at the four project impact areas is anticipated to commence in August of 2026 and would take approximately nine weeks to complete. It is anticipated that construction activities at the four bridge impact areas would occur concurrently.

Construction activities would include dewatering, excavation, and placement of bridge scour and erosion protection measures. Dewatering operations would occur first and would have an estimated duration of three weeks, after which excavation would begin with an estimated duration of three weeks. Dewatering at each bridge impact area would require one (1), five (5) horsepower (hp) electric submersible pump with a 3-inch discharge powered by a diesel-engine power 480-volt/three phase generator. For excavation of the total project impact area, it is anticipated that construction would require the export of up to a total of 928 CY of debris and soil/aggregate to the Kiefer Landfill. Following excavation, the bridge scour and erosion protection measures would be placed in each project impact area and would also take approximately 3 weeks to complete. It is anticipated that up to 746 CY of erosion protection material from the total project impact area would be imported from the Granite Construction Supply Quarry.

3.6 PROJECT OPERATION

Operational activities for the proposed project would consist of ongoing maintenance occurring on an as-needed basis. Maintenance of the rock slope protection installed at each bridge location is anticipated to require periodic field checks to confirm continued stability over time. Inspections would focus on rock displacement, sloughing along the banks, and any settlement or void development that may form after repeated storm events. Maintenance activities would rely on small equipment or hand work to shift or replace individual rocks. It is anticipated that City employees who currently maintain the bridges would continue to maintain the bridges after construction is completed.

4.0 REQUIRED APPROVALS

A listing and brief description of the approvals and/or regulatory permits required to implement the proposed project are provided below. This environmental document is intended to address the environmental impacts associated with the following discretionary actions and approvals.

4.1 CITY OF CITRUS HEIGHTS

- **Grading Permit**
- **Tree Removal Permit**
- **Consideration of the Environmental Document:** The City will act as the Lead Agency as defined by CEQA and will have authority to determine if the environmental document is adequate under CEQA and the State CEQA Guidelines.
- **Project Approval:** The City of Citrus Heights City Council will consider approval of the project.

4.2 OTHER AGENCIES

- **California Department of Fish and Wildlife (CDFW):** Obtain a Routine Maintenance Agreement Verification from CDFW (Region 2, North Central Region).

- **Regional Water Quality Control Board (RWQCB):** Obtain a CWA Section 401 Water Quality Certification from the Central Valley RWQCB (Region 5).

- **U.S. Army Corps of Engineers (USACE):** Obtain authorization under a Clean Water Act (CWA) Section 404 Nationwide Permit 13, Bank Stabilization, from the USACE to discharge dredged or fill material.

- **Orangevale Recreation and Park District (ORPD):** Coordinate with ORPD prior to construction within the Sundance Bridge project impact area, located within Sundance Park.

- **Pacific Gas and Electric (PG&E):** Coordinate with PG&E prior to the removal of inactive and active gas lines in the Matheny Bridge project impact area.

- **Consolidated Communications (CCI):** Coordinate with CCI prior the removal of utility lines in the Indian River Bridge project impact area.

- **Comcast:** Coordinate with Comcast prior to the removal of utility lines in the Indian River Bridge project impact area.

5.0 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" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

6.0 DETERMINATION

On the basis of this initial evaluation:

☐	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☒	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect I) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
☐	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Printed Name

For

7.0 ENVIRONMENTAL INITIAL STUDY CHECKLIST

The lead agency has defined the column headings in the environmental checklist as follows:

A. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

B. "Less Than Significant with Mitigation Incorporated" applies where the inclusion of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." All mitigation measures are described, including a brief explanation of how the measures reduce the effect to a less than significant level.

C. "Less Than Significant Impact" applies where the project does not create an impact that exceeds a stated significance threshold.

D. "No Impact" applies where a project does not create an impact in that category. "No Impact" answers do not require an explanation if they are adequately supported by the information sources cited by the lead agency which show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project specific screening analysis).

The explanation of each issue identifies the significance criteria or threshold used to evaluate each question; and the mitigation measure identified, if any, to reduce the impact to less than significance.

I. AESTHETICS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:					
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c)	Substantially degrade the existing visual character or quality of 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?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental Setting

The existing visual character of the City is mainly suburban and largely developed. Viewsheds in the City are located primarily along major transportation corridors. The major viewshed corridors in the City include the following: Auburn Boulevard, Old Auburn Road, Sunrise Boulevard, Greenback Lane, and Antelope Road. Topography in the City is primarily flat with elevations that range from 120 feet amsl near the southwestern portion of the City to 200 feet amsl in the southeastern portion of the City. Three small creeks run through the City: Cripple Creek transects the northern half of the City, Arcade Creek runs east to west in the central portion of the City north of Greenback Lane, and Brooktree Creek runs south of Greenback Lane, along with several associated tributaries. Coyle Creek is located along the City's southern boundary and converges with Brooktree Creek near the intersection of Greenback Lane and Auburn Boulevard (City 2011).

Although views are not limited to corridors, other views, particularly long-range views within the City, are generally limited to the surrounding neighborhood due to the flat nature of the City, vegetation, and residential development pattern that generally blocks distant views. There are no areas within the City that provide views of any scenic vistas that are considered significant by the City (City 2011).

According to the California Department of Transportation (Caltrans) State Scenic Highway System Map, there are no eligible or officially designated State scenic highways in the vicinity of the four project impact areas (Caltrans 2026).

Impact Analysis

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. A scenic vista is defined as a viewpoint that provides an expansive view of a highly valued landscape for the benefit of the general public. As noted above, there are no areas within the City that provide views of any scenic vistas that are considered significant by the City (City 2011).

The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Way Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. Additionally, construction, including the use of staging areas, would be short-term and temporary, and operation of the project would include ongoing and as-needed maintenance of the four bridges. Therefore, the project would not have a substantial adverse effect on a scenic vista, and the impact would be less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

Less Than Significant Impact. As discussed in question a) above, the project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Way Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves.

According to the Caltrans State Scenic Highway System Map, there are no eligible or officially designated State scenic highways within the project impact areas. The nearest officially designated State scenic highway, State Route (SR) 160, is located approximately 17 miles southwest of the Indian River Bridge project impact area and the nearest eligible State scenic highway, SR 49, is located approximately 17 miles northeast of the Sundance Bridge project impact area (Caltrans 2026). Due to the distance to these highways and the intervening structures and topography, the proposed project would not substantially damage scenic resources within a State scenic highway, and the impact would be less than significant.

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?

Less Than Significant Impact. The proposed project is located within an urbanized area of the City. As outlined in Section 2.2, the Indian River Bridge project impact area is zoned SPA, the Matheny Bridge project impact area is zoned SPA, the Sundance Bridge project impact area is zoned Single-Family Residential Zone/ Planned Development (R-1-A [PD]), and the Patton Bridge project impact area is zoned Very Low Density Residential (RD2).

Although the project impact areas would have various zoning designations, all project work would take place underneath the four bridges. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. The visual character of Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton

Bridge, as well as the quality of public views of the project impact areas and their surroundings post project implementation would be similar to pre-project conditions. Therefore, the project would not conflict with zoning and other regulations governing scenic quality, and the impact would be less than significant.

d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Operation of the proposed project would not introduce new lighting or create a new source of glare that would adversely affect day or nighttime views. Some artificial lighting may be needed during construction activities; however, lighting for project construction would be temporary and short-term. Construction of the project activities at the four project impact areas is anticipated to commence in August of 2026 and would take approximately nine weeks to complete. It is anticipated that construction activities at the four project impact areas would occur concurrently. Construction of the project activities is anticipated to occur during daytime hours, 7:00 a.m. to 10:00 p.m.; however, dewatering may occur intermittently during nighttime hours. All potential lighting used for construction would comply with the California Building Standards Code (CCR, Title 24) and California Green Building Standards Code (CCR, Title 24, Part 11 - CALGreen). All construction lighting would use low energy, shielded light fixtures with direct light downward. Therefore, construction and operation of the project would not create a new source of substantial light or glare, and the impact would be less than significant.

II. AGRICULTURE AND FORESTRY RESOURCES

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

Environmental Setting

The California Department of Conservation (DOC), Division of Land Resource Protection, maintains the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the State's farmland to and from agricultural use. The program maintains an inventory of State agricultural land and updates its Important Farmland Series Maps every two years. According to the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP), the four project impact areas are all mapped as Urban and Built-Up Land (DOC 2026a).

Impact Analysis

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 FMMP Important Farmland Finder, the four project impact areas are all mapped as Urban and Built-Up Land (DOC 2026a). The project site is not planned for or used for any agricultural purposes. Therefore, the project would not convert farmland to a non-agricultural use, and no impact would occur.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Indian River Bridge and Matheny Bridge project impact areas are zoned SPA, the Sundance Bridge project impact area is zoned Single-Family Residential Zone/Planned Development (R-1-A [PD]), and the Patton Bridge project impact area is zoned Very Low-Density Residential (RD2). Additionally, none of the project impact areas are currently under a Williamson Act contract (DOC 2026b). Therefore, the project would not conflict with existing zoning for agricultural use, or a Williamson Act contract, and no impact would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed in question b) above, the project impact areas are not zoned forest land, timberland, or Timberland Production, nor have the project impact area supported timber management uses. Additionally, the project impact areas do not contain forest land as defined in PRC Section 12220(g) or forest resources and does not support any forest uses. Therefore, the project would not conflict with existing zoning for, or cause a rezoning or, forestland or timberland and would not result in a loss or conversion of forest land. No impact would occur for questions c) and d).

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. As discussed in questions a) through d), implementation of the proposed project would not result in the conversion of farmland to a non-agricultural use, nor would it result in the conversion of forest land to non-forest use. Therefore, no impact would occur.

III. AIR QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) 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?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The project site is located in the City of Citrus Heights, Sacramento County, and within the Sacramento County portion of the Sacramento Valley Air Basin (SVAB). Air quality in Sacramento County is regulated by the U.S. Environmental Protection Agency (USEPA) at the federal level, by the California Air Resources Board (CARB) at the state level, and by the Sacramento Metropolitan Air Quality Management District (SMAQMD) at the regional level. As required by the California Clean Air Act, SMAQMD has published various air quality planning documents as discussed below to address requirements to bring the SVAB into compliance with the federal and State ambient air quality standards. The Air Quality Attainment Plans are incorporated into the State Implementation Plan (SIP), which is subsequently submitted to the USEPA, the federal agency that administrates the Federal Clean Air Act of 1970, as amended in 1990.

The climate of the SVAB is characterized by hot dry summers and mild rainy winters. During the year, the temperature may range from 20 to 115 degrees °F with summer highs usually in the 90s and winter lows occasionally below freezing. Average annual rainfall is about 20 inches with snowfall being very rare. The prevailing winds are moderate in strength and vary from moist breezes from the south to dry land flows from the north. The mountains surrounding the Sacramento Valley create a barrier to airflow, which can trap air pollutants in the valley when certain meteorological conditions are right, and a temperature inversion (areas of warm air overlying areas of cooler air) exists. Air stagnation in the autumn and early winter occurs when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows pollutants to become concentrated in the air. The surface concentrations of pollutants are highest when these conditions are combined with increased levels of smoke or when temperature inversions trap cool air, fog, and pollutants near the ground. The ozone season (May through October) in the SVAB is characterized by stagnant morning air or light winds with the breeze

arriving in the afternoon out of the southwest from the San Francisco Bay. Usually, the evening breeze transports the airborne pollutants to the north out of the SVAB. During about half of the days from July to September, however, a phenomenon called the "Schultz Eddy" prevents this from occurring. Instead of allowing for the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern and pollutants to circle back southward. This phenomenon's effect exacerbates the pollution levels in the area and increases the likelihood of violating the federal and state air quality standards (SMAQMD 2020a).

Regulatory Setting

Criteria Pollutants

Air quality at the regional level is defined by ambient air concentrations of specific pollutants, identified criteria pollutants, are defined and regulated by State and federal law as a risk to the health and welfare of the public, and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources, including carbon monoxide (CO); reactive organic gases (ROGs), also known as volatile organic compounds (VOCs); [4] nitrogen oxides (NO_X); sulfur dioxide (SO_2); coarse particulate matter (PM_{10}); fine particulate matter ($PM_{2.5}$); and lead. Of these primary pollutants, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead are criteria pollutants. ROGs and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. The principal secondary criteria pollutants are ozone and nitrogen dioxide (NO_2). In addition to being primary pollutants, PM_{10} and $PM_{2.5}$ can be secondary pollutants formed by chemical reactions in the atmosphere.

Ambient air quality is described in terms of compliance with State and national standards and the levels of air pollutant concentrations considered safe to protect the public health and welfare. These standards are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. The USEPA has established national ambient air quality standards (NAAQS) for criteria pollutants. As permitted by the Federal Clean Air Act, California has adopted the more stringent California ambient air quality standards (CAAQS) and expanded the number of regulated air pollutant constituents.

CARB is required to designate areas of the State as attainment, nonattainment, or unclassified for any State standard. An "attainment" designation for an area signifies that pollutant concentrations do not violate the standard for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once.

The air quality attainment status of Sacramento County is shown in Table 1, *Sacramento County Attainment Status*. Sacramento County is designated as nonattainment for the 1-hour ozone, 8-hour ozone and PM_{10} CAAQS; and nonattainment for the 8-hour ozone and $PM_{2.5}$ NAAQS (CARB 2026a).

[4] CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

Table 1
SACRAMENTO COUNTY – ATTAINMENT STATUS

Pollutant	State of California Attainment Status	Federal Attainment Status
Ozone (1-hour)	Nonattainment	No Federal Standard
Ozone (8-hour)	Nonattainment	Nonattainment
Coarse Particulate Matter (PM_{10})	Nonattainment	Attainment
Fine Particulate Matter ($PM_{2.5}$)	Attainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment/Unclassified
Nitrogen Dioxide (NO_2)	Attainment	Attainment/Unclassified
Lead	Attainment	Attainment/Unclassified
Sulfur Dioxide (SO_2)	Attainment	Unclassified
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Visibility Reducing Particles	Unclassified	No Federal Standard

Source: CARB 2026a

Ground-level Ozone is not emitted directly into the environment but is generated from complex chemical and photochemical reactions between the precursor pollutants ROG and NO_X. Anthropogenic ROG and NO_X sources in Sacramento County include motor vehicles, trains, recreational boats, other transportation sources, and industrial processes. Anthropogenic PM_{10} and $PM_{2.5}$ sources in Sacramento County include paved and unpaved road dust; diesel exhaust; tire and brake wear; quarrying/aggregate production operations; construction activities; and windblown dust.

Toxic Air Contaminants

Toxic air contaminants (TAC) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. TACs can cause long-term chronic health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye-watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe, and impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

The Health and Safety Code (Section 39655[a]) defines TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” All substances that are listed as hazardous air pollutants pursuant to subsection(b) of Section 112 of the CAA (42 United States Code Sec. 7412[b]) are designated as TACs. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

Diesel Particulate Matter

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid materials. The solid material in diesel exhaust is referred to as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is 2.5 microns or less in diameter (CARB 2026b). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a notable effect on California's population—it is estimated that about 70 percent of the total known cancer risk related to air toxins in California is attributable to DPM (CARB 2026b).

Sacramento Metropolitan Air Quality Management District

Air quality in Sacramento County is regulated by the SMAQMD. As a regional agency, the SMAQMD works directly with the Sacramento Area Council of Governments (SACOG), County transportation commissions, and local governments and cooperates actively with all federal and State government agencies. The SMAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary. The SMAQMD *Guide to Air Quality Assessment in Sacramento County* (CEQA Guide) contains guidance for analyzing project-level and plan-level construction and operational CEQA air quality and greenhouse gas (GHG) emissions impacts (SMAQMD 2020a).

Air Quality Plans

The current air quality plan applicable to the project, the *Sacramento Regional 2015 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Regional Ozone Plan), was developed and adopted by the SMAQMD and adjacent air districts and adopted by CARB on October 26, 2023. The Regional Ozone Plan addresses the CAA requirements for the Sacramento Metro severe nonattainment area for the 2015 8-hour ozone NAAQS, including emissions inventories, attainment demonstration, motor vehicle emissions budgets, and contingency measures (SMAQMD 2023). In addition to not attaining the ozone NAAQS and CAAQS, the region is classified as nonattainment for the $PM_{2.5}$ NAAQS and the PM_{10} CAAQS. The California SIP contains all plans and programs for attainment of the PM NAAQS in Sacramento County.

Rules and Regulations

The following rules promulgated by the SMAQMD would be applicable to the construction and/or operation of the project.

Rule 402 – Nuisance: Prohibits the discharge of such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public (SMAQMD 1977a).

Rule 403 – Fugitive Dust: Requires actions to prevent, reduce or mitigate anthropogenic fugitive dust emissions, including emissions from construction activities (SMAQMD 1977b).

Rule 404 – Particulate Matter: Limits the quality of particulate matter in the atmosphere through establishment of an emission concentration limit (SMAQMD 1984).

Sensitive Receptors

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals, known as sensitive receptors, as the most likely to be affected by air pollution: adults over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptor locations. Examples of these sensitive receptor locations are residences, schools, hospitals, and daycare centers.

There are no schools, hospitals, or daycare centers with 1,000 feet of any of the project impact areas. There are residences near each of the project impact areas. Table 2, *Residential Sensitive Receptor Distances*, shows the approximate distance from the project impact areas to the closest residential sensitive receptor location.

Table 2
RESIDENTIAL SENSITIVE RECEPTOR DISTANCES

Impact Area	Distance from Impact Area to Residential Property Line (feet)	Direction to Nearest Residence
Indian River Bridge	10	North
Matheny Bridge	15	Northeast
Sundance Bridge	80	South
Patton Bridge	10	South

Methodology and Assumptions

Criteria pollutant and precursor emissions and GHG emissions for the project construction activities were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1. CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air districts. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The model calculates emissions of criteria pollutants and ozone precursors (ROGs, NO_X, CO, SO_X, PM_{10} and $PM_{2.5}$), and GHGs. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, C, and D (CAPCOA 2022). The input data and subsequent construction emission estimates for the proposed project are discussed below. The CalEEMod output report is included as Appendix B to this IS/MND.

Construction Assumptions

Construction of the proposed project is anticipated to begin in August 2026 and be completed in approximately nine weeks (in early October 2026). To be conservative by analyzing the highest potential daily project emissions, construction at all four project impact areas was assumed to occur concurrently. Project emissions modeling conservatively assumes the shortest expected construction scenario

wherein a relatively large amount of construction activity occurs in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those calculated due to a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). The construction activity schedule was estimated using data provided by the project engineer and is outlined in Table 3, *Project Construction Schedule*, below. Per the project engineer, no demolition would be required.

Table 3
PROJECT CONSTRUCTION SCHEDULE

Construction Activity	Construction Start Date	Construction End Date	Number of Working Days
Dewatering Preparation	8/1/2026	8/7/2026	5
Dewatering	8/8/2026	8/21/2026	10
Excavation	8/22/2026	9/11/2026	15
Scour Protection Placement	9/12/2026	10/2/2026	15

Source: CalEEMod (see Appendix B)

Construction equipment for each construction activity was estimated based on the project's disturbed area and material import/export estimates from the project engineer. Based on information provided by the project engineer, dewatering for each bridge site would require a 5 hp electric submersible pump with a 3-inch discharge powered by a diesel generator. A 5-hp submersible pump would require a generator with a rated capacity of approximately 15 kW and an approximately 20 hp diesel engine. Table 4, *Project Construction Equipment*, presents a summary of the assumed equipment that would be involved in each activity of construction. Construction equipment estimates for each activity include four sets of equipment, one set for each project impact area. All equipment was conservatively assumed to be used up to 8 hours per workday.

Table 4
PROJECT CONSTRUCTION EQUIPMENT

Construction Activity	Equipment	Number
Dewatering Preparation	Excavators – Long Reach	4
	Skid Steer Loaders	4
Dewatering	Generators	4
Excavation	Excavators – Long Reach	4
	Rubber-Tier Loaders	4
	Skid Steer Loaders	4
Scour Protection Placement	Excavators – Long Reach	4
	Rubber-Tier Loaders	4
	Skid Steer Loaders	4

Source: CalEEMod (see Appendix B)

Per the project engineer, excavation for the total project impact area would require that up to 928 CY (93 truckloads) of debris and soil/aggregate be exported off-site to the Kiefer Landfill (an approximately 20-mile one-way haul trip distance). The placement of the bridge scour and erosion protection measures for the total project impact area would require the import of up to 746 CY of material (75 truckloads) from the Granite Construction Supply Quarry (an approximately 30-mile one-way haul trip distance).

Dewatering of all four bridge sites was assumed to require a crew of two workers (four daily worker commute trips), and all other activities were assumed to require a crew of four workers per bridge site for a total of 16 workers (32 daily commute trips). CalEEMod default worker trip distances for Sacramento County were assumed.

Operational Assumptions

Operational activities for the proposed project would consist of ongoing maintenance occurring on an as-needed basis. Maintenance activities would rely on small gasoline- or electric-powered equipment and hand work to shift or replace individual rocks. It is anticipated that City employees who currently maintain the bridges would continue to maintain the bridges after construction is completed, resulting in no new operational maintenance trips.

Standards of Significance

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. SMAQMD has established significance thresholds to assess the regional and localized impacts of project-related air pollutant emissions. The significance thresholds are updated, as needed, to appropriately represent the most current technical information and attainment status in Sacramento County.

Table 5, *SMAQMD Thresholds of Significance*, presents the most current significance thresholds, including regional daily thresholds for short-term construction and long-term operational emissions; maximum incremental cancer risk and hazard indices for TACs; and maximum ambient concentrations for exposure of sensitive receptors to localized pollutants. A project with daily emission rates, risk values, or concentrations below these thresholds is generally considered to have a less than significant effect on air quality (SMAQMD 2020b).

Table 5
SMAQMD THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction	Operation
Mass Daily Thresholds (pounds per day)		
ROG	None	65
NO_X	85	65
PM_{10}	80[1]	80[1]
$PM_{2.5}$	82[1]	82[1]
Toxic Air Contaminants		
TACs	Maximum Incremental Cancer Risk ≥ 10 in 1 million Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Ambient Air Quality for Criteria Pollutants		
NO_2	1-hour average ≥ 0.18 ppm Annual average ≥ 0.03 ppm	
CO	1-hour average ≥ 20.0 ppm (State) 8-hour average ≥ 9.0 ppm (State/federal)	
SO_2	1-hour average ≥ 0.075 ppm 24-hour average ≥ 0.04 ppm	
Lead	1.5 µg/m³ 30-day average	

Source: SMAQMD 2020b

[1] PM thresholds are zero (0) unless all feasible Best Available Control Practices/Best Management Practices are applied.

lbs./day = pounds per day; VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = respirable particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; SO_X = sulfur oxides; TACs = toxic air contaminants; GHG = greenhouse gas emissions; MT/yr = metric tons per year; CO_2e = carbon dioxide equivalent; NO_2 = nitrogen dioxide; ppm = parts per million; µg/m³ = micrograms per cubic meter

Impact Analysis

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. In accordance with SMAQMD's CEQA Guide, construction-generated NO_X, PM_{10}, and $PM_{2.5}$, and operational-generated ROG and NO_X (ozone precursors) are used to determine consistency with the Regional Ozone Plan. The Guide states (SMAQMD 2020C, p. 4-6):

> *By exceeding the District's mass emission thresholds for operational emissions of ROG, NO_X, PM_{10}, or $PM_{2.5}$, the project would be considered to conflict with or obstruct implementation of the District's air quality planning efforts.*

As discussed in question b), below, the project's construction-generated emissions of NO_X, PM_{10}, and $PM_{2.5}$ would not exceed SMAQMD thresholds, and the project would not result in substantial operational emissions. Therefore, the project would not conflict with or obstruct implementation of SMAQMD's Regional Ozone Plan.

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 With Mitigation Incorporated. By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within Sacramento County. The Sacramento region is in non-attainment for ozone

(precursors NO_X and ROG) and particulate matter ($PM_{2.5}$ and PM_{10}). The project's emissions of these criteria pollutants and precursors during construction and operation are evaluated below.

Construction Emissions

The project would generate criteria pollutants and precursors in the short-term during construction. To determine whether a project would result in cumulatively considerable emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation, a project's emissions are evaluated based on the quantitative emission thresholds established by the SMAQMD (as shown in Table 5).

The project's construction emissions were estimated using the CalEEMod model as described in Methodology and Assumptions, above. Model outputs are provided in Appendix B to this IS/MND. The results of the project construction modeling are shown in Table 6, *Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the SMAQMD thresholds. The modeling assumes implementation of the fugitive dust control measures which are quantifiable in CalEEMod, specifically watering demolition areas and exposed surfaces twice daily.

Table 6
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Activity	ROG (lbs./day)	NO_X (lbs./day)	CO (lbs./day)	SO_X (lbs./day)	PM_{10} (lbs./day)	$PM_{2.5}$ (lbs./day)
Dewatering Preparation	1.4	9.6	17.2	<0.1	0.6	0.3
Dewatering	0.6	4.5	3.2	<0.1	0.2	0.2
Excavation	2.3	16.6	30.7	<0.1	1.2	0.7
Scour Protection Placement	2.3	17.1	30.8	<0.1	1.2	0.7
Maximum Daily Emissions	**2.3**	**17.1**	**30.8**	**<0.1**	**1.2**	**0.7**
SMAQMD Threshold	*None*	*85*	*None*	*None*	*80*[1]	*82*[1]
Exceed Threshold?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod; Thresholds SMAQMD 2020c

[1] SMAQMD PM thresholds are zero unless all feasible Beast Available Control Practices/Best Management Practices are applied.

lbs./day = pounds per day; ROG = reactive organic gas; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 6, emissions of criteria pollutants and precursors would not exceed the SMAQMD significance thresholds. Nevertheless, the SMAQMD recommends a set of basic construction emissions control practices (BCECPs), considered by the SMAQMD to be feasible for controlling fugitive dust from a construction site. The practices also serve as best management practices (BMPs), allowing the use of the non-zero PM significance thresholds. The SMAQMD recommends lead agencies should add these emission control practices as Conditions of Approval (COA) or include them in a mitigation measure (SMAQMD 2019). Without implementation of the BCECPs, construction emissions of PM_{10} and $PM_{2.5}$ would be potentially significant. Mitigation Measure AQ-1 would require implementation of the SMAQMD's recommended BCECPs.

Operational Emissions

Operational activities for the proposed project would consist of ongoing maintenance occurring on an as-needed basis. Maintenance activities would rely on small gasoline- or electric-powered equipment or hand work to shift or replace individual rocks. It is anticipated that City employees who currently maintain the bridges would continue to maintain the bridges after construction is completed, resulting in no new operational maintenance trips. The project would result in minimal operational emissions of criteria pollutants and precursors.

Impact Conclusion

While short-term construction of the project would not result in criteria pollutant and precursor pollutant emissions that would exceed the SMAQMD significance thresholds, and long-term operation of the project would result in minimal emissions, implementation of the project would result in an increase of construction PM_{10} and $PM_{2.5}$ emissions compared to existing conditions. The SMAQMD considers any increase in construction PM emissions to be significant unless the construction BCECPs are implemented. Therefore, mitigation measure AQ-1 would be required to enforce implementation of the SMAQMD construction BCECPs. With the implementation of mitigation measure AQ-1, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which Sacramento Region is non-attainment. The impact would be less than significant with mitigation incorporated.

Mitigation Measure AQ-1: Basic Construction Emissions Control Practices

The following Basic Construction Emissions Control Practices are considered feasible for controlling fugitive dust from a construction site. Control of fugitive dust is required by SMAQMD Rule 403 and enforced by SMAQMD staff. Prior to issuing construction permits, contracts, or orders the City shall verify the following measures specified on construction contracts and/or construction documentation.

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time by either shutting equipment off when not in use or reducing time of idling to 5 minutes. Provide clear signage that posts this requirement for workers at the entrances to the site; and

- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Construction of the project would result in emissions of DPM from the use of diesel engine-powered construction equipment on the project site. The dose (of TAC) to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has to the substance; a longer exposure period to a fixed quantity of emissions would result in higher health risks. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods (typically 30 years for individual residents based on guidance from OEHHA) and are best suited for the evaluation of long-duration TAC emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of construction activities. Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime.

Project construction activities are expected to last approximately nine weeks. Based on the limited numbers of diesel-powered construction equipment anticipated to be used on the project impact areas, and on the short duration and intermittent use of heavy diesel-powered construction equipment during the project construction period, construction of the project would not expose sensitive receptors to substantial DPM concentrations. Once operational, the project would not be a source of TAC emissions. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations, including concentrations of DPM. The impact would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. Emissions from construction equipment, such as diesel exhaust, may generate odors; however, these odors would be temporary, intermittent, and not expected to affect a substantial number of people. Additionally, noxious odors would be confined to the immediate vicinity of construction equipment and would cease when construction activity ends. As the project would include the installation of bridge scour and erosion material, operation of the project would not result in odors affecting a substantial number of people. Therefore, neither construction nor operation of the project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and the impact would be less than significant.

IV. BIOLOGICAL RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☐	☒	☐
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?	☐	☒	☐	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

A Biological Resources Assessment (BRA) was prepared by HELIX and is summarized below and included as Appendix C to this IS/MND.

Environmental Setting

Topography and Drainage

The 16.76-acre study area is comprised of the Indian River Bridge and Matheny Bridge study area (11.12 acres), the Sundance Bridge study area (4.45 acres), and the Patton Bridge study area (1.19 acres). The terrain in the study areas is varied but similar at each of the bridges. The creek bed is the lowest elevation at each bridge location and rises sharply along the bank. The bank of the creek and surrounding lands are generally flat, with minor undulating topography across the landscape. The elevation of the creek bed at the Indian River Bridge is approximately 95 feet amsl, the top of bank is

approximately 105 feet amsl, and the bridge is approximately 112 feet amsl. The elevation of the creek bed at the Matheney Bridge is approximately 100 feet amsl, the top of bank is approximately 110 feet amsl, and the bridge is approximately 111 feet amsl. The elevation of the creek bed at the Sundance Bridge is approximately 160 feet amsl, the top of bank is approximately 165 to 175 feet amsl, and the bridge is 175 feet amsl. The elevation of the creek bed at the Patton Bridge is approximately 145 feet amsl, the top of bank is approximately 150 to 152 feet amsl, and the bridge is 154 feet amsl.

The study area is in the Lower American watershed (USGS Hydrologic Unit Code [HUC8] 18020111). Arcade Creek flows east/southeast through the study area and is joined by Cripple Creek just east of the Indian River Bridge. Arcade Creek continues southeast outside of the study area and flows into the Natomas Ditch which is a direct tributary to the Sacramento River. One small ephemeral drainage is located east of Indian River Drive and flows into Arcade Creek upstream of the bridge location, and one ephemeral drainage is east of Fair Oak Boulevard and flows into Arcade Creek downstream of the Sundance Bridge. These ephemeral drainages appear to collect surface runoff from the surrounding land during periods of high rainfall, and both drain into Arcade Creek. No other aquatic resources were observed in the study area, and all drainage would be expected to flow into Arcade Creek.

Vegetation Communities

Three upland vegetation communities occur within the study areas: valley oak woodland, developed, and disturbed/ruderal. Two aquatic features also occur within the study areas and include an intermittent drainage and ephemeral drainage.

Methodology

Database and Literature Review

Before performing the field survey, background research was conducted to inform and create target species lists to focus the survey efforts. Accessible information in public databases pertaining to natural resources in the region of the study area was queried. The following site-specific published information was reviewed for the BRA:

- CDFW. 2025. *California Natural Diversity Database* (CNDDB). For *Citrus Heights, Folsom, Roseville, Rocklin, Carmichael, Buffalo Creek, Rio Linda, Pleasant Grove,* and *Sacramento East* USGS 7.5-minute series quadrangles, Sacramento, CA. [Accessed July 9, 2025, and December 4, 2025];

- California Native Plant Society (CNPS). 2025. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.39) For *Citrus Heights, Folsom, Roseville, Rocklin, Carmichael, Buffalo Creek, Rio Linda, Pleasant Grove,* and *Sacramento East SE* USGS 7.5-minute series quadrangles, Sacramento, CA. [Accessed July 9, 2025, and December 4, 2025];

- U.S. Fish and Wildlife Service (USFWS). 2025a. *Information for Planning and Consultation* (IPaC) for *Citrus Heights Creek Erosion and Bridge Scour Protection Project.* [Accessed July 9, 2025, and December 4, 2025];

- USDA, NRCS. 2025. *Web Soil Survey*. Available online at: http://websoilsurvey.sc.egov.usda.gov. [Accessed July 9, 2025, and December 4, 2025]; and,

- USFWS 2025b. National Wetlands Inventory. Available online at: https://www.fws.gov/program/national-wetlands-inventory. [Accessed July 9, 2025, and December 4, 2025].

The results of the database query and a five-mile radius CNDDB query for the Study Area are included in Appendix A of Appendix C.

Special-status species are plant and wildlife species that have been afforded special recognition by federal, State, or local resource agencies or organizations. They are generally of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g., Migratory Bird Treaty Act);
- Included on the CDFW Special Animals List;
- Identified as Rare Plant Rank 1 and 2 (sometimes 3 and 4) by CNPS; or,
- Receive consideration during environmental review under CEQA.

Biological Surveys

The biological field survey for the Indian River Drive Bridge and Matheny Bridge study area and the Sundance Bridge study area was conducted on July 10, 2025, by HELIX biologist Christine Gonzalez. The weather during the field survey was sunny with an average temperature of 82 degrees Fahrenheit. The biological field survey for the Patton Bridge study area was conducted on December 4, 2025, by Ms. Gonzalez and the weather during this survey was overcast and cool, with an average temperature of 52 degrees Fahrenheit.

Following the field survey and review of database queries, the potential for each species identified in the database query to occur within the study area was determined based on the field survey, soils, habitats present within the Study Area, and species-specific information, as shown in Appendix B of Appendix C. Species observed within the Study Area during the survey are included in Appendix C of Appendix C and photographs taken during the survey are included in Appendix D of Appendix C.

Tree Inventory

A tree inventory was conducted concurrently with the biological field surveys. All trees within a 15-foot radius of each bridge were inventoried, with data taken on species, diameter at breast height (DBH), and the general health condition of each tree, and the results are displayed in Appendix C. See Figures 5a through 5c in Appendix C for the location of trees inventoried at each bridge.

Special-Status Species

Listed and Special-Status Plants

According to the database query, 12 listed and/or special-status plants have the potential to occur on-site or in the vicinity of the study areas (CDFW 2025; CNPS 2025). Based on field observations, published information, and literature review, one special-status plant has the potential to occur within the study

areas: Sanford's arrowhead (*Sagittaria sanfordii*). The remaining regional special-status plants identified in the query occur on serpentine, clay, or alkaline soils, within vernal pools, or within other habitats which do not occur in the study areas.

Listed and Special-Status Wildlife

According to the database query, 27 listed and/or special-status wildlife species have the potential to occur on-site or in the vicinity of the study areas (CDFW 2025; USFWS 2025a). Based on field observations, published information, and literature review, seven special-status wildlife species have the potential to occur within the study areas: monarch butterfly (*Danaus plexippus*), northwestern pond turtle (*Actinemys marmorata*), Cooper's hawk (*Astur cooperii*), tricolored blackbird (*Agelaius tricolor*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), and pallid bat (*Antrozous pallidus*). In addition to these special-status wildlife species, other migratory birds and raptors protected under federal, State, and local laws/policies also have the potential to occur within the Study Area.

However, the following species only have a low potential to pass through the study areas during migration or other movements and are not expected to occur or use the study areas in any substantial way: monarch butterfly and tricolored blackbird. These two species lack suitable nesting habitat within the study areas and other primary habitat constituents such as large, open grasslands for foraging, and milkweed plants to support the monarch's lifecycle, are also absent from the study areas.

Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code (i.e., riparian areas) and/or Sections 401 and 404 of the CWA, which include wetlands and other waters of the U.S. Additionally, sensitive habitats, including native trees and oak woodland habitat, are protected under the specific policies outlined in County Native Trees and Other Protected Trees Regulations and Citrus Heights Tree Preservation and Protection Regulations.

Aquatic Habitats

Intermittent Drainage

Intermittent drainages are features that contain flowing water during certain times of the year, generally during the rainy season. They often contain an unvegetated to mostly unvegetated bed, bank, and channel. Intermittent drainages may be colonized by plant species during periods of low flow or may contain scattered annuals or perennials in features that generally contain low flows.

A total of 1.516 acres of intermittent drainage was mapped within the Indian River Bridge and Matheny Bridge study area, which is primarily comprised of Arcade Creek, with a small portion, less than 0.01 acre of Cripple Creek as it joins Arcade Creek. Arcade and Cripple creeks are highly incised in this portion of the study area with bank heights ranging from three to seven feet high. A small portion of Arcade Creek contained a section of standing water, but the majority of the creeks were completely dry at the time of the field survey on July 10, 2025. The beds of both creeks were mostly devoid of vegetation and consisted of sand, gravel, and cobble. Several large trash items such as tires, pipes, and other debris were observed in the creek beds. Some emergent vegetation and woody species including tall flatsedge (*Cyperus eragrostis*), Mexican rush (*Juncus mexicanus*), American pokeweed, Himalayan blackberry, common fig (*Ficus carica*), and Oregon ash are present along the bank of Arcade Creek and are

concentrated downstream of the Indian River Bridge. The creek downstream of this bridge appears to pool when inundated, likely supplying enough water to support hydrophytic plant species, and it receives additional flows from Cripple Creek. The remainder of the bank in this section is mostly dominated by upland grassy species including field hedge parsley, ripgut brome, and dogtail grass.

A total of 0.297 acre of intermittent drainage was mapped within the Sundance Bridge study area, consisting entirely of Arcade Creek. This section of Arcade Creek was inundated at the time of the field survey, and water depths appeared to vary between four inches and 24 inches deep. The bed and bank of this section are dominated by species including tall flatsedge, Mexican rush, curly dock (*Rumex crispus*), Dallis grass (*Paspalum dilatatum*), Johnsongrass (*Sorghum halepense*), American pokeweed, and pennyroyal (*Mentha pulegium*). An abrupt transition to upland vegetation occurs at the top of bank, and no fringe wetlands were observed in this area.

A total of 0.159 acre of intermittent drainage was mapped within the Patton Bridge study area, consisting entirely of Cripple Creek. This section of Cripple Creek was partially inundated at the time of the field survey, with deeper portions of the creek bed inundated to a depth of three to 16 inches. The bed of the creek was mostly devoid of vegetation at the time of the field survey, but was dominated by Sanford's arrowhead where vegetated. The bank is moderately sloped and is dominated by a variety of grassy, herbaceous species as well as Himalayan blackberry and English ivy. Residential properties closely abut the creek corridor in this portion of the study area, and maintained lawns/mowed vegetation were present just beyond the top of bank.

Both Arcade and Cripple creeks have been substantially altered due to the surrounding development. The entire Arcade Creek watershed is highly urbanized, and although some open space areas are still present along the stream corridor, the habitat quality of these areas and of the watershed have been degraded by adjacent urban land uses. Urbanization of the watershed has resulted in floodplain encroachment, increased water runoff rates, water quality issues, and flood risks (Jones & Stokes 2007).

Ephemeral Drainage

Ephemeral drainages are features that contain water briefly during and after precipitation events. These features are dry most of the time, with flows occurring only with direct input from precipitation. Ephemeral drainages feature a bed and bank and are often devoid of vegetation or are comprised of more upland vegetation species.

One small ephemeral drainage (<0.01 acre) occurs in the Indian River Bridge and Matheny Bridge study area and is east of Indian River Drive on the western bank of Arcade Creek. This drainage originates from a culvert and flows directly into Arcade Creek. This drainage was dominated by upland species including ripgut brome, dogtail grass, and barley (*Hordeum murinum*).

A second ephemeral drainage was mapped in the Sundance Bridge study area (0.01 acre). This drainage originates outside of the study area and appears to collect surface runoff from the trail and surrounding irrigated land. This drainage flows directly into Arcade Creek and was dominated by upland species including ripgut brome, field hedge parsley, and dogtail grass.

Protected Trees

The City of Citrus Heights defines protected trees as native oak trees 6 inches or greater in diameter, mature trees 19 inches or greater in diameter, and trees planted as part of a condition of approval or mitigation requirement with a discretionary permit (City 2024).

All trees within a 15-foot radius of each bridge were included in the tree assessment, and the results are displayed in Appendix C. Tree 1 is the only tree that falls within Sacramento County jurisdiction, and it is considered a protected tree. Trees 8, 12, 13, and 18 are too small to be considered as protected by the City of Citrus Heights. All remaining trees are considered protected by the City of Citrus Heights.

Wildlife Migration Corridors

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. This fragmentation of habitat can also occur when a portion of one or more habitats is converted into another habitat; for instance, when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or construction activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and, (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The study area is located along the Arcade and Cripple Creeks corridors, which is one of the last undeveloped segments of land in the local area. The study area is not a designated migration corridor for deer, fish, or other species tracked by the CDFW but likely serves as a movement corridor for local wildlife species. Wild turkeys (*Meleagris gallopavo*), a deer (*Odocoileus hemionus columbianus*), evidence of raccoon (*Procyon lotor*) use, and an abundance of birds were observed within the study area during the survey.

Impact Analysis

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.

Special-Status Plants

According to the database query, 12 listed and/or special-status plants have the potential to occur on-site or in the vicinity of the study area (CDFW 2025; CNPS 2025). Based on field observations, published information, and literature review, one special-status plant is known to occur within the study area: Sanford's arrowhead (*Sagittaria sanfordii*). The remaining regional special-status plants identified in the query occur on serpentine, clay, or alkaline soils, within vernal pools, or within other habitats which do not occur in the study area.

Sanford's Arrowhead

This species was not observed in the study area during the field survey on July 10, 2025, which focused on the Indian River Bridge, Matheny Bridge, and Sundance Bridge. However, this species was observed in the Patton Bridge study area during the field survey on December 4, 2025. A large population of this species is located in the bed of Cripple Creek in this area, with the largest concentration upstream of the bridge.

Potential project related impacts to this species could include an accumulation of fugitive dust or debris on leaves which could result in reduced photosynthesis or disrupting potential pollinators by the presence and disturbance of construction equipment or crews. More direct impacts could include removal of individual plants by vegetation clearing, crushing due to crews or equipment, disrupted soil and water quality as a result of spills or erosion, and the establishment of noxious and invasive weed species during construction and operation that degrade habitat suitability for this species. However, with the implementation of Mitigation Measure BIO-1, which requires implementation of avoidance and minimization measures to Sanford's arrowhead, and Mitigation Measure BIO-2, which requires worker environmental awareness training, potential impacts to Sanford's arrowhead would be less than significant.

Special-Status Wildlife

According to the database query, 27 listed and/or special-status wildlife species have the potential to occur on-site or in the vicinity of the study areas (CDFW 2025; USFWS 2025a). Based on field observations, published information, and literature review, seven special-status wildlife species have the potential to occur within the study areas: monarch butterfly (*Danaus plexippus*), northwestern pond turtle (*Actinemys marmorata*), Cooper's hawk (*Astur cooperii*), tricolored blackbird (*Agelaius tricolor*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), and pallid bat (*Antrozous pallidus*). In addition to these special-status wildlife species, other migratory birds and raptors protected under federal, State, and local laws/policies also have the potential to occur within the Study Area.

However, the following species only have a low potential to pass through the study areas during migration or other movements and are not expected to occur or use the study areas in any substantial way: monarch butterfly and tricolored blackbird. These two species lack suitable nesting habitat within the study areas and other primary habitat constituents such as large, open grasslands for foraging, and milkweed plants to support the monarch's lifecycle, are also absent from the study areas. Therefore, project impacts to these two species are anticipated to be less than significant and are not discussed in further detail.

Northwestern Pond Turtle

This species was not observed in the study area during the field survey on July 10, 2025, or December 4, 2025. There are five documented occurrences of this species within five miles of the study area: four within five miles of the Sundance Bridge and one within five miles of the Indian River Bridge and Matheny Bridge. The closest documented occurrence is approximately four miles from the Sundance Bridge (CDFW 2025).

The project could impact this species if present in the study area during construction. This species would generally be expected to move away from construction activities during the active season (February to November), and greater impacts to this species would likely occur during the nesting season when this

species is more vulnerable. Impacts could occur through injury or mortality to adults, hatchlings, or eggs from construction equipment, personnel, or other construction-related items. Impacts could also occur through spills, contamination, and soil and water quality hazards if present in a spill/contamination area. However, with the implementation of Mitigation Measure BIO-3, which requires implementation of avoidance and minimization measures to northwestern pond turtle, and Mitigation Measure BIO-2, which requires worker environmental awareness training, potential impacts to northwestern pond turtle would be less than significant.

Cooper's Hawk

This species was not observed in the study area during the field survey on July 10, 2025, or December 4, 2025. There is one documented occurrence of this species within five miles of the Sundance study area, approximately 4.45 miles away (CDFW 2025).

The project has the potential for adverse effects to Cooper's hawk through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surrounding areas during construction. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the FGC and have a significant impact. However, with the implementation of Mitigation Measure BIO-4, which requires implementation of avoidance and minimization measures to Cooper's hawk, Swainson's hawk, white-tailed kite, and other migratory and nesting birds, and Mitigation Measure BIO-2, which requires worker environmental awareness training, potential impacts to Cooper's hawk would be less than significant.

Swainson's Hawk

This species was not observed in the study area during the field survey on July 10, 2025, or December 4, 2025. There are two documented occurrences of this species within five miles of the study area: one within five miles of the Sundance Bridge study area and one within five miles of the Indian River Bridge and Matheny Bridge study area. The closest documented occurrence is approximately 4.18 miles from the Sundance Bridge study area (CDFW 2025).

The proposed project has the potential for adverse effects to Swainson's hawk through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surroundings during construction. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the FGC and have a significant impact. However, with the implementation of Mitigation Measure BIO-4, which requires implementation of avoidance and minimization measures to Cooper's hawk, Swainson's hawk, white-tailed kite, and other migratory and nesting birds, and Mitigation Measure BIO-2, which requires worker environmental awareness training, potential impacts to Swainson's hawk would be less than significant.

White-Tailed Kite

This species was not observed in the study area during the field survey on July 10, 2025, or December 4, 2025. There are six documented occurrences of this species within five miles of the study area: five within five miles of the Sundance Bridge study area, three within five miles of the Indian River Bridge and Matheny Bridge study area (with two overlapping), and one within five miles of the Patton Bridge study area (overlapping occurrence). The closest documented occurrence is approximately 2.12 miles from the Sundance Bridge study area (CDFW 2025).

The proposed project has the potential for adverse effects to white-tailed kite through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surroundings during construction. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the FGC and a significant impact. However, with the implementation of Mitigation Measure BIO-4, which requires implementation of avoidance and minimization measures to Cooper's hawk, Swainson's hawk, white-tailed kite, and other migratory and nesting birds, and Mitigation Measure BIO-2, which requires worker environmental awareness training, potential impacts to white-tailed kite would be less than significant.

Other Migratory Birds and Raptors

Other migratory birds and raptors protected under federal, State, and local laws/policies also have the potential to occur within the Study Area. However, with the implementation of Mitigation Measure BIO-4, which requires implementation of avoidance and minimization measures to Cooper's hawk, Swainson's hawk, white-tailed kite, and other migratory and nesting birds, and Mitigation Measure BIO-2, which requires worker environmental awareness training, potential impacts to other migratory birds and raptors would be less than significant.

Pallid Pat

This species was not observed in the study area during the field survey on July 10, 2025, or December 4, 2025. No evidence of roosting bats (guano, urine stains, culled insects) was observed under any of the four bridges. There is one documented occurrence of this species within five miles of both the Sundance Bridge study area and the Patton Bridge study area, approximately 2.52 miles away from Sundance Bridge study area (CDFW 2025).

The project has the potential for adverse effects to pallid bat through disturbance of day roosts or maternity colonies leading to destruction of maternity colonies and/or abandonment of roost sites if this species were to roost in or adjacent to the Study Area during construction. Impacts to roost sites could result in injury or mortality to individual bats and/or maternity colonies. Construction activities near active roost sites may also result in roost abandonment. If roost abandonment occurs during daylight hours when bats are vulnerable, bats would be subject to a higher degree of predation risk. Loss of bats and maternity colonies would be a violation of the FGC and a significant impact. However, with the implementation of Mitigation Measure BIO-5, which requires implementation of avoidance and minimization measures to roosting bats, and Mitigation Measure BIO-2, which requires worker environmental awareness training, potential impacts to white-tailed kite would be less than significant.

Impact Conclusion

As outlined above, to reduce potential impacts to Sanford's arrowhead, a special-status plant species known to occur near Patton Bridge, Mitigation Measure BIO-1 and BIO-2 would be implemented. To reduce potential impacts to special-status wildlife species including northwestern pond turtle, Cooper's hawk, Swainson's hawk, white-tailed kite, other migratory birds and raptors, and pallid bat, Mitigation Measures BIO-3 through BIO-5 and Mitigation Measure BIO-2 would be implemented. With implementation of Mitigation Measures BIO-1 through BIO-5, potential impacts to special-status plant and wildlife species would be less than significant.

Mitigation Measure BIO-1: Sanford's Arrowhead Avoidance

At Indian River Bridge, Matheny Bridge, and Sundance Bridge:

- A qualified botanist shall conduct a special-status plant survey within the appropriate identification (blooming) period (May - October) prior to the initiation of any ground-disturbing activities. The survey should be conducted within two years of the anticipated start date of construction and preferably the same year as the start of construction. If no special-status plants are observed, then a letter report documenting the survey results should be prepared and no further measures are recommended.

- If special-status plants are observed within the study area, the location of the special-status plants shall be marked with pin flags or other highly visible markers and may also be marked by a sub-meter accurate GPS. The project proponent shall determine if the special-status plant(s) on-site can be avoided by project design or utilize construction techniques to avoid impacts to the special-status plant species. All special-status plants to be avoided shall have exclusion fencing or other highly visible material marking the avoidance area (if necessary) and the avoidance area shall remain in place throughout the entire construction period. If special-status plants are observed in portions of the study area that are not located near the project footprint, exclusion fencing may not be needed. A qualified botanist shall determine if exclusion fencing will be needed based on the location of the plant(s) and the most current project design.

- If special-status plants are found within the study area and cannot be avoided, the project proponent shall consult with the CDFW to determine appropriate measures to mitigate for the loss of special-status plant populations. These measures may include gathering seed/rhizomes from impacted populations for planting within nearby suitable habitat, preserving or enhancing existing offsite populations of the plant species affected by the project, or restoring suitable habitat for special-status plant species as directed by the regulatory agencies.

At Patton Bridge:

- A qualified botanist shall flag populations of Sanford's arrowhead in the vicinity of the work area for avoidance prior to commencement of project construction. The vicinity of the work area for flagging will be determined by the final engineering plans at the discretion of the botanist. All flagged Sanford's arrowhead shall be avoided by construction activities. A biological monitor may be warranted during construction if plants are in close proximity to the work area and have potential to be impacted by construction.

- If Sanford's arrowhead cannot be avoided, the project proponent shall consult with the CDFW to determine appropriate measures to mitigate for the loss of special-status plant populations. These measures may include gathering seed/rhizomes from impacted populations for planting within nearby suitable habitat, preserving or enhancing existing offsite populations of the plant species affected by the project, or restoring suitable habitat for special-status plant species as directed by the regulatory agencies.

Mitigation Measure BIO-2: Worker Environmental Awareness Training

A qualified biologist shall conduct an environmental awareness training for all project-related personnel before the initiation of work. The training shall include the identification of Sanford's arrowhead, northwestern pond turtle, Cooper's hawk, Swainson's hawk, white-tailed kite, other nesting and migratory birds, and pallid pat; required practices before the start of construction; general measures that are being implemented to protect the species as they relate to the project; penalties for non-compliance; and boundaries of the permitted disturbance zones. Upon completion of the training, all construction personnel shall sign a form stating they have attended the training and understand all the measures. Proof of this instruction shall be kept on file with the City and biologists on-site.

Mitigation Measure BIO-3: Pre-Construction Northwestern Pond Turtle Survey

Construction is recommended to commence during the active season for northwestern pond turtle (February – November) when this species is mobile. These timeframes are dependent on local weather conditions and can fluctuate depending on seasonal conditions.

A qualified biologist shall conduct a pre-construction survey for northwestern pond turtle within seven days prior to the start of ground-disturbing activities at each bridge location. The pre-construction survey shall also include a survey of surrounding upland habitat for the presence of turtle nests if conducted during the nesting season. Eggs and hatchlings could be present in the nest site beyond the nesting season, and therefore, a pre-construction turtle nest survey is recommended to identify nest sites if construction occurs from April 1 – January 31. These timeframes will depend on local weather conditions, and the timing of the pre-construction turtle nest survey should be based on the weather conditions present at the time and at the discretion of the qualified biologist.

If nesting northwestern pond turtles are identified within the survey limits, then no work shall commence within 300 feet of the nest until the turtles have hatched. The 300-foot buffer should be indicated by temporary fencing if construction has or will begin before the nesting period has ended (the period from egg laying to emergence of hatchlings is normally April to November). If a non-nesting northwestern pond turtle is found in the project site during preconstruction surveys, construction activities should not start until the turtle has been relocated by a qualified biologist with appropriate approvals from CDFW to a suitable location outside of the construction zone. The qualified biologist should notify the City and CDFW within 24 hours if northwestern pond turtle is found and shall notify of any individuals that have been relocated. Any northwestern pond turtles observed in the survey limits will be reported to the CNDDB.

If construction does not commence within seven days of the pre-construction survey, or halts for more than seven days, then an additional survey is required prior to starting or resuming work.

Mitigation Measure BIO-4: Pre-Construction Nesting Special-Status and Migratory Birds Survey

Active nests and nesting birds are protected by the California FGC Sections 3503 and 3503.5, 3513 and the MBTA. Ground-disturbing and other construction activities including vegetation clearing, tree removal/trim, and construction could impact nesting birds if these activities occur during the nesting season (generally February 1 to August 31). To avoid impacts to nesting birds, all ground disturbing activity shall be completed between September 1 and January 31, if feasible. If construction cannot occur outside of the nesting season, the following measures shall be implemented:

- If construction activities occur during the nesting season, a qualified biologist shall conduct a nesting bird survey to determine the presence of any active nests within the study area. additionally, the surrounding 500 feet of the study area shall be surveyed for active raptor nests, where accessible, and the surrounding 0.5 mile of the study area shall be surveyed for active Swainson's hawk nests, where accessible. The nesting bird survey shall be conducted within seven days prior to commencement of ground-disturbing or other construction activities at each bridge location. If the nesting bird survey shows that there is no evidence of active nests, then a letter report shall be prepared to document the survey and be provided to the City, and no additional surveys are recommended. If construction does not commence within seven days of the nesting bird survey, or halts for more than seven days, then an additional survey is required prior to starting or resuming work within the nesting season.

    - If active nests are found, then the qualified biologist shall establish a species-specific buffer to prohibit development activities near the nest to avoid and minimize nest disturbance until the young have successfully fledged or the biologist determines that the nest is no longer active. Buffer distances may range from 30 feet for some songbirds up to 0.5 mile for Swainson's hawk. Nest monitoring may also be warranted during certain phases of construction to ensure nesting birds are not adversely impacted. The need for nest monitoring would be determined by the qualified biologist based upon the species nesting and the location of the nest in relation to the project disturbance area, proposed levels of project disturbance, and existing disturbance levels. If active nests are found under any of the bridges or within any trees slated for removal/trimming, then an appropriate buffer shall be established around the bridge/tree, and no construction shall occur until a qualified biologist determines that the nest has successfully fledged and/or is no longer active. Nest avoidance buffer distances may need to be expanded if the biologist determines that the initial avoidance buffer is still resulting in avoidance behavior from the adults.

- If construction occurs outside of the nesting bird season (September 1 to January 31), a nesting bird survey and environmental training for nesting birds would not be required.

Mitigation Measure BIO-5: Pre-Construction Roosting Bat Survey

A qualified biologist shall conduct a pre-construction survey within seven days of the commencement of ground-disturbing or other construction activities at each bridge location. This survey may be combined with the nesting bird survey, if possible. If no bats are observed, a letter report shall be prepared to document the survey, and no additional measures are recommended. If construction does not commence within seven days of the pre-construction survey, or halts for more than seven days, an additional survey is recommended before starting work.

If bats are present and roosting on or within 100 feet of the project footprint, then the biologist shall establish an appropriate no-disturbance buffer around the roost site. No construction activities should occur within the no-disturbance buffer until a qualified biologist has determined the roost is no longer active. Additional mitigation measures for bat species, such as the installation of bat boxes or alternate roost structures, would be recommended only if special-status bat species are found to be roosting within the project area.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less Than Significant Impact. Sensitive natural communities mapped within the study area include valley oak woodland. Valley oak woodland is located immediately adjacent to Arcade and Cripple Creeks, as indicated in Figures 5a through 5c in Appendix C. However, as the project would include the installation of scour and erosion protection measures within the Ordinary High Water Mark of the creeks and underneath Indian River Bridge, Matheny Way Bridge, Sundance Bridge, and Patton Bridge, potential impacts to valley oak woodland are anticipated to be minor in nature and temporary to allow for construction staging within areas mapped as valley oak woodland during project construction activities. Following construction, the areas used for construction staging would be re-seeded with a native seed mix and restored to its pre-project condition. Therefore, the project would not result in the removal of or permanent impact to riparian habitat or other sensitive natural community, and the impact would be less than significant.

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 With Mitigation Incorporated. Aquatic habitats that occur in the study area include intermittent drainage and ephemeral drainage. A total of 1.516 acres of intermittent drainage and 0.003 acre of ephemeral drainage were mapped within the Indian River Bridge and Matheny Bridge study area. However, construction activities have the potential to impact approximately 0.117 acre of the total intermittent drainage within the Indian River Bridge and Matheny Bridge project impact areas. See Figure 6a in Appendix C for the Indian River Bridge and Matheny Bridge impact area map. A total of 0.297 acre of intermittent drainage and 0.011 acre of ephemeral drainage were mapped within the Sundance Bridge study area. However, construction activities have the potential to impact 0.013 acre of the total intermittent drainage within the Sundance Bridge project impact area. See Figure 6b in Appendix C for the Sundance Bridge impact area map. A total of 0.159 acre of intermittent drainage was mapped within the Patton Bridge study area. However, construction activities have the potential to impact 0.055 acre of the total intermittent drainage within the Patton Bridge project impact area. See Figure 6c in Appendix C for the Patton Bridge impact area map. A combined total of 0.185 acre of intermittent drainage mapped within all four study areas would have the potential to be impacted by construction activities.

Mitigation Measure BIO-6, which requires the City to obtain permits from the regulatory agencies that have jurisdiction over impacts to the Arcade and Cripple Creek waterways, would be implemented in order to reduce potential impacts to State or federally protected wetlands to a less than significant level. With implementation of Mitigation Measure BIO-6, the impact would be less than significant.

Mitigation Measure BIO-6: Aquatic Resources and Permitting Requirements

Prior to the initiation of any construction activities that could result in impacts to potentially regulated aquatic features, the extent of the Ordinary High Water Mark (OHWM) of aquatic features within the study area shall be mapped, and applicable permits shall be prepared and submitted to the appropriate regulatory agencies for any project-related impacts to these features. Any conditions included in the final permits, including prescribed mitigation measures, shall be required to be implemented before filling or impacting these features.

Section 404 authorization from the USACE and a Section 401 Water Quality Certification from the RWQCB may be required before the start of construction that will impact any waters of the U.S. Any waters of the U.S. or jurisdictional wetlands that would be lost or disturbed shall be replaced or rehabilitated on a "no-net-loss" basis in accordance with the USACE mitigation guidelines and City requirements. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods agreeable to the agencies.

If a 404 permit is required for the proposed project, then water quality concerns during construction would be addressed in the Section 401 water quality certification from the Regional Water Quality Control Board.

If the aquatic features are determined to not be subject to federal jurisdiction, then these features may still be subject to waste discharge requirements under the Porter-Cologne Water Quality Control Act. Section 13260(a) of the Porter-Cologne Water Quality Control Act (contained in the California Water Code) requires any person discharging waste or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The discharge of dredge or fill material into the ditches may constitute a discharge of waste that could affect the quality of waters of the State. A report of waste discharge shall be filed for impacts to non-federal waters, if required.

The creek corridor is also likely regulated by CDFW under Section 1600 of the California Fish and Game Code. CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in DBH. If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that shall allow the protection of those resources. If these measures are agreeable to the parties involved, they shall enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

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?

Less Than Significant Impact. The study area is located along the Arcade and Cripple Creeks corridors, which is one of the last undeveloped segments of land in the local area. The study area is not a designated migration corridor for deer, fish, or other species tracked by the CDFW but likely serves as a movement corridor for local wildlife species. Wild turkeys (*Meleagris gallopavo*), a deer (*Odocoileus hemionus columbianus*), evidence of raccoon (*Procyon lotor*) use, and an abundance of birds were observed within the study area during the survey.

Although the Arcade Creek watershed has been impacted by urbanization, it still provides important habitat for wildlife including connective habitat through a heavily developed landscape. Construction of

the erosion control measures as outlined in the project description are not expected to permanently affect the movement of wildlife. Some temporary disruptions to local wildlife movement could occur during construction activities, but wildlife would generally be expected to avoid the area during construction. Therefore, the project would not interfere substantially with the movement of any species or with established wildlife, not would the project impede the use of native wildfire nursery sites, and the impact would be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant With Mitigation Incorporated. The City of Citrus Heights defines protected trees as native oak trees 6 inches or greater in diameter, mature trees 19 inches or greater in diameter, and trees planted as part of a condition of approval or mitigation requirement with a discretionary permit (City 2024). Trees within a 15-foot radius of each bridge were included in the tree assessment, and the results are displayed in Appendix C. Tree 1 is the only tree that falls within Sacramento County jurisdiction, and it is considered a protected tree. Trees 8, 12, 13, and 18 are too small to be considered as protected by the City of Citrus Heights. All remaining trees are considered protected by the City of Citrus Heights.

The current engineering plans for the project indicate that four City-protected trees (Trees No. 9, 10, 12, and 15) would be impacted by the proposed project. Construction or grading within the dripline of a tree may cause stress and root damage to the tree, and a tree permit would be required prior to removal of a protected tree or commencement of construction or grading within the protection zone of protected trees, as required under Mitigation Measure BIO-7. With implementation of Mitigation Measure BIO-7, the project would not conflict with local policies or ordinances protecting biological resources, and impact would be less than significant.

Mitigation Measure BIO-7: Tree Impact Assessment and Permit Application

Prior to issuance of a Building or Grading Permit for the project, the City shall submit a final Tree Impact Assessment for impacts to trees from project construction activities located within the City of Citrus Heights (Indian River, Matheny, and Patton Bridges) and County of Sacramento (Sundance Bridge). The Tree Impact Assessment report shall include all preservation measures, including details for modified construction methods that the City shall undertake during construction to ensure the long-term health and safety of the trees. The impact assessment report shall take into account improvement plans that show any encroachment into the driplines of any protected trees. If avoiding tree removal or construction within the dripline of protected trees is not feasible, other mitigation measures offered by a certified arborist and accepted by the Planning Division must be made. The proposed project shall abide by the Standard Policies and Procedures for Approved Work listed in Section 106.39.050 of the City's Tree Preservation and Protection Ordinance, and the County's required measures in Sections 19.12.130, 19.12.140, 19.12.150, and 19.12.160. If required by the City or County upon approval of the Tree Permits, replacement tree plantings or in-lieu mitigation fees will be completed or paid in accordance with City and County requirements. Prior to any project activities that could potentially impact protected trees, an International Society of Arborists (ISA) certified arborist shall conduct an arborist assessment of the inventoried trees and prepare an arborist survey report. The arborist survey report shall be used to determine tree protection measures and shall be submitted to the City of Citrus Heights along with a Tree Permit application. All measures and tree mitigation requirements in the Tree Permit shall be followed.

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. No adopted or planned Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP) covers the project site (City 2011). Therefore, the project would not conflict with an HCP or NCCP. No impact would occur.

V. CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

A Cultural Resources Assessment (CRA) was prepared by HELIX and is summarized below and included as Appendix D to this IS/MND.

Environmental Setting

Area of Potential Effects

The Area of Potential Effects (APE) for the project is defined as the geographic area within which project activities may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist.

For the purposes of this CRA, the APE corresponds to the study areas. Although the actual project impact areas would be limited to smaller areas within each study area.

- Indian River Bridge and Matheny Bridge: The study area that includes these two bridges measures 11.12 acres, including a 0.27-acre project impact area for the Indian River Drive Bridge and a 0.14-acre project impact area for the Matheny Way Bridge.
- Sundance Bridge: The study area measures 4.45 acres, including a 0.04-acre project impact area.
- Patton Bridge: The study area measures 1.19 acres, including a 0.12-acre project impact area.

All construction staging would be contained within the project impact areas, which when combined, is approximately 0.43 acre. The vertical extent of the APE has not yet been determined but is expected to extend to no more than 26 inches below the current ground surface. The only exception is at the Indian River Bridge, where the plunge pool will extend to a maximum depth of 86 inches.

Background Research

CHRIS Records Search

On July 10, 2025, and December 2, 2025, records searches were conducted at the North Central Information Center (NCIC) at California State University (CSU), Sacramento, a repository of the California Historical Resources Information System (CHRIS). The records searches addressed the entire APE and a 0.5-mile radius around the APE. The searches included reviews of USGS archaeological site location maps at the NCIC, built environment and archaeological resource records, and data from previous studies. Sacramento County listings in the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California State Historic Resources Inventory, the Built Environment Resource Directory for Sacramento County, and the Caltrans Bridge Survey were also examined.

Previous Studies

The NCIC records search identified 28 studies that have previously been conducted within a 0.5-mile radius of the APE. Of these, six studies addressed areas that included or intersected the APE. The previous studies are summarized in Appendix D.

Previously Recorded Resources

The NCIC records search also identified six previously documented cultural resources within 0.5 mile of the APE, although none of the resources are located within the APE itself. They are described briefly Appendix D.

Caltrans Bridge Survey

Reviews of the Caltrans Bridge Survey determined that none of the four bridges qualify for inclusion in the NRHP.

Native American Heritage Commission Sacred Lands File Search

On July 9, 2025, HELIX requested that the Native American Heritage Commission (NAHC) conduct a search of their Sacred Lands File (SLF) for the presence of Native American sacred sites or human remains in the vicinity of the Indian River Bridge/Matheny Bridge and Sundance Bridge study areas. A written response received from the NAHC on July 11, 2025, stated that the results of the SLF search were negative. On February 23, 2025, HELIX submitted a separate SLF search request for the Patton Bridge study area. NAHC responded on February 24, 2025, and stated that the results were also negative for that study area.

Pedestrian Survey

The project's APE was surveyed on July 17, 2025, and December 16, 2025. The pedestrian survey involved the systematic investigation of the ground surface of the entire APE, including all three study areas and their associated impact areas, by walking in 10-meter transects unless prohibited by vegetation or topography.

Indian River Bridge and Matheny Bridge Survey

During the survey, ground visibility in the Indian River Bridge and Matheny Bridge study area was less than 10 percent in most areas due to dense grass and brush cover. Visibility was slightly better, but still poor, in areas with less tree cover where the ground surface was obscured by a thick carpet of matted dry grass. Private property and development extend as far as Arcade Creek's southern bank in some areas.

The creek was dry at the time of the survey, which allowed a thorough examination of the creek bed. Portions of the creek within the study area are deeply cut and appear to have actively eroded during the last rain season. Water-borne debris, including lumber, was seen on the creek banks in some areas, and tabular concrete fragments were seen in the creek bed. No exposed bedrock was visible within the creek.

No precontact or historic-era cultural resources were found during the survey of the Indian River Bridge and Matheny Bridge study area.

Sundance Bridge Survey

Ground visibility was poor during the survey of the Sundance Bridge study area, with less than 15 percent of the ground surface visible due to dense vegetation and oak duff. The terrain in the area is gently undulating, with a gradual incline to the east. Arcade Creek was flowing slowly with muddy water at the time of the survey, making it impossible to see the creek bed. Nevertheless, no exposed bedrock was seen in the vicinity.

The area was littered with modern debris, including food wrappers, discarded clothing, plastic water bottles, modern food cans, and tarp fragments. Most of this debris seemed to originate from homeless encampments that are prevalent throughout the area.

No precontact or historic-era cultural resources were found during the survey of the Sundance Bridge study area.

Patton Bridge Survey

Ground surface visibility throughout the Patton Bridge study was poor (less than 15 percent) during the survey due to thick grass, blackberry bramble, and oak duff, as well as non-native vegetation such as cactus, St. John's Wort, yucca, and bamboo. The area appears to consist primarily of undulating floodplain, some of it developed and graded and some of it seemingly shaped by seasonal water flow. Cripple Creek held standing water at the time of the survey. No exposed bedrock was visible in the vicinity of the creek.

The area is surrounded by development, which also affected accessibility of the study area as some property fencelines extended into the study area and restricted access. There was sparse modern trash within the study area, including plastic beverage containers, plastic wrappers, and materials likely leftover from residential activity, such as fence posts and sheets of plywood. There were also remnants of concrete debris near the creek, likely left from bridge construction/maintenance and other utilities work in the area.

In the far eastern portion of the Patton Bridge study area, an approximately 90-foot-long segment of a possible ditch was observed running north-south from a horse corral outside of the northeast quadrant

of the project impact area to Cripple Creek. The ditch is most visible at its southern end, where it is approximately 2.5 feet deep, and becomes less visible approximately 20 feet north of the creek.

Impact Analysis

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

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

Less than Significant with Mitigation Incorporated. As outlined above and in Appendix D, the CRA determined that six previously documented resources are located within 0.5 mile of the APE, although none are located within the APE itself. During the field survey, no cultural resources were found within any of the three project study areas that comprise the APE. These findings suggest that the likelihood of precontact or historic-era cultural resources being encountered during project implementation is low.

Despite the low cultural sensitivity of the APE, in the unlikely event that cultural resources are encountered during construction, Mitigation Measure CUL-1 would be implemented to address potential impacts on cultural resources in the project impact areas. With implementation of Mitigation Measure CUL-1, the impact would be less than significant for questions a) and b).

Mitigation Measure CUL-1: Accidental Discovery of Cultural Resources

In the event that cultural resources are exposed during ground-disturbing activities, construction activities shall be halted within 100 feet of the discovery. Cultural resources could consist of but are not limited to stone, bone, wood, or shell artifacts, or features, including hearths, structural remains, or historic dumpsites. If the resources cannot be avoided during the remainder of construction, a qualified archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards shall assess the resource and provide appropriate management recommendations. If the discovery proves to be CRHR- or NRHP-eligible, additional documentation and analysis, such as data recovery excavation, may be warranted.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant with Mitigation Incorporated. The proposed project is not anticipated to disturb human remains. However, in the unlikely event that human remains are encountered during construction, Mitigation Measure CUL-2, which outlines the required steps to be taken in the event human remains are encountered, would be implemented. With implementation of Mitigation Measure CUL-2, the impact would be less than significant.

Mitigation Measure CUL-2: Accidental Discovery of Human Remains

Although unlikely, there is always the possibility that ground-disturbing activities during construction may uncover previously undocumented human remains. In the event of an accidental discovery or recognition of any human remains during project construction, guidelines from both Public Resources Code (PRC) Section 5097.98 shall be considered.

In accordance with PRC Section 5097.98, if there is a discovery or recognition of human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance of the specific location or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains are Native American, the coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" of the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98, or

2. Where the following conditions occur, the City shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the project impact area in a location not subject to further subsurface disturbance:

    - The NAHC is unable to identify a most likely descendant or the most likely descendant failed to make a recommendation within 48 hours after being notified by the commission;

    - The descendant identified fails to make a recommendation; or

    - The City rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the City.

VI. ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Environmental Setting

California Energy Supply

California's electricity needs are satisfied by a variety of entities, including investor-owned utilities, publicly owned utilities, and electric service providers. As of 2023, California electricity demand totaled 281,140 gigawatt hours (GWh). In-state generating facilities accounted for about 215,623 GWh, or approximately 77 percent of the total electric power used in the state, with the remaining electricity coming from out-of-state imports (California Energy Commission [CEC] 2025a). Electricity in the project vicinity is provided by the Sacramento Municipal Utility District (SMUD).

Natural gas continues to play an important and varied role in California. Natural gas is used for everything from generating electricity to cooking and space heating to alternative transportation fuel. In 2012, total natural gas demand in California for industrial, residential, commercial, and electric power generation was 2,313 billion cubic feet per year. At that time, nearly 45 percent of the natural gas burned in California was used for electricity generation, and the remainder was consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors (CEC 2025b).

Most automobiles and trucks consume gasoline and diesel fuel, which are nonrenewable energy products derived from crude oil. In addition to energy consumption associated with on-road vehicle use, energy is consumed in connection with construction and maintenance of transportation infrastructure. Passenger cars and light-duty trucks are by far the largest consumers of transportation fuel. Retail sales of transportation fuel in California totaled 13.6 billion gallons of gasoline and 3 billion gallons of diesel in 2023 (CEC 2025c).

Impact Analysis

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. Construction of the proposed project would consume energy, primarily in the form of petroleum-based fuels (i.e., gasoline and diesel). Heavy-duty off-road construction

equipment, on-road construction haul trucks, and construction worker commute trips would consume these fuels. Project-related consumption of such energy resources for construction would be temporary, typical for this type of construction, and cease upon the completion of construction. No inefficient or unnecessary construction methods are proposed such that excessive energy would be consumed during project construction. During project operation, minimal energy would be required since the project would be maintained by existing City staff and would not result in new maintenance trips. Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, and the impact would be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. As discussed in question a), above, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Construction of the project would conform to all applicable State, federal, and local laws, and codes related to efficient use of energy and operation of the project would result in minimal energy use. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and the impact would be less than significant.

VII. GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Environmental Setting

Regional Geology

The proposed project is located in the Sacramento Valley, which forms the northern portion of the Great Valley geomorphic province of California. The Great Valley is an alluvial plain approximately 50 miles wide and 400 miles long that lies between the mountains and foothills of the Sierra Nevada to the east and the Coast Ranges to the west. The Great Valley covers more than 6,500 square miles and fills a northwest-trending structural depression bounded on the west by the Great Valley fault zone and the Coast Ranges and on the east by the Sierra Nevada and the Foothills fault zone. Relatively few faults in the Great Valley have been active during the last 10,000 years (City 2011).

Soils

Three soil map units are mapped within the study areas: Liveoak sandy clay loam, 0 to 2 percent slopes, occasionally flooded; Urban land-Xerarents-Fiddyment complex, 0 to 8 percent slopes; and Fiddyment-Orangevale-Urban land complex, 2 to 8 percent slopes. The general characteristics and properties associated with these soils are described below (NRCS 2026).

- **Liveoak sandy clay loam, 0 to 2 percent slopes, occasionally flooded**: This soil unit has a parent material of alluvium derived from granite and is typical of floodplains and stream terraces. A general soil profile is sandy clay loam (0 to 48 inches) and stratified gravelly loamy coarse sand to sandy loam (48 to 60 inches). It is well drained, has a low runoff class, occasional frequency of flooding, and no frequency of ponding. Minor components of this soil are considered hydric. This soil unit is present at Matheny Bridge and dominates the eastern portion of the Matheny Bridge study area.

- **Urban land-Xerarents-Fiddyment complex, 0 to 8 percent slopes**: This soil unit has a parent material of alluvium derived from granite and is typical of fan remnants. The soil profile is variable but generally consists of sandy loam in the upper 30 inches and weathered bedrock from 30 to 50 inches. It is moderately well-drained, has a very high runoff class, and has no frequency of flooding or ponding. This soil unit is present at the Indian River Bridge and the Sundance Bridge study areas.

- **Fiddyment-Orangevale-Urban land complex, 2 to 8 percent slopes:** This soil unit has a parent material of alluvium derived from igneous and metamorphic rock over dense alluvium derived from igneous and metamorphic rock. It is typical of fan remnants and low slopes. A general soil profile is fine sandy loam (0 to 8 inches), loam (8 to 15 inches), sandy clay loam (15 to 28 inches), indurated (28 to 40 inches), and undefined material (40 to 44 inches). It is well drained, has a very high runoff class, and no frequency of flooding or ponding. This soil unit is present at the Patton Bridge study area.

Impact Analysis

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

   i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

Less Than Significant Impact. The City is located within an area of California with relatively low seismic activity and is not located within a highly active fault zone. The closest known active fault mapped by the California Division of Mines and Geology is the Foothills Fault Zone which is located approximately 15 miles northeast of the City (City 2011).

According to the DOC Earthquake Hazards Zone Application (EQ Zapp) Map, there are no known active faults crossing any of the project impact areas, and the project impact areas are not located within an

Alquist Priolo Fault Zone (DOC 2026c). Therefore, the risk of ground rupture as a result of proposed project activities would be unlikely, and the impact would be less than significant.

ii. Strong seismic ground shaking?

Less Than Significant Impact. There is always potential in California for seismic ground shaking, and the project impact areas may be subject to ground shaking from earthquakes occurring outside the City or County. However, the potential for seismic ground shaking in the project impact areas would be considered low, as discussed in question a.i) above.

The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. The project work would occur where natural erosion is impacting existing public infrastructure and inhibiting City maintenance activities. The project is proposed to extend the service life of the bridges, maintain public safety, protect critical infrastructure, and reduce long-term maintenance needs. Additionally, the project would not include the construction of new buildings, residences, or other aboveground structures that have the potential to cause risk due to strong seismic ground shaking. Therefore, the impact would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction is the sudden loss of soil shear strength and sudden increase in porewater pressure caused by shear strains, which could result from an earthquake. Research has shown that saturated, loose to medium-dense sands with a silt content of less than about 25 percent located within the top 40 feet are most susceptible to liquefaction and surface rupture or lateral spreading. Slope instability can occur as a result of seismic ground motions and/or in combination with weak soils and saturated conditions.

The City has not been identified as having liquefaction potential because the depth to water table and the underlying geologic materials do not indicate high liquefaction potential (City 2011). Additionally, according to the DOC EQ Zapp Map, the project impact areas are not located within a Liquefaction Zone (DOC 2026c). Therefore, the risk of seismic-related ground failure, including liquefaction, would be unlikely, and the impact would be less than significant.

iv. Landslides?

Less Than Significant Impact. Terrain in the project impact areas is generally flat. The creek bed is the lowest elevation at each project impact area and rises sharply along the bank. The bank of the creek and surrounding lands of each project impact area are generally flat, with minor undulating topography across the landscape.

Due to the relatively flat topography in the project impact areas, landslides are unlikely to occur in the project impact areas or in the immediate vicinity. As discussed in question a.i), there are no known active faults crossing the project impact areas and none are located within an Alquist Priolo Fault Zone (DOC 2026c). Additionally, none of the project impact areas are located within a Landslide Zone (DOC 2026c). Therefore, there would be little potential for seismically induced landslides, and the impact would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. As outlined in Section 3.5, Construction Schedule and Activities, the proposed project would include dewatering, excavation, and placement of bridge scour and erosion protection measures. During project construction, dewatering operations would occur first and would have an estimated duration of three weeks. Dewatering at each bridge impact area would require a 5-hp submersible pump with a 3-inch discharge operating with a supplied electrical power generator 480-VAC/3-ph. Temporary dewatering, earth moving, and other construction related activities could result in erosion and runoff of topsoil.

The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. Under the proposed project, temporary sediment and erosion control BMPs would be implemented. Erosion materials consisting of filter fabric or sand and gravel topped with Class I, II, or IV stone rip rap would be applied to embankment slopes for all project impact areas.

The project work would occur where natural erosion is impacting existing public infrastructure and inhibiting City maintenance activities. The project is proposed to extend the service life of the bridges, maintain public safety, protect critical infrastructure, and reduce long-term maintenance needs. Installation of scour and erosion protection measures would minimize erosion on and off-site. Therefore, the project would not result in substantial soil erosion or the loss of topsoil, and the impact would be less than significant.

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. Three soil map units are mapped within the study areas: Live Oak Sandy Clay Loam, 0 to 2 percent slopes, Urban land-Xerarents-Fiddyment complex, 0 to 8 percent slopes, and Fiddyment-Orangevale-Urban land complex, 2 to 8 percent slopes (NRCS 2026). As discussed in question a.i), a.iii), and a.iv), the potential for earthquakes, liquefaction, and landslides at the project impact areas would be minimal. Additionally, the proposed project would implement temporary sediment and erosion control BMPs during project construction. Therefore, the impact would be less than significant.

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?

Less Than Significant Impact. Expansive or shrink-swell soils contain significant amounts of clay minerals that swell when wet and shrink when dry. These clays tend to swell despite the heavy loads imposed by large structures. Damage (such as cracking of foundations) results from differential movement and from the repetition of the shrink-swell cycle (City 2011). Three soil map units are mapped within the study areas: Live Oak Sandy Clay Loam, 0 to 2 percent slopes, Urban land-Xerarents-Fiddyment complex, 0 to 8 percent slopes, and Fiddyment-Orangevale-Urban land complex, 2 to 8 percent slopes (NRCS 2026). These soil types have a low to high and moderate shrink-swell potential (City 2011). As discussed in question b), the project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, and no work is proposed on the bridge structures themselves. Under the proposed project, temporary sediment and erosion control BMPs would be

implemented. Therefore, the project would not create substantial direct or indirect risks to life or property, and the impact would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No septic tanks or alternative wastewater disposal systems are proposed. Therefore, no impact would occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant With Mitigation Incorporated. No previous surveys conducted in the proposed project vicinity have identified any of the project impact areas as sensitive for paleontological resources or other geologically sensitive resources, nor have testing or ground disturbing activities performed to date uncovered any paleontological resources or geologically sensitive resources. The proposed project would also be located within an area previously disturbed by construction of the existing bridges, existing stormwater, or existing irrigation infrastructure. While the likelihood of encountering paleontological resources and other geologically sensitive resources is considered low, project-related ground disturbing activities could affect the integrity of a previously unknown paleontological or other geologically sensitive resource. Implementation of Mitigation Measure GEO-1 would reduce potentially significant impacts to a level of less than significant.

Mitigation Measure GEO-1: Avoid and Minimize Impacts to Paleontological Resources

In the event paleontological or other geologically sensitive resources (such as fossils or fossil formations) are identified during any phase of project construction, all excavations within 100 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at the City who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the City shall implement those measures which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code Section 21083.2.

VIII. GREENHOUSE GAS EMISSIONS

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

Environmental Setting

Global climate change refers to changes in average climatic conditions on Earth including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with: (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and, (4) solid waste decomposition.

The GHGs defined under California's Assembly Bill (AB) 32, described below, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). 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. Estimates of GHG emissions are commonly presented in carbon dioxide equivalents (CO_2e), which weigh each gas by its global warming potential (GWP). 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. GHG emissions quantities in this analysis are presented in metric tons (MT) of CO_2e. For consistency with United Nations Standards, modeling, and reporting of GHGs in California and the U.S. use the GWPs defined in the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (IPCC 2007): CO_2 – 1; CH_4 – 25; N_2O – 298.

GHG Reduction Regulations and Plans

The primary GHG reduction regulatory legislation and plans (applicable to the project) at the State, regional, and local levels are described below. Implementation of California's GHG reduction mandates is primarily under the authority of CARB at the State level, SMAQMD and the Sacramento Area Council of Governments (SACOG) at the regional level, and the City at the local level.

Executive Order S-3-05: On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack

in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. Executive Orders are not laws and can only provide the governor's direction to State agencies to act within their authority to reinforce existing laws.

Assembly Bill 32 – Global Warming Solution Act of 2006: The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of Statewide GHG emissions. CARB is directed by AB 32 to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

Executive Order B-30-15: On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28-nation European Union. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions to 80 percent under 1990 levels by 2050.

Senate Bill 32: Signed into law by Governor Brown on September 8, 2016, Senate Bill (SB) 32 (Amendments to the California Global Warming Solutions Action of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a Statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

Assembly Bill 1279: Approved by Governor Newsom on September 16, 2022, AB 1279, the California Climate Crisis Act, declares the policy of the State to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and ensure that by 2045, Statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. AB 1279 anticipates achieving these policies through direct GHG emissions reductions, removal of CO_2 from the atmosphere (carbon capture), and an almost complete transition away from fossil fuels.

California Air Resources Board Scoping Plan: The Scoping Plan is a strategy CARB develops and updates at least once every five years, as required by AB 32. It lays out the transformations needed across our society and economy to reduce emissions and reach our climate targets. The current 2022 Scoping Plan is the third update to the original plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 mandate of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business as usual. The 2008 Scoping Plan included a mix of incentives, regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and clearly making the case for using multiple tools to meet California's GHG targets. The 2013 Scoping Plan assessed progress toward achieving the 2020 mandate and made the case for addressing short-lived climate pollutants (SLCPs). The 2017 Scoping Plan also assessed the progress toward achieving the 2020

limit and provided a technologically feasible and cost-effective path to achieving the SB 32 mandate of reducing GHGs by at least 40 percent below 1990 levels by 2030.

On December 15, 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in SLCPs; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon (CARB 2022).

Sacramento Area Council of Governments: As required by the Sustainable Communities and Climate Protection Act of 2008 (SB 375), SACOG adopted the 2025 Blueprint Metropolitan Transportation Plan and Sustainable Communities Strategy (MTP/SCS) on November 20, 2025. This plan seeks to reduce GHG and other mobile source emissions through coordinated transportation and land use planning to reduce vehicle miles traveled (VMT; SACOG 2025).

Citrus Heights: The City of Citrus Heights Greenhouse Gas Reduction Plan (GGRP) addresses major sources of GHG emissions in the community that cumulatively contribute to global climate change. The GGRP performs three primary functions (City 2011):

- Outlines strategies and measurable implementation actions to meet the City's General Plan goal of reducing GHG emissions by 10 to 15 percent below 2005 levels by 2020;
- Inspires residents and businesses to participate in community efforts to reduce GHG emissions;
- Demonstrates Citrus Heights' ability to respond to and comply with California's GHG reduction legislation and regulatory guidance; and,
- Improves overall quality of life in the community by promoting smart growth and mobility principles that better connect the community, reduce air pollution and urban heat island effects, and encourage healthy lifestyles.

Methodology and Assumptions

Project construction GHG emissions were calculated using CalEEMod. See Section 7.III, Air Quality, for a description of the methodology and assumptions.

Standards of Significance

As discussed in Section 15064.4 of the CEQA Guidelines, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency, consistent with the provisions in Section 15064. Section 15064.4 further provides that a lead agency should make a good faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project.

The final determination of whether or not a project has a significant effect is within the purview of the lead agency pursuant to CEQA Guidelines Section 15064(b). The City's GHG Reduction Strategy Checklist, is a qualified plan for the reduction of greenhouse gases pursuant to CEQA Guidelines Section 15183.5

(City 2021). Consistency with the GHG Reduction Strategy Checklist may be used to determine the significance of the project's GHG emissions. However, as the proposed project is an infrastructure construction project and is not a typical land use development project, the City's GHG Reduction Strategy Checklist would not apply. However, SMAQMD has adopted a GHG construction threshold of 1,100 MT CO_2e per year for a project's construction emissions (SMAQMD 2020b). A project with an emission rate below this threshold is generally considered to have a less than significant impact on GHG emissions. SMAQMD's 1,100 MT CO_2e per year construction emissions threshold would apply to the proposed project.

Impact Analysis

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

Less Than Significant Impact.

Construction Emissions

Project construction GHG emissions were quantified using CalEEMod, as discussed in See Section 7.III, Air Quality. GHG emissions would be generated by the project during construction (vehicle engine exhaust from construction equipment, on-road hauling trucks, vendor trips, and worker commuting trips). The results of the construction GHG emissions calculations were compared to the SMAQMD threshold in Table 7, *Construction GHG Emissions*. As shown in Table 7, project construction GHG emissions would not exceed the SMAQMD construction GHG threshold.

Table 7
CONSTRUCTION GHG EMISSIONS

Year of Emissions	Emissions (MT CO_2e)
2026	142.8
SMAQMD Construction Threshold (per year)	*1,100*
Exceed Threshold?	No

Source: CalEEMod (see Appendix B)
GHG = greenhouse gas; MT = metric tons; CO2e = carbon dioxide equivalent

Operational Emissions

Operational activities for the proposed project would consist of ongoing maintenance occurring on an as-needed basis. Maintenance activities would rely on small gasoline- or electric-powered equipment or hand work to shift or replace individual rocks. It is anticipated that City employees who currently maintain the bridges would continue to maintain the bridges after construction is completed, resulting in no new operational maintenance trips. The project would result in minimal operational GHG emissions.

Impact Conclusion

The project's construction emissions would not exceed SMAQMD's GHG construction emission threshold and project would result in minimal operational GHG emissions. Therefore, the project would not generate significant GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be less than significant.

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

Less Than Significant Impact. There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. SB 32 requires achievement of Statewide GHG emissions of 40 percent below 1990 levels by 2030. AB 1279 sets a goal to achieve net zero Statewide GHG emissions as soon as possible, but no later than 2045. Statewide plans and regulations such as GHG emissions standards for vehicles, the Low Carbon Fuel Standard, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the Statewide level; as such, compliance at the project level is not addressed. Therefore, the proposed project would not conflict with those plans and regulations.

As discussed in question a) above, the project's construction emissions would not exceed SMAQMD's GHG construction emission threshold and project would result in minimal operational GHG emissions. Additionally, the project would not require the hiring of additional City staff, and the project would not result in an increase in regional population or employment growth. Therefore, the project would be consistent with the growth assumptions used to develop applicable GHG reduction plans including CARB's 2022 Scoping Plan, SACOG's 2025 Metropolitan Transportation Plan and Sustainable Communities Strategy, and the City's GGRP. The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and the impact would be less than significant.

IX. HAZARDS AND HAZARDOUS MATERIALS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☒	☐	☐

Environmental Setting

The project is located within urbanized areas of the City and unincorporated Sacramento County. The closest school to the proposed project is Roseville Ranch Montessori school, located 0.26 mile northeast of the Patton Bridge project impact area. The closest public or private airport to the proposed project is McClellan Airport, located approximately 3.7 miles southwest of the Indian River Bridge and Matheny Bridge project impact areas.

The following databases were reviewed for the project impact areas and surrounding area to identify potential hazardous contamination sites: the SWRCB's GeoTracker tool (SWRCB 2026), California DTSC's EnviroStor online tool (DTSC 2026); and the USEPA's Superfund National Priorities List (USEPA 2026). Based on the results of the databases reviewed, one closed Cleanup Program Site, Charles Cleaners

(SL0606741792), is located approximately 400 feet southeast of the Matheny Bridge project impact area (SWRCB 2026). However, this site was closed in February 2009, and no other hazardous waste sites are documented on or near the project impact areas.

Impact Analysis

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

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant With Mitigation Incorporated. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. As outlined in Section 3.5, Construction Schedule and Activities, the proposed project would include dewatering, excavation, and placement of bridge scour and erosion protection measures. During project construction, dewatering operations would occur first and would have an estimated duration of three weeks. Dewatering at each bridge impact area would require a 5-hp submersible pump with a 3-inch discharge operating with a supplied electrical power generator 480-VAC/3-ph. In the event that there is a continuous flow of water in Arcade and Cripple Creeks during construction, a temporary cofferdam may be installed upstream of the construction area and pumps would be used to temporarily remove standing water within the project impact area. Specific details on the dewatering methods are currently unknown and would vary depending on water levels in Arcade and Cripple Creeks at the time of construction.

The proposed project is not anticipated to create a substantial hazard to the public or environment through foreseeable hazardous material upset or accidental release of hazardous materials. However, during project construction, oil, gasoline, diesel fuel, solvents, and other hazardous materials may be present in the project impact areas. If spilled, these substances could pose a risk to the environment and to human health. As the project would temporarily dewater Arcade and Cripple Creeks during project construction, the risk of releasing hazardous materials downstream is low in the event of an accidental spill. However, as outlined in Section 7.X, Hydrology and Water Quality, construction BMPs outlined in Mitigation Measure HYD-2 would be required to be implemented. Following construction, the pump and all construction and dewatering equipment would be removed, and flows in Arcade and Cripple Creeks would be restored.

In addition to the installation of scour and erosion protection measures, the project would require the removal of an abandoned CCI and Comcast joint trench with exposed conduits in the creek bed of the Indian River Bridge project impact area and would require the relocation of existing and exposed PG&E inactive and active gas lines at the Matheny Bridge project impact area. Mitigation Measure HAZ-1 would be implemented which would require coordination with Underground Service Alert prior to ground disturbing activities. Additionally, Mitigation Measure HAZ-2 would be implemented which would require coordination with PG&E, CCI, and Comcast to ensure all utility lines within the creek bed are safely removed during project construction. Additionally, the routine transport, use, and disposal of hazardous materials would be subject to local, State, and federal regulations to minimize risk and exposure.

Conformance with local, State, and federal regulations and implementation of Mitigation Measures HYD-1, HAZ-1, and HAZ-2 would ensure potential impacts related to the routine transport, use, or disposal of hazardous materials and the release of hazardous materials into the environment would be less than significant for questions a) and b).

Mitigation Measure HAZ-1: Avoid and Minimize Impact to Underground Utilities

At least seven (7) days prior to ground disturbing activities, the applicant shall call Underground Service Alert at 811 to provide notification of the planned activities, including the locations of excavation activities. No ground disturbing activities shall take place until the locations of the underground utilities are identified and marked at the site by the utility provider. The construction contractor shall conduct an on-site meeting pursuant to Gov. Code Section 4216, to determine actions required to verify the location of the underground utilities. If excavation is planned to occur within 15 feet of the locations of field marked underground utilities, hand tools shall be used to expose the exact location of all lines before using any power-driven excavation equipment in the area. Should construction activities result in any damage to underground utilities (including a slight gouge, scrape, or dent to a pipeline, its coating, or any component attached to or running alongside the pipe, such as a wire), the damage shall be immediately reported by calling the utility provider(s).

Mitigation Measure HAZ-2: Utility Coordination and Safe Removal Procedures

Prior to any ground-disturbing activities associated with the relocation or removal of utilities at the Indian River Bridge and Matheny Bridge locations, the City shall contact Consolidated Communications (CCI), Comcast, and Pacific Gas and Electric (PG&E) to provide notification of planned excavation that would impact the abandoned CCI and Comcast joint trench conduits at Indian River Bridge active and inactive PG&E gas lines at Matheny Bridge. No ground-disturbing activities shall occur until the abovementioned underground and exposed utilities have been identified and field-marked by the responsible utility provider(s).

In accordance with California Government Code Section 4216, the City, excavation contractor, and relevant pipeline or utility operators shall conduct an on-site coordination meeting prior to the start of work to review the planned excavation methods, discuss utility protection requirements, and determine appropriate verification procedures for locating and removing utilities in the creek bed.

If excavation or utility removal activities are planned to occur within 15 feet of any marked or exposed utility line, hand tools shall be used to expose and verify the exact location of all lines in the proposed excavation areas prior to the use of any power-driven excavation equipment in the area. Construction personnel shall implement all safety protocols required by each utility owner, including any required stand-by monitoring, pressure test requirements, or temporary shutoff procedures for the active PG&E gas line.

If construction activities result in damage to a utility, including minor coating scrapes, wire disturbance, conduit breakage, or any visible gouge, dent, or abrasion to a pipeline or line component, work shall immediately stop in the affected area. The damage shall be immediately reported to the appropriate utility provider, and repairs shall be completed consistently with the utility owner’s specifications before work may resume.

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 closest school proposed project is Roseville Ranch Montessori school, located 0.26 mile northeast of the Patton Bridge project impact area. Project activities at the Patton Bridge project impact area would be minor and would only include the installation of scour and erosion protection measures. No removal or relocation of utilities would be required at Patton Bridge. Additionally, as outlined in question a) and b), the project would conform with local, State, and federal regulations, which would ensure potential impacts related to the routine transport, use, or disposal of hazardous materials and the release of hazardous materials into the environment would be less than significant. Therefore, as the project impact areas are not located within one-quarter mile of an existing or proposed school, no impact would occur.

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?

Less Than Significant Impact. The following databases were reviewed for the project study areas and surrounding areas to identify potential hazardous contamination sites: the SWRCB's GeoTracker tool (SWRCB 2026), California DTSC's EnviroStor online tool (DTSC 2026); and the USEPA's Superfund National Priorities List (USEPA 2026). Based on the results of the databases reviewed, one closed Cleanup Program Site, Charles Cleaners (SL0606741792), is located approximately 400 feet southeast of the Matheny Bridge project impact area (SWRCB 2026). However, this site was closed in February 2009, and no other hazardous waste sites are documented on or near the project impact areas. Therefore, as the project impact areas are not included on a list of hazardous materials sites, the project would not create a significant hazard to the public and environmental and the impact would be less than significant.

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 or excessive noise for people residing or working in the project area?

No Impact. The closest public or private airport to the proposed project is McClellan Airport, located approximately 3.7 miles southwest of the Indian River Bridge and Matheny Bridge project impact areas. The project impact areas are not located within an airport land use plan or within two miles of a public or private airport. Due to the distance from the closest private and public airport, the project would not result in a safety hazard for people residing or working in any of the project impact areas. No impact would occur.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Way Bridge, Sundance Bridge, and the Patton Bridge. No work is proposed on the bridge structures themselves.

No permanent ROW is anticipated; however, a TCE would be required for contractor access and staging at all project impact areas. It is anticipated that Indian Creek Drive, Matheny Way, and Patton Avenue

would remain open during construction. Additionally, none of the roads used to access the four bridges are designated as emergency routes. It is also anticipated that the Sundance Park would remain open during the majority of construction. However, temporary closures for equipment crossings and a flagging escort through the construction zone during heavy construction equipment operations may occur.

Once construction is complete, the Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge would continue to be used in a similar condition prior to construction. Therefore, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and the impact would be less than significant.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less Than Significant With Mitigation Incorporated. The proposed project is located within an urbanized area of the City and unincorporated Sacramento County and is provided with urban levels of fire protection by the City. The closest fire station to the Indian River and Matheny Bridge project impact areas is Sacramento Metropolitan Fire District (SMFD) Station 23 located approximately 0.35 mile southeast at 6421 Greenback Lane, Citrus Heights, CA 95621; the closest fire station to the Sundance Bridge project impact area is SMFD Station 28 located approximately 0.81 mile north at 8189 Oak Avenue, Citrus Heights, CA 95610; and the closest SMFD fire station to the Patton Bridge project impact area is SMFD Station 27 located approximately one mile southeast at 7474 Grand Oaks Boulevard, Citrus Heights, CA 95621.

According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zone Viewer Map, the project impact areas located within a Local Responsibility Area (LRA; CAL FIRE 2026). The surrounding land uses are also located within an LRA. The project impact areas are not located within a Very High Fire Hazard Severity Zone (VHFHSZ; CAL FIRE 2026).

As discussed in questions a) and b), the project would require the removal of an abandoned CCI and Comcast joint trench with exposed conduits in the creek bed of the Indian River Bridge project impact area and would require the relocation of existing and exposed PG&E inactive and active gas lines at the Matheny Bridge project impact area, which could exacerbate fire risk. Mitigation Measure HAZ-1 would be implemented, which would require coordination with Underground Service Alert prior to ground disturbing activities. Additionally, Mitigation Measure HAZ-2 would be implemented which would require coordination with PG&E, CCI, and Comcast to ensure all utility lines within the creek bed are safely removed during project construction. Therefore, with implementation of Mitigation Measures HAZ-1 and HAZ-2, the proposed project would not expose people or structures to significant risk of loss, injury, or death involving wildland fires, and no impact would occur.

X. HYDROLOGY AND WATER QUALITY

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
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 which 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 off- site?	☐	☒	☐	☐
	iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff?	☐	☐	☒	☐
	iv. Impede or redirect flood flows?	☐	☒	☐	☐
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☒	☐	☐
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

Environmental Setting

Federal Emergency Management Agency (FEMA) flood insurance rate maps were reviewed for the project's proximity to a 100-year floodplain. The project impact areas are all located on FEMA panel 06067C0084J effective 2/22/2024 (FEMA 2026) within Special Flood Hazard Area (SFHA) Zone AE. SFHAs are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year (FEMA 2026).

Surface Water

The headwaters of Arcade and Cripple Creeks originate in Sacramento County, draining the southwest portion of the community of Orangevale in unincorporated Sacramento County. Both streams maintain

perennial flows, except in their upper reaches. Similarly, many of the named and unnamed tributaries also maintain perennial flows, although historically these streams were seasonal, flowing under the influence of precipitation. As such, a significant portion of perennial flow in drainages of Arcade and Cripple Creeks is comprised of urban runoff, with existing dry season summer flows likely greater than historic dry season summer flows (City 2011).

Groundwater

Groundwater occurs in the "saturation zone" which is an area below ground that accumulates water. Water from precipitation, irrigation, and stream flows enter the ground from the surface and trickles down to the saturation zone. The rate of groundwater recharge (i.e., water flowing into the saturation zone) depends upon a variety of geologic and hydrologic factors. Groundwater is a primary source of water supply for domestic, municipal, and agricultural uses throughout Sacramento County, and as a result, excess removal (also known as "overdraft") of this resource has been documented. Overdraft is a concern in three areas of Sacramento County: Rio Linda-Elverta, Elk Grove-Laguna, and Galt. The Citrus Heights area is not currently experiencing groundwater overdraft.

Citrus Heights is located on the Fair Oaks Geologic Formation. This geologic formation is comprised of relatively thick deposits of silt and clay with thinner deposits of sand and gravel. The Fair Oaks Formation can yield moderate to high quantities of water, primarily dependent upon whether fine grained or coarse material is present. Wells to depths greater than 300 feet may encounter the underlying Mehrten Formation, with water yields roughly equivalent to the Fair Oaks Formation. Groundwater in the vicinity of Citrus Heights generally flows to the west and ranges in depth from approximately 80 feet amsl in the east to 20 feet below amsl in the west (City 2011).

Impact Analysis

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant With Mitigation Incorporated. The project would include installation of scour and erosion control measures within Arcade and Cripple Creeks. As outlined in Section 3.5, Construction Schedule and Activities, the proposed project would include dewatering, excavation, and placement of bridge scour and erosion protection measures. Dewatering operations would occur first and would have an estimated duration of three weeks, after which excavation would begin with an estimated duration of three weeks. Dewatering at each bridge impact area would require a 5-hp submersible pump with a 3-inch discharge operating with a supplied electrical power generator 480-VAC/3-ph. In the event that there is a continuous flow of water in Arcade and Cripple Creeks during construction, a temporary cofferdam may be installed upstream of the construction area and pumps would be used to temporarily remove standing water within the project impact area. Specific details on the dewatering methods are currently unknown and would vary depending on water levels in Arcade and Cripple Creeks at the time of construction. Construction of the project activities while the creeks are dry as a result of dewatering would prevent downstream sedimentation, as compared to conducting work in the creek while inundated.

Excavation for the total project impact area would require that up to 928 CY of debris and soil/aggregate be exported off-site to the Kiefer Landfill. Following excavation, the bridge scour and erosion protection measures would be placed in each project impact area and would also take approximately 3 weeks to

complete. Following construction of the scour and erosion protection measures, the pump and all construction equipment would be removed, and the flows in Arcade and Cripple Creeks would be restored.

As the project would require work within Arcade and Cripple Creeks, a Section 404 Clean Water Act Nationwide Permit from the USACE, a Section 401 Water Quality Certification from the RWQCB, and a Fish and Game Code Section 1602 Streambed Alteration Agreement from CDFW would be required for this project and include conditions for the City to implement to protect water quality during project construction. The City would also prepare and implement a dewatering plan, as outlined in Mitigation Measure HYD-1, and construction BMPs, as described in Mitigation Measure HYD-2, which would also minimize water quality impacts from construction of the proposed project.

In compliance with the conditions outlined in the Section 404 Clean Water Act Nationwide Permit from the USACE, a Section 401 Water Quality Certification from the RWQCB, and a Fish and Game Code Section 1602 Streambed Alteration Agreement from CDFW, and with implementation of Mitigation Measures HYD-1 and HYD-2, the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality, and the impact would be less than significant.

Mitigation Measure HYD-1: Preparation and Implementation of a Dewatering Plan

Prior to the start of any in-water construction activities, the City shall prepare a project-specific Dewatering Plan for review and approval by the City Engineer and applicable regulatory agencies. The plan shall describe the methods for isolating work areas and maintaining downstream flows. The plan shall also identify best management practices to prevent turbidity, sedimentation, or pollutant discharges downstream and outline procedures for gradually returning flows to the channel once construction is complete. The City shall implement all elements of the approved Dewatering Plan throughout construction.

Mitigation Measure HYD-2: Standard Construction Best Management Practices

The City shall implement the following standard construction BMPs throughout construction to minimize potential water quality impacts.

- The project impact area shall be delineated and/or fenced prior to the start of construction.
- Appropriate erosion control measures shall be used (e.g., hay bales, filter fences, vegetative buffer strips, or other accepted equivalents) to reduce siltation and contaminated runoff from leaving the proposed project impact area. The integrity and effectiveness of the BMPs shall be inspected daily by the resident engineer. Corrective actions and repairs shall be carried out immediately.
- Construction by-products and pollutants such as petroleum products, chemicals, or other deleterious materials shall not be used adjacent to or within the creeks.
- A plan for the emergency clean-up of any spills of fuel or other materials shall be available on-site when construction equipment is in use, and adequate materials shall be available for spill clean-up and during storm events.

- Construction vehicles and equipment shall be maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease.

- Leaking vehicles and equipment shall be removed from the site.

- Materials storage areas containing hazardous or potentially toxic materials such as petroleum products shall have an impermeable membrane between the ground and the hazardous material and shall be bermed to prevent the discharge of pollutants to ground water and runoff water.

- Equipment shall be re-fueled and serviced at designated construction staging areas, as far as possible from the creeks.

- All construction material and fill shall be stored and contained in a designated area that is located as far away as possible from the creeks to prevent transport of materials into the creeks.

- No litter, debris, or side cast shall be dumped or permitted to enter creeks.

- During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact. The City of Citrus Heights is not currently experiencing groundwater overdraft (City 2011). The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. As a result of the proposed project, there would be no increase in impervious surfaces, and therefore, impacts on recharge capabilities are not anticipated. Once construction is complete, Indian River Drive, Matheny Way, Sundance Park, and Patton Avenue would continue to be used similar to pre-existing conditions. Therefore, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge, and the impact would be less than significant.

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 which would:

    i. Result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. As outlined in Section 3.5, Construction Schedule and Activities, the proposed project would include dewatering, excavation, and placement of bridge scour and erosion protection measures. During project construction, dewatering operations would occur first and would have an estimated duration of three weeks. Dewatering at each bridge impact area would require a 5-hp submersible pump with a 3-inch discharge operating with a supplied electrical power generator 480-VAC/3-ph. Temporary dewatering, earth moving, and other construction related activities could result in erosion and runoff of topsoil.

The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. Under the proposed project, temporary sediment and erosion control BMPs would be implemented. Erosion materials consisting of filter fabric or sand and gravel topped with Class I, II, or IV stone rip rap would be applied to embankment slopes for all project impact areas.

The project work would occur where natural erosion is impacting existing public infrastructure and inhibiting City maintenance activities. The project is proposed to extend the service life of the bridges, maintain public safety, protect critical infrastructure, and reduce long-term maintenance needs. Installation of scour and erosion protection measures would minimize erosion occurring on- and off-site under existing conditions. Therefore, the project would not result in substantial soil erosion, and the impact would be less than significant.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less Than Significant Impact. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. Under the proposed project, temporary sediment and erosion control BMPs would be implemented. Erosion materials consisting of filter fabric or sand and gravel topped with Class I, II, or IV stone rip rap would be applied to embankment slopes for all project impact areas.

As outlined in Section 3.5, Construction Schedule and Activities, the proposed project would include dewatering, excavation, and placement of bridge scour and erosion protection measures. During project construction, dewatering operations would occur first and would have an estimated duration of three weeks. Dewatering at each bridge impact area would require a 5-hp submersible pump with a 3-inch discharge operating with a supplied electrical power generator 480-VAC/3-ph. In the event that there is a continuous flow of water in Arcade and Cripple Creeks during construction, a temporary cofferdam may be installed upstream of the construction area and pumps would be used to temporarily remove standing water within the project impact area. Specific details on the dewatering methods are currently unknown and would vary depending on water levels in Arcade and Cripple Creeks at the time of construction. Following construction of the scour and erosion protection measures, the pump and all construction equipment would be removed, and the flows of Arcade and Cripple Creeks would be restored.

With implementation of temporary sediment and erosion control BMPs, the project would not substantially increase the rate or amount of surface runoff that would result in flooding. The impact would be less than significant.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff?

Less Than Significant With Mitigation Incorporated. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. As outlined in Section 3.5, Construction Schedule and Activities, construction activities would include dewatering, excavation, and placement of bridge scour and erosion protection measures. During project construction, dewatering

operations would occur first and would have an estimated duration of three weeks. Dewatering at each bridge impact area would require a 5 hp submersible pump with a 3-inch discharge operating with a supplied electrical power generator 480-VAC/3-ph. In the event that there is a continuous flow of water in Arcade and Cripple Creeks during construction, a temporary cofferdam may be installed upstream of the construction area and pumps would be used to temporarily remove standing water within the project impact area. Specific details on the dewatering methods are currently unknown and would vary depending on water levels in Arcade and Cripple Creeks.

Fueling or maintenance of construction vehicles could occur within the project impact areas during construction, so a risk of accidental spills or releases of fuels, oils, trash, or other potentially toxic materials may occur. The magnitude of the impact from an accidental release depends on the amount and type of material spilled. As project construction would occur while the creeks are dry, either naturally or through planned dewatering methods required by Mitigation Measure HYD-1, the risk of releasing hazardous materials downstream is low in the event of an accidental spill. However, construction BMPs outlined in Mitigation Measure HYD-2 would be required to be implemented which would further minimize the risk of polluted runoff. Following construction, the pump and all construction equipment would be removed, and flows in Arcade and Cripple Creeks would be restored. Therefore, the project would not result in increased runoff or substantial additional sources of polluted runoff. With implementation of Mitigation Measure HYD-1, the impact would be less than significant.

iv. Impede or redirect flood flows?

Less Than Significant Impact With Mitigation Incorporated. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. Construction activities would include dewatering, which would require a 5 hp submersible pump with a 3-inch discharge operating with a supplied electrical power generator 480-VAC/3-ph. In the event that there is a continuous flow of water in Arcade and Cripple Creeks during construction, a temporary cofferdam may be installed upstream of the construction area and pumps would be used to temporarily remove standing water within the project impact area. Specific details on the dewatering methods are currently unknown and would vary depending on water levels in Arcade and Cripple Creeks.

Under the proposed project, temporary sediment and erosion control BMPs would be implemented. Erosion materials consisting of filter fabric or sand and gravel topped with Class I, II, or IV stone rip rap would be applied to embankment slopes for all project impact areas. Following construction of the scour and erosion protection measures, the pump and all construction equipment would be removed, and flows in Arcade and Cripple Creeks would be restored. Project construction may occur while the creeks are dry naturally; however, if dewatering is required, the City would implement Mitigation Measure HYD-1, which would require the preparation and implementation of a Dewatering Plan which would include procedures for gradually returning flows to the channel once construction is complete. As dewatering within Arcade and Cripple Creeks would be temporary (if needed) and conducted in accordance with Mitigation Measure HYD-1, the project would not permanently or substantially impede or redirect flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant With Mitigation Incorporated. The City of Citrus Heights is located approximately 100 miles from the Pacific Ocean, and therefore, there is no possibility of inundation by tsunami.

Additionally, due to the project's location from any lake, reservoir, etc., the project would not be adversely affected by a seiche. However, the Indian River Bridge project impact area, Matheny Bridge project impact area, Sundance Bridge project impact area, and Patton Bridge project impact area are located with FEMA SFHA Zone AE. SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year (FEMA 2026).

As outlined in question c.iii), fueling or maintenance of construction vehicles could occur within the project impact areas during construction, so a risk of accidental spills or releases of fuels, oils, trash, or other potentially toxic materials may occur. As project construction would occur while the creeks are dry, either naturally or through planned dewatering methods required by Mitigation Measure HYD-1, the risk of releasing hazardous materials downstream is low in the event of an accidental spill. However, construction BMPs outlined in Mitigation Measure HYD-2 would be required to be implemented which would further minimize the risk of polluted runoff. Following construction, the pump and all construction equipment would be removed, and flows in Arcade and Cripple Creeks would be restored.

As the project would temporarily dewater Arcade and Cripple Creeks during project construction, the risk of contaminants posing risks downstream is low in the event of an accidental spill. Additionally, under the proposed project, a Dewatering Plan and construction BMPs outlined in Mitigation Measures HYD-1 and HYD-2 would be implemented to further reduce the risk of polluted runoff. Following construction, the pump and all construction equipment would be removed, and flows in Arcade and Cripple Creeks would be restored. With implementation of Mitigation Measures HYD-1 and HYD-2, the project would not risk releasing pollutants due to project inundation, and the impact would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant With Mitigation Incorporated. As outlined in question a), the project would include work within Arcade and Cripple Creek. As outlined in Section 3.5, Construction Schedule and Activities, construction activities would include dewatering, excavation, and placement of bridge scour and erosion protection measures. Dewatering operations would occur first and would have an estimated duration of three weeks. Dewatering at each bridge impact area would require a 5 hp submersible pump with a 3-inch discharge operating with a supplied electrical power generator 480-VAC/3-ph. In the event that there is a continuous flow of water in Arcade and Cripple Creeks during construction, a temporary cofferdam may be installed upstream of the construction area and pumps would be used to temporarily remove standing water within the project impact area. Construction of the project activities while the creeks are dry as a result of dewatering would prevent downstream sedimentation, as compared to conducting work in the creek while inundated.

As the project would require work within Arcade and Cripple Creeks, a Section 404 Clean Water Act Nationwide Permit from the USACE, a Section 401 Water Quality Certification from the RWQCB, and a Fish and Game Code Section 1602 Streambed Alteration Agreement from CDFW would be required for this project and include conditions for the City to implement to protect water quality during project construction. The City would also prepare and implement a dewatering plan, as outlined in Mitigation Measure HYD-1, and construction BMPs, as described in Mitigation Measure HYD-2, which would also minimize water quality impacts from construction of the proposed project.

In compliance with the conditions outlined in the Section 404 Clean Water Act Nationwide Permit from the USACE, a Section 401 Water Quality Certification from the RWQCB, and a Fish and Game Code Section 1602 Streambed Alteration Agreement from CDFW, and with implementation of Mitigation Measures HYD-1 and HYD-2, the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan, and the impact would be less than significant.

XI. LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause 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?	☐	☐	☒	☐

Environmental Setting

The City General Plan establishes general land use categories (designations) for the City of Citrus Heights, while the Sacramento County General Plan establishes general land use categories for unincorporated areas. The City zoning ordinance implements the City General Plan's goals and policies, while the Sacramento County zoning ordinance implements the County General Plan's goals and policies.

The Indian River and Matheny Bridge project impact areas have City General Plan land use designations of Open Space and Medium Density Residential and are zoned SPA. The Sundance Bridge project impact area has a County General Plan land use designation of Miscellaneous Utility/Power/Sewer (MUTILA) and is zoned Single-Family Residential/Planned Development (R-1-A [PD]). The Patton Bridge project impact area has a City General Plan land use designation of Very Low-Density Residential and is zoned Very Low-Density Residential (RD2).

Impact Analysis

a) Physically divide an established community?

No Impact. The proposed project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. Therefore, the project would not divide an established community, and no impact would occur.

b) Cause 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?

Less Than Significant Impact. The proposed project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath each bridge. No permanent ROW is anticipated for each of the project impact areas; however, a TCE would be required for contractor access and staging of each project impact area. The project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, the impact would be less than significant.

XII. MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Environmental Setting

No mineral resources are currently being mined or produced on any of the project impact areas. The project impact areas have been evaluated for California Surface Mining and Reclamation Act (SMARA) Mineral Land Classification and are all classified as Mineral Resource Zone 1 (MRZ-1). Areas classified as MRZ-1 do not contain any presence of significant mineral deposits (2026d).

Impact Analysis

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. Based on a review of the *Mineral Land Classification of the Folsom 15' Quadrangle*, *Sacramento, El Dorado, Placer, and Amador Counties, California*, no known mineral resources are mapped in any of the project impact areas, nor are they within or adjacent to any active mining operations (DOC 2026e, 2026f). Therefore, implementation of the project would not result in the loss of availability of mineral resources or locally important mineral resource recovery site, and no impact would occur for questions a) and b).

XIII. NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) 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?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
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?	☐	☐	☒	☐

Noise Metrics

All noise-level and sound-level values presented herein are expressed in terms of decibels (dB), with A weighting, abbreviated "dBA," to approximate the hearing sensitivity of humans. Time averaged noise levels of one hour are expressed by the symbol "L_{EQ}" unless a different time period is specified. Maximum noise levels are expressed by the symbol "L_{MAX}."

Because decibels are logarithmic units, S_{PL} cannot be added or subtracted through standard arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than from one source under the same conditions. For example, if one automobile produces an S_{PL} of 70 dBA when it passes an observer, two cars passing simultaneously would not produce 140 dBA—rather, they would combine to produce 73 dBA. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dBA louder than one source.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1 dBA changes in sound levels, when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000 Hertz [Hz]–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dBA are generally not perceptible. It is widely accepted, however, that people begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dBA increase is generally perceived as a distinctly noticeable increase, and a 10 dBA increase is generally perceived as a doubling of loudness.

Vibration Metrics

Groundborne vibration consists of rapidly fluctuating motions or waves transmitted through the ground with an average motion of zero. Sources of groundborne vibrations include natural phenomena and anthropogenic causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Peak particle velocity (PPV) is commonly used to quantify vibration amplitude. The PPV, with units of inches per second (in/sec), is defined as the maximum instantaneous positive or negative peak of the vibration wave.

Environmental Setting

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. There are residential dwellings within 100 feet of all the project impact areas.

Regulatory Setting

City of Citrus Heights General Plan

The Noise Element of the General Plan provides policy direction for minimizing noise impacts on the community and establishing noise control measures for construction and operation of land use projects. The City has adopted guidelines as a basis for planning decisions and these guidelines are shown in Table 8, *City of Citrus Heights Acceptable Noise Levels*.

Table 8
CITY OF CITRUS HEIGHTS ACCEPTABLE NOISE LEVELS

	Community Noise Exposure L_{dn} or CNEL, dBA			
Land Use	**Normally Acceptable[1]**	**Conditionally Acceptable[2]**	**Normally Unacceptable[3]**	**Clearly Unacceptable[4]**
Residential: Low-Density Single Family, Duplex, Mobile Homes	60	65	75	85
Residential: Multiple Family	65	70	75	85
Residential: Multiple Family Located in Commercial Zone Districts[5]	65	70	--	--
Transient Lodging: Motels, Hotels	65	70	80	85
Schools, Libraries, Churches, Hospitals, Nursing Homes	70	70	80	85
Auditoriums, Concert Halls, Amphitheaters	--	70	--	85
Sports Arena, Outdoor Spectator Sports	--	75	--	85
Playgrounds, Neighborhood Parks	70	--	75	85
Golf Courses, Riding Stable, Water Recreation, Cemeteries	75	--	80	85

Land Use	Community Noise Exposure L_{dn} or CNEL, dBA			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Office Buildings, Business Commercial and Professional	70	75	85	--
Industrial, Manufacturing, Utilities, Agriculture	75	80	85	--

Source: City 2020

1 Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

2 New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

3 New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and noise insulation features included in the design.

4 New construction or development should generally not be undertaken.

5 For residential multiple family uses located in Commercial zone districts, exterior space standards apply only to common outdoor recreational areas.

City of Citrus Heights Municipal Code

The City of Citrus Heights Noise Ordinance (Citrus Heights Municipal Code, Chapter 34, Article III) contains performance standards for the purpose of prohibiting unnecessary, excessive, and annoying sounds that, at certain levels and frequencies, are detrimental to the health and welfare of the City's residents.

Section 34-86. Exterior Noise Standards

The following noise standards outlined in Table 9, *Exterior Noise Standards*, unless otherwise specifically indicated in the Noise Ordinance, would apply to all properties within a designated noise area.

Table 9
EXTERIOR NOISE STANDARDS

City Zoning Districts	Time Period	Exterior Noise Standard
RD-1, RD-2, RD-3, RD-4, RD-5, R-7, RD-10, R15, RD-20, R-25, RD-30, MH	7:00 a.m. to 10:00 p.m. (Daytime)	55 dBA (Leq)
	10:00 p.m. to 7:00 a.m. (Nighttime)	50 dBA (Leq)

Source: City Noise Ordinance Section 34-86

Section 34-87. Interior Noise Standards

In any apartment, condominium, townhouse, duplex, or multiple-dwelling unit, it is unlawful for any person to create any noise from inside his or her unit that causes the noise level, when measured in a neighboring unit during the periods 10:00 p.m. to 7:00 a.m., to exceed the following:

- Forty-five dBA for a cumulative period of more than five minutes in any hour.
- Fifty dBA for a cumulative period of more than one minute in any hour.

- Fifty-five dBA for any period of time. If the ambient noise level exceeds these permitted limits, the allowable noise limit shall be increased in five-dBA increments in each category to encompass the ambient noise level.

Section 34-88 Exemptions

The City noise ordinance provides exemptions from the above standards for outdoor school events; outdoor gatherings conducted pursuant to a City permit; activities in parks, playgrounds, and school grounds; machinery used in connection with emergency activities; daytime construction noise; daytime agricultural noise; agricultural noise to salvage crops or perform pest control; daytime residential property maintenance; and airport operations and maintenance.

The following exemption is provided for daytime construction noise per City noise ordinance Section 34-88(5):

> Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided the activities do not take place between the hours of 8:00 p.m. and 6:00 a.m. on weekdays and Friday commencing at 8:00 p.m. through and including 7:00 a.m. on Saturday, Saturdays commencing at 8:00 p.m. through and including 7:00 a.m. on the next following Sunday, and on each Sunday after the hour of 8:00 p.m. However, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after 8:00 p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.

Sacramento County Municipal Code

The Sacramento County Noise Ordinance (Sacramento County Municipal Code, Chapter 6.68) contains performance standards for the purpose of prohibiting unnecessary, excessive, and annoying sounds that, at certain levels and frequencies, are detrimental to the health and welfare of the County's residents.

Per County noise ordinance Sections 6.68.70 and 6.68.80, the County's interior and exterior noise standards are the same as the City of Citrus Heights interior and exterior noise standards, outlined above.

Section 6.68.090 Exemptions

The County noise ordinance provides exemptions from the above standards for school bands, school athletic and school entertainment events; outdoor gatherings, public dances, shows and sporting and entertainment events, provided said events are conducted pursuant to a license or permit by the County; activities conducted on parks, public playgrounds and school grounds, provided such parks, playgrounds and school grounds are owned and operated by a public entity or private school; any mechanical device, apparatus or equipment related to or connected with emergency activities or emergency work; noise sources associated with agricultural operations, provided such operations do not take place between the hours of 8:00 p.m. and 6:00 a.m.; all mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of

adverse weather conditions or when the use of mobile noise sources is necessary for pest control; noise sources associated with maintenance of residential area property, provided said activities take place between the hours of 6:00 a.m. and 8:00 p.m. on any day except Saturday or Sunday, or between the hours of seven a.m. and eight p.m. on Saturday or Sunday; any activity, to the extent provisions of Chapter 65 of Title 42 of the United States Code, and Articles 3 and 3.5 of Chapter 4 of Division 9 of the Public Utilities Code of the State of California preempt local control of noise regulations and land use regulations related to noise control of airports and their surrounding geographical areas, any noise source associated with the construction, development, manufacture, maintenance, testing or operation of any aircraft engine, or of any weapons system or subsystems which are owned, operated or under the jurisdiction of the United States, or any other activity to the extent regulation thereof has been preempted by state or federal law or regulation; any noise sources associated with the maintenance and operation of aircraft or airports which are owned or operated by the United States.

The following exemption is provided for daytime construction noise per County noise ordinance Section 6.68.090(e):

> Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of 8:00 p.m. and 6:00 a.m. on weekdays and Friday commencing at 8:00 p.m. through and including 7:00 a.m. on Saturday; Saturdays commencing at 8:00 p.m. through and including 7:00 a.m. on the next following Sunday and on each Sunday after the hour of 8:00 p.m. Provided, however, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after 8:00 p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.

Impact Analysis

a) 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. Construction of the proposed project is anticipated to commence in August 2026 and take approximately nine weeks to complete. Construction activities would include dewatering preparation, dewatering, excavation, and erosion control aggregate placement. Dewatering would require the use of an electric submersible pump powered by a diesel generator. Other activities would require the use of a long-reach excavator, a rubber-tired front loader, and a skid-steer loader.

Construction is anticipated to occur during daytime hours, 7:00 a.m. to 10:00 p.m. Per the City noise ordinance Section 34-88(5) and County noise ordinance Section 6.68.090(e), construction work which occurs during daytime hours is exempt from the City and County noise ordinance exterior noise limits. However, dewatering may require intermittent nighttime pumping depending on weather conditions and groundwater levels encountered. Nighttime dewatering, including the use of a generator to power the submersible pump, would be considered an “unavoidable condition” per City noise ordinance Section 34-88(5) and County noise ordinance Section 6.68.090(e), and would also be exempt from the City and County noise ordinance exterior noise limits. Operational activities for the proposed project

would consist of ongoing maintenance occurring on an as-needed basis. It is anticipated that City employees who currently maintain the bridges would continue to maintain the bridges after construction is completed, resulting in no new operational maintenance trips or other new operational noise sources. Therefore, the project would not result in a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the City noise ordinance, and the impact would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. The proposed project would not include equipment or construction techniques that would result in excessive groundborne vibration, such as pile driving, blasting, or the use of large vibratory rollers. While equipment in use during construction may result in minimal amounts of groundborne vibration, these effects would be temporary and difficult to detect without instruments. Therefore, the project would not result in the generation of excessive groundborne vibration or groundborne noise levels. The impact would be less than significant.

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?

Less Than Significant Impact. The closest public or private airport to the proposed project is McClellan Airport, located approximately 3.7 miles southwest of the Indian River Bridge and Matheny Bridge project impact areas. The project impact areas are not located within an airport land use plan or within two miles of a public or private airport. Due to the distance from the closest private and public airport, the project would not expose people residing or working in any of the project impact areas to excessive noise levels from aircraft or airport operations, and the impact would be less than significant.

XIV. POPULATION AND HOUSING

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

Environmental Setting

The City of Citrus Height's estimated population in 2024 was 86,909 people and Sacramento County's estimated population in 2024 was 1,611,231 people (U.S. Census Bureau 2026a; 2026b).

Impact Analysis

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 project would include the installation of scour protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. The project would not include the construction or replacement of homes or businesses and thus would not directly induce population growth. It is anticipated that City employees who currently maintain the bridges would continue to maintain the bridges after construction is completed. Therefore, the project would not result in an increase in regional population or employment growth. Additionally, the project would not increase the capacity of Indian River Bridge, Matheny Way Bridge, Sundance Bridge, or Patton Bridge, and all four bridges would continue to be used in a similar condition. Therefore, no impact would occur.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. As discussed in question a), the proposed project would include the installation of scour protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. Therefore, the project would not displace existing people or housing and no impact would occur.

XV. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project 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:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☐	☒

Environmental Setting

The proposed project is in an urbanized area of the City and is currently served by urban levels of all utilities and services. Public services in the project vicinity include fire, police, school, and park services.

Fire Protection

The project impact areas are all served by SMFD. The SMFD serves nearly 640,000 residents over a 417-square mile area of Sacramento and Placer counties including the City of Citrus Heights. The closest fire station to the Indian River and Matheny Bridge project impact areas is SMFD Station 23 located approximately 0.42 mile and 0.54 mile southeast of the project impact areas, respectively. The closest fire station to the Sundance Bridge project impact area is SMFD Station 28 located approximately 0.83 mile north of the project impact area. The closest SMFD fire station to the Patton Bridge project impact area is SMFD Station 27 located approximately 0.95 mile southwest of the project impact area.

Police Protection

The project impact areas are all served by the Citrus Heights Police Department (CHPD). The CHPD is headquartered at 6315 Fountain Square Drive, located approximately 1.4 miles east of the Indian River Bridge project impact area, 1.2 miles east of the Matheny Bridge project impact area, 2.1 miles southwest of the Sundance Bridge project impact area, and 2.8 miles southwest of the Patton Bridge project impact area.

Schools

The project impact areas are all served by the San Juan Unified School District (SJUSD). The SJUSD currently maintains 43 elementary school sites, nine middle school sites, and nine high school sites. Additionally, the SJUSD maintains four special high schools, three special education centers, and three adult education facilities (City 2011).

The closest school to the Indian River Bridge project impact area and Matheny Bridge project impact area is Arlington Heights Elementary School, located approximately 0.4 mile and 0.47 mile northeast of the project impact areas, respectively. The closest school to the Sundance Bridge project impact area is Little Friend Learning Center Preschool located approximately 0.3 mile northwest of the project impact area. The closest school to the Patton Bridge project impact area is Roseville Ranch Montessori school, located 0.26 mile northeast of the project impact area.

Parks

The Sunrise Recreation and Park District (SRPD) is responsible for providing recreation and park resources to the residents of Citrus Heights, and the ORPD is responsible for providing recreation and park resources to the residents of Orangevale. The SRPD and ORPD provide a wide variety of park facilities and recreation programs that complement other community resources and programs to provide a diverse and accessible selection of recreational opportunities.

The closest park to the Indian River and Matheny Bridge project impact area is Foothill Community Park located approximately 0.55 mile and 0.72 mile northwest of the project impact areas, respectively. The Sundance Bridge project impact area is located within Sundance Park, which is comprised of approximately 14.2 acres of meandering wooded natural area managed by the ORPD. The closest park

to the Patton Bridge project impact area is Madera Park, located approximately 0.42 mile southeast of the project impact area.

Impact Analysis

a) Would the project 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:

i. Fire protection?

Less Than Significant Impact. The proposed project is in an urbanized area of the City and is currently served by the SMFD. The closest fire station to the Indian River and Matheny Bridge project impact areas is SMFD Station 23 located approximately 0.42 mile and 0.54 mile southeast of the project impact areas, respectively. The closest fire station to the Sundance Bridge project impact area is SMFD Station 28 located approximately 0.83 mile north of the project impact area. The closest SMFD fire station to the Patton Bridge project impact area is SMFD Station 27 located approximately 0.95 mile southwest of the project impact area.

The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Way Bridge, Sundance Bridge, and the Patton Bridge. No work is proposed on the bridge structures themselves. The proposed project would not include the construction of new buildings or structures that would create an increase in demand for fire protection. The potential for a minor increase in demand for fire services may occur during construction; however, these minor public demands would not overburden the fire services within or in the vicinity of the project impact areas. Therefore, a less than significant impact would occur.

ii. Police protection?

Less Than Significant Impact. The proposed project is in an urbanized area of the City and is currently served by CHPD. The CHPD is headquartered at 6315 Fountain Square Drive, located approximately 1.4 miles east of the Indian River Bridge project impact area, 1.2 miles east of the Matheny Bridge project impact area, 2.1 miles southwest of the Sundance Bridge project impact area, and 2.8 miles southwest of the Patton Bridge project impact area.

The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. The proposed project would not result in additional demand for police protection services. The potential for a minor increase in demand for police services may occur if a crime or accident occurs during construction; however, these minor public demands would not overburden the police services within the project impact areas. Therefore, a less than significant impact would occur.

iii. Schools?

No Impact. The project would include the installation of scour protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. The project would not include the construction or replacement of homes or businesses and thus would not directly induce population growth. Additionally, the project would not increase the capacity of Indian River Bridge, Matheny Way Bridge, Sundance Bridge, or Patton Bridge, and all four bridges would continue to be used in a similar condition. Therefore, the project would not cause an increase in demand for schools or result in the degradation of schools. No impact would occur.

iv. Parks?

Less Than Significant Impact. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. The project would not include the construction or replacement of homes or businesses and thus would not directly induce population growth. It is anticipated that City employees who currently maintain the bridges would continue to maintain the bridges after construction is completed. Therefore, the project would not result in an increase in regional population or employment growth. Additionally, the project would not increase the capacity of Indian River Bridge, Matheny Way Bridge, Sundance Bridge, or Patton Bridge, and all four bridges would continue to be used in a similar condition.

The closest park to the Indian River and Matheny Bridge project impact area is Foothill Community Park located approximately 0.55 mile and 0.72 mile northwest of the project impact areas, respectively. The Sundance Bridge project impact area is located within Sundance Park, which is comprised of approximately 14.2 acres of meandering wooded natural area managed by the ORPD. The closest park to the Patton Bridge project impact area is Madera Park, located approximately 0.42 mile southeast of the project impact area.

As discussed in Section 7.XVI, Recreation, it is anticipated that the Sundance Park would remain open during the majority of the Sundance Bridge construction. However, temporary closures for equipment crossings and a flagging escort through the construction zone during heavy construction equipment operations may occur. As the anticipated nine-week construction period would be short-term and temporary, the project would not cause an increase in demand for park facilities.

Once construction is complete, the Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge will continue to be used in a similar condition prior to construction. Therefore, the impact would be less than significant.

v. Other public facilities?

No Impact. As discussed in questions a) through d) the project is located in an urbanized area of the City served by adequate police, fire, and emergency services. The proposed project would not increase the number of residents in the City and would therefore not cause an increase in demand for schools, parks, and other public facilities. Therefore, the proposed project would not require the construction or expansion of new public facilities or would result in the degradation of those facilities. No impact would occur.

XVI. RECREATION

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

Environmental Setting

The SRPD is responsible for providing recreation and park resources to the residents of the City. The SRPD provides a wide variety of park facilities and recreation programs that complement other community resources and programs to provide a diverse and accessible selection of recreational opportunities (City 2011). The ORPD is an independent special district that owns and maintains nine parks and four natural areas, including Sundance Park, in the community of Orangevale within unincorporated Sacramento County.

The closest park to the Indian River and Matheny Bridge project impact area is Foothill Community Park located approximately 0.55 mile and 0.72 mile northwest of the project impact areas, respectively. The Sundance Bridge project impact area is located within Sundance Park, which is comprised of approximately 14.2 acres of meandering wooded natural area managed by the ORPD. The closest park to the Patton Bridge project impact area is Madera Park, located approximately 0.42 mile southeast of the project impact area.

Impact Analysis

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?

Less Than Significant Impact. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. The project would not include the construction or replacement of homes or businesses and thus would not directly induce population growth. It is anticipated that City employees who currently maintain the bridges would continue to maintain the bridges after construction is completed. Therefore, the project would not result in an increase in regional population or employment growth. Additionally, the project would not increase the capacity of Indian Drive Bridge, Matheny Way Bridge, Sundance Bridge, or Patton Bridge, and all four bridges would continue to be used in a similar condition.

The closest park to the Indian River and Matheny Bridge project impact area is Foothill Community Park located approximately 0.55 mile and 0.72 mile northwest of the project impact areas, respectively. The Sundance Bridge project impact area is located within Sundance Park, which is comprised of approximately 14.2 acres of meandering wooded natural area managed by the ORPD. The closest park to the Patton Bridge project impact area is Madera Park, located approximately 0.42 mile southeast of the project impact area.

It is anticipated that the Sundance Park would remain open during the majority of the Sundance Bridge construction. However, temporary closures for equipment crossings and a flagging escort through the construction zone during heavy construction equipment operations may occur. The City would coordinate with ORPD prior to and during construction at Sundance Bridge to ensure that park access and ongoing operation of Sundance Park is maintained. As the anticipated nine-week construction period would be short-term and temporary, the project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The impact would be less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less Than Significant Impact. As discussed in question a) above, the project would include the installation of scour protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. The project itself would not include the construction of recreational facilities. However, as also discussed in question a), it is anticipated that the Sundance Park would remain open during the majority of the Sundance Bridge construction. However, temporary closures for equipment crossings and a flagging escort through the construction zone during heavy construction equipment operations may occur. As the anticipated nine-week construction period would be short-term and temporary, the project would not require the construction or expansion of existing recreational facilities. The impact would be less than significant.

XVII. TRANSPORTATION

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a)	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b)	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d)	Result in inadequate emergency access?	☐	☐	☒	☐

Environmental Setting

Major Roadways

The City is served by a series of east-west and north-south arterials and collector streets. Major east-west arterials include Madison Avenue, Greenback Lane, and Antelope Road. Major north-south arterials include Sunrise Boulevard, Fair Oaks Boulevard, Auburn Boulevard, San Juan Avenue, Dewey Drive, and Sylvan Road. Major collector streets include Old Auburn Road, Oak Avenue, Van Maren Lane, Mariposa Avenue, and Twin Oaks Avenue.

Access control for each roadway is also listed, which is defined as high, moderate, or low depending on the number of driveways, frequency of stops (traffic signals), and prevailing travel speeds. High access control facilities typically have no driveways and speeds of 45–55 miles per hour (mph). Moderate access control facilities typically have limited driveways and speeds of 35–45 mph. Low access control facilities typically have frequent driveways and speeds of 35–45 mph. High access control facilities include segments of Greenback Lane and Madison Avenue, while low access control facilities include segments of Auburn Boulevard, Sunrise Boulevard, Old Auburn Road, and San Juan Avenue. Most of the two-lane collector streets, such as Oak Avenue, Van Maren Lane, Twin Oaks Avenue, and Mariposa Avenue are low access control facilities (City 2011).

Transit, Bicycle, and Pedestrian Facilities

Sacramento Regional Transit (SacRT) operates bus and light rail transit (LRT) service in Sacramento County. RT operates eight transit routes in Citrus Heights and has fixed transit service routes on segments of Auburn Boulevard, Antelope Road, Greenback Lane, Sunrise Boulevard, Fair Oaks Boulevard, Madison Avenue, San Juan Avenue, and Dewey Drive (City 2011).

The City provides both on-street and off-street bicycle facilities that are generally categorized as Class I, Class II, or Class III facilities. Pedestrian facilities in the City consist of paths, sidewalks, and pedestrian

crossings. Full sidewalks (continuous on both sides of the street) exist on most major arterials and crosswalks are provided at most signalized intersections, at intersections on collector streets, and at intersections adjacent to schools (City 2011).

Emergency Service Routes

Fire stations are located on Greenback Lane east of Auburn Boulevard, Greenback Lane east of Sylvan Road, Oak Avenue east of Fair Oaks Boulevard, and Auburn Boulevard north of Antelope Road. Mercy San Juan Hospital is located west of Dewey Drive between Greenback Lane and Madison Avenue adjacent to the City in unincorporated Sacramento County. The police station is located at City Hall (Fountain Square Drive) between Greenback Lane and Stock Ranch Road. Given the locations of the police station, fire stations, and hospital, emergency service vehicles most frequently use Sunrise Boulevard, Greenback Lane, Madison Avenue, Dewey Drive, Oak Avenue, and Auburn Boulevard (City 2011).

Impact Analysis

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. No permanent ROW is anticipated for any portion of the project; however, a TCE would be required for contractor access and staging for all four bridges.

Indian River Drive, Matheny Way, and Patton Avenue would remain open during construction. It is anticipated that the Sundance Park would remain open during the majority of construction. However, temporary closures for equipment crossings and a flagging escort through the construction zone during heavy construction equipment operations may occur.

Once construction is complete, Indian River Drive, Matheny Way, Sundance Park, and Patton Avenue would continue to be used similar to pre-existing conditions. Therefore, the proposed project would not conflict with a program plan, ordinance, or policy addressing the circulation system. The impact would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less Than Significant Impact. Senate Bill (SB) 743, passed in 2013, required the Governor's Office of Land Use and Climate Innovation (LCI), to develop new CEQA Guidelines that address traffic metrics under CEQA. As stated in the legislation, "automobile delay, as described solely by Level of Service (LOS) or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the CEQA guidelines, if any." The Office of Administrative Law approved the updated CEQA Guidelines on December 28, 2018, and the changes are reflected in new CEQA Guidelines (Section 15064.3). CEQA Guidelines Section 15064.3 was added December 28, 2018, to address the determination of significance for transportation impacts. Pursuant to the current CEQA Guidelines, VMT replaced congestion as the metric for determining transportation impacts. The 2018 LCI Technical Advisory on Evaluating Transportation Impacts in CEQA recommends that small land use projects that would generate or attract

fewer than 110 trips per day generally may be assumed to cause a less than significant impact related to VMT.

The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. Construction of the project activities at the four project impact areas is anticipated to commence in August of 2026 and would take approximately nine weeks to complete. Once construction is complete, City employees who currently maintain the bridges would continue to maintain the bridges; there would be no increase in employees. Therefore, construction and operation of the project would not generate more than 110 vehicle trips per day, and the impact related to VMT would be less than significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. No permanent ROW is anticipated for any portion of the project; however, a TCE would be required for contractor access and staging for all four bridges. As work is proposed underneath the bridges and no change to the bridges themselves is anticipated, the project would not substantially increase hazards due to a geometric design feature. The impact would be less than significant.

d) Result in inadequate emergency access?

Less Than Significant Impact. The project would include the installation of scour protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves.

No permanent ROW is anticipated; however, a TCE would be required for contractor access and staging at all four project impact areas. It is anticipated that Indian Creek Drive, Matheny Way, and Patton Avenue would remain open during construction. Additionally, none of the roads used to access the four bridges are designated as emergency routes. It is also anticipated that the Sundance Park would remain open during the majority of construction. However, temporary closures for equipment crossings and a flagging escort through the construction zone during heavy construction equipment operations may occur.

Once construction is complete, the Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge would continue to be used in a similar condition prior to construction. Therefore, the proposed project would not result in inadequate emergency access. The impact would be less than significant.

XVIII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a 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.	☐	☒	☐	☐

Environmental Setting

CEQA, as amended in 2014 by AB 52 requires that the City provide notice to any California Native American tribes that have requested notice of projects subject to CEQA review and consult with tribes that responded to the notice within 30 days of receipt with a request for consultation. Section 21073 of the PRC 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.

The purpose of consultation is to identify Tribal Cultural Resources (TCRs) that may be significantly impacted by the proposed project, and to allow the City to avoid or mitigate significant impacts prior to project approval and implementation. Section 21074(a) of the PRC defines TCRs for the purpose of CEQA as:

> *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 the first two criteria 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 and can only be identified by a culturally affiliated tribe, which has been determined under State law to be the subject matter expert for TCRs.

CEQA requires that the City initiate consultation with tribes 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 required to develop appropriate avoidance, impact minimization, and mitigation measures. Therefore, in accordance with the requirements summarized above, the City carried out tribal consultation for the project.

Background

The United Auburn Indian Community (UAIC) is a federally recognized Tribe comprised of both Miwok and Maidu (Nisenan) Tribal members who are traditionally and culturally affiliated with the project area. The Tribe has a deep spiritual, cultural, and physical ties to their ancestral land and are contemporary stewards of their culture and landscapes. The Tribal community represents a continuity and endurance of their ancestors by maintaining their connection to their history and culture. It is the Tribe's goal to ensure the preservation and continuance of their cultural heritage for current and future generations.

Methodology

UAIC conducted background search for the identification of TCRs for the project, which included a review of pertinent literature, historic maps, and a records search using UAIC's Tribal Historic Information System (THRIS). UAIC's THRIS database is composed of UAIC's areas of oral history, ethnographic history, and places of cultural and religious significance, including UAIC Sacred Lands that are submitted to NAHC. The THRIS resources shown in this region also include previously recorded indigenous resources identified through CHRIS as well as historic resources and survey data.

On October 21, 2025, and January 8, 2026, Tribal Monitor Lead Rene Guerrero and Cultural Regulatory Coordinator Luz Salazar conducted a cultural survey of the Creek Erosion and Bridge Scour project study areas. The survey was completed using archaeological pedestrian survey methods to identify cultural resources or areas of cultural significance within the project vicinity. From our records, there is a Lithic site 0.75 mile southwest of Tempo Park. The results triggered our initiative to survey the project study area.

Ground surface visibility of each project study area ranged from 0 to 30 percent due to the density of grass and vegetation. Native plants, such as oak trees, as well as mugwort, were observed along the embankment walls. The visible soil patches and rodent piles showed a range from light tan silt to brown loamy soil. On the east side of Matheny Bridge, the soil primarily consisted of imported woodchips. This material was likely used as fill to prevent flooding from the overflowing creeks in the area. Although the bank walls were noticeably eroding, no sign of exposed cultural resources were identified.

Impact Analysis

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)?

   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. Formal invitations to participate in AB 52 consultation covering the Indian River Bridge, Matheny Bridge, and Sundance Bridge study areas were sent by the City as the Lead Agency to five tribal representatives on July 24, 2025. Follow-up letters were sent to the same five tribal representatives on December 10, 2025, covering the Patton Bridge study area. The tribal representatives included:

- Sara D. Setshwaelo, Chairwoman, Ione Bank of Miwok Indians
- Regina Cuellar, Chairwoman, Shingle Springs Band of Miwok Indians
- Anna Starkey, United Auburn Indian Community
- Daniel Fonseca, Tribal Historic Preservation Officer
- Wilton Rancheria

Each tribe was provided with a brief description of the project and its location, the contact information for the City's authorized representative, and a notification that the tribe has 30 days to request consultation.

On August 12, 2025, the City received an email response from the Shingle Springs Band of Miwok Indians requesting to be added as a consulting party in identifying any TCRs that may exist within the study areas. The City replied electronically on August 15, 2025, noting that the Cultural Resources Assessment and the CEQA IS/MND would be forwarded once available, and that the City would forward the request to initiate Section 106 consultation to the U.S. Army Corps of Engineers when a Section 404 permit application is submitted for the project. On October 27, 2025, a City had a virtual consultation meeting with representatives from the Shingle Springs Band of Miwok Indians. The City summarized the details of the proposed project, and the Tribe requested access to survey the study areas. The meeting

culminated with the City confirming that the Tribe can access the entirety of the study areas as they are publicly accessible.

On August 19, 2025, the City received an email response from Wilton Rancheria requesting to open formal consultation. The City replied electronically on August 20, 2025, noting that the Cultural Resources Assessment and CEQA IS/MND would be forwarded once available, and that the City would forward the request to initiate Section 106 consultation to the U.S. Army Corps of Engineers when a Section 404 permit application is submitted for the project. On October 14, 2025, the City had a virtual consultation meeting with representatives from Wilton Rancheria where the City summarized the details of the proposed project. The meeting culminated with the City noting that a follow-up letter would be sent for the Patton Bridge study area and with the Rancheria stating they would conduct additional research and follow up if any subsequent concerns surfaced.

On October 13, 2025, the City received an email response from the UAIC requesting to survey the study area on October 21, 2025. The City replied electronically on October 13, 2025, noting that there are no issues with accessing site or the date of the survey. The UAIC representative replied electronically on October 13, 2025, thanking the City.

On December 23, 2025, the City received an email response from UAIC requesting formal consultation. The UAIC representative requested that although preliminary research did not identify previously recorded TCRs in the Patton Bridge study area, there are many known sites recorded along Cripple Creek. The UAIC representative requested to conduct a tribal survey for the identification of unrecorded TCRs and asked if there were any restrictions to access the area. The City replied electronically on January 2, 2026, noting that there are no restrictions to access the study area. The UAIC representative replied electronically on January 2, 2026, noting that the survey is scheduled for January 9, 2026. The City replied electronically on January 2, 2026, noting that the City had no concerns with the scheduled survey date.

The City followed up with Shingle Springs Band of Miwok Indians, Wilton Ranchera, and UAIC on February 27, 2026, to close the loop on consultation and provided the Tribes with a draft of the Cultural Resources Assessment. On February 27, 2026, the City received a response from Wilton Rancheria noting that the Tribe does not have additional comments and asked to be notified if any cultural materials appear during construction or if the project changes.

On March 3, 2026, the City received a response from Shingle Springs Band of Miwok Indians noting that the Tribe is continuing to review the materials and will follow up shortly if the Tribe identifies any cultural resources within the project area or have specific mitigation and/or monitoring recommendations. On April 28, 2026, the City followed up with the Shingle Springs Band of Miwok Indians on their review of the project. The City met virtually with the Shingle Springs Band of Miwok Indians on May 5, 2026, and on May 5, 2026, the Shingle Springs Band of Miwok Indians emailed the City noting that AB 52 consultation can be closed.

On March 5, 2026, the City received a response from UAIC requesting the addition of language included above under Background and Methodology. As noted above, on October 21, 2025, and on January 8, 2026, Tribal Monitor Lead Rene Guerrero and Cultural Regulatory Coordinator Luz Salazar conducted a cultural survey of the Creek Erosion and Bridge Scour project study areas. The survey did not identify any TCRs in the project study areas. However, in the event TCRs are encountered, Mitigation Measure TCR-1, would be implemented to address the identification and treatment of unanticipated discoveries

of potential TCRs or resources of cultural significance to UAIC during ground disturbing activities. On April 16, 2026, the City sent the version of the mitigation measure in the Tribal Cultural Resources section of this IS/MND to UAIC for their review, and on April 17, 2026, UAIC responded to the City with their edits. On April 28, 2026, the City provided UAIC with the revised mitigation measure and asked for confirmation that the final edit is acceptable. On April 28, 2026, UAIC accepted the final edit and noted that AB 52 consultation can be closed.

No further responses from the Shingle Springs Band of Miwok Indians, Wilton Rancheria, UAIC, or other Tribes were received; therefore, the City has formally concluded consultation pursuant to PRC Sections 21080.3.2(b)(1) and 21082.3(d)(1).

The proposed project is not anticipated to cause substantial adverse changes in the significance of a TCRs in the project impact areas. However, in the unlikely event that TCRs are encountered during construction, Mitigation Measure TCR-1 would be implemented to address the identification and treatment of unanticipated discoveries of potential TCRs or resources of cultural significance to UAIC during ground disturbing activities. With implementation of Mitigation Measure TCR-1, potential impacts to TCRs would be reduced to less than significant.

Mitigation Measure TCR-1: Accidental Discovery of Tribal Cultural Resources

If any suspected TCRs or resources of cultural significance to UAIC, including but not limited to features, anthropogenic/cultural soils, cultural belongings or objects (artifacts), shell, bone, shaped stones or bone, or ash/charcoal deposits are discovered by any person during construction activities including ground disturbing activities, all work shall pause immediately within 100 feet of the find, or an agreed upon distance based on the project area and nature of the find. Work shall cease in and within the immediate vicinity of the find regardless of whether the construction is being actively monitored by a Tribal Monitor, cultural resources specialist, or professional archaeologist.

A Tribal Representative and the City shall be immediately notified, and the Tribal Representative in coordination with the City shall determine if the find is a TCR (PRC Section 21074) and the Tribal Representative shall make recommendations for further evaluation and treatment as necessary.

Treatment and Documentation:

- The culturally affiliated Tribe shall consult with the City to (1) identify the boundaries of the new TCR and (2) if feasible, identify appropriate preservation in place and avoidance measures, including redesign or adjustments to the existing construction process, and long-term management, or 3) if avoidance is infeasible, a reburial location in proximity of the find where no future disturbance is anticipated. Permanent curation of TCRs will not take place unless approved in writing by the culturally affiliated Tribe.

- The construction contractor(s) shall provide secure, on-site storage for culturally sensitive soils or objects that are components of TCRs that are found or recovered during construction. Only Tribal Representatives shall have access to the storage. Secure storage size shall be determined by the nature of the TCR and can range from a small lock box to a conex box (shipping container). A secure (locked), fenced area can also provide adequate on-site storage if larger amounts of material must be stored.

- The construction contractor(s) and City shall facilitate the respectful reburial of the culturally sensitive soils or objects. This includes providing a reburial location that is consistent with the Tribe's preferences, excavation of the reburial location, and assisting with the reburial, upon request.

- Any discoveries shall be documented on a Department of Parks and Recreation (DPR) 523 form within two weeks of the discovery and submitted to the appropriate CHRIS center in a timely manner.

- Work at the TCR discovery location shall not resume until authorization is granted by the City in coordination with the culturally affiliated Tribe.

- If articulated or disarticulated human remains, or human remains in any state of decomposition or skeletal completeness are discovered during construction activities, the County Coroner and the culturally affiliated Tribe shall be contacted immediately. Upon determination by the County Coroner that the find is Native American in origin, the Native American Heritage Commission will assign the Most Likely Descendent who will work with the project proponent to define appropriate treatment and disposition of the burials.

XIX. UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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?	☐	☒	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Environmental Setting

Water

Water in the project vicinity is provided by the Citrus Heights Water District (CHWD). The CHWD is participatory to a Joint Powers Agreement with the cities of Citrus Heights, Folsom, and Sacramento, and Sacramento County, which grants them the authority to regulate groundwater.

Wastewater/Sewer

Wastewater/sewer service in the project vicinity is provided by the Sacramento Area Sewer District (SASD) and is treated at the Sacramento Regional Wastewater Treatment Plant (SRWTP). The SRWTP provides wastewater treatment for the SASD (City 2011).

Stormwater

The City is located in the western-most portion of the American River Watershed, which contains approximately 2,100 square miles of the western slope of the Sierra Nevada Mountain Range. Rainwater runoff flows out of the Sierra Nevada through numerous small creeks and the three higher forks of the American River. The three forks flow into Folsom Lake just east of Sacramento County, then back out as a single American River, which winds its way through the southern portion of the County before flowing into the Sacramento River to the west.

Sacramento area public agencies, including the County of Sacramento and the Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova, have joined together to form the Sacramento Stormwater Quality Partnership (SSQP). The agencies work together to implement the conditions of the Sacramento Municipal Separate Storm Sewer System NPDES Stormwater Permit in addition to the State CGP for the application of best management practices during construction activities and the implementation of a SWPPP if the ground disturbance exceeds an acre.

Solid Waste

Solid waste collection services in the City are generally provided by private haulers through either a contract or franchise. The City currently contracts residential solid waste collection and recycling services to Allied Waste Systems, a private waste disposal company (City 2011).

Electricity, Natural Gas

Electricity and natural gas in the project vicinity are provided by SMUD and PG&E. Existing and exposed active and inactive PG&E gas lines run north to south through the Matheny Bridge project impact area.

Telephone/Cable

The available service providers in the project vicinity include CCI, AT&T, and Comcast. An existing and abandoned CCI and Comcast joint trench with exposed conduits is located in the creek bed in the Indian River Bridge project impact area.

Impact Analysis

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 With Mitigation Incorporated.

Indian River Bridge

In addition to the installation of scour and erosion protection measures at the Indian River Bridge, the project would also include the removal of an abandoned CCI and Comcast joint trench with exposed conduits in the creek bed. In order to safely excavate within Arcade Creek, Mitigation Measure HAZ-1 would be implemented, which would require coordination with Underground Service Alert prior to ground disturbing activities. Additionally, Mitigation Measure HAZ-2 would be implemented which would require coordination with CCI and Comcast to ensure the abandoned joint trench with exposed conduits within the creek bed is safely removed during project construction.

Matheny Bridge

In addition to the installation of scour and erosion protection measures at the Matheny Bridge, the project would include the relocation of existing and exposed PG&E inactive and active gas lines. In order to safely excavate within Arcade Creek, Mitigation Measure HAZ-1 would be implemented which would require coordination with Underground Service Alert prior to ground disturbing activities. Additionally, Mitigation Measure HAZ-2 would be implemented which would require coordination with PG&E to ensure the active and inactive gas lines within the creek bed are safely removed during project construction.

Sundance Bridge

The project would include the installation of scour and erosion protection measures at the Sundance Bridge. No utility relocations are expected for the Sundance project impact area. However, Mitigation Measure HAZ-1, which requires coordination with Underground Service Alert, would be implemented prior to any excavation activities within Arcade Creek to ensure the project site is clear for excavation.

Patton Bridge

The project would include the installation of scour and erosion protection measures at the Patton Bridge. No utility relocations are expected for the Patton Bridge project impact area. However, Mitigation Measure HAZ-1, which requires coordination with Underground Service Alert, would be implemented prior to any excavation activities within Cripple Creek to ensure the project site is clear for excavation.

Impact Conclusion

As discussed above, in order to safely excavate within Arcade and Cripple Creeks at all project impact areas, Mitigation Measure HAZ-1 would be implemented which would require coordination with Underground Service Alert prior to ground disturbing activities. Additionally, Mitigation Measure HAZ-2 would be implemented prior to ground disturbing activities at Indian River Bridge and Matheny Bridge,

which requires coordination with PG&E, CCI, and Comcast to ensure all utility lines proposed for removal within the creek bed are safely removed during project construction. With implementation of Mitigation Measures HAZ-1 and HAZ-2, the project would not cause significant environmental effects as a result of the removal and relocation of utilities, and the impact would be less than significant.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact. The proposed project is not a water demand project and would not require a water supply connection for installation or operation of scour and erosion protection measures. Therefore, no impact would occur.

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 would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. The project would not generate wastewater requiring treatment. Therefore, no impact would occur.

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?

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. Solid waste collection services in the City are generally provided by private haulers through either a contract or franchise. The City currently contracts residential solid waste collection and recycling services to Allied Waste Systems, a private waste disposal company.

Excavation for the total project impact area would require that up to 928 CY of debris and soil/aggregate be exported off-site to the Kiefer Landfill. Kiefer Landfill in Sloughhouse had a remaining capacity of 102.3 million cubic yards in December of 2023 and has a maximum capacity of 117.4 cubic yards (CalRecycle 2025). Although construction of the project would generate solid waste, the project-generated waste is not anticipated to exceed the capacity of the landfill.

The proposed project would not generate solid waste in excess of State or local standards, or in the excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, and would comply with federal, State, and local management and reduction statutes and regulations related to solid waste. Therefore, the impact would be less than significant for questions d) and e).

XX. WILDFIRE

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

Environmental Setting

Wildfires pose a hazard to both persons and property in many areas of California. Wildland fires are a particularly dangerous threat to development located in forest and shrub areas. The severity of wildland fires is primarily influenced by vegetation, topography, and weather (temperature, humidity, and wind). CAL FIRE has developed a fire hazard severity scale that considers vegetation, climate, and slope to evaluate the level of wildfire hazard in all State Responsibility Area (SRA) lands. Areas under the jurisdiction of other fire protection services are considered to be an LRA.

According to the CAL FIRE Fire Hazard Severity Zone Map, the project impact areas are all located within an LRA (CAL FIRE 2026). The surrounding land uses are also located within an LRA. None of the project impact areas are within a Very High Fire Hazard Severity Zone (CAL FIRE 2026).

Impact Analysis

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The project would include the installation of scour protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves.

No permanent ROW is anticipated; however, a TCE would be required for contractor access and staging at all four project impact areas. It is anticipated that Indian Creek Drive, Matheny Way, and Patton Avenue would remain open during construction. Additionally, none of the roads used to access the four bridges are designated as emergency routes. It is also anticipated that the Sundance Park would remain open during the majority of construction. However, temporary closures for equipment crossings and a flagging escort through the construction zone during heavy construction equipment operations may occur.

Once construction is complete, the Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge would continue to be used in a similar condition prior to construction. Therefore, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Additionally, the project impact areas are all located within an LRA and are not located on or near VHFHSZ. Therefore, no impact would occur.

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 proposed project is located within an urbanized area of the City and is provided with urban levels of fire protection by the City. The closest fire station to the Indian River and Matheny Bridge project impact areas is SMFD Station 23 located approximately 0.42 mile and 0.54 mile southeast of the project impact areas, respectively. The closest fire station to the Sundance Bridge project impact area is SMFD Station 28 located approximately 0.83 mile north of the project impact area. The closest SMFD fire station to the Patton Bridge project impact area is SMFD Station 27 located approximately 0.95 mile southwest of the project impact area.

Terrain in the project impact areas is generally flat. The creek bed is the lowest elevation at each project impact area and rises sharply along the bank. The bank of the creek and surrounding lands of each project impact area are generally flat, with minor undulating topography across the landscape. As the proposed project would provide scour and erosion protection measures underneath existing bridges, it is not anticipated that the proposed project would exacerbate wildfire risks. Additionally, the project impact areas are all located within an LRA and are not located on or near VHFHSZ. Therefore, no impact would occur.

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?

Less Than Significant With Mitigation Incorporated. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. As outlined in Section 3.5, construction activities would include dewatering, excavation, and placement of bridge scour and erosion protection measures. Dewatering at each bridge impact area would require a 5 hp submersible pump with a 3-inch discharge operating with a supplied electrical power generator 480-VAC/3-ph. In the event that there is a continuous flow of water in Arcade and Cripple Creeks during construction, a temporary cofferdam may be installed upstream of the construction area and pumps would be used to temporarily remove standing water within the project impact area. Specific details on the dewatering methods are currently unknown and would vary depending on water levels in Arcade and Cripple Creeks at the time

of construction. Following construction of the scour and erosion protection measures, the pump and all construction equipment would be removed, and the flows of Arcade and Cripple Creeks would be restored.

The project would require the removal of an abandoned CCI and Comcast joint trench with exposed conduits in the creek bed of the Indian River Bridge project impact area and would require the relocation of existing and exposed PG&E inactive and active gas lines at the Matheny Bridge project impact area, which could exacerbate fire risk. Mitigation Measure HAZ-1 would be implemented, which would require coordination with Underground Service Alert prior to ground disturbing activities. Additionally, Mitigation Measure HAZ-2 would be implemented which would require coordination with PG&E, CCI, and Comcast to ensure all utility lines proposed for removal within the creek bed are safely removed during project construction. Therefore, with implementation of Mitigation Measures HAZ-1 and HAZ-2, the proposed project would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk.

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. As outlined in Section 7.VII, Geology and Soils, terrain in the project impact areas is generally flat. The creek bed is the lowest elevation at each project impact area and rises sharply along the bank. The bank of the creek and surrounding lands of each project impact area are generally flat, with minor undulating topography across the landscape. Due to the relatively flat topography in the project impact areas, landslides are unlikely to occur in the project impact areas or in the immediate vicinity.

Although landslides are unlikely to occur, temporary dewatering, earth moving, and other construction related activities could result in erosion and runoff of topsoil into the drainage facilities, which could temporarily affect water quality of downstream surface waters. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. No work is proposed on the bridge structures themselves. Under the proposed project, temporary sediment and erosion control BMPs would be implemented. Erosion materials consisting of filter fabric or sand and gravel topped with Class I, II, or IV stone rip rap would be applied to embankment slopes for all the project impact areas.

The project work would occur where natural erosion is impacting existing public infrastructure and inhibiting City maintenance activities. The project is proposed to extend the service life of the bridges, maintain public safety, protect critical infrastructure, and reduce long-term maintenance needs. Installation of scour and erosion protection measures would minimize erosion on and off-site. Therefore, the project would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Additionally, the project impact areas are all located within an LRA and are not located on or near VHFHSZ. Therefore, no impact would occur.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project 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?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a) Does the project 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. Based on the preceding analyses contained in Sections 7.IV, Biological Resources; 7.V, Cultural Resources; 7.VII, Geology and Soils; and 7.XVIII, Tribal Cultural Resources, the proposed project would implement Mitigation Measures BIO-1 through BIO-7, CUL-1 and CUL-2, GEO-1, and TCR-1 to reduce the potential impacts to biological, cultural, paleontological, and tribal cultural resources to a less than significant level. Therefore, with implementation of these mitigation measures, the project would not 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. Therefore, the impact would be less than significant with mitigation incorporated.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?

Less than Significant with Mitigation Incorporated. As evaluated in Sections 7.I through 7.XX of this IS/MND, the proposed project would not result in substantial adverse effects with incorporation of Mitigation Measures AQ-1, BIO-1 through BIO-7, CUL-1 and CUL-2, GEO-1, HAZ-1 and HAZ-2, HYD-1 and HYD-2, and TCR-1. With implementation of these mitigation measures, the project would not result in cumulatively considerable impacts in combination with past, present, and probable future projects in the City. Therefore, the impact would be less than significant with mitigation incorporated.

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

Less than Significant Impact. As demonstrated in the detailed evaluation contained in this IS/MND, because of site conditions, existing City and County regulations, and regulation of potential environmental impacts by other agencies, the proposed project would not have the potential to cause substantial adverse effects on human beings. The impact would be less than significant.

8.0 MITIGATION MONITORING AND REPORTING PROGRAM

A Mitigation Monitoring and Reporting Program (MMRP) has been prepared by the City per Section 15097 of the CEQA Guidelines and is presented in Appendix E.

9.0 PREPARERS

City of Citrus Heights

Daniel Kehrer, Principal Civil Engineer

HELIX Environmental Planning, Inc.

Lesley Owning, Principal Planner
Julia Pano, Project Manager
Anviti Singh, Environmental Planner
Victor Ortiz, Principal Air Quality/Noise Specialist
Martin Rolph, Senior Air Quality/Noise Specialist
David Bise, Principal Biologist
Christine Gonzalez, Senior Biologist
Clarus Backes, Senior Archaeologist
Leah Wargo, Archaeologist
John DeMartino, GIS Specialist

10.0 REFERENCES

California Air Pollution Control Officers Association (CAPCOA). 2022. User's Guide for CalEEMod Version 2022.1. Available at: http://www.caleemod.com/.

California Air Resources Board (CARB). 2026a. Maps of State and Federal Area Designations. Accessed January 22. Available at: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations.

2026b. Overview: Diesel Exhaust and Health. Accessed January 22. Available at: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health.

2022. 2022 Scoping Plan for Achieving Carbon Neutrality. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf.

2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/california-air-resources-board-air-quality-and-land-use-handbook-a-community-health-perspective.pdf.

California Department of Conservation (DOC). 2026a. California Important Farmland Finder Map. Accessed January 23. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/.

2026b. Willaimson Act Enrollment Finder. Accessed January 23. Available at: https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/.

2026c. Earthquake Hazards Zone Application (EQ Zapp) Map. Accessed January 23. Available at: https://maps.conservation.ca.gov/cgs/EQZApp/app/.

2026d. Guidelines for Classification and Designation of Mineral Lands. Accessed February 23. Available at:

2026e. Mineral Lands Classification. Accessed January 21. Available at: https://maps.conservation.ca.gov/cgs/minerals/.

2026f. Mines Online. Accessed January 21. Available at: https://maps.conservation.ca.gov/mol/index.html.

California Department of Forestry and Fire Protection (CAL FIRE). 2026. Fire Hazard Severity Zone Mapper. Accessed January 21. Available at: https://experience.arcgis.com/experience/5065c998b4b0462f9ec3c6c226c610a9.

California Department of Toxic Substances Control (DTSC). 2026. EnviroStor online tool. Accessed January 23. Available at: https://www.envirostor.dtsc.ca.gov/public/search?basic=True.

California Department of Transportation (Caltrans). 2026. California State Scenic Highway System Map. Accessed January 23. Available at: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa.

California Department of Resources Recycling and Recovery (CalRecycle). 2025. SWIS Facility/Site Activity Details for Sacramento County Landfill (Kiefer) (34-AA-0001). Accessed on December 19, 2025 at: https://www2.calrecycle.ca.gov/solidwaste/siteactivity/details/2070?siteid=2507.

California Energy Commission. 2025a. 2023 Total System Electric Generation. Accessed January 22. Available at: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2023-total-system-electric-generation.

2025b. Supply and Demand of Natural Gas in California. Accessed January 22. Available at: https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california.

2025c. California Retail Fuel Outlet Annual Reporting Results (CEC-A15). Accessed January 22.Available at: https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting.

City of Citrus Heights (City). 2011. City of Citrus Heights General Plan Update and Greenhouse Gas Reduction Plan Final Environmental Impact Report. August. Available at: https://www.citrusheights.net/204/Environmental-Impact-Report.

2020. City of Citrus Heights General Plan. Available at: https://www.citrusheights.net/202/General-Plan.

Federal Emergency Management Act (FEMA). 2026. National Flood Hazard Layer Viewer. Accessed January 21. Available at: https://msc.fema.gov/portal/search?AddressQuery=citrus%20heights%20ca.

Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Summary for Policymakers. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. February. Available at: https://archive.ipcc.ch/report/ar4/wg1/.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Available at: https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0.

Office of Land Use and Climate Innovation (LCI). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. Available at: https://lci.ca.gov/ceqa/docs/20190122743_Technical_Advisory.pdf.

Natural Resources Conservation Service (NRCS). 2026. Web Soil Survey. Accessed January 21. Available at: https://websoilsurvey.nrcs.usda.gov/app/.

Sacramento Area Council of Governments (SACOG). 2025. 2025 Blueprint Metropolitan Transportation Plan and Sustainable Communities Strategy. Available at: https://www.sacog.org/planning/blueprint.

Sacramento Metropolitan Air Quality Management District (SMAQMD). 2023. Sacramento Regional 2015 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan. Available at: https://www.airquality.org/ProgramCoordination/Documents/Sacramento%20Regional%202015%20NAAQS%208%20Hour%20Ozone%20Attainment%20and%20Reasonable%20Further%20Progress%20Plan.pdf.

2020a. CEQA Guide. Chapter 1: Introduction and Air Quality. April. Available at: https://www.airquality.org/LandUseTransportation/Documents/Ch1IntroAq4-25-2020.pdf.

2020b. CEQA Guide. Chapter 2 Appendix: Thresholds of Significance Table. April. Available at: https://www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable4-2020.pdf.

2020c. CEQA Guide Chapter 4: Operational Criteria Air Pollutant and Precursor Emissions. October. Available at: https://www.airquality.org/LandUseTransportation/Documents/Ch4OperationalFinal10-2020.pdf.

2019. Basic Construction Emissions Control Practices. Revised July. Available at: http://www.airquality.org/LandUseTransportation/Documents/Ch3BasicEmissionControlPracticesBMPSFinal7-2019.pdf.

1984. Rule 404 Particulate Matter. November. Available at: https://www.airquality.org/ProgramCoordination/Documents/rule404.pdf.

1977a. Rule 402 Nuisance. Available at: http://www.airquality.org/ProgramCoordination/Documents/rule402.pdf.

1977b. Rule 403 Fugitive Dust. Available at: http://www.airquality.org/ProgramCoordination/Documents/rule403.pdf.

State Water Resources Control Board (SWRCB). 2026. GeoTracker tool. Accessed January 21. Available at: https://geotracker.waterboards.ca.gov/map/.

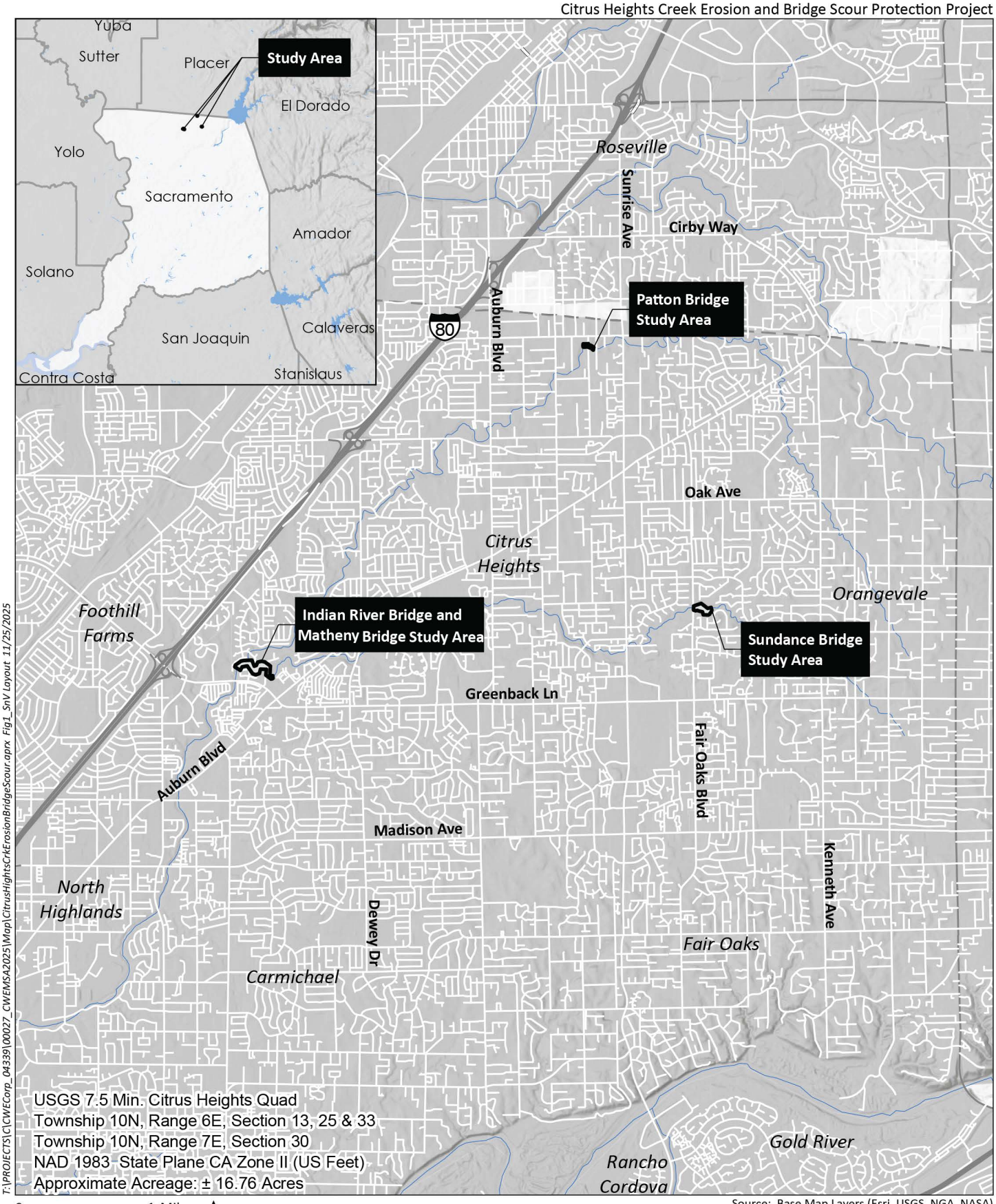
U.S. Census Bureau. 2026a. City of Citrus Heights Population. Accessed January 21. Available at: https://www.census.gov/quickfacts/fact/table/citrusheightscitycalifornia/PST045224.

202b. Sacramento County Population. Accessed February 19. Available at: https://www.census.gov/quickfacts/fact/table/citrusheightscitycalifornia/PST045224.

U.S. Environmental Protection Agency (USEPA). 2026. Superfund National Priorities List. Accessed January 23. Available at: https://www.epa.gov/superfund/search-superfund-sites-where-you-live#map.

Appendix A

Figures



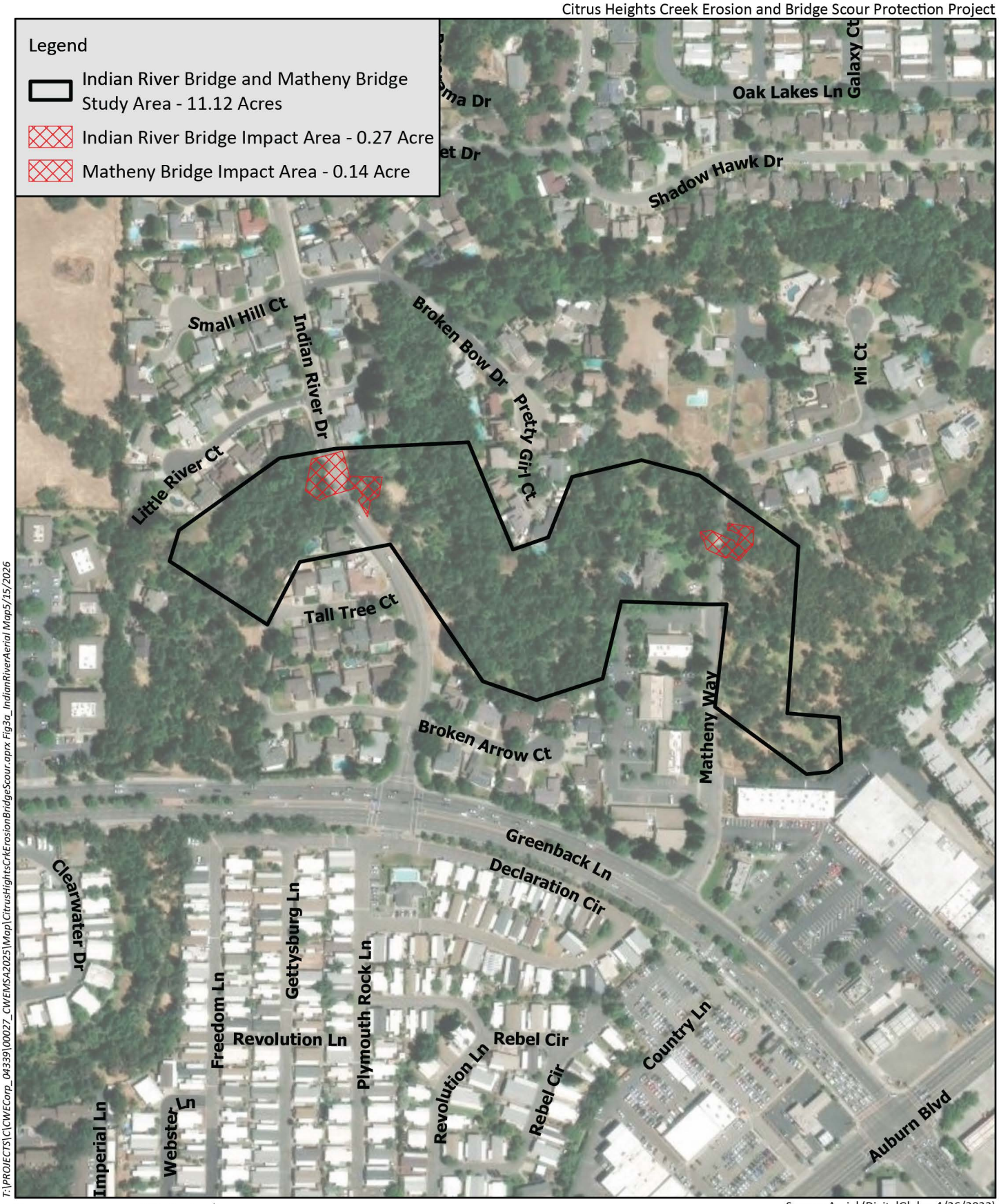
T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig1_SnV Layout 11/25/2025

Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1



T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig3a_IndianRiverAerial Map5/15/2026

Source: Aerial (DigitalGlobe, 4/26/2022)

HELIX Environmental Planning

Indian River Bridge and Matheny Bridge Aerial Map

Figure 2a

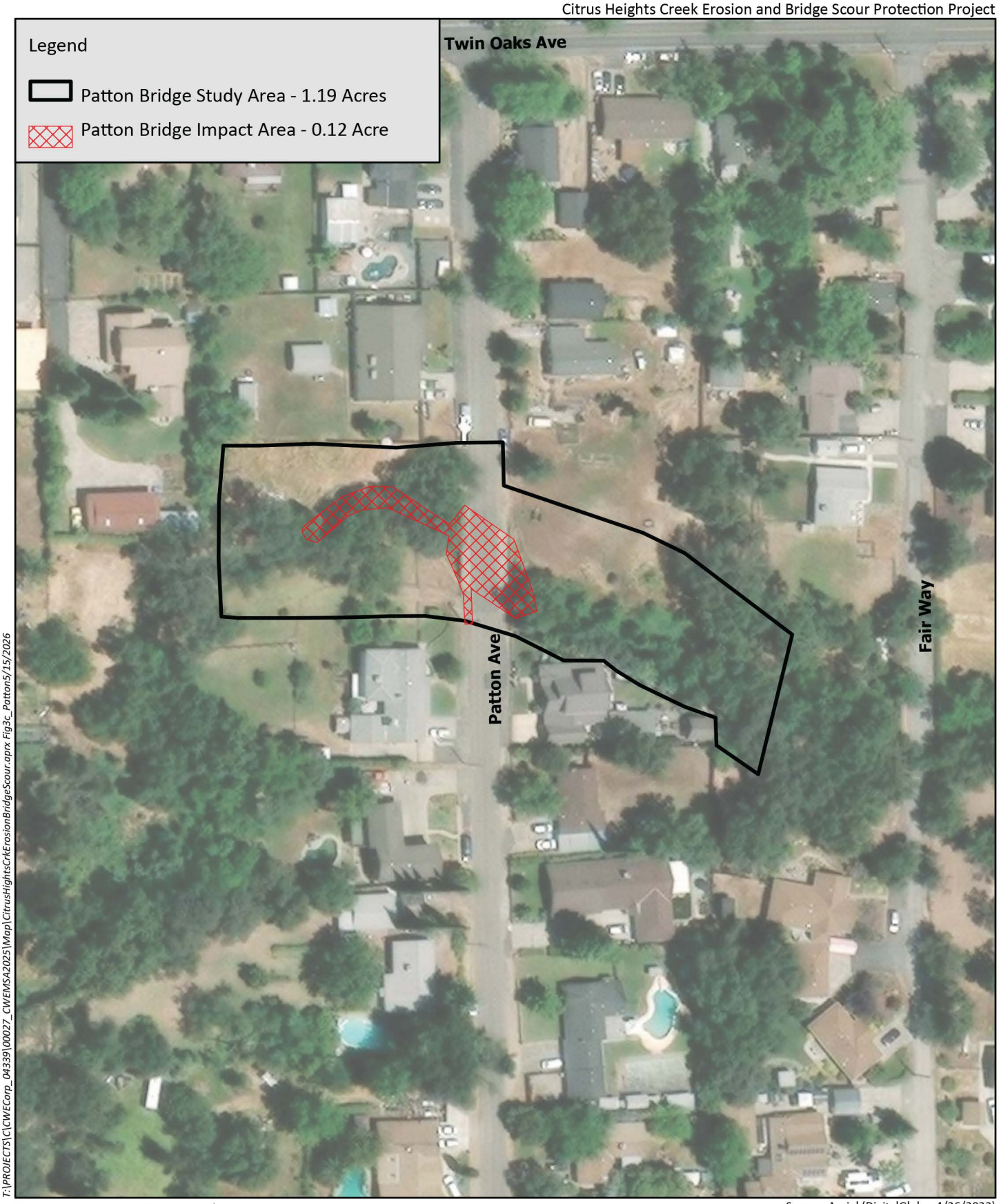


Source: Aerial (DigitalGlobe, 4/26/2022)

HELIX Environmental Planning

Sundance Bridge Aerial Map

Figure 2b

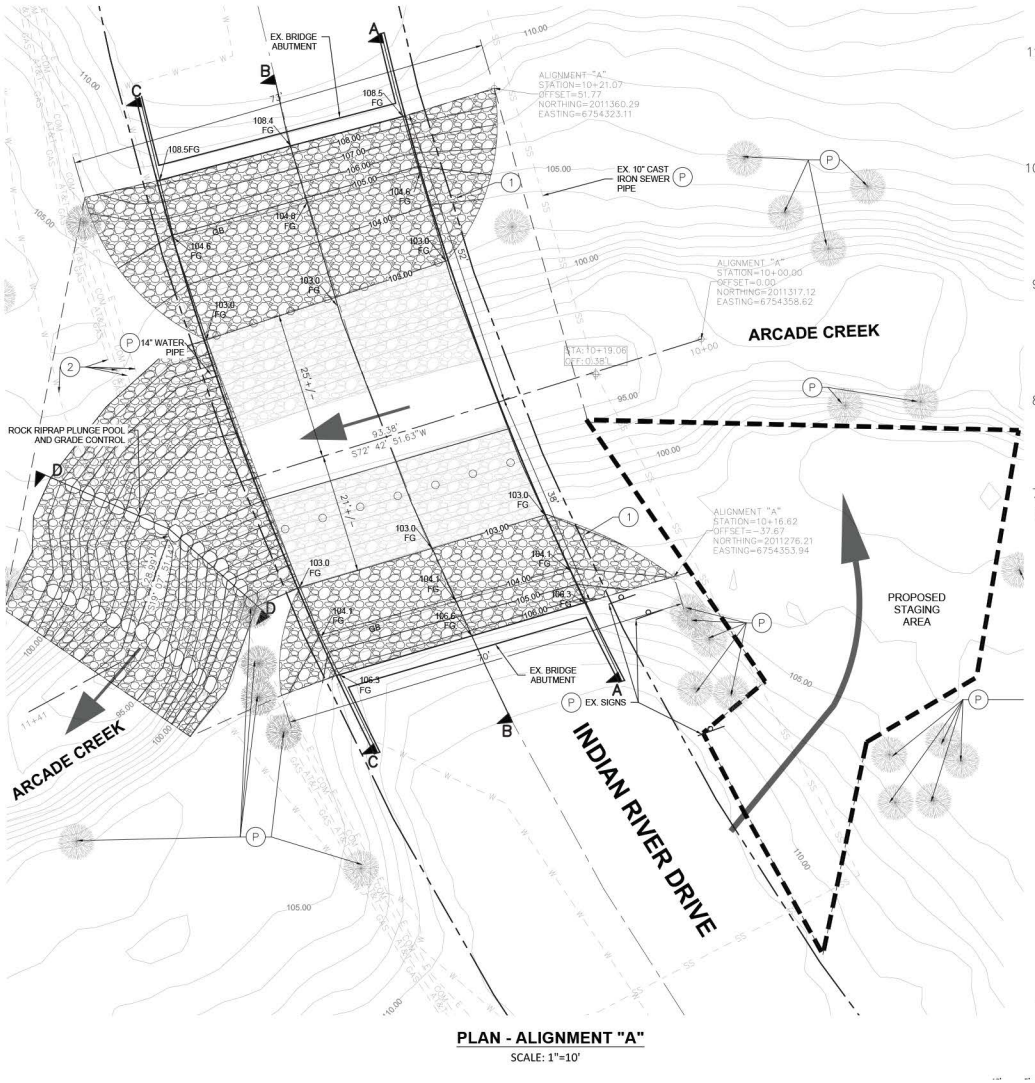


Source: Aerial (DigitalGlobe, 4/26/2022)

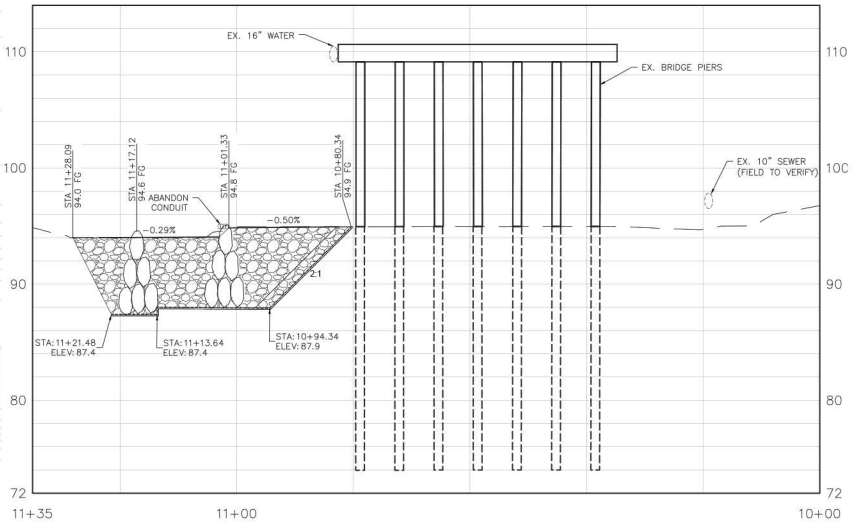
HELIX Environmental Planning

Patton Bridge Aerial Map

Figure 2c



PLAN - ALIGNMENT "A"
SCALE: 1"=10'



PROFILE - ALIGNMENT "A"

HORIZ: 1"=10'
VERT: 1"=5'

ROCK GRADATION TABLES

GRADATION TABLES		
STANDARD ROCK SIZE, or ROCK MASS, or ROCK WEIGHT (US UNIT)	PERCENT LARGER THAN	
	1 TON	300 LB
8 TON		
4 TON		
2 TON	0–5	
1 TON	50–100	
½ TON	95–100	
¼ TON		0–5
300 LB		50–100
75 LB		–
25 LB		95–100

RIPRAP SIZE

1 — 1 T ROCK (2.5 FT; METHOD OF PLACEMENT 'B')
2 — 300 LB ROCK (1.25 FT; METHOD OF PLACEMENT 'B')

NOTE:

SEE PROFILE SHEETS FOR RIPRAP ROCK STATIONS AND ELEVATIONS

LEGEND

- RIGHT OF WAY
- ROAD CENTERLINE
- EX. CONTOURS
- LIMITS OF IMPACT
- PROPOSED STAGING AREA
- PROPOSED ACCESS
- EXISTING TREES
- PROPOSED RIPRAP

CONSTRUCTION NOTES

(P) PROTECT IN PLACE.
(1) ROCK RIP RAP PROTECTION PER GRADATION, PLAN, AND DETAILS.
(2) ABANDONED CONDUITS SHALL BE CUT AND REMOVED FROM CREEKBED. REMAINING ENDS SHALL BE CAPPED A MINIMUM OF 1 FT BELOW THE EMBANKMENT SURFACE

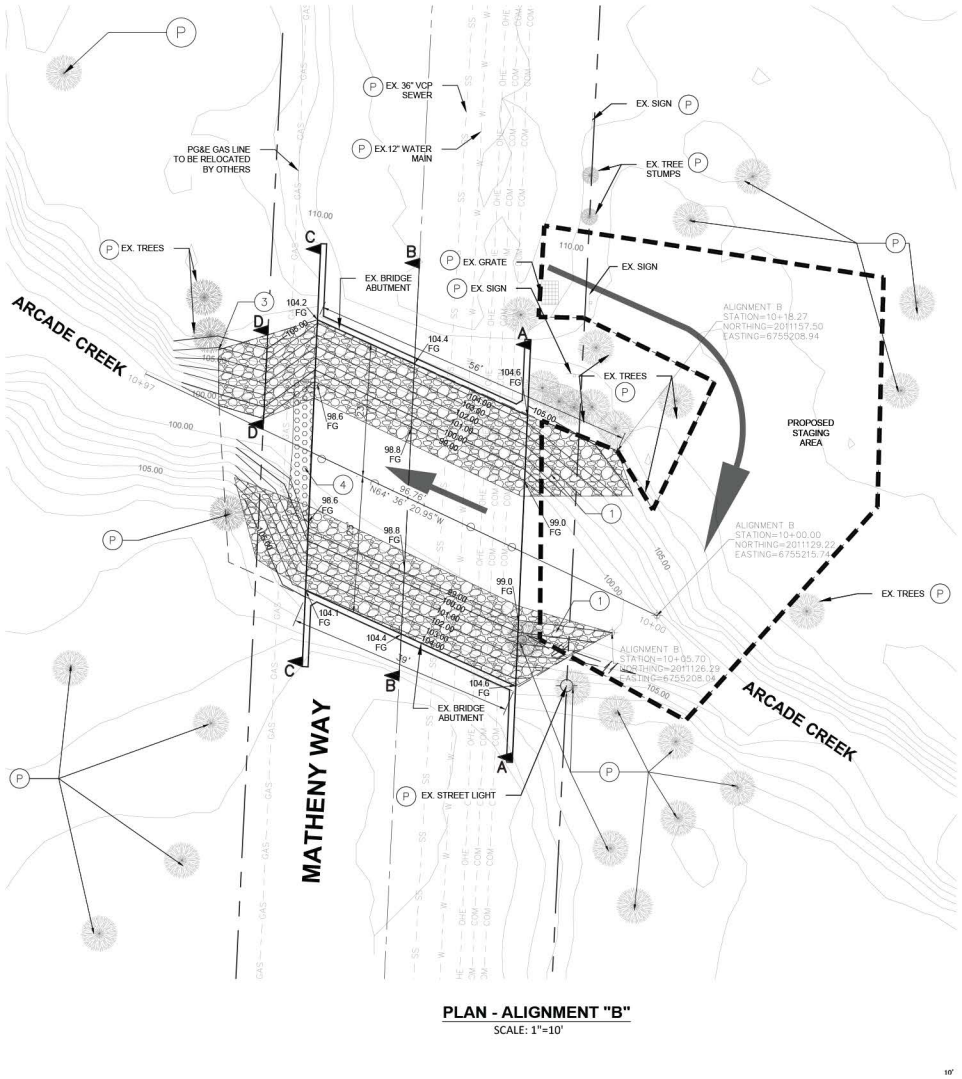
T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\Planning\Fig3a_SitePlan_20260220.indd ABC-01 04/17/17 -I!

Source:CWE, 2026

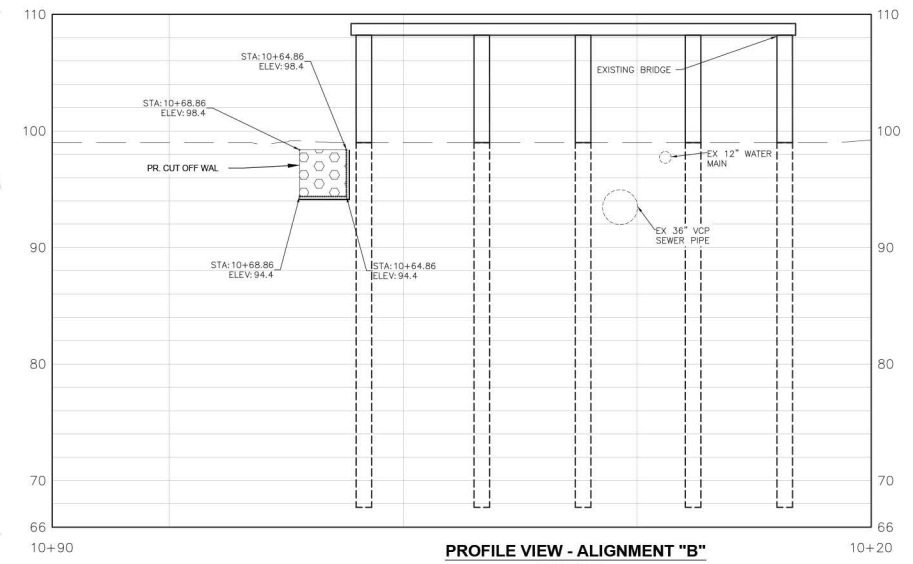
HELIX Environmental Planning

Indian River Bridge Site Plan

Figure 3a



PLAN - ALIGNMENT "B"
SCALE: 1"=10'



PROFILE VIEW - ALIGNMENT "B"
HORIZ: 1"=5'
VERT: 1"=5'

ROCK GRADATION TABLES

GRADATION TABLES	
STANDARD ROCK SIZE,or ROCK MASS, or ROCK WEIGHT (US UNIT)	PERCENT LARGER THAN
	300 LB
8 TON	
4 TON	
2 TON	
1 TON	
½ TON	
¼ TON	0–5
300 LB	50–100
75 LB	–
25 LB	95–100

LEGEND

- RIGHT OF WAY
- ROAD CENTERLINE
- EX. CONTOURS
- LIMITS OF IMPAPCT
- PROPOSED STAGING AREA
- PROPOSED ACCESS
- EXISTING TREES
- PROPOSED RIPRAP
- TOE DOWN RIPRAP

RIPRAP SIZE

(1) 300 LB ROCK (1.25 FT; METHOD OF PLACEMENT 'B')

NOTE:

SEE PROFILE SHEETS FOR RIPRAP ROCK STATIONS AND ELEVATIONS

CONSTRUCTION NOTES

(P) PROTECT.
(1) ROCK RIP RAP PROTECTION PER GRADATION, PLAN, AND DETAILS.
(3) COVER ROOTS IN SOIL BEFORE PLACING RIP RAP.
(4) CUTOFF WALL

10' 5' 0 5' 10'

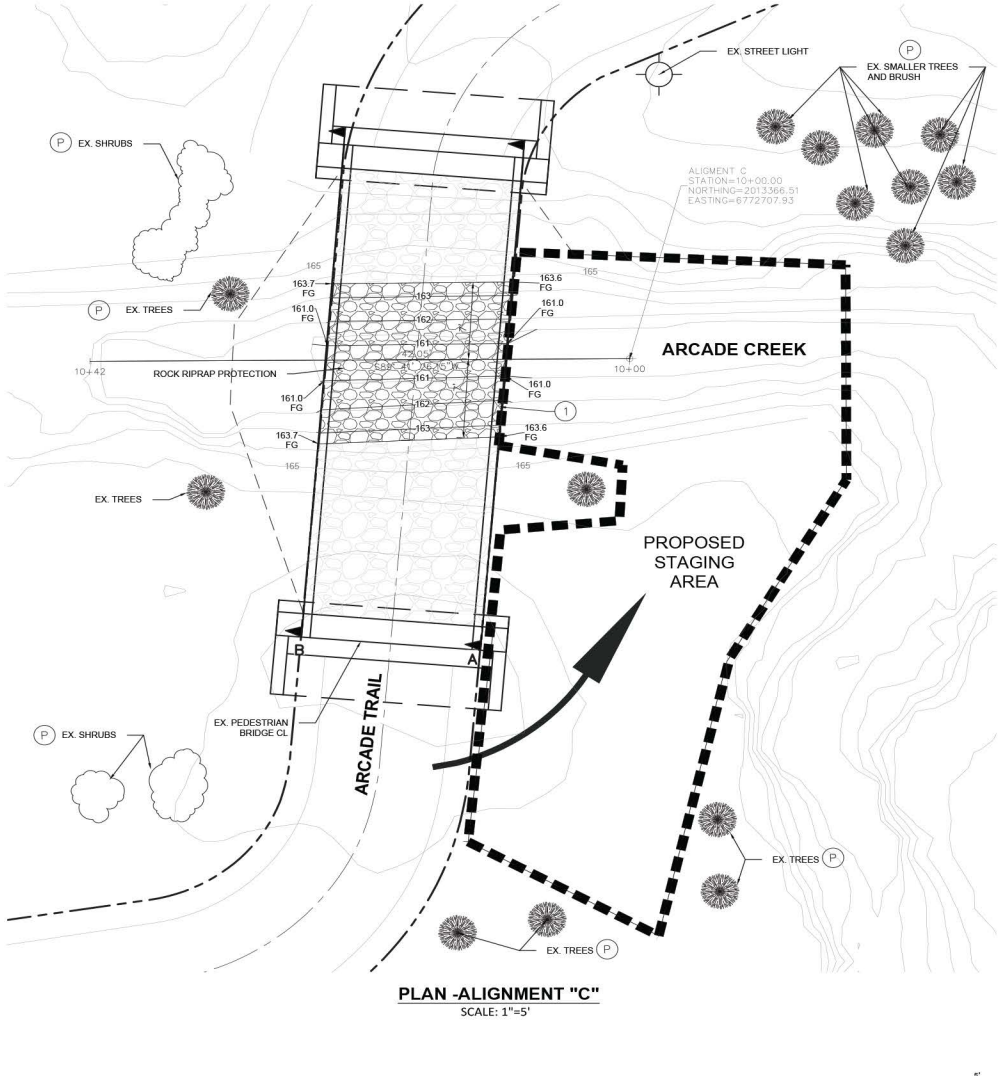
T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\Planning\Fig3b_SitePlan_20260220.indd ABC-01 04/17/17 -I!

Source:CWE, 2026

HELIX Environmental Planning

Matheny Bridge Site Plan

Figure 3b



PLAN -ALIGNMENT "C"
SCALE: 1"=5'

ROCK GRADATION TABLES

GRADATION TABLES	
STANDARD ROCK SIZE,or ROCK MASS, or ROCK WEIGHT (US UNIT)	PERCENT LARGER THAN
	300 LB
8 TON	
4 TON	
2 TON	
1 TON	
½ TON	
¼ TON	0–5
300 LB	50–100
75 LB	–
25 LB	95–100

RIPRAP SIZE

(1) 300 LB ROCK (1.25 FT; METHOD OF PLACEMENT 'B')

NOTE:

SEE PROFILE SHEETS FOR RIPRAP ROCK STATIONS AND ELEVATIONS

LEGEND

- RIGHT OF WAY
- ROAD CENTERLINE
- EX. CONTOURS
- LIMITS OF IMPACT
- PROPOSED STAGING AREA
- PROPOSED ACCESS
- EXISTING TREES
- PROPOSED RIPRAP
- EXISTING RIPRAP

CONSTRUCTION NOTES

(P) PROTECT.

(1) ROCK RIP RAP PROTECTION PER PLAN, DETAILS, AND SPECIFICATION.

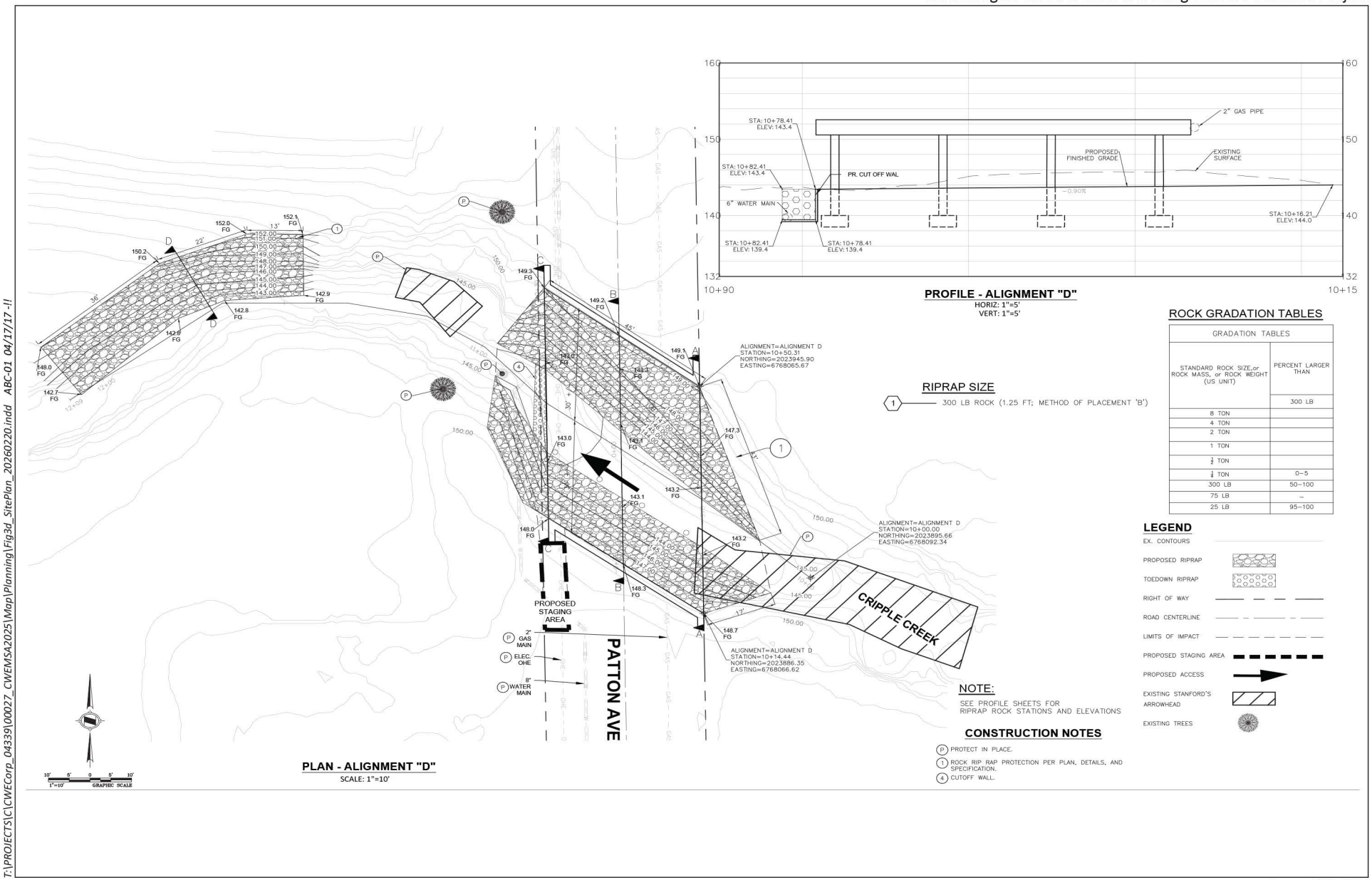
T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\Planning\Fig3c_SitePlan_20260220.indd ABC-01 04/17/17 -!!

Source:CWE, 2026

HELIX Environmental Planning

Sundance Bridge Site Plan

Figure 3c



T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\Planning\Fig3d_SitePlan_20260220.indd ABC-01 04/17/17 -I!

Source:CWE, 2026

HELIX Environmental Planning

Patton Bridge Site Plan

Figure 3d

Appendix B

CalEEMod Output Report

Citrus Heights Creek Erosion v2 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

2.2.2. Onsite Construction Emissions by Year, Unmitigated

2.2.3. Offsite Construction Emissions by Year, Unmitigated

3. Construction Emissions Details

3.1. Dewatering Prep (2026)

3.1.1. Onsite - Unmitigated

3.1.2. Offsite - Unmitigated

3.2. Dewatering (2026)

3.2.1. Onsite - Unmitigated

3.2.2. Offsite - Unmitigated

3.3. Excavation (2026)

3.3.1. Onsite - Unmitigated

3.3.2. Offsite - Unmitigated

3.4. Protection Placement (2026)

3.4.1. Onsite - Unmitigated

3.4.2. Offsite - Unmitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

8.1. Justifications

8.4. Construction

8.4.2. Off-Road Equipment

8.4.4. Dust from Material Movement

8.4.6. Trips and VMT

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Citrus Heights Creek Erosion v2
Construction Start Date	8/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50000
Precipitation (days)	18.0000
Location	38.683125543693734, -121.32519105478194
County	Sacramento
City	Citrus Heights
Air District	Sacramento Metropolitan AQMD
Air Basin	Sacramento Valley
TAZ	616
EDFZ	13
Electric Utility	Sacramento Municipal Utility District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.42

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Non-Asphalt Surfaces	0.77000	Acre	0.77000	0.00000	0.00000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.26919	16.8813	30.7537	0.07955	0.61687	0.60819	1.22505	0.56911	0.15178	0.72090	9,393.33
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.25654	17.0533	30.2814	0.07955	0.61687	0.60819	1.22505	0.56911	0.15178	0.72090	9,350.25
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.22033	1.64207	2.80397	0.00745	0.05984	0.05299	0.11283	0.05517	0.01310	0.06828	862.524
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04021	0.29968	0.51172	0.00136	0.01092	0.00967	0.02059	0.01007	0.00239	0.01246	142.801

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2026	2.26919	16.8813	30.7537	0.07955	0.61687	0.60819	1.22505	0.56911	0.15178	0.72090	9,393.33

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2026	2.25654	17.0533	30.2814	0.07955	0.61687	0.60819	1.22505	0.56911	0.15178	0.72090	9,350.25
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2026	0.22033	1.64207	2.80397	0.00745	0.05984	0.05299	0.11283	0.05517	0.01310	0.06828	862.524
Annual	—	—	—	—	—	—	—	—	—	—	—
2026	0.04021	0.29968	0.51172	0.00136	0.01092	0.00967	0.02059	0.01007	0.00239	0.01246	142.801

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2026	2.11519	14.9964	28.2475	0.07275	0.59690	0.00197	0.59887	0.54915	0.00030	0.54945	7,901.82
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2026	2.11519	14.9964	28.2475	0.07275	0.59690	0.00158	0.59849	0.54915	0.00024	0.54939	7,901.82
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2026	0.20684	1.48645	2.61512	0.00693	0.05833	0.00015	0.05848	0.05367	0.00002	0.05369	744.687
Annual	—	—	—	—	—	—	—	—	—	—	—
2026	0.03775	0.27128	0.47726	0.00127	0.01065	0.00003	0.01067	0.00979	< 0.000005	0.00980	123.291

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2026	0.15400	1.88488	2.50612	0.00680	0.01996	0.60660	0.62656	0.01996	0.15154	0.17150	1,491.52

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2026	0.14135	2.05692	2.03382	0.00680	0.01996	0.60660	0.62656	0.01996	0.15154	0.17150	1,448.43
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2026	0.01349	0.15562	0.18885	0.00051	0.00150	0.05285	0.05435	0.00150	0.01308	0.01459	117.837
Annual	—	—	—	—	—	—	—	—	—	—	—
2026	0.00246	0.02840	0.03447	0.00009	0.00027	0.00964	0.00992	0.00027	0.00239	0.00266	19.5093

3. Construction Emissions Details

3.1. Dewatering Prep (2026)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28169	9.50294	15.4465	0.05304	0.31341	—	0.31341	0.28834	—	0.28834	5,760.39
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01756	0.13018	0.21160	0.00073	0.00429	—	0.00429	0.00395	—	0.00395	78.9095
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00320	0.02376	0.03862	0.00013	0.00078	—	0.00078	0.00072	—	0.00072	13.0644
Dust From Material Movement	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12812	0.08240	1.80285	0.00000	0.00000	0.32331	0.32331	0.00000	0.07578	0.07578	361.174
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00158	0.00129	0.01852	0.00000	0.00000	0.00438	0.00438	0.00000	0.00103	0.00103	4.50839
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00029	0.00023	0.00338	0.00000	0.00000	0.00080	0.00080	0.00000	0.00019	0.00019	0.74641
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Dewatering (2026)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56326	4.51472	2.98587	0.00828	0.18180	—	0.18180	0.16725	—	0.16725	595.432
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01543	0.12369	0.08180	0.00023	0.00498	—	0.00498	0.00458	—	0.00458	16.3132
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00282	0.02257	0.01493	0.00004	0.00091	—	0.00091	0.00084	—	0.00084	2.70084
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01601	0.01030	0.22536	0.00000	0.00000	0.04041	0.04041	0.00000	0.00947	0.00947	45.1468
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00040	0.00032	0.00463	0.00000	0.00000	0.00109	0.00109	0.00000	0.00026	0.00026	1.12710
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00007	0.00006	0.00085	0.00000	0.00000	0.00020	0.00020	0.00000	0.00005	0.00005	0.18660
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Excavation (2026)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.11519	14.9964	28.2475	0.07275	0.59690	—	0.59690	0.54915	—	0.54915	7,901.82
Dust From Material Movement	—	—	—	—	—	0.00197	0.00197	—	0.00030	0.00030	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08693	0.61629	1.16086	0.00299	0.02453	—	0.02453	0.02257	—	0.02257	324.732
Dust From Material Movement	—	—	—	—	—	0.00008	0.00008	—	0.00001	0.00001	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01586	0.11247	0.21186	0.00055	0.00448	—	0.00448	0.00412	—	0.00412	53.7631

Dust From Material Movement	—	—	—	—	—	0.00001	0.00001	—	< 0.000005	< 0.000005	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12812	0.08240	1.80285	0.00000	0.00000	0.32331	0.32331	0.00000	0.07578	0.07578	361.174
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.02400	1.56182	0.62069	0.00573	0.01664	0.23479	0.25143	0.01664	0.06279	0.07942	944.054
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00474	0.00386	0.05556	0.00000	0.00000	0.01313	0.01313	0.00000	0.00308	0.00308	13.5252
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00098	0.06784	0.02560	0.00024	0.00068	0.00957	0.01025	0.00068	0.00256	0.00324	38.7519
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00087	0.00070	0.01014	0.00000	0.00000	0.00240	0.00240	0.00000	0.00056	0.00056	2.23924
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00018	0.01238	0.00467	0.00004	0.00012	0.00175	0.00187	0.00012	0.00047	0.00059	6.41582

3.4. Protection Placement (2026)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.11519	14.9964	28.2475	0.07275	0.59690	—	0.59690	0.54915	—	0.54915	7,901.82
Dust From Material Movement	—	—	—	—	—	0.00158	0.00158	—	0.00024	0.00024	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.11519	14.9964	28.2475	0.07275	0.59690	—	0.59690	0.54915	—	0.54915	7,901.82
Dust From Material Movement	—	—	—	—	—	0.00158	0.00158	—	0.00024	0.00024	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08693	0.61629	1.16086	0.00299	0.02453	—	0.02453	0.02257	—	0.02257	324.732
Dust From Material Movement	—	—	—	—	—	0.00007	0.00007	—	0.00001	0.00001	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01586	0.11247	0.21186	0.00055	0.00448	—	0.00448	0.00412	—	0.00412	53.7631
Dust From Material Movement	—	—	—	—	—	0.00001	0.00001	—	< 0.000005	< 0.000005	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12812	0.08240	1.80285	0.00000	0.00000	0.32331	0.32331	0.00000	0.07578	0.07578	361.174
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.02588	1.80248	0.70327	0.00680	0.01996	0.28329	0.30325	0.01996	0.07576	0.09572	1,130.34
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11612	0.10681	1.32595	0.00000	0.00000	0.32331	0.32331	0.00000	0.07578	0.07578	320.339
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.02523	1.95011	0.70787	0.00680	0.01996	0.28329	0.30325	0.01996	0.07576	0.09572	1,128.09
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00474	0.00386	0.05556	0.00000	0.00000	0.01313	0.01313	0.00000	0.00308	0.00308	13.5252
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00105	0.07846	0.02897	0.00028	0.00082	0.01154	0.01236	0.00082	0.00309	0.00391	46.3992
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00087	0.00070	0.01014	0.00000	0.00000	0.00240	0.00240	0.00000	0.00056	0.00056	2.23924
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00019	0.01432	0.00529	0.00005	0.00015	0.00211	0.00226	0.00015	0.00056	0.00071	7.68192

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Dewatering Prep	Site Preparation	8/1/2026	8/7/2026	5.00000	5.00000	—
Dewatering	Trenching	8/8/2026	8/21/2026	5.00000	10.00000	—
Excavation	Trenching	8/22/2026	9/11/2026	5.00000	15.0000	—
Protection Placement	Trenching	9/12/2026	10/2/2026	5.00000	15.0000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Dewatering Prep	Excavators	Diesel	Average	4.00000	8.00000	346.000	0.37000
Dewatering Prep	Skid Steer Loaders	Diesel	Average	4.00000	8.00000	71.0000	0.37000
Dewatering	Generator Sets	Diesel	Average	4.00000	8.00000	20.0000	0.74000
Excavation	Excavators	Diesel	Average	4.00000	8.00000	346.000	0.38000
Excavation	Rubber Tired Loaders	Diesel	Average	4.00000	8.00000	150.000	0.36000
Excavation	Skid Steer Loaders	Diesel	Average	4.00000	8.00000	71.0000	0.37000
Protection Placement	Excavators	Diesel	Average	4.00000	8.00000	346.000	0.38000
Protection Placement	Rubber Tired Loaders	Diesel	Average	4.00000	8.00000	150.000	0.36000
Protection Placement	Skid Steer Loaders	Diesel	Average	4.00000	8.00000	71.0000	0.37000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Dewatering Prep	Worker	32.0000	14.3000	LDA,LDT1,LDT2
Dewatering Prep	Vendor	—	8.80000	HHDT,MHDT
Dewatering Prep	Hauling	0.00000	20.0000	HHDT
Dewatering Prep	Onsite truck	—	—	HHDT
Dewatering	Worker	4.00000	14.3000	LDA,LDT1,LDT2
Dewatering	Vendor	—	8.80000	HHDT,MHDT
Dewatering	Hauling	0.00000	20.0000	HHDT
Dewatering	Onsite truck	—	—	HHDT
Excavation	Worker	32.0000	14.3000	LDA,LDT1,LDT2
Excavation	Vendor	—	8.80000	HHDT,MHDT

Excavation	Hauling	12.3700	20.0000	HHDT
Excavation	Onsite truck	—	—	HHDT
Protection Placement	Worker	32.0000	14.3000	LDA,LDT1,LDT2
Protection Placement	Vendor	—	8.80000	HHDT,MHDT
Protection Placement	Hauling	9.95000	30.0000	HHDT
Protection Placement	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Dewatering Prep	—	—	0.00000	0.00000	0.00000
Excavation	—	928.000	0.00000	0.00000	0.00000
Protection Placement	746.000	—	0.00000	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00000	374.840	0.01290	0.00170

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	24.1300	annual days of extreme heat
Extreme Precipitation	6.45000	annual days with precipitation above 20 mm

Sea Level Rise	—	meters of inundation depth
Wildfire	0.69000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3

Extreme Precipitation	2	1	1	3
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	62.5264
AQ-PM	28.5874
AQ-DPM	75.1836
Drinking Water	83.2272
Lead Risk Housing	37.9458
Pesticides	0.00000
Toxic Releases	18.7172
Traffic	92.4250
Effect Indicators	—

CleanUp Sites	0.00000
Groundwater	52.0339
Haz Waste Facilities/Generators	45.7313
Impaired Water Bodies	58.6938
Solid Waste	0.00000
Sensitive Population	—
Asthma	76.1964
Cardio-vascular	65.8400
Low Birth Weights	82.6148
Socioeconomic Factor Indicators	—
Education	29.2964
Housing	49.0241
Linguistic	26.4041
Poverty	63.5176
Unemployment	—

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	40.92133966
Employed	33.01680996
Median HI	19.4661876
Education	—
Bachelor's or higher	39.89477736
High school enrollment	0.628769408
Preschool enrollment	48.90286154
Transportation	—

Auto Access	32.25972026
Active commuting	39.02219941
Social	—
2-parent households	29.41100988
Voting	58.4370589
Neighborhood	—
Alcohol availability	52.0082125
Park access	41.84524573
Retail density	63.63403054
Supermarket access	49.13383806
Tree canopy	91.17156422
Housing	—
Homeownership	47.83780316
Housing habitability	57.79545746
Low-inc homeowner severe housing cost burden	76.05543436
Low-inc renter severe housing cost burden	37.90581291
Uncrowded housing	67.80443988
Health Outcomes	—
Insured adults	57.69280123
Arthritis	1.9
Asthma ER Admissions	28.7
High Blood Pressure	4.2
Cancer (excluding skin)	6.6
Asthma	12.1
Coronary Heart Disease	2.7
Chronic Obstructive Pulmonary Disease	2.6
Diagnosed Diabetes	22.3
Life Expectancy at Birth	17.2

Cognitively Disabled	10.2
Physically Disabled	4.5
Heart Attack ER Admissions	46.8
Mental Health Not Good	31.0
Chronic Kidney Disease	7.4
Obesity	25.8
Pedestrian Injuries	97.2
Physical Health Not Good	23.1
Stroke	6.5
Health Risk Behaviors	—
Binge Drinking	68.3
Current Smoker	16.7
No Leisure Time for Physical Activity	46.3
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	20.9
Elderly	10.8
English Speaking	74.0
Foreign-born	10.0
Outdoor Workers	40.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	54.8
Traffic Density	85.6
Traffic Access	61.8
Other Indices	—
Hardship	47.5
Other Decision Support	—

2016 Voting	47.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	63.0000
Healthy Places Index Score for Project Location (b)	21.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	Schedule per project engineer. Construction for all bridge sites assumed to occur concurrently.
Construction: Off-Road Equipment	Equipment estimated based on material export/import and disturbed area. Includes four sets of equipment assuming construction at each bridge site would occur concurrently. Excavators assumed to be long reach, such as a CAT 340 (346 hp).
Construction: Dust From Material Movement	Material Import/Export per project engineer.

Construction: Trips and VMT	Truck trips per project engineer, assumes 10 CY per truck load. 30 mile one way haul distance for import of scour protection material per project engineer. Crew size assumed to be 2 for all sites during dewatering pumping (4 worker commute trips per day) and 4 per site (16 workers total) for all other activities (32 worker commute trips per day).

8.4. Construction

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Dewatering Prep	Excavators	Number per Day	1.000000	4.00000
Dewatering Prep	Excavators	Horsepower	84.0000	346.000
Dewatering Prep	Skid Steer Loaders	Number per Day	1.000000	4.00000
Dewatering	Generator Sets	Hours Per Day	24.0000	8.00000
Excavation	Excavators	Horsepower	36.0000	346.000
Excavation	Rubber Tired Loaders	Number per Day	1.000000	4.00000
Protection Placement	Excavators	Horsepower	36.0000	346.000

8.4.4. Dust from Material Movement

Phase Name	Model Parameter	Units	Default Value	New Value
Excavation	Material Exported	Cubic Yards	1,320.00	928.000
Protection Placement	Material Imported	Cubic Yards	560.000	746.000

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Dewatering Prep	Worker	One-Way Trips per Day	20.0000	32.0000
Dewatering	Worker	One-Way Trips per Day	10.00000	4.00000
Excavation	Worker	One-Way Trips per Day	30.0000	32.0000
Excavation	Hauling	One-Way Trips per Day	7.73333	12.3700
Protection Placement	Worker	One-Way Trips per Day	30.0000	32.0000

Protection Placement	Hauling	One-Way Trips per Day	6.26667	9.95000
Protection Placement	Hauling	Miles per Trip	20.0000	30.0000

Appendix C

Biological Resources Assessment

HELIX Environmental Planning

Citrus Heights Creek Erosion and Bridge Scour Protection Project

Biological Resources Assessment

May 2026 | 04339.00027.001

Prepared for:

City of Citrus Heights
6360 Fountain Square Drive
Citrus Heights, CA 95621

Prepared by:

HELIX Environmental Planning, Inc.
1180 Iron Point Road, Suite 130
Folsom, CA 95630

This page intentionally left blank

TABLE OF CONTENTS

Section **Page**

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1

1.1 Project Location 1
1.2 Project Description 1
1.1.1 Indian River Bridge 2
1.1.2 Matheny Bridge 2
1.1.3 Sundance Bridge (Arcade-Cripple Creek Trail Bridge) 2
1.1.4 Patton Bridge 3
1.2 Project Construction 3
1.2.1 Construction Staging Areas 3
1.2.2 Construction Schedule and Activities 4

2.0 REGULATORY SETTING 4

2.1 Federal Regulations 4
2.1.1 Federal Endangered Species Act 4
2.1.2 Migratory Bird Treaty Act 5
2.1.3 The Bald and Golden Eagle Protection Act 5
2.2 State Jurisdiction 5
2.2.1 California Endangered Species Act 5
2.2.2 California Department of Fish and Game Codes 5
2.2.3 Native Plant Protection Act 6
2.2.4 California Environmental Quality Act 6
2.3 Jurisdictional Waters 6
2.3.1 Federal Jurisdiction 6
2.3.2 State Jurisdiction 7
2.4 CEQA Significance 9
2.4.1 California Native Plant Society 9
2.4.2 California Department of Fish and Wildlife Species of Concern 10
2.5 Local Regulations 10
2.5.1 City of Citrus Heights General Plan 10
2.5.2 City of Citrus Heights Tree Preservation and Protection Regulations 12
2.5.3 Sacramento County Native Trees and Other Protected Trees 13

3.0 METHODS 14

3.1 Database and Literature Review 14
3.2 Biological Surveys 15
3.3 Tree Inventory 16

4.0 RESULTS 16

4.1 Site Location and Description 16

TABLE OF CONTENTS (cont.)

Section **Page**

4.2 Physical Features 17
4.2.1 Topography and Drainage 17
4.2.2 Soils 18
4.2.3 Climate 18
4.3 Vegetation Communities 19
4.3.1 Valley Oak Woodland 19
4.3.2 Developed 19
4.3.3 Disturbed/Ruderal 20
4.4 Special-Status Species 20
4.4.1 Listed and Special-Status Plants 21
4.4.2 Listed and Special-Status Wildlife 22
4.5 Sensitive Habitats 28
4.5.1 Aquatic Habitats 28
4.5.2 Protected Trees 30
4.5.3 Wildlife Migration Corridors 31
5.0 CONCLUSIONS AND RECOMMENDATIONS 31
5.1 Special-Status Plants 32
5.2 Special-Status Reptiles 33
5.3 Special-Status Birds and Nesting Migratory Birds and Raptors 34
5.4 Special-Status Mammals 35
5.5 Worker Environmental Awareness Training 35
5.6 Protected Trees 36
5.7 Aquatic Resources 36
5.8 Summary of Avoidance and Minimization Measures 37
6.0 REFERENCES 38

LIST OF APPENDICES

A CNDDB, CNPS, and USFWS Lists of Regionally Occurring Special-Status Species
B Potential for Special-Status Species in the Region to Occur in the Study Area
C Plant and Wildlife Species Observed in the Study Area
D Representative Photographs

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

No.	Title	Follows Page
1	Site and Vicinity Map	2
2	USGS Topographic Map	2
3a-c	Aerial Map	2
4a-c	Soils Map	18
5a-c	Biological Communities Map	20
6a-c	Impact Area Map	32

LIST OF TABLES

No.	Title	Page
1	Tree Inventory	30

This page intentionally left blank

ACRONYMS AND ABBREVIATIONS

AMSL	Above Mean Sea Level
APN	Assessor's Parcel Number
BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CSA	California Special Animal
CWA	Clean Water Act
DBH	Diameter at Breast Height
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
GPS	Global Positioning System
HELIX	HELIX Environmental Planning, Inc.
HCP	Habitat Conservation Plan
HUC	Hydrologic Unit Code
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPDES	National Pollution Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	Species of Special Concern
SWRCB	State Water Resources Control Board

ACRONYMS AND ABBREVIATIONS (cont.)

USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water Quality Certification

EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) prepared a Biological Resources Assessment (BRA) for the Citrus Heights Creek Erosion and Bridge Scour Protection Project (project) located in the City of Citrus Heights, Sacramento County, California. The 16.76-acre Study Area is comprised of three separate areas encompassing four bridges that cross either Arcade Creek or Cripple Creek: the Indian River Bridge and Matheny Bridge Study Area (11.12 acres), the Arcade-Cripple Creek Trail Study Area (or referred to as the Sundance Bridge Study Area; 4.45 acres), and the Patton Bridge Study Area (1.19 acres). The Indian River Bridge and Matheny Bridge Study Area and the Sundance Bridge Study Area were assessed in the field on July 10, 2025, and the Patton Bridge Study Area was assessed in the field on December 4, 2025.

The purpose of this BRA is to assess general biological resources that occur within the Study Area, the suitability of habitats to support special-status plant and wildlife species, the presence of sensitive vegetation communities and/or habitats, and to provide recommendations for reducing potential impacts to special-status species and/or sensitive communities as well as regulatory permitting that may be required to facilitate the initiation of construction activities planned for the Study Area.

Biological communities present within the Study Area include valley oak woodland, ruderal/disturbed, developed, intermittent drainage, and ephemeral drainage. The Study Area generally follows the corridors of Arcade and Cripple Creeks and is bound by residential and commercial development.

The total project impact area, or project area, would be approximately 0.43 acre, with the Indian River Bridge impact area totaling 0.27 acre, the Matheny Bridge project impact area totaling 0.14 acre, the Sundance Bridge project impact area totaling 0.04 acre, and the Patton Bridge project impact area totaling 0.12 acre.

Known or potential biological constraints in the Study Area include the following:

- Occupied and suitable habitat for special-status plants including Sanford's arrowhead (*Sagittaria sanfordii*);
- Suitable habitat for special-status reptiles including northwestern pond turtle (*Actinemys marmorata*);
- Suitable habitat for special-status and migratory birds and raptors including Cooper's hawk (*Astur cooperii*), Swainson's hawk (*Buteo swainsoni*), and white-tailed kite (*Elanus leucurus*);
- Suitable habitat for special-status bats including pallid bat (*Antrozous pallidus*);
- Trees protected by the City of Citrus Heights; and
- Aquatic resources that may be considered waters of the U.S. and/or State.

This page intentionally left blank

1.0 INTRODUCTION

This report summarizes the findings of a Biological Resources Assessment (BRA) completed by HELIX Environmental Planning, Inc. (HELIX) for the Citrus Heights Creek Erosion and Bridge Scour Protection Project (project) located in the City of Citrus Heights (City), Sacramento County, California. The 16.76-acre Study Area is comprised of three separate areas encompassing four bridges that cross either Arcade Creek or Cripple Creek: the Indian River Bridge and Matheny Bridge Study Area (11.12 acres), the Arcade-Cripple Creek Trail Study Area (or referred to as the Sundance Bridge Study Area; 4.45 acres), and the Patton Bridge Study Area (1.19 acres). Although the total Study Area is conservatively estimated to be 16.76 acres, project construction and the impact area would be primarily limited to the immediate vicinity of each respective bridge.

This document addresses physical features, plant communities present, and common plant and wildlife species occurring or potentially occurring in the total Study Area. Habitats within the Study Area are assessed for their suitability to support special-status species, sensitive habitats are identified and quantified, and recommendations are provided for regulatory permitting and/or further analysis required before development activities.

1.1 PROJECT LOCATION

The 16.76-acre Study Area is separated into three areas: the Indian River Bridge and Matheny Bridge Study Area is located north of Greenback Lane and are approximately 0.5 mile east of Interstate 80 (I-80) along the Arcade and Cripple creeks corridor. This area encompasses both the Indian River Bridge and Matheny Bridge as well as the creek corridor upstream and downstream of each bridge to comprise a Study Area of 11.12 acres. The Sundance Bridge Study Area is directly east of Fair Oaks Boulevard within Sundance Natural Area, or called Sundance Park. This area encompasses the creek corridor upstream and downstream of the bridge to comprise a Study Area of 4.45 acres. The Patton Bridge Study Area is west of Sunrise Boulevard and approximately 350 feet south of Twin Oaks Boulevard along the Cripple Creek corridor. This area encompasses the creek corridor upstream and downstream of the bridge to comprise a Study Area of 1.19 acres. The Study Areas are situated in Township 10 North, Ranges 6 and 7 East, and Sections 13, 25, 30, and 33, and are depicted on the U.S. Geological Survey (USGS) *Citrus Heights*, *CA* 7.5-minute quadrangle map. See Figure 1, *Site and Vicinity Map*, for a site and vicinity map and Figure 2, *USGS Topographic Map*, for a topographic map.

1.2 PROJECT DESCRIPTION

The project would include creek channel and slope stabilization underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge where natural erosion is impacting existing public infrastructure and inhibiting City maintenance activities. A detailed description of proposed Project activities at each bridge is outlined below. See Figures 3a-c, *Aerial Map*, for aerial maps of the bridges.

1.1.1 Indian River Bridge

Project activities at the Indian River Bridge impact area would include installation of rock slope protection. The project would place rock slope protection in the form of Class IV[1] stones used as rip rap on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel. Rip rap would be placed on the embankments of Arcade Creek from the existing rip rap to the edge of the abutment walls. The total project impact area at Indian River Bridge would be 0.27 acre.

The project would also include the removal of an abandoned Consolidated Communications (CCI) and Comcast joint trench with exposed conduits in the creek bed. The proposed project would include slope restoration on the west, or downstream, side of the abandoned joint trench.

The Indian River Bridge impact area would be accessed from Indian River Drive. Tree removal is anticipated for the proposed project activities at Indian River Bridge. See Figure 3a for an aerial map of Indian River Bridge.

1.1.2 Matheny Bridge

Project activities at the Matheny Bridge impact area would include installation of rock slope protection. The project would place rock slope protection in the form of Class I[2], II[3], or IV stones used as rip rap on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel. Rip rap would be placed on the embankments of Arcade Creek from the existing rip rap to the edge of the abutment walls. The total project impact area at Matheny Bridge would be 0.14 acre.

The proposed project activities would require the coordination with Pacific Gas and Electric (PG&E) and the City to relocate existing exposed inactive and active gas lines.

The Matheny Bridge impact area would be accessed from Matheny Way. Tree removal is anticipated for the proposed project activities at Matheny Bridge. See Figure 3a for an aerial map of Matheny Bridge.

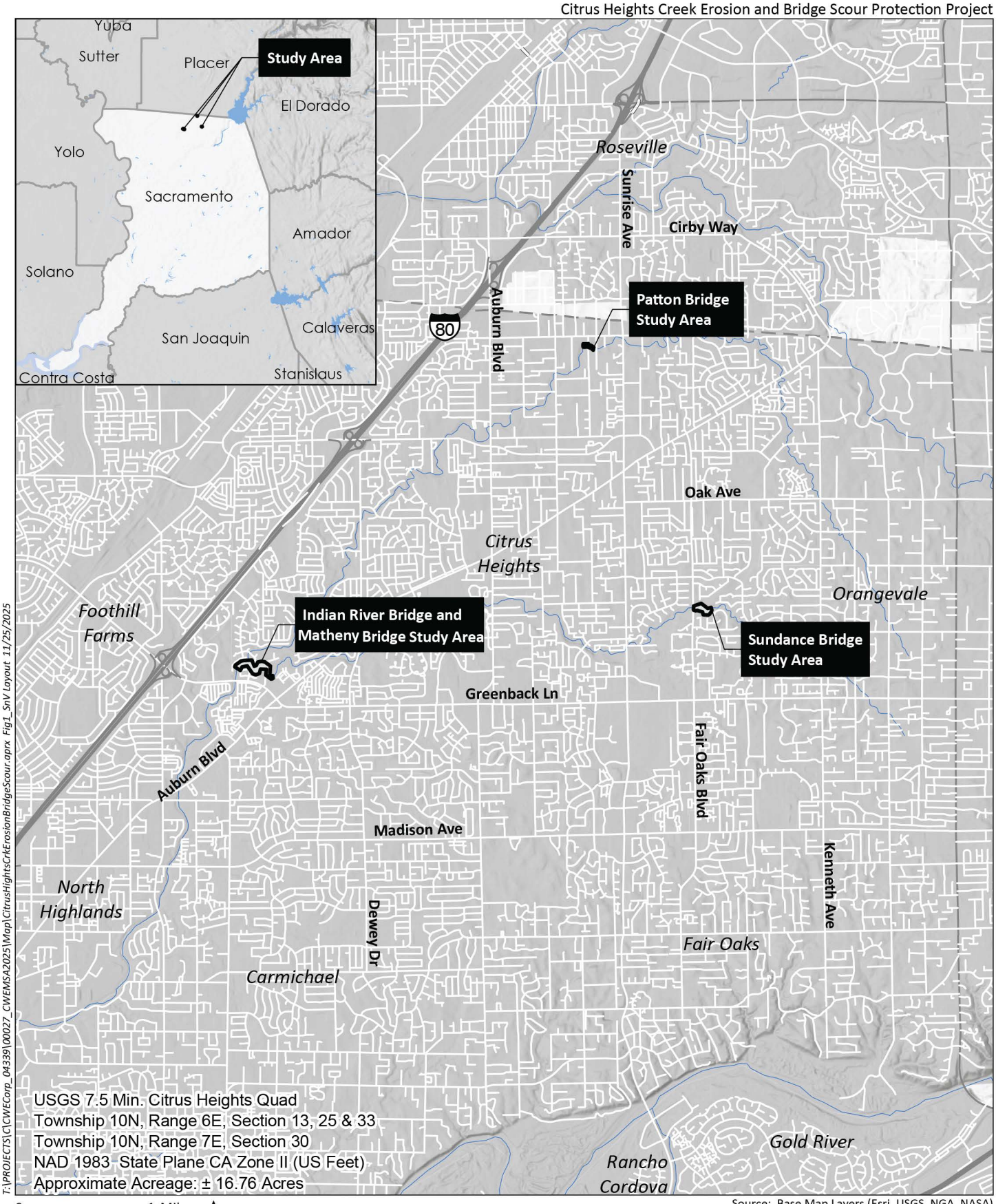
1.1.3 Sundance Bridge (Arcade-Cripple Creek Trail Bridge)

Project activities at the Sundance Bridge impact area would include installation of rock slope protection. The project would place rock slope protection in the form of Class I or II stones used as rip rap on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel. Rip rap would be placed on the embankments of Arcade Creek from the existing rip rap to the edge of the abutment walls. The total project impact area at Sundance Bridge would be 0.04 acre.

[1] Class IV stones refer to 300 pound weighted rocks, as designated by Caltrans Rock Slope Protection (RSP) Guidelines. Available at: https://dot.ca.gov/-/media/dot-media/programs/design/documents/f0002770-2016-07-15-implementation-of-rsp-design-a11y.pdf.

[2] Class I stones refer to 20 pound weighted rocks, as designated by Caltrans Rock Slope Protection (RSP) Guidelines. Available at: https://dot.ca.gov/-/media/dot-media/programs/design/documents/f0002770-2016-07-15-implementation-of-rsp-design-a11y.pdf.

[3] Class II stones refer to 60 pound weighted rocks, as designated by Caltrans Rock Slope Protection (RSP) Guidelines. Available at: https://dot.ca.gov/-/media/dot-media/programs/design/documents/f0002770-2016-07-15-implementation-of-rsp-design-a11y.pdf.



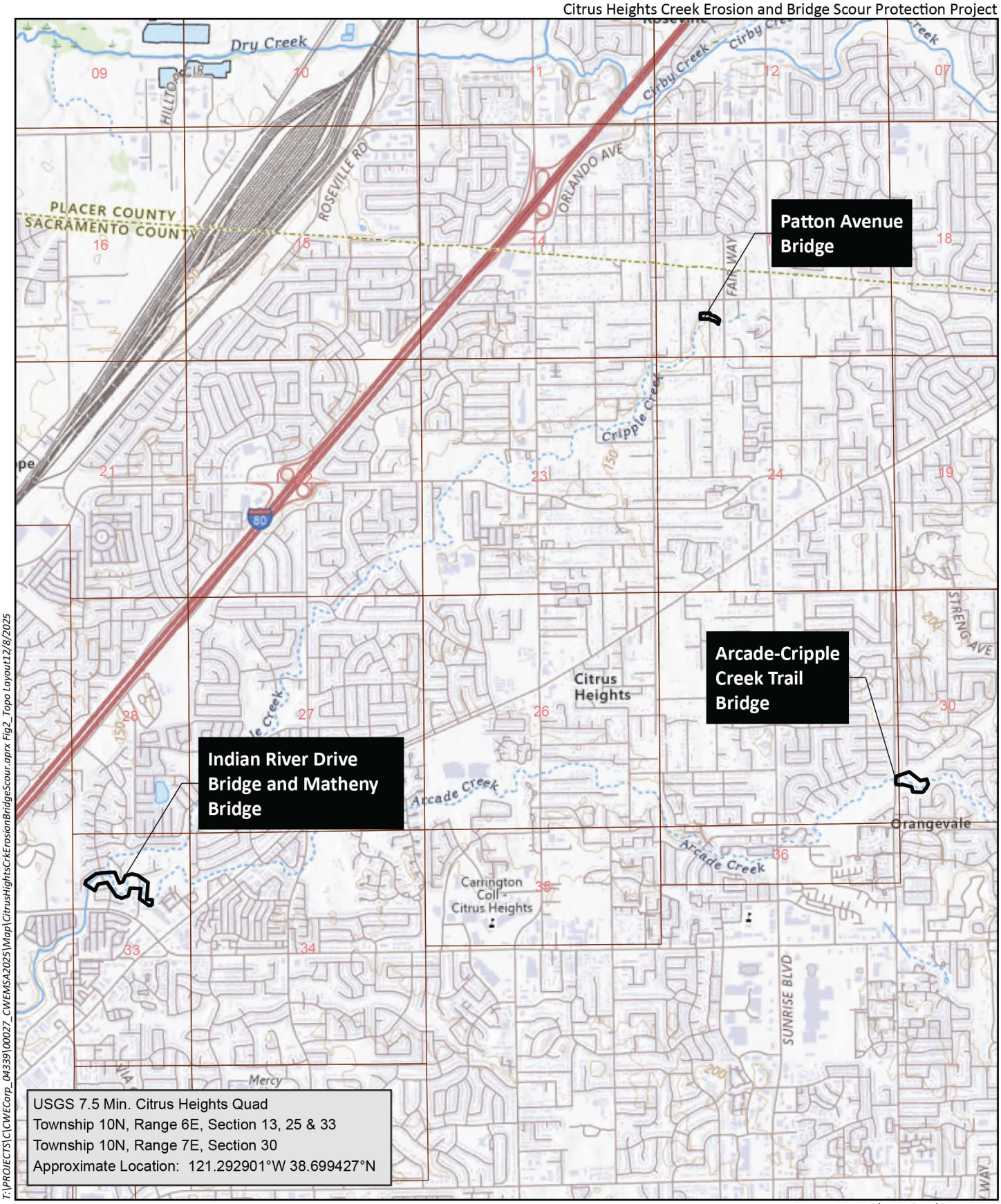
T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig1_SnV Layout 11/25/2025

Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1



USGS 7.5 Min. Citrus Heights Quad
Township 10N, Range 6E, Section 13, 25 & 33
Township 10N, Range 7E, Section 30
Approximate Location: 121.292901°W 38.699427°N

0 3,000 Feet

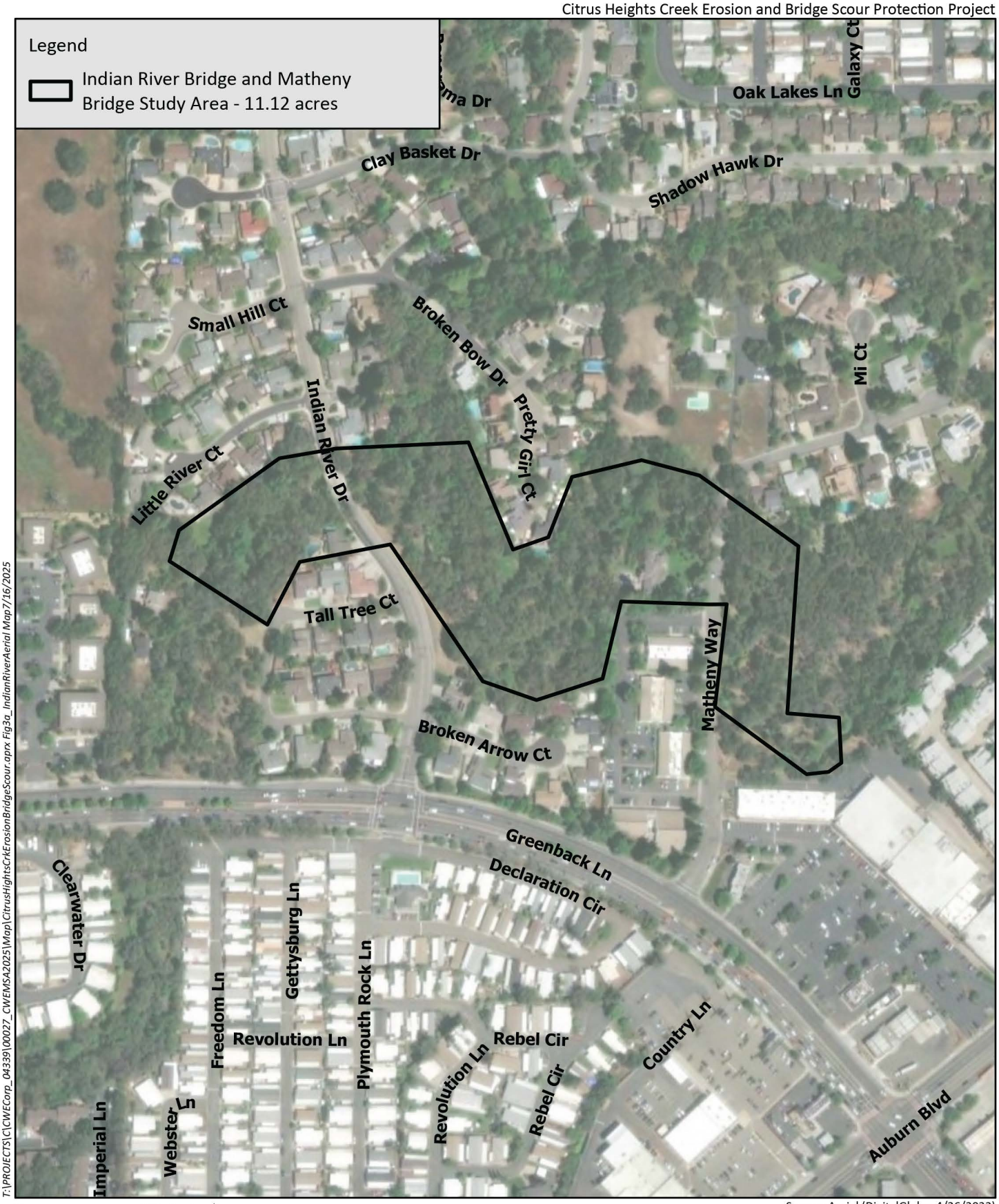
Source: USGS, The National Map, 2025

T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig2_Topo Layout12/8/2025

HELIX Environmental Planning

USGS Topographic Map

Figure 2



T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig3a_IndianRiverAerial Map7/16/2025

Source: Aerial (DigitalGlobe, 4/26/2022)

HELIX Environmental Planning

Aerial Map

Figure 3a

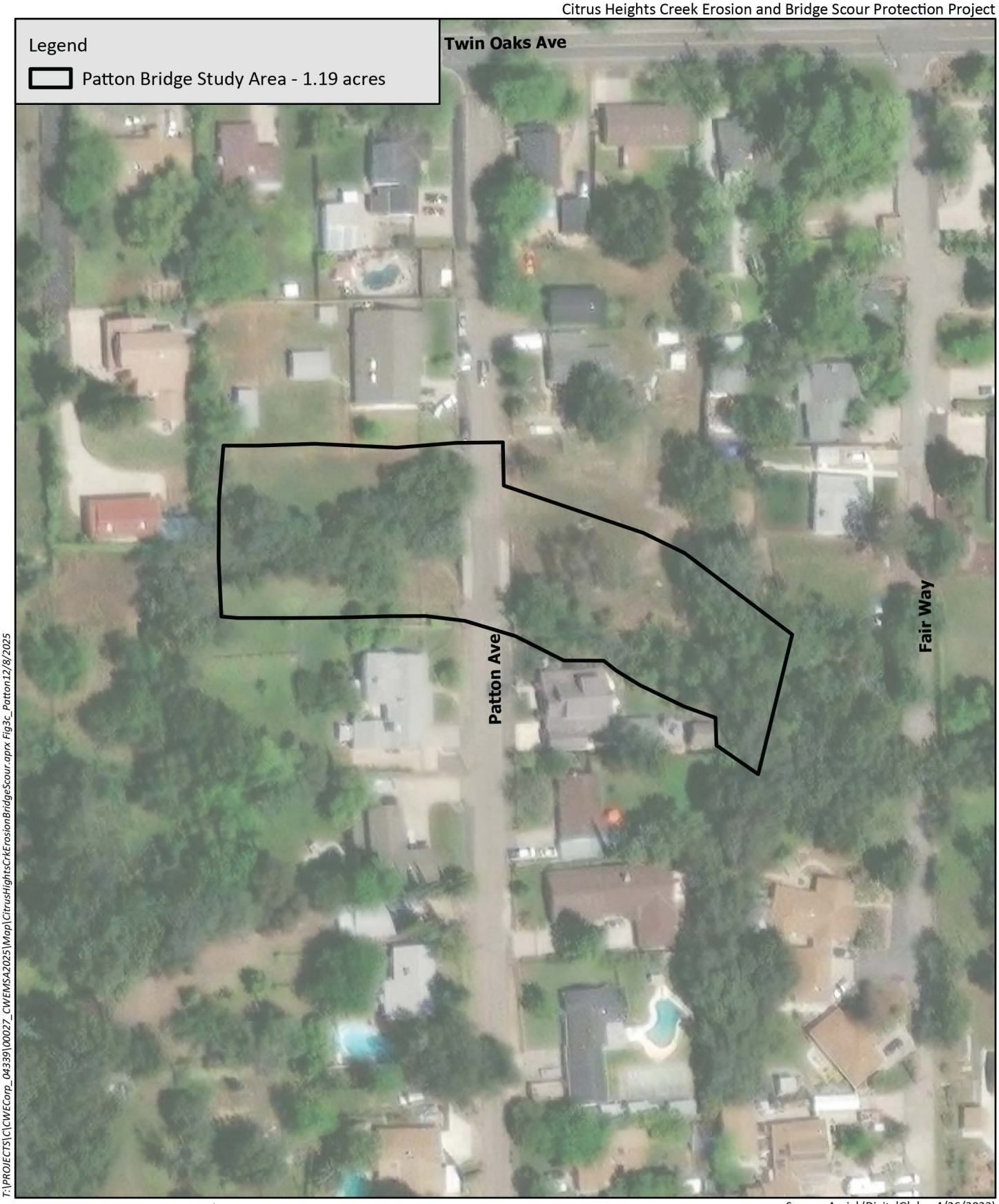


Source: Aerial (DigitalGlobe, 4/26/2022)

HELIX Environmental Planning

Aerial Map

Figure 3b



T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig3c_Patton12/8/2025

Source: Aerial (DigitalGlobe, 4/26/2022)

HELIX Environmental Planning

Aerial Map

Figure 3c

The Sundance Bridge impact area would be accessed from the existing trail in the Sundance Park. Tree removal is not anticipated for the proposed project activities at Sundance Bridge. See Figure 3b for an aerial map of Sundance Bridge.

1.1.4 Patton Bridge

Project activities at the Patton Bridge impact area would include installation of rock slope protection. The project would grade the existing conditions to expose three encompassed existing piers adjacent to the right abutment and fill the existing erosion on the left abutment. The project would also grade the slope of the embankments and place Class I or II stones as rip rap along the embankments. The soil would be replaced with Class IV stones used as rip rap and placed on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel. The total project impact area at Patton Bridge would be 0.12 acre.

The Patton Bridge impact area would be accessed from Patton Avenue. Tree removal is not anticipated for the proposed project activities at Patton Bridge. See Figure 3c for an aerial map of Patton Bridge.

1.2 PROJECT CONSTRUCTION

1.2.1 Construction Staging Areas

Indian River Bridge

Temporary construction vehicle staging for Indian River Bridge would be located on the southeastern side of the bridge and would be accessed from Indian River Drive. No permanent right-of-way (ROW) is anticipated; however, a Temporary Construction Easement (TCE) would be required for contractor access and staging. Indian River Drive is anticipated to remain open during construction. After construction is completed, the Indian River Bridge construction staging area would be re-seeded with a native mix.

Matheny Bridge

Temporary construction vehicle staging for Matheny Bridge would be located along the eastern side of the bridge and would be accessed from the eastern side of Matheny Way. No permanent ROW is anticipated; however, a TCE would be required for contractor access and staging. Matheny Way is anticipated to remain open during construction. After construction is completed, the Matheny Bridge construction staging area would be re-seeded with a native mix.

Sundance Bridge

Temporary construction vehicle staging for Sundance Bridge would be located on eastern side of the bridge and would be accessed from the eastern side of the existing trail. No permanent ROW is anticipated; however, a TCE would be required for contractor access and staging. After construction is completed, the Sundance Bridge construction staging area would be re-seeded with a native mix.

It is anticipated that Sundance Park will remain open during the majority of construction. However, temporary closures for equipment crossings and a flagging escort through the construction zone during heavy construction equipment operations may occur.

Patton Bridge

Temporary construction vehicle staging for Patton Bridge would be located on the shoulders of Patton Avenue within the City ROW. No permanent ROW is anticipated; however, a TCE would be required for contractor access and staging. Patton Avenue is anticipated to remain open during construction. After construction is completed, the Patton Bridge construction staging area would be re-seeded with a native mix.

1.2.2 Construction Schedule and Activities

Construction of the project activities at the four project impact areas is anticipated to commence in August of 2026 and would take approximately nine weeks to complete. It is anticipated that construction activities at the four bridge impact areas would occur concurrently.

Construction activities would include dewatering, excavation, and placement of bridge scour and erosion protection measures. Dewatering operations would occur first and would have an estimated duration of three weeks, after which excavation would begin with an estimated duration of three weeks. Dewatering at each bridge impact area would require one (1), five (5) horsepower (hp) electric submersible pump with a 3-inch discharge powered by a diesel-engine power 480-volt/three phase generator. For excavation of the total project impact area, it is anticipated that construction would require the export of up to a total of 928 CY of debris and soil/aggregate to the Kiefer Landfill. Following excavation, the bridge scour and erosion protection measures would be placed in each project impact area and would also take approximately 3 weeks to complete. It is anticipated that up to 746 CY of erosion protection material from the total project impact area would be imported from the Granite Construction Supply Quarry.

2.0 REGULATORY SETTING

Federal, State, and local environmental laws, regulations, and policies relevant to the California Environmental Quality Act (CEQA) review process are summarized below. The applicable CEQA significance criteria are also included in this section.

2.1 FEDERAL REGULATIONS

2.1.1 Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR Section 17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal

behavior patterns (50 CFR Section 17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed project, FESA consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) would be initiated if development resulted in take of a federally listed species or if issuance of a Clean Water Act Section 404 permit or other federal agency action could result in take of a listed species or adversely modify critical habitat of such a species.

2.1.2 Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by several State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

2.1.3 The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof.*" Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.*"

2.2 STATE JURISDICTION

2.2.1 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with the California Department of Fish and Wildlife (CDFW), when preparing CEQA documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code [FGC] Section 2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC Section 2081).

2.2.2 California Department of Fish and Game Codes

California FGC Sections 3503 and 3800 prohibit the possession, take, or needless destruction of birds, their nests, and eggs, and the salvage of dead nongame birds. California FGC Subsection 3503.5 protects

all birds in the orders of Falconiformes and Strigiformes (birds of prey). FGC Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA. The Attorney General of California has released an opinion that the FGC prohibits incidental take.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants protected under the NPPA. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

2.2.4 California Environmental Quality Act

Under the California Environmental Quality Act of 1970 (CEQA; Public Resources Code Section 21000 et seq.), lead agencies analyze whether projects would have a substantial adverse effect on a candidate, sensitive, or special-status species (Public Resources Code Section 21001(c)). These "special-status" species generally include those listed under FESA and CESA, and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under the criteria included in CEQA Guidelines Section 15380. Therefore, species that are considered rare are addressed under CEQA regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity; plants ranked as 1A, 1B, 2A, 2B, and 3 are generally considered special-status species under CEQA.[4]

Although listed species are protected by specific federal and State statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or State list of protected species may be considered rare if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California FGC dealing with rare or endangered plants and animals.

2.3 JURISDICTIONAL WATERS

2.3.1 Federal Jurisdiction

In 2023, the U.S. Supreme Court issued a decision in the case of Sackett v. Environmental Protection Agency (Supreme Court of the U.S. 2023), which will ultimately influence how federal waters are defined. The Sackett v. Environmental Protection Agency decision determined that "the Clean Water Act (CWA) extends to only those 'wetlands with a continuous surface connection to bodies that are "waters of the U.S." in their own right,' so that they are 'indistinguishable' from those waters." The U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE), after review of the decision, issued a final rule to replace the 2023 rule that amends the "Revised Definition of "Waters

[4] The California Rare Plant Rank system can be found at: http://www.cnps.org/cnps/rareplants/ranking.php.

of the U.S." to conform key aspects of the regulatory text outlined in the Sackett v. Environmental Protection Agency decision.

Unless considered an exempt activity under Section 404(f) of the CWA, any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the CWA (33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, State, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403). Activities exempted under Section 404(f) are not exempted within navigable waters under Section 10.

The CWA (33 United States Code [USC] 1251-1376) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. obtain a State certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there were no practicable alternative that would have less adverse impacts.

2.3.2 State Jurisdiction

2.3.2.1 Regional Water Quality Control Board

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by section 401 of the CWA. Although the CWA is a federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that the issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE's permits for fill and dredge discharges within waters of the U.S. and now also implements the State's wetland protection and hydromodification regulation program under the Porter-Cologne Water Quality Control Act.

In 2020 the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;

II. A framework for determining if a feature that meets the wetland definition is a water of the State;

III. Wetland delineation procedures; and,

IV. Procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code Section 13050(e)), "waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to waters of the State, which includes waters of the U.S. and non-federal waters of the State, requires filing of an application under the Procedures.

More specifically, a wetland is defined as: "*An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and, (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation*." The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000 *et seq*.) is California's statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the SWRCB and RWQCBs under CWA to adopt and periodically update water quality control plans or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires dischargers of pollutants or dredged or fill material to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, National Pollution Discharge Elimination System (NPDES) permits, CWA Section 401 water quality certifications, or other approvals.

2.3.2.2 California Department of Fish and Wildlife

CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq.* of the California FGC. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "*substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601.*" Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow the protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends submitting an application for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

2.4 CEQA SIGNIFICANCE

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely on the guidance provided by the expanded Initial Study Checklist, contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

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

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;

- 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;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and,

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or State habitat conservation plan.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant, according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

2.4.1 California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS Rare Plant Ranking System:

Rank 1A: Plants presumed Extinct in California and either rare or extinct elsewhere

Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere

Rank 2A: Plants presumed extirpated in California but common elsewhere

Rank 2B: Plants Rare, Threatened, or Endangered in California, but more common elsewhere

Rank 3: Plants about which we need more information – A Review List

Rank 4: Plants of limited distribution – A Watch List

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA. Furthermore, the CNPS Rare Plant Rankings include levels of threat for each species. These threat ranks include the following:

0.1 -Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat);

0.2 - Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat); and,

0.3 - Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Threat ranks do not designate a change of environmental protections, so that each species (i.e., CRPR 1B.1, CRPR 1B.2, CRPR 1B.3, etc.) should be fully considered during preparation of environmental documents under the CEQA process.

2.4.2 California Department of Fish and Wildlife Species of Concern

Some additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or are fully protected. These species are included on the *Special Animals List*, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or habitat may be in decline. In addition to "Species of Special Concern" (SSC), the *Special Animals List* includes species that are tracked in the California Natural Diversity Database (CNDDB) but warrant no legal protection. These species are identified as "California Special Animals" (CSA).

2.5 LOCAL REGULATIONS

2.5.1 City of Citrus Heights General Plan

The City General Plan (Plan) contains goals, policies, and actions that embody the City's approach for achieving the community's vision for its future. Goals identify physical, economic, environmental and/or social ends that the community desires. The policies are used directly to guide City decision-makers and staff to respond by developing proposals and community actions. Applicable sections of the Plan having to do with natural resource conservation are outlined below (City of Citrus Heights 2011).

Resource Conservation: This element of the Plan addresses biological resources, open space, energy conservation, and cultural resources. Its focus is on the protection and enhancement of these limited resources.

GOAL 34: Preserve, protect, and enhance natural habitat areas, including creek and riparian corridors, oak woodlands, and wetlands.

- *Policy 34.1*: Preserve continuous riparian corridors and adjacent habitat along the City's creeks and waterways.
- *Policy 34.2*: Achieve and maintain a balance between conservation, development and utilization of open space to enhance air and water quality.
    - Actions A. Prepare and adopt Community Design Guidelines to include standards to protect habitat areas from encroachment of lighting, non-native landscaping, noise, soil erosion, and toxic substances.
    - Actions B. Revise grading guidelines to minimize removal of significant vegetation and promote creation of pervious surfaces around natural habitat areas.
    - Actions C. Adopt a landscape ordinance complying with Department of Water Resources guidelines. The City's landscape ordinance should update landscape provisions to incorporate climate-appropriate native trees and water-conserving landscaping that increase infiltration rates and protect sensitive areas.
    - Actions D. Ensure that maintenance activities along the City's creeks and waterways are carried out in compliance with Memoranda of Understanding with the California Department of Fish and Game, and will not create habitat that exceeds thresholds established by the Sacramento Yolo Mosquito and Vector Control District
- *Policy 34.3*: Provide for "no net loss" of sensitive habitats such as aquatic and riparian areas.
    - Actions A. Update development standards to limit construction activity and development to maximize the water-holding capacity and maintain natural nutrient levels of the soil within buffer zones adjacent to drainages.
    - Actions B. Require new development and redevelopment projects to incorporate LID measures and source controls in all cases to reduce runoff to the community's sensitive habitat areas.

GOAL 35: Protect special-status species and other important species that are sensitive to human activities.

- *Policy 35.1*: Identify and protect significant natural resource areas critical to protecting and sustaining wildlife populations.
- *Policy 35.2*: Maintain habitat corridors to connect conservation areas such as parks and open space, protect biodiversity, accommodate wildlife movement, and sustain ecosystems.

GOAL 36: Preserve, protect and increase plantings of trees within the City.

- *Policy 36.1*: Incorporate existing trees into development projects. Avoid adverse effects on health and longevity of native oaks or other significant trees through appropriate design measures and construction practices. When tree preservation is not possible, require appropriate tree replacement.
    - Actions A. Review and strengthen the City's Tree Preservation Ordinance.
    - Actions B. Prepare a plan to systematically increase tree canopy in the City.
- *Policy 36.2*: Raise community consciousness about the value and importance of trees, including native oaks.
    - Actions A. Participate in Arbor Day programs and promote planting of trees on a Citywide basis.
    - Actions B. Involve community groups, such as schools and youth, and partner with other regional non-profit organizations in tree planting programs.
    - Actions C. Prepare and adopt a climate-appropriate tree list to inform community planting and preservation choices.

2.5.2 City of Citrus Heights Tree Preservation and Protection Regulations

Within City limits, all native oak trees and other mature trees 19 inches or greater in diameter are protected and require a permit for removal (City of Citrus Heights 2024). Protected trees that require a tree permit before impacts include:

- Native oak trees 6 inches or more in diameter.
- Mature trees 19 inches or more in diameter.
- Trees planted as part of a condition of approval or mitigation requirement with a discretionary permit.

The following tree types are exempt from any permit process: alder, fruit trees, catalpa, cottonwoods, eucalyptus, fruitless mulberry, palm, pine, and willow trees.

Trimming: In general, only light trimming of branches two inches or less in diameter is permitted without the approval of a tree permit. To protect the shapeliness and health of the tree, the trimming of branches greater than two inches shall not be performed without the consultation of a certified tree arborist and the approval of a tree permit.

Removal: Property owners desiring to remove one or more protected trees shall file a tree permit application with the Planning Division. The application is reviewed based on the decision criteria outlined in the city's Tree Preservation Ordinance. Some removals may require the replanting of trees or the payment of a mitigation fee and a report from a certified arborist.

Encroachment: Construction or grading under the dripline of an oak tree may cause stress and root damage to a tree. To ensure protection measures are used, a tree permit must be obtained before doing any construction or grading under the protection zone of the tree. The tree's protection zone is figured by creating a radius equal to one foot past the tree's canopy.

Lot Size Exemption: Lots under 10,000 square feet in area and part of a subdivision may be exempt from the tree permit fee.

2.5.3 Sacramento County Native Trees and Other Protected Trees

Sundance bridge is just outside the City of Citrus Heights limits and falls within the jurisdiction of Sacramento County (County). Sacramento County has adopted measures for the preservation of native and non-native trees through the County Code as well as objectives and policies within the General Plan. Chapter 19.04 of the County Code regulates removal and impacts to public trees, heritage trees, and landmark trees. Public trees are defined as any tree or shrub planted or maintained by the County on an easement, planting easement, street, County park, or public premises; heritage trees are any California oak tree with a trunk 60 inches or greater in girth, which equates to a trunk diameter of approximately 19 inches; landmark trees include any especially prominent or stately tree. A tree permit is required to prune, remove, or otherwise disrupt any public tree.

Chapter 19.12 of the County Code, titled "Tree Preservation and Protection," provides protection for native oak trees in the designated urban area of the unincorporated county. Native oaks are defined as valley oak (*Quercus lobata*), interior live oak (*Q. wislizeni*), blue oak (*Q. douglasii*), and oracle oak (*Q*. x *morehus*) trees having a DBH of at least six inches for a single stem tree or a combined DBH of 10 inches for a tree with multiple stems. Grading, trenching, or filling within the dripline, or removal, destruction, or killing of a tree as defined in the ordinance is prohibited without a tree permit. Tree permits are issued by the Director of Public Works or by the body approving a discretionary action such as a conditional use permit. Section 19.12.150 provides authority to approving bodies to adopt mitigation measures as conditions of approval for discretionary projects to protect other species of trees in addition to native oaks. The Tree Preservation Ordinance does not specify replacement obligations for native oaks removed under a tree permit; the approving body may impose "reasonable conditions of approval as are necessary to minimize the environmental, health, or safety effects of the development or use" and may require financial security to ensure completion of "additional work" specified in the conditions of approval. "Additional work" may include replanting.

The Conservation Element of the General Plan includes a section regarding landmark and heritage tree protection. The stated objective of the plan is that "heritage and landmark tree resources [are] preserved and protected for their historic, economic, and environmental functions." The plan states:

> *Conservation of native tree species other than oaks and preservation of native oaks and landmark trees is the primary intent of the policies in the section. However, if preservation cannot be attained, then loss of the protected trees shall be compensated. Compensation for tree loss may be achieved by on-site or off-site replacement or payment into a Tree Preservation Fund.*

The section discusses thresholds of significance under CEQA for impacts to trees and concludes that tree impacts are "circumstantial." The section states that projects that exceed the threshold of significance may have significant impacts even after mitigation and, conversely, tree loss of some species that

exceed the threshold in certain circumstances may not constitute a significant impact. The section states that the final determination of significance will be made by the Environmental Coordinator. The section does not include a definition of "tree" based on DBH.

Policy CO-139 of the General Plan states that "Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed." Tree replacement values are stipulated as follows:

- one D-pot seedling = one-inch DBH
- one 15-gallon tree = one-inch DBH
- one 24-inch box tree = two-inch DBH
- one 36-inch box tree = three-inch DBH

The Sacramento County General Plan contains policies aimed at preserving tree canopy in the County. The Conservation Element of the General Plan includes a section on urban forest management. The stated objective of the plan is a "coordinated and funded Urban Tree Management Plan and program sufficient to achieve a doubling of the County's tree canopy by 2050..."

Policy CO-146 of the General Plan states that "If new tree canopy cannot be created on-site to mitigate for the non-native tree canopy removed for new development, project proponents (including public agencies) shall contribute to the Greenprint funding in an amount proportional to the tree canopy of the specific project."

Additionally, the Sacramento County CEQA Planning and Environmental Review process considers the potential need for mitigation for selected native trees that are four inches in diameter or larger at breast height, including California sycamore (*Platanus racemosa*), Oregon ash (*Fraxinus latifolia*), Northern California black walnut (*Juglans californica* v. *hindsii*), Goodding's black willow (*Salix gooddingii*), box elder (*Acer negundo* v. *californicum*), white alder (*Alnus rhombifolia*), and California buckeye (*Aesculus californica*).

3.0 METHODS

3.1 DATABASE AND LITERATURE REVIEW

Before performing the field survey for this BRA, background research was conducted to inform and create target species lists to focus the survey efforts. Accessible information in public databases pertaining to natural resources in the region of the Study Area was queried. The following site-specific published information was reviewed for this BRA:

- California Department of Fish and Wildlife (CDFW). 2025. *California Natural Diversity Database* (CNDDB). For *Citrus Heights, Folsom, Roseville, Rocklin, Carmichael, Buffalo Creek, Rio Linda, Pleasant Grove,* and *Sacramento East* USGS 7.5-minute series quadrangles, Sacramento, CA. [Accessed July 9, 2025, and December 4, 2025];

- California Native Plant Society (CNPS). 2025. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.39) For *Citrus Heights, Folsom, Roseville, Rocklin, Carmichael, Buffalo Creek, Rio Linda, Pleasant Grove,* and *Sacramento East SE* USGS 7.5-minute series quadrangles, Sacramento, CA. [Accessed July 9, 2025, and December 4, 2025];

- U.S. Fish and Wildlife Service (USFWS). 2025a. *Information for Planning and Consultation* (IPaC) for *Citrus Heights Creek Erosion and Bridge Scour Protection Project.* [Accessed July 9, 2025, and December 4, 2025];

- USDA, NRCS. 2025. *Web Soil Survey*. Available online at: http://websoilsurvey.sc.egov.usda.gov. [Accessed July 9, 2025, and December 4, 2025]; and,

- USFWS 2025b. National Wetlands Inventory. Available online at: https://www.fws.gov/program/national-wetlands-inventory. [Accessed July 9, 2025, and December 4, 2025].

The results of the database query and a five-mile radius CNDDB query for the Study Area are included in Appendix A, *CNDDB, CNPS, and USFWS Lists of Regionally Occurring Special-Status Species*.

Special-status species are plant and wildlife species that have been afforded special recognition by federal, State, or local resource agencies or organizations. They are generally of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g., Migratory Bird Treaty Act);
- Included on the CDFW Special Animals List;
- Identified as Rare Plant Rank 1 and 2 (sometimes 3 and 4) by CNPS; or,
- Receive consideration during environmental review under CEQA.

3.2 BIOLOGICAL SURVEYS

The biological field survey for the Indian River Drive Bridge and Matheny Bridge Study Area and the Sundance Bridge Study Area was conducted on July 10, 2025, by HELIX biologist Christine Gonzalez. The weather during the field survey was sunny with an average temperature of 82 degrees Fahrenheit. The biological field survey for the Patton Bridge Study Area was conducted on December 4, 2025, by Ms. Gonzalez and the weather during this survey was overcast and cool, with an average temperature of 52 degrees Fahrenheit. The total Study Area was systematically surveyed on foot to ensure total search coverage, with special attention given to portions of the Study Area with the potential to support special-status species and sensitive habitats. Binoculars were used to further extend site coverage and identify species observed. All plant and animal species observed were recorded, and all biological communities occurring on-site were characterized. All resources of interest were mapped with global positioning system (GPS)-capable tablets equipped with GPS receivers running ESRI Field Maps for ArcGIS™ with sub-meter accuracy.

Following the field survey and review of database queries, the potential for each species identified in the database query to occur within the Study Area was determined based on the field survey, soils, habitats present within the Study Area, and species-specific information, as shown in Appendix B, *Potential for Special-Status Species to Occur in the Study Area*. Species observed within the Study Area during the survey are included in Appendix C, *Plant and Wildlife Species Observed in the Study Area* and photographs taken during the survey are included in Appendix D, *Representative Photographs.*

3.3 TREE INVENTORY

A tree inventory was conducted concurrently with the biological field surveys. All trees within a 15-foot radius of each bridge were inventoried, with data taken on species, DBH, and the general health condition of each tree. DBH was measured at 4.5 feet above ground using a DBH tape. Health and structural condition were assessed based on visible indicators such as foliage density, response to pruning, and signs of decay or defects. Location coordinates for each tree were recorded in the field using a submeter-accuracy GPS unit.

4.0 RESULTS

4.1 SITE LOCATION AND DESCRIPTION

The 16.76-acre Study Area is comprised of the Indian River Bridge and Matheny Bridge Study Area (11.12 acres), the Sundance Bridge Study Area (4.45 acres), and the Patton Bridge Study Area (1.19 acres). The Study Area follows the Arcade and Cripple creeks corridor and is bordered by residential development, commercial development, and surface streets; and the entire Study Area is situated in an urban setting. Arcade and Cripple creeks are one of the last remaining undeveloped corridors in the area, and have both experienced substantial alteration as a result of the surrounding development. Each bridge is located in an existing developed area and spans the length of Arcade Creek or Cripple Creek. A brief description of each bridge is provided below. A site and vicinity map of the total Study Area is included as Figure 1; a topographic map of the total Study Area is included as Figure 2; and aerial maps of the individual Study Areas are included as Figures 3a through 3c.

Indian River Bridge

The Indian River Bridge is located between Little River Court and Tall Tree Court along Indian River Drive. This bridge spans Arcade Creek and little to no vegetation is present on the bank under the bridge. Vegetation transitions to grassy herbaceous species along the upper slope of the bank with several trees and larger herbaceous species present within a 15-foot radius of the bridge (trees are further discussed in Section 4.5.2). Emergent wetland vegetation is present along the bed of the creek downstream of the bridge and the area appears to pool when inundated. Rip rap is present along the lower bank of Arcade Creek under the bridge and extends slightly into the bed of the creek. The bed of the creek under the bridge was completely dry and devoid of vegetation at the time of the field survey. The confluence of Cripple Creek is located approximately 130 feet upstream of the bridge and water from both Cripple Creek and Arcade Creek flow under this bridge.

Matheny Bridge

The Matheny Bridge is approximately 0.16 mile upstream of the Indian River Bridge. The bridge spans Arcade Creek at Matheny Way and little to no vegetation is present on the bank under the bridge. Evidence of disturbance including trash, graffiti, and cleared soil were present under the bridge at the time of the survey. Vegetation transitions to grassy herbaceous species along the upper slope of the bank with several trees present within a 15-foot radius of the bridge. Rip rap is present along the lower bank of Arcade Creek under the bridge and extends slightly into the bed of the creek. The bed of the creek under the bridge was completely dry and devoid of vegetation at the time of the field survey. The bank of Arcade Creek is less defined in this location compared to the Indian River Bridge, and no emergent wetland vegetation species are present in the bed of the creek.

Sundance Bridge

The Sundance Bridge is located approximately 3.25 miles east of the Matheny Bridge. This bridge spans Arcade Creek along a paved pedestrian trail within Sundance Park. Rip rap is present on the bank under the bridge, and grassy herbaceous species dominate the slope of the bank under and adjacent to the bridge. The bed of Arcade Creek is vegetated with a variety of emergent species under the bridge and along the entire creek corridor in this area. Water was present within Arcade Creek at this location at the time of the field survey.

Patton Bridge

The Patton Bridge is located between Twin Oaks Boulevard and Glenn Avenue along Patton Avenue. This bridge spans Cripple Creek and is in close proximity to residential properties. Evidence of disturbance including trash, graffiti, and cleared soil were present under the bridge at the time of the survey. Vegetation was observed to be mostly absent under the bridge, but is present in the bed of Cripple Creek and along the banks just outside of the bridge. The bed of Cripple Creek is comprised of natural rocks, sandy substrate, and imported rip rap. The bank is moderately to steeply sloped in this location and water was present within Cripple Creek at the time of the field survey.

4.2 PHYSICAL FEATURES

4.2.1 Topography and Drainage

The terrain in the Study Area is varied but similar at each of the bridges. The creek bed is the lowest elevation at each bridge location and rises sharply along the bank. The bank of the creek and surrounding lands are generally flat, with minor undulating topography across the landscape. The elevation of the creek bed at the Indian River Bridge is approximately 95 feet above mean sea level (amsl), the top of bank is approximately 105 feet amsl, and the bridge is approximately 112 feet amsl. The elevation of the creek bed at the Matheney Bridge is approximately 100 feet amsl, the top of bank is approximately 110 feet amsl, and the bridge is approximately 111 feet amsl. The elevation of the creek bed at the Sundance Bridge is approximately 160 feet amsl, the top of bank is approximately 165 to 175 feet amsl, and the bridge is 175 feet amsl. The elevation of the creek bed at the Patton Bridge is approximately 145 feet amsl, the top of bank is approximately 150 to 152 feet amsl, and the bridge is 154 feet amsl.

The Study Area is in the Lower American watershed (USGS Hydrologic Unit Code [HUC8] 18020111). Arcade Creek flows east/southeast through the Study Area and is joined by Cripple Creek just east of the Indian River Bridge. Arcade Creek continues southeast outside of the Study Area and flows into the Natomas Ditch which is a direct tributary to the Sacramento River. One small ephemeral drainage is located east of Indian River Drive and flows into Arcade Creek upstream of the bridge location, and one ephemeral drainage is east of Fair Oak Boulevard and flows into Arcade Creek downstream of the Sundance Bridge. These ephemeral drainages appear to collect surface runoff from the surrounding land during periods of high rainfall, and both drain into Arcade Creek. No other aquatic resources were observed in the Study Area, and all drainage would be expected to flow into Arcade Creek.

4.2.2 Soils

Three soil map units are mapped within the Study Area: Liveoak sandy clay loam, 0 to 2 percent slopes, occasionally flooded, Urban land-Xerarents-Fiddyment complex, 0 to 8 percent slopes (Figures 4a and 4b, *Soils Map*), and Fiddyment-Orangevale-Urban land complex, 2 to 8 percent slopes (Figure 4c, *Soils Map*). The general characteristics and properties associated with these soils are described below (NRCS 2025a).

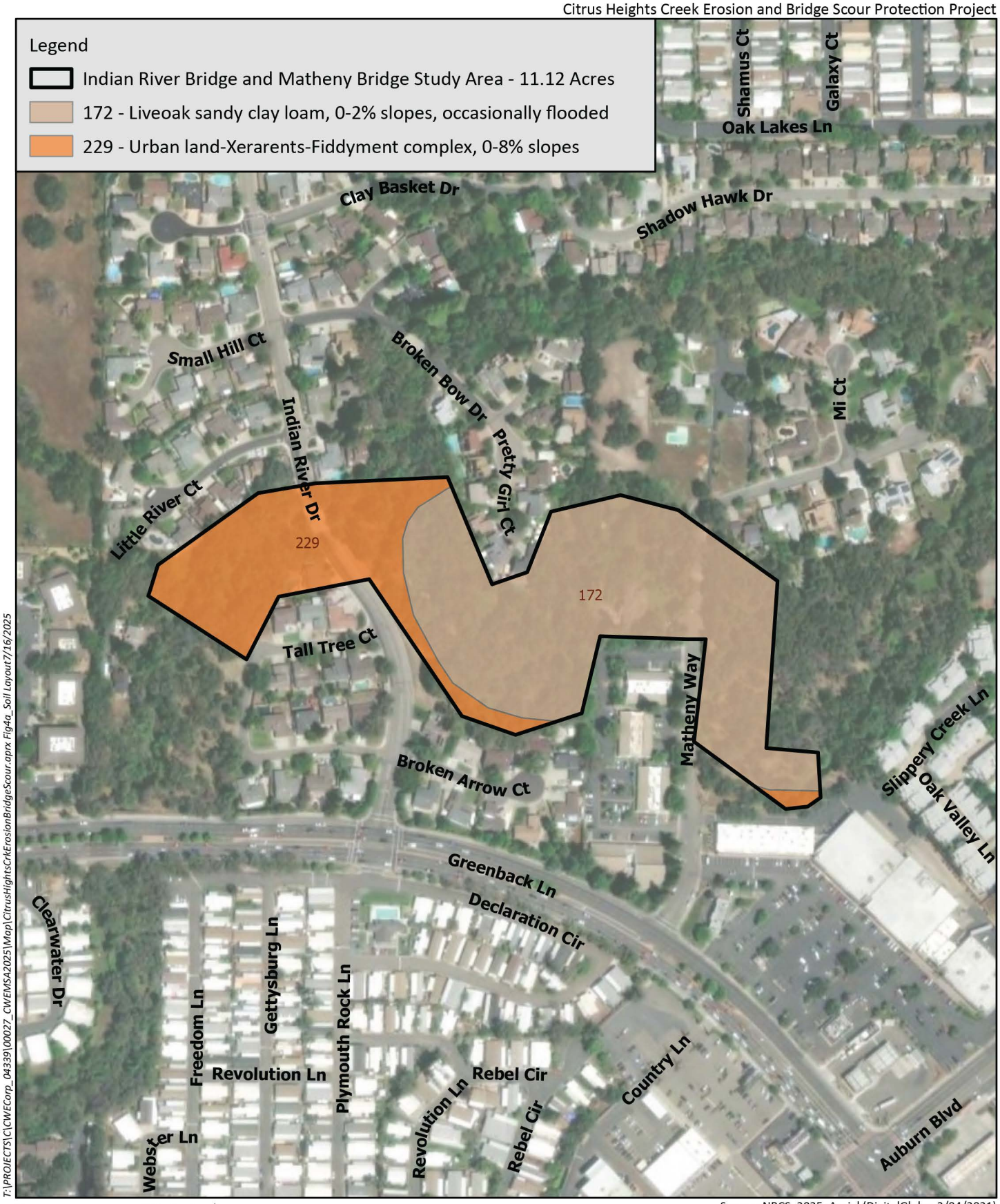
- **Liveoak sandy clay loam, 0 to 2 percent slopes, occasionally flooded**: this soil unit has a parent material of alluvium derived from granite and is typical of floodplains and stream terraces. A general soil profile is sandy clay loam (0 to 48 inches) and stratified gravelly loamy coarse sand to sandy loam (48 to 60 inches). It is well drained, has a low runoff class, occasional frequency of flooding, and no frequency of ponding. Minor components of this soil are considered hydric. This soil unit is present at the Matheny Bridge and dominates the eastern portion of this Study Area (Figure 4a).

- **Urban land-Xerarents-Fiddyment complex, 0 to 8 percent slopes**: this soil unit has a parent material of alluvium derived from granite and is typical of fan remnants. The soil profile is variable but generally consists of sandy loam in the upper 30 inches and weathered bedrock from 30 to 50 inches. It is moderately well-drained, has a very high runoff class, and has no frequency of flooding or ponding. This soil unit is present at the Indian River Bridge and the Sundance Bridge (Figures 4a and 4b).

- **Fiddyment-Orangevale-Urban land complex, 2 to 8 percent slopes:** this soil unit has a parent material of alluvium derived from igneous and metamorphic rock over dense alluvium derived from igneous and metamorphic rock. It is typical of fan remnants and low slopes. A general soil profile is fine sandy loam (0 to 8 inches), loam (8 to 15 inches), sandy clay loam (15 to 28 inches), indurated (28 to 40 inches), and undefined material (40 to 44 inches). It is well drained, has a very high runoff class, and no frequency of flooding or ponding. This soil unit is present at the Patton Bridge (Figure 4c).

4.2.3 Climate

The climate of Sacramento County is Mediterranean, characterized by wet, cool winters and dry, hot summers. The nearest weather station to the Study Area with complete data is located at the Sacramento 5 ESE weather station, approximately 13 miles southwest of the Study Area. Average daily maximum and minimum temperatures are 96 and 79 degrees Fahrenheit (F) in July and 57 and 49 degrees F in December. The mean annual precipitation is approximately 18.23 inches, with 100 percent

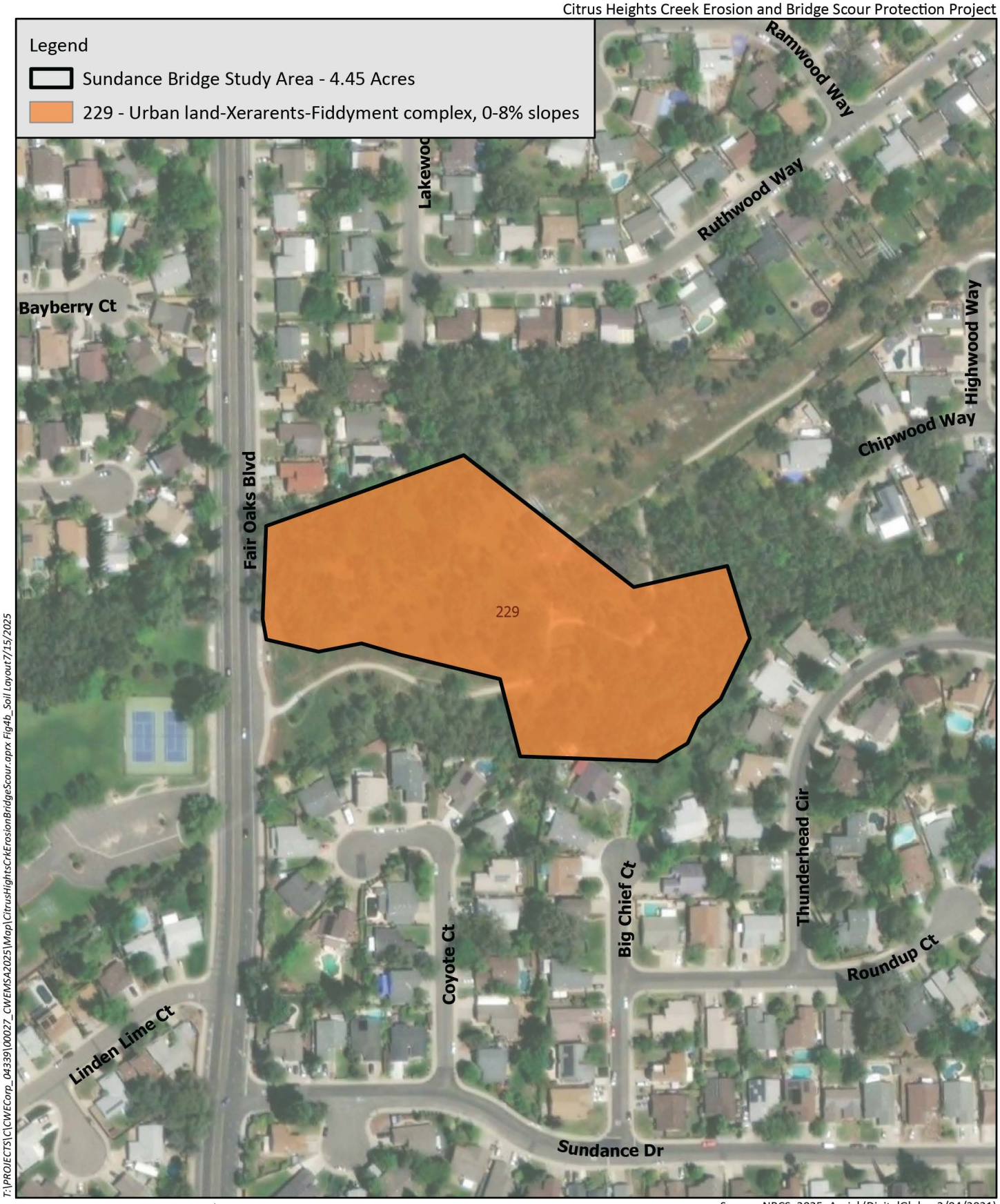


T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig4a_Soil Layout7/16/2025

HELIX Environmental Planning

Soils Map

Figure 4a



Source: NRCS, 2025; Aerial (DigitalGlobe, 3/04/2021)

HELIX Environmental Planning

Soils Map

Figure 4b



Source: NRCS, 2025; Aerial (DigitalGlobe, 3/04/2021)

HELIX Environmental Planning

Soils Map

Figure 4c

occurring as rain from September through June. This weather station has received 14.14 inches of rainfall for this season from October 1, 2024 to July 10, 2025 (NRCS 2025b).

4.3 VEGETATION COMMUNITIES

Three upland vegetation communities occur within the Study Area: valley oak woodland, developed, and disturbed/ruderal. Two aquatic features also occur within the Study Area and include intermittent drainage and ephemeral drainage; these aquatic features are discussed in Section 4.5.1. A comprehensive list of all plant and wildlife species observed within the Study Area is provided in Appendix C. Representative site photographs are included in Appendix D.

4.3.1 Valley Oak Woodland

This habitat varies from savanna-like to forest-like, and is comprised mostly of winter-deciduous, broad-leaved species, often almost exclusively dominated by valley oaks. Denser stands typically grow in valley soils along natural drainages and tree density generally decreases with the transition from lowlands to the less fertile soils of drier uplands. Species commonly found in this habitat in addition to valley oak include California sycamore, black walnut (*Juglans hindsii*), interior live oak, boxelder (*Acer negundo*), and blue oak. The shrub understory consists of poison oak (*Toxicodendron pubescens*), blue elderberry (*Sambucus mexicana*), California wild grape (*Vitis californica*), toyon (*Heteromeles arbutifolia*), California coffeeberry (*Frangula californica*), and California blackberry (*Rubus ursinus*). This habitat type is often associated with annual grassland habitats, agricultural areas, blue oak woodlands, and valley riparian habitats (Laudenslayer 2010).

Valley oak woodland is the dominant habitat within the Study Area and comprises 7.00 acres of the Indian River Bridge and Matheny Bridge Study Area, 3.33 acres of the Sundance Bridge Study Area, and 0.42 acre of the Patton Bridge Study Area (Figures 5a through 5c*, Biological Communities Map*). The understory of this habitat is generally dense along the stream corridor where it is composed of woody species including tree of heaven (*Ailanthus altissima*), Himalayan blackberry (*Rubus armeniacus*), American pokeweed (*Phytolacca americana*), and English ivy (*Hedera helix*), and transitions to a grassy, herbaceous dominated understory away from the stream corridor. Dominant herbaceous species observed in the understory of this habitat include field hedge parsley (*Torilis arvensis*), ripgut brome (*Bromus diandrus*), and dogtail grass (*Cynosurus echinatus*). The canopy layer is composed almost exclusively of valley oak, with some interior live oaks and blue oaks scattered throughout. Large portions of the understory of this habitat were disturbed at the time of the field survey and showed evidence of recent mowing and grazing.

4.3.2 Developed

Developed habitat is often comprised of little to no vegetation and typically contains built structures and/or maintained surfaces such as roads or parking lots. Vegetation that does occur within this habitat type is often ornamental, rather than invasive or noxious weeds such as in ruderal habitat types.

A total of 2.60 acres of developed habitat occurs within the Indian River Drive Bridge and Matheny Bridge Study Area and consists of paved roads, sidewalks, and residential houses and yards (Figure 5a). A total of 0.06 acre of developed habitat occurs within the Sundance Bridge Study Area and is comprised entirely of a residential backyard (Figure 5b). The Patton Bridge Study Area is composed of 0.61 acre of developed habitat which is comprised of residential houses and yards, paved roads, and sidewalks.

Maintained lawns extend nearly to the top of bank of Cripple Creek in this area and were included in this habitat classification (Figure 5c).

4.3.3 Disturbed/Ruderal

Ruderal habitats are characterized by an assemblage of non-native and invasive plant species that readily colonize disturbed landscapes. Roadsides, construction sites, and vacant lots are all sites in which ruderal plant species typically occur. Disturbed habitats typically retain a soil substrate, but the vegetation communities are either lacking or are comprised of mostly ruderal plant species.

A total of 0.75 acre of disturbed/ruderal habitat occurs within the Sundance Bridge Study Area (Figure 5b). This habitat is dominated by invasive species including yellow star thistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), stinkwort (*Dittrichia graveolens*) and prickly lettuce (*Lactuca serriola*) and occurs within a transmission line right-of-way and along existing dirt trails within Sundance Park.

4.4 SPECIAL-STATUS SPECIES

Sensitive plant and wildlife species identified during database queries were evaluated for their potential to occur within the Study Area based on the results of the field survey and the criteria described below.

The likelihood for a species to occur was classified as having either no, low, moderate, or high potential to occur within the Study Area by evaluating criteria based on the distance of the nearest documented occurrence, the presence and condition of suitable habitat, the age of the most recent documented occurrence, and the presence of mapped critical habitat.

No Potential:

- The Study Area is outside the known distribution of the species; or,
- There is no suitable habitat present for the species; or,
- The species is not known to occur within five miles of the Study Area boundary, and its dispersal capability is less than five miles.

Low Potential:

- There are no documented occurrences within five miles of the Study Area boundary, and the existing habitat is of low or marginal quality, or,
- All documented occurrences within five miles of the Study Area line are believed to be extirpated, and existing habitat is of low or marginal quality, or,
- Extant occurrences are documented within five miles of the Study Area, and the most recent occurrence is greater than or equal to 25 years old.

Moderate Potential:

- Documented occurrences are reported within five miles of the Study Area, the most recent occurrence is less than 25 but greater than 10 years old, and suitable habitat is present; or,



T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig5a_Biocoms7/16/2025

HELIX Environmental Planning

Biological Communities Map

Figure 5a

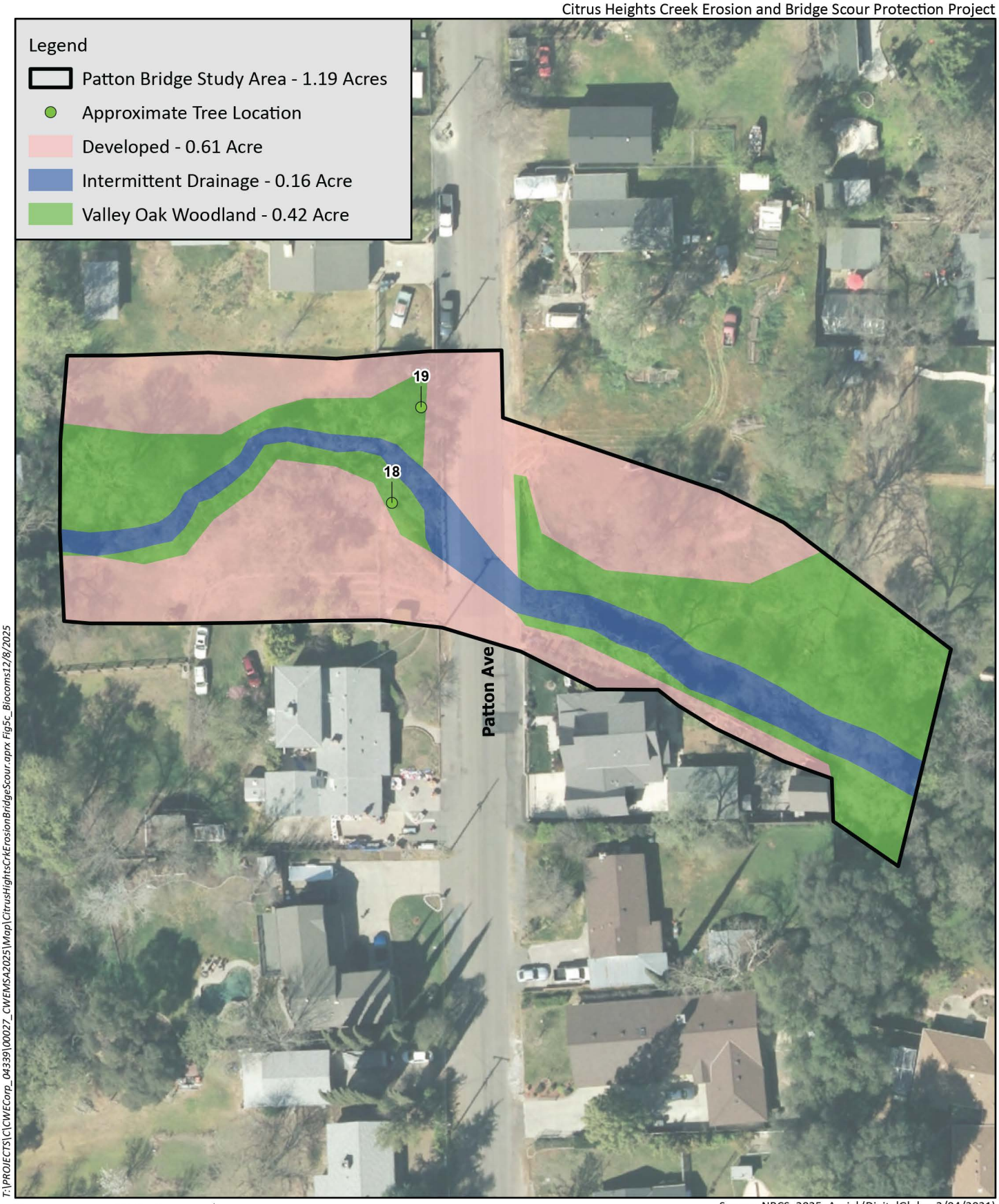


Source: NRCS, 2025; Aerial (DigitalGlobe, 3/04/2021)

HELIX Environmental Planning

Biological Communities Map

Figure 5b



T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig5c_Biocoms12/8/2025

Source: NRCS, 2025; Aerial (DigitalGlobe, 3/04/2021)

HELIX Environmental Planning

Biological Communities Map

Figure 5c

- Critical habitat is mapped within the Study Area, all primary constituent elements (PCEs) are present within the Study Area, and suitable habitat is present.

High Potential:

- There are extant occurrences within one mile of the Study Area, the most recent occurrence is less than 10 years old, and there is suitable habitat within the Study Area; or,

- Critical habitat is mapped within the Study Area, documented occurrences are present within one mile of the Study Area, suitable habitat is present, and all PCEs are present within the Study Area.

The potential for each species to occur was determined and is summarized in Appendix B. Detailed descriptions of the species with potential to occur in the Study Area are provided below.

4.4.1 Listed and Special-Status Plants

According to the database query, 12 listed and/or special-status plants have the potential to occur on-site or in the vicinity of the Study Area (CDFW 2025; CNPS 2025). Based on field observations, published information, and literature review, one special-status plant has the potential to occur within the Study Area: Sanford's arrowhead (*Sagittaria sanfordii*). The remaining regional special-status plants identified in the query occur on serpentine, clay, or alkaline soils, within vernal pools, or within other habitats which do not occur in the Study Area.

Sanford's Arrowhead

Federal status – none
State status – none
CNPS Ranking – 1B.2

Species Description

Sanford's arrowhead is a perennial, rhizomatous emergent herb that is endemic to California. This aquatic plant can grow up to four feet tall, although it is usually less, and grows from a spherical tuber. The leaves are often submerged, variable in shape, and are long and strap-shaped or narrowly lanceolate. The leaves may grow up to nine inches long from the underwater stem. Sanford's arrowhead is monoecious, with individuals bearing both male and female flowers. The inflorescence is a raceme made up of several whorls of white flowers, with the lowest node bearing female flowers and upper nodes bearing male flowers. This species is found in freshwater marshes, swamps, ponds, and slow-moving drainages from 0 to 605 meters elevation. It blooms from May – October (CNPS 2025).

Survey History

This species was not observed in the Study Area during the field survey on July 10, 2025, which focused on the Indian River Bridge, Matheny Bridge, and Sundance Bridge. However, this species was observed in the Patton Bridge Study Area during the field survey on December 4, 2025. A large population of this species is located in the bed of Cripple Creek in this area, with the largest concentration upstream of the bridge. Sanford's arrowhead extends downstream from this concentration, and is scattered in moderate-sized clumps as well as individual plants throughout the entire bed of Cripple Creek in this portion of the Study Area, including directly under the bridge. There are seven documented occurrences

of this species within five miles of the Study Area; five within five miles of the Sundance Bridge, five within five miles of the Indian River Bridge and Matheny Bridge (with three overlapping), and three within five miles of the Patton Bridge (all overlapping). The closest documented occurrence is approximately 0.88 mile from the Patton Bridge (CDFW 2025).

Habitat Suitability

Arcade and Cripple creeks provide suitable habitat for this species, and it was observed in Cripple Creek in the Patton Bridge Study Area. This species could also establish in other portions of Arcade and Cripple creeks if rhizomes are washed downstream from existing populations. Sanford's arrowhead would be expected to occur in portions of Arcade and Cripple creeks that remain inundated or saturated year-round. This species is known to occur in the Patton Bridge Study Area and has a high potential to occur in the Indian River Bridge and Matheny Bridge Study Area and the Sundance Bridge Study Area.

Potential for Adverse Effects

Potential project related impacts to this species could include an accumulation of fugitive dust or debris on leaves which could result in reduced photosynthesis or disrupting potential pollinators by the presence and disturbance of construction equipment or crews. More direct impacts could include removal of individual plants by vegetation clearing, crushing due to crews or equipment, disrupted soil and water quality as a result of spills or erosion, and the establishment of noxious and invasive weed species during construction and operation that degrade habitat suitability for this species. However, with the implementation of recommended avoidance and minimization measures included in Section 5.1, potential project-related impacts to Sanford's arrowhead are expected to be reduced to less than significant.

4.4.2 Listed and Special-Status Wildlife

According to the database query, 27 listed and/or special-status wildlife species have the potential to occur on-site or in the vicinity of the Study Area (CDFW 2025; USFWS 2025a). Based on field observations, published information, and literature review, seven special-status wildlife species have the potential to occur within the Study Area: monarch butterfly (*Danaus plexippus*), northwestern pond turtle (*Actinemys marmorata*), Cooper's hawk (*Astur cooperii*), tricolored blackbird (*Agelaius tricolor*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), and pallid bat (*Antrozous pallidus*).

However, the following species only have a low potential to pass through the Study Area during migration or other movements and are not expected to occur or use the Study Area in any substantial way: monarch butterfly and tricolored blackbird. The rationale for this finding for these two species is included in Appendix B. These two species lack suitable nesting habitat within the Study Area and other primary habitat constituents such as large, open grasslands for foraging, and milkweed plants to support the monarch's lifecycle, are also absent from the Study Area. Because these species are only expected to temporarily pass through the Study Area, no avoidance and minimization measures are recommended for these species, and they are not discussed further in this report.

The remaining five special-status species with potential to occur in the Study Area based on the presence of suitable habitat are discussed in more detail below. In addition to these special-status wildlife species, other migratory birds and raptors protected under federal, State, and local laws/policies also have the potential to occur within the Study Area.

4.4.2.1 Reptiles

Northwestern Pond Turtle

Federal status – Proposed as Threatened
State status – Species of Special Concern

Species Description

This species occurs in a variety of aquatic habitats; typically, permanent ponds, lakes, streams, irrigation ditches, canals, marshes, or pools in intermittent drainages. It appears to prefer areas lined with abundant vegetation and either rocky or muddy substrates. Basking sites such as logs, rocks, cattail mats or exposed banks are required for this species. The active season is from February to November, and breeding occurs from April to May. Sometime between late April and August, females climb onto land to dig a nest, usually along stream or pond margins in areas with full sunlight, where they lay a clutch of 2 - 11 eggs. Hatchlings may emerge in late summer or fall, but some turtles may overwinter in the nest and emerge the following spring (Nafis 2025). Overwintering occurs in upland terrestrial habitats close to water sources (approximately 300 feet), in which they will bury themselves under loose soil (CDFW 2025). Nesting sites in uplands may be as far as 400 meters (1,312 feet) or more from the aquatic habitat, although the distance is usually much less and is generally around 100 meters (328 feet). In nonriverine habitats that experience little water level fluctuation, this species may overwinter underwater (Thomson *et al.* 2016).

Survey History

This species was not observed in the Study Area during the field survey on July 10, 2025, or December 4, 2025. There are five documented occurrences of this species within five miles of the Study Area; four within five miles of the Sundance Bridge and one within five miles of the Indian River Bridge and Matheny Bridge. The closest documented occurrence is approximately four miles from the Sundance Bridge (CDFW 2025).

Habitat Suitability

Arcade and Cripple creeks within the Study Area may provide suitable habitat for this species when sufficiently inundated. Arcade and Cripple creeks in the Indian River Drive and Matheny Bridge Study Areas were completely dry at the time of the field survey on July 10, 2025, and did not provide suitable habitat for this species at the time. However, Arcade Creek was inundated upstream of this segment in the Sundance Study Area and suitable habitat was present in this segment at the time of the field survey. Cripple Creek was partially inundated at the Patton Bridge Study Area at the time of the field survey on December 4, 2025, and provided some suitable habitat for this species at the time. Northwestern pond turtle could nest in upland portions of the Study Area with suitable habitat and would be expected to nest within the valley oak woodland habitat in the Study Area. This species is not expected to overwinter within the Study Area due to the relatively mild winter climate but would be expected to overwinter in the valley oak woodland habitat if overwintering occurs. Because Arcade and Cripple creeks do not contain water year-round and only the Sundance Study Area appears to remain permanently inundated, this species has a moderate potential to occur in the Study Area.

Potential for Adverse Effects

The project could impact this species if present in the Study Area during construction. This species would generally be expected to move away from construction activities during the active season (February to November), and greater impacts to this species would likely occur during the nesting season when this species is more vulnerable. Impacts could occur through injury or mortality to adults, hatchlings, or eggs from construction equipment, personnel, or other construction-related items. Impacts could also occur through spills, contamination, and soil and water quality hazards if present in a spill/contamination area. With the implementation of recommended avoidance and minimization measures included in Section 5.2, potential project-related impacts to northwestern pond turtle are expected to be reduced to less than significant.

4.4.2.2 Birds

Cooper's Hawk

Federal status – none
State status – Watch List

Species Description

This species occurs in open woodlands, riparian forests, montane coniferous forests, and other open woodland habitats. It may also occur in wooded suburban habitats. This species nests high within large trees and preys on medium-sized birds and small mammals (Zeiner *et al.* 1990).

Survey History

This species was not observed in the Study Area during the field survey on July 10, 2025, or December 4, 2025. There is one documented occurrence of this species within five miles of the Sundance Study Area, approximately 4.45 miles away (CDFW 2025).

Habitat Suitability

This species has a high potential to occur in the Study Area. The valley oak woodland provides suitable nesting habitat and suitable foraging habitat is present throughout the Study Area for this species. No active or abandoned nests were observed, but this species could nest in trees within or surrounding the Study Area. In addition, Cooper's hawks are known to occur in wooded suburban habitats like the neighborhoods surrounding the Study Area.

Potential for Adverse Effects

The project has the potential for adverse effects to Cooper's hawk through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surrounding areas during construction. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the FGC and have a significant impact. With the implementation of recommended avoidance and minimization measures included in

Section 5.3, potential project-related impacts to Cooper's hawk are expected to be reduced to less than significant.

Swainson's Hawk

Federal status – none
State status – Threatened

Species Description

Swainson's hawks occur in a variety of open habitats including expansive grasslands, agricultural areas, and open woodlands. They breed in California and winter in Mexico and South America. Swainson's hawks usually arrive in the Central Valley between March 1 and April 1 and migrate south between September and October. This species usually nests in trees adjacent to suitable foraging habitat but is known to forage in areas away from the nest. Nests are usually located in trees near the edges of riparian stands, in lone trees or groves of trees in agricultural fields, and in mature roadside trees. Mature oak and riparian trees are the most used nest trees, typically associated with high quality foraging habitat (CDFW 2025). Suitable foraging areas for Swainson's hawk include native grasslands or lightly grazed pastures, alfalfa and other hay crops, idle land, certain grain and row croplands, and ruderal lands. Swainson's hawks primarily feed on voles; but will take a variety of prey including small mammals, birds, and insects.

Survey History

This species was not observed in the Study Area during the field survey on July 10, 2025, or December 4, 2025. There are two documented occurrences of this species within five miles of the Study Area; one within five miles of the Sundance Study Area and one within five miles of the Indian River/Matheny Study Area. The closest documented occurrence is approximately 4.18 miles from the Sundance Bridge (CDFW 2025).

Habitat Suitability

Swainson's hawk could potentially nest in the Study Area, especially in trees along Arcade or Cripple creeks. Many large oak trees are present in the Study Area that could provide suitable nesting habitat for this species. However, open habitat suitable for foraging is generally absent from the Study Area and the Study Area is located in an urban environment which reduces the suitability of the Study Area for this species. Foraging habitat is limited to the ruderal/disturbed habitat within the Sundance Study Area and is marginally suitable for this species. No active or abandoned nests were observed in the Study Area, but this species could nest in trees within or surrounding the Study Area. This species generally occurs in the Central Valley within and near agricultural habitats and does not occur as frequently in suburban areas. Therefore, this species has a low potential to occur in the Study Area.

Potential for Adverse Effects

The proposed project has the potential for adverse effects to Swainson's hawk through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surroundings during construction. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through

nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the FGC and have a significant impact. With the implementation of recommended avoidance and minimization measures included in Section 5.3, potential project-related impacts to Swainson's hawk are expected to be reduced to less than significant.

White-tailed Kite

Federal status – none
State status – Fully Protected

Species Description

White-tailed kite is a year-round resident in California in coastal areas and lowlands in the Central Valley. Population sizes increase during the non-breeding season due to over-wintering migrants. This species occurs in a variety of habitats including grasslands, savannah, oak woodland, riparian woodland, open suburban areas, and agriculture fields. Nest trees typically have a dense canopy or are within a dense group of trees, such as riparian forest or oak woodland. Foraging occurs within un-grazed or lightly-grazed fields, agricultural areas, and open grasslands (CDFW 2025).

Survey History

This species was not observed in the Study Area during the field survey on July 10, 2025, or December 4, 2025. There are six documented occurrences of this species within five miles of the Study Area; five within five miles of the Sundance Study Area, three within five miles of the Indian River/Matheny Study Area (with two overlapping), and one within five miles of the Patton Bridge Study Area (overlapping occurrence). The closest documented occurrence is approximately 2.12 miles from the Sundance Bridge (CDFW 2025).

Habitat Suitability

White-tailed kite could potentially nest in the Study Area, especially in trees along Arcade or Cripple creeks. Many large oak trees are present in the Study Area that could provide suitable nesting habitat for this species. However, open habitat suitable for foraging is generally absent from the Study Area. Foraging habitat is limited to the ruderal/disturbed habitat within the Sundance Study Area and is marginally suitable for this species. No active or abandoned nests were observed in the Study Area, but this species could nest in trees within or surrounding the Study Area. Because suitable nesting habitat is present but only marginal foraging habitat is present in the Study Area, this species has a low potential to occur within the Study Area.

Potential for Adverse Effects

The proposed project has the potential for adverse effects to white-tailed kite through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the Study Area or the immediate surroundings during construction. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the FGC and a significant impact. With the implementation of recommended avoidance and minimization measures included in

Section 5.3, potential project-related impacts to white-tailed kite are expected to be reduced to less than significant.

4.4.2.3 Other Nesting Migratory Birds and Raptors

Migratory birds are protected under the MBTA of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10; this also includes feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Additionally, Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs; Section 3513 specifically states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

A number of migratory birds and raptors, in addition to the species listed in Section 4.4.2.2, have the potential to nest in or adjacent to the Study Area. Suitable nest locations within and adjacent to the Study Area include trees, shrubs, grass, artificial structures, and bare ground. With the implementation of recommended avoidance and minimization measures included in Section 5.3, potential project-related impacts to nesting birds are expected to be reduced to less than significant.

4.4.2.4 Mammals

Pallid Bat

Federal status – none
State status – Species of Special Concern

Species Description

Pallid bat occurs throughout California except for the high Sierra Nevada and the northern Coast Ranges. Suitable habitats include grasslands, shrublands, woodlands, and forests from sea level to 6,000 feet elevation. This species is most common in open, dry habitats with rocky areas for roosting; roosts also include cliffs, abandoned buildings, bird boxes, hollow trees, and under bridges. This species is primarily a crevice dweller, but recent studies have shown that they are also dependent upon tree roosts. Particularly, in northern California, pallid bats are more dependent upon oak woodland and oak savannah in lower elevations and may be found in coniferous forests, including redwoods at mid to higher elevations. This species is intolerant of roost disturbance, and it has a high loyalty to roosting sites. If this species experiences frequent disturbance at a roost site, it will abandon the roost (Bolster ed. 1998).

Survey History

This species was not observed in the Study Area during the field survey on July 10, 2025, or December 4, 2025. No evidence of roosting bats (guano, urine stains, culled insects) was observed under any of the four bridges. There is one documented occurrence of this species within five miles of both the Sundance Bridge Study Area and the Patton Bridge Study Area, approximately 2.52 miles away from Sundance Bridge (CDFW 2025).

Habitat Suitability

Suitable roosting habitat is present for this species within Study Area. Several trees with cavities/hollows were observed in the Study Area that could provide roosting habitat, and this species could forage throughout the Study Area. No evidence of roosting bats was observed under the three bridges but this species could utilize the bridge as roosting habitat.

Potential for Adverse Effects

The project has the potential for adverse effects to pallid bat through disturbance of day roosts or maternity colonies leading to destruction of maternity colonies and/or abandonment of roost sites if this species were to roost in or adjacent to the Study Area during construction. Impacts to roost sites could result in injury or mortality to individual bats and/or maternity colonies. Construction activities near active roost sites may also result in roost abandonment. If roost abandonment occurs during daylight hours when bats are vulnerable, bats would be subject to a higher degree of predation risk. Loss of bats and maternity colonies would be a violation of the FGC and a significant impact. With the implementation of recommended avoidance and minimization measures included in Section 5.4, potential project-related impacts to pallid bat are expected to be reduced to less than significant.

4.5 SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California FGC (i.e., riparian areas) and/or Sections 401 and 404 of the CWA, which include wetlands and other waters of the U.S. Additionally, sensitive habitats, including native trees and oak woodland habitat, are protected under the specific policies outlined in Citrus Heights Tree Preservation and Protection Regulations. Sensitive habitats identified within the Study Area are discussed below.

4.5.1 Aquatic Habitats

Aquatic habitats that occur in the Study Area include intermittent drainage and ephemeral drainage. These habitat types are discussed below.

4.5.1.1 Intermittent Drainage

Intermittent drainages are features that contain flowing water during certain times of the year, generally during the rainy season. They often contain an unvegetated to mostly unvegetated bed, bank, and channel. Intermittent drainages may be colonized by plant species during periods of low flow or may contain scattered annuals or perennials in features that generally contain low flows.

A total of 1.52 acres of intermittent drainage was mapped within the Indian River Bridge and Matheny Bridge Study Area, which is primarily comprised of Arcade Creek, with a small portion, less than 0.01 acre of Cripple Creek as it joins Arcade Creek (Figure 5a). Arcade and Cripple creeks are highly incised in this portion of the Study Area with bank heights ranging from three to seven feet high. A small portion of Arcade Creek contained a section of standing water, but the majority of the creeks were completely dry at the time of the field survey on July 10, 2025. The bed of both creeks was mostly devoid of vegetation and consisted of sand, gravel, and cobble. Several large trash items such as tires, pipes, and other debris were observed in the creek beds. Some emergent vegetation and woody species including tall flatsedge (*Cyperus eragrostis*), Mexican rush (*Juncus mexicanus*), American pokeweed, Himalayan

blackberry, common fig (*Ficus carica*), and Oregon ash are present along the bank of Arcade Creek and are concentrated downstream of the Indian River Bridge. The creek downstream of this bridge appears to pool when inundated, likely supplying enough water to support hydrophytic plant species, and it receives additional flows from Cripple Creek. The remainder of the bank in this section is mostly dominated by upland grassy species including field hedge parsley, ripgut brome, and dogtail grass.

A total of 0.30 acre of intermittent drainage was mapped within the Sundance Bridge Study Area, consisting entirely of Arcade Creek (Figure 5b). This section of Arcade Creek was inundated at the time of the field survey, and water depths appeared to vary between 4 inches and 24 inches deep. The bed and bank of this section are dominated by species including tall flatsedge, Mexican rush, curly dock (*Rumex crispus*), Dallis grass (*Paspalum dilatatum*), Johnsongrass (*Sorghum halepense*), American pokeweed, and pennyroyal (*Mentha pulegium*). An abrupt transition to upland vegetation occurs at the top of bank and no fringe wetlands were observed in this area.

A total of 0.16 acre of intermittent drainage was mapped within the Patton Bridge Study Area, consisting entirely of Cripple Creek (Figure 5c). This section of Cripple Creek was partially inundated at the time of the field survey, with deeper portions of the creek bed inundated to a depth of three to 16 inches. The bed of the creek was mostly devoid of vegetation at the time of the field survey, but was dominated by Sanford's arrowhead where vegetated. The bank is moderately sloped and is dominated by a variety of grassy, herbaceous species as well as Himalayan blackberry and English ivy. Residential properties closely abut the creek corridor in this portion of the Study Area, and maintained lawns/mowed vegetation were present just beyond the top of bank.

Both Arcade and Cripple creeks have been substantially altered due to the surrounding development. The entire Arcade Creek watershed is highly urbanized and although some open space areas are still present along the stream corridor, the habitat quality of these areas and of the watershed have been degraded by adjacent urban land uses. Urbanization of the watershed has resulted in floodplain encroachment, increased water runoff rates, water quality issues, and flood risks (Jones & Stokes 2007).

4.5.1.2 Ephemeral Drainage

Ephemeral drainages are features that contain water briefly during and after precipitation events. These features are dry most of the time, with flows occurring only with direct input from precipitation. Ephemeral drainages feature a bed and bank and are often devoid of vegetation or are comprised of more upland vegetation species.

One small ephemeral drainage (<0.01 acre) occurs in the Indian River Bridge and Matheny Bridge Study Area and is east of Indian River Drive on the western bank of Arcade Creek (Figure 5a). This drainage originates from a culvert and flows directly into Arcade Creek. This drainage was dominated by upland species including ripgut brome, dogtail grass, and barley (*Hordeum murinum*).

A second ephemeral drainage was mapped in the Sundance Bridge Study Area (0.01 acre; Figure 5b). This drainage originates outside of the Study Area and appears to collect surface runoff from the trail and surrounding irrigated land. This drainage flows directly into Arcade Creek and was dominated by upland species including ripgut brome, field hedge parsley, and dogtail grass.

4.5.2 Protected Trees

The City of Citrus Heights defines protected trees as native oak trees 6 inches or greater in diameter, mature trees 19 inches or greater in diameter, and trees planted as part of a condition of approval or mitigation requirement with a discretionary permit (City of Citrus Heights 2024).

All trees within a 15-foot radius of each bridge were included in the tree assessment, and the results are displayed in Table 1, *Tree Inventory*, below. The locations of each tree surveyed are displayed on Figures 5a through 5c.

Table 1
TREE INVENTORY

ID Number	Species	DBH	General Condition and Notes
1	Interior live oak	6 in.	Good condition; small tree.
2	Interior live oak	18 in.	Good condition.
3	Valley oak	37 in.	Fair condition; slight lean to the north, some exposed roots along bank of creek.
4	Valley oak	18 in.	Poor-Fair condition; heavy lean to the west with two small cavities on lower trunk.
5	Valley oak	13 in.	Good condition.
6	Valley oak	22 in.	Good condition.
7	Interior live oak	6 in.	Good condition; small tree.
8	Valley oak	3 in.	Good condition; small tree.
9	Interior live oak	14 in.; 11 in.	Fair condition; two trunks. Exposed roosts along bank of creek. Evidence of removed limbs and tree appears to have healed well.
10	Interior live oak	17 in.; 15 in.	Poor-Fair condition; two trunks. Slight lean to the north, hollow trunk at base, evidence of third removed trunk that appears to have healed well.
11	Interior live oak	11 in.	Good condition.
12	Oregon ash	11 in.	Poor-Fair condition; hollow trunk.
13	Oregon ash	8 in.	Good condition.
14	Oregon ash	10 in.; 11 in.	Good condition; two trunks.
15	Valley oak	10 in.	Good condition.
16	Valley oak	11 in.; 13 in.	Good condition; two trunks.
17	Valley oak	9 in.; 10 in.	Good condition; two trunks.
18	Oregon ash	5 in.	Good condition.
19	Valley oak	19 in.	Good condition.

Tree 1 is the only tree that falls within Sacramento County jurisdiction, and it is considered a protected tree. Trees 8, 12, 13, and 18 are too small to be considered as protected by the City of Citrus Heights. All remaining trees are considered protected by the City of Citrus Heights. Construction or grading under the dripline of a tree may cause stress and root damage to the tree. To ensure protection measures are used, a tree permit may be required prior to doing any construction or grading under the protection zone of the trees, as outlined in Section 5.6. The tree's protection zone is figured by creating a radius equal to one foot past the tree's canopy.

The current engineering plans for the project indicate trees 9, 10, 12, and 15 will be impacted by the proposed project. See Figures 6a through 6c, *Impact Area Map*, for aerial maps of the impact areas, impacted trees and habitat types, and avoided acreage.

4.5.3 Wildlife Migration Corridors

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. This fragmentation of habitat can also occur when a portion of one or more habitats is converted into another habitat; for instance, when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or construction activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and, (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The Study Area is located along the Arcade Creek corridor, which is one of the last undeveloped segments of land in the local area. The Study Area is not a designated migration corridor for deer, fish, or other species tracked by the CDFW but likely serves as a movement corridor for local wildlife species. Wild turkeys (*Meleagris gallopavo*), a deer (*Odocoileus hemionus columbianus*), evidence of raccoon (*Procyon lotor*) use, and an abundance of birds were observed within the Study Area during the survey. Although the Arcade Creek watershed has been impacted by urbanization, it still provides important habitat for wildlife including connective habitat through a heavily developed landscape. Construction of the erosion control measures as outlined in the project description are not expected to permanently affect the movement of wildlife. Some temporary disruptions to local wildlife movement could occur during construction activities, but wildlife would generally be expected to avoid the area during construction.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The 16.76-acre Study Area is comprised of three separate areas encompassing four bridges that cross either Arcade Creek or Cripple Creek: the Indian River Bridge and the Matheny Bridge Study Area (11.12 acres), the Sundance Bridge Study Area (4.45 acres), and the Patton Bridge Study Area (1.19 acres). Construction would be limited to the existing project impact areas. Biological communities present within the Study Area include valley oak woodland, ruderal/disturbed, and developed. The Study Area also includes intermittent drainage and ephemeral drainage features. The Study Area generally follows the Arcade and Cripple Creek corridors and is bound by residential and commercial development.

The total project impact area, or project area, would be approximately 0.43 acre, with the Indian River Bridge project impact area totaling 0.27 acre, the Matheny Bridge project impact area totaling 0.14 acre, the Sundance Bridge project impact area totaling 0.04 acre, and the Patton Bridge project impact area totaling 0.12 acre. The total project impact area would include the area of direct impacts from implementation of the proposed project. See Figures 6a through 6c, for aerial maps of the impact areas, impacted trees and habitat types, and avoided acreage.

No special-status plant or wildlife species were observed in the Study Area during the field survey on July 10, 2025, which focused on the Indian River Bridge, Matheny Bridge, and Sundance Bridge.

However, Sanford's arrowhead was observed in Cripple Creek within the Patton Bridge Study Area during the field survey on December 4, 2025. Other portions of the Study Area also provide suitable habitat for this species, and the entire Study Area has potential to support special-status wildlife species as well as nesting migratory birds and raptors. In addition, sensitive aquatic habitats and protected trees and aquatic resources are present in the Study Area. Recommendations, including avoidance and minimization measures to limit or avoid impacts to special-status species, nesting birds, and sensitive habitats are included below.

Known or potential biological constraints in the Study Area include the following:

- Occupied and suitable habitat for special-status plants including Sanford's arrowhead;
- Suitable habitat for special-status reptiles including northwestern pond turtle;
- Suitable habitat for special-status and migratory birds and raptors including Cooper's hawk, Swainson's hawk, and white-tailed kite;
- Suitable habitat for special-status bats including pallid bat;
- Trees protected by the City of Citrus Heights; and
- Aquatic resources that may be considered waters of the U.S. and/or State.

5.1 SPECIAL-STATUS PLANTS

The Study Area provides suitable habitat for Sanford's arrowhead within the intermittent drainage habitat, and it is known to occur at the Patton Bridge project impact area. Figure 6c displays the locations of Sanford's arrowhead that were observed at the time of the field survey. Because this species is often mobile depending on water flow and rhizome dislodgment/placement, the exact locations are subject to change.

To avoid potential impacts on this species, the following measures are recommended:

At Indian River Bridge, Matheny Bridge, and Sundance Bridge:

- A qualified botanist shall conduct a special-status plant survey within the appropriate identification (blooming) period (May - October) prior to the initiation of any ground-disturbing activities. The survey should be conducted within two years of the anticipated start date of construction and preferably the same year as the start of construction. If no special-status plants are observed, then a letter report documenting the survey results should be prepared and no further measures are recommended.
- If special-status plants are observed within the study area, the location of the special-status plants shall be marked with pin flags or other highly visible markers and may also be marked by a sub-meter accurate GPS. The project proponent shall determine if the special-status plant(s) on-site can be avoided by project design or utilize construction techniques to avoid impacts to the special-status plant species. All special-status plants to be avoided shall have exclusion fencing or other highly visible material marking the avoidance area (if necessary) and the avoidance area shall remain in place throughout the entire construction period. If special-status



Biological Communities	Indian River Bridge Impacts (Acres)*	Matheny Bridge Impacts (Acres)*	Avoided (Acres)*	Total Acres*
Intermittent Drainage	0.076	0.041	1.399	1.516
Ephemeral Drainage	-	-	0.003	0.003
Valley Oak Woodland	0.126	0.071	6.801	6.998
Developed	0.063	0.023	2.518	2.604
TOTAL Acres	**0.265**	**0.135**	**10.722**	**11.12**

*Acreages calculated at 3 significant digits and subsequently rounded.

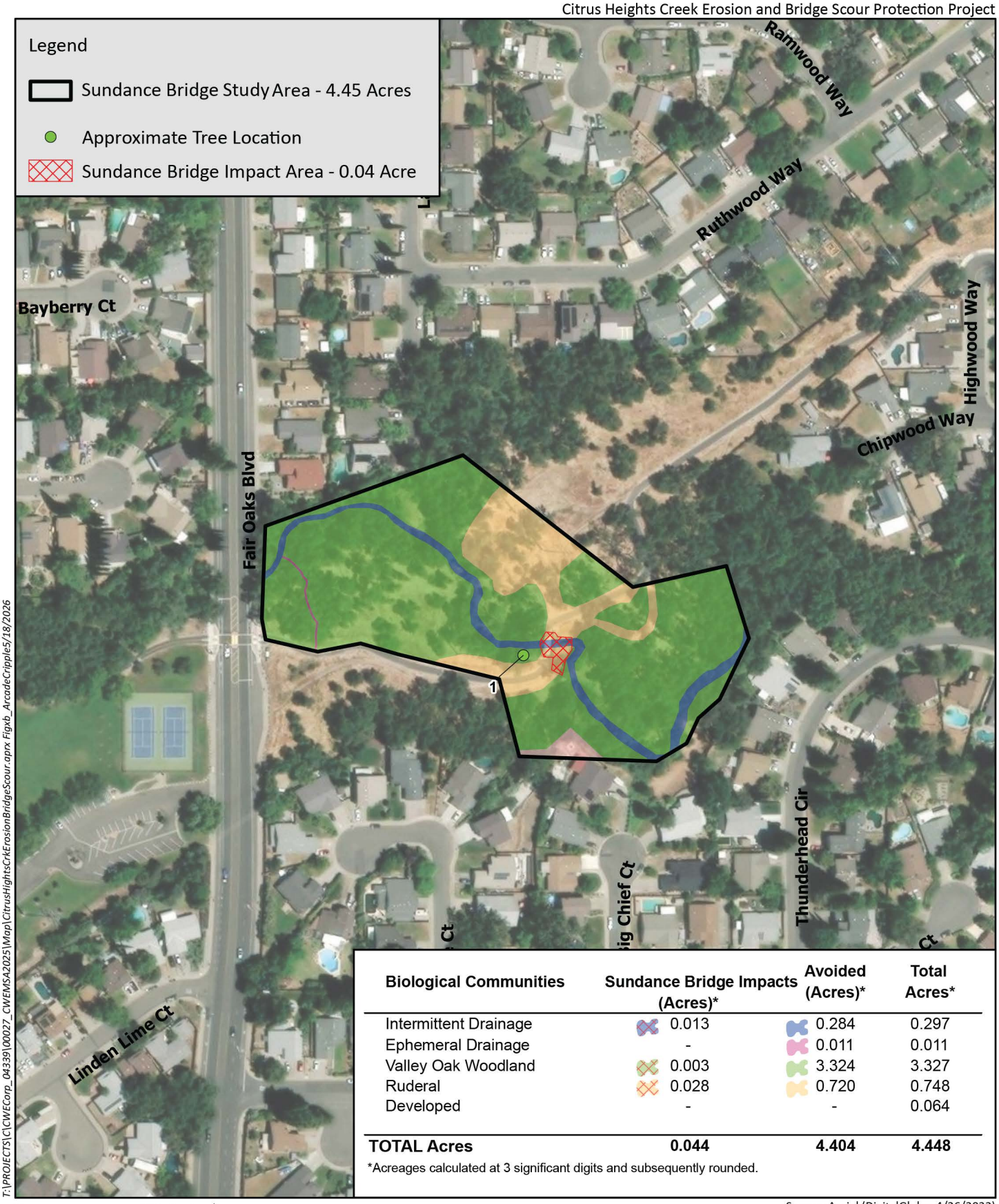
Source: Aerial (DigitalGlobe, 4/26/2022)

T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Figxa_IndianRiverAerial Map5/18/2026

HELIX Environmental Planning

Impact Area Map

Figure 6a



Biological Communities	Sundance Bridge Impacts (Acres)*	Avoided (Acres)*	Total Acres*
Intermittent Drainage	0.013	0.284	0.297
Ephemeral Drainage	-	0.011	0.011
Valley Oak Woodland	0.003	3.324	3.327
Ruderal	0.028	0.720	0.748
Developed	-	-	0.064
TOTAL Acres	**0.044**	**4.404**	**4.448**

*Acreages calculated at 3 significant digits and subsequently rounded.

T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Figxb_ArcadeCripple5/18/2026

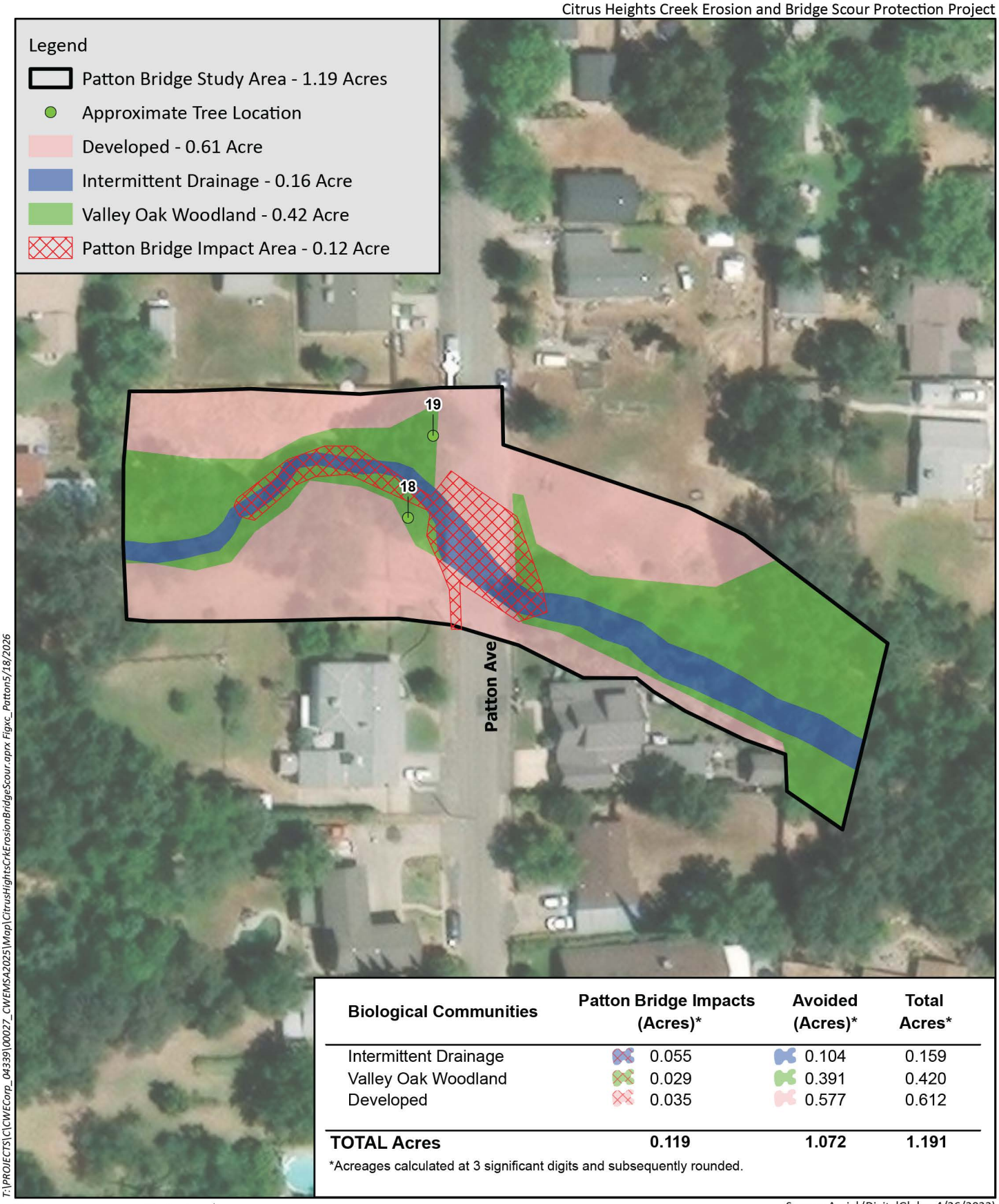
0 200 Feet

Source: Aerial (DigitalGlobe, 4/26/2022)

HELIX Environmental Planning

Impact Area Map

Figure 6b



Biological Communities	Patton Bridge Impacts (Acres)*	Avoided (Acres)*	Total Acres*
Intermittent Drainage	0.055	0.104	0.159
Valley Oak Woodland	0.029	0.391	0.420
Developed	0.035	0.577	0.612
TOTAL Acres	**0.119**	**1.072**	**1.191**

*Acreages calculated at 3 significant digits and subsequently rounded.

T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Figxc_Patton5/18/2026

0 75 Feet

Source: Aerial (DigitalGlobe, 4/26/2022)

HELIX Environmental Planning

Impact Area Map

Figure 6c

plants are observed in portions of the study area that are not located near the project footprint, exclusion fencing may not be needed. A qualified botanist shall determine if exclusion fencing will be needed based on the location of the plant(s) and the most current project design.

- If special-status plants are found within the study area and cannot be avoided, the project proponent shall consult with the CDFW to determine appropriate measures to mitigate for the loss of special-status plant populations. These measures may include gathering seed/rhizomes from impacted populations for planting within nearby suitable habitat, preserving or enhancing existing offsite populations of the plant species affected by the project, or restoring suitable habitat for special-status plant species as directed by the regulatory agencies.

At Patton Bridge:

- A qualified botanist shall flag populations of Sanford's arrowhead in the vicinity of the work area for avoidance prior to commencement of project construction. The vicinity of the work area for flagging will be determined by the final engineering plans at the discretion of the botanist. All flagged Sanford's arrowhead shall be avoided by construction activities. A biological monitor may be warranted during construction if plants are in close proximity to the work area and have potential to be impacted by construction.

- If Sanford's arrowhead cannot be avoided, the project proponent shall consult with the CDFW to determine appropriate measures to mitigate for the loss of special-status plant populations. These measures may include gathering seed/rhizomes from impacted populations for planting within nearby suitable habitat, preserving or enhancing existing offsite populations of the plant species affected by the project, or restoring suitable habitat for special-status plant species as directed by the regulatory agencies.

5.2 SPECIAL-STATUS REPTILES

Suitable habitat is present for northwestern pond turtles within the intermittent drainage habitat, and this species may also occur in upland areas in the surrounding vicinity. To avoid potential impacts on this species, the following measures are recommended:

- Construction is recommended to commence during the active season for northwestern pond turtle (February – November) when this species is mobile. These timeframes are dependent on local weather conditions and can fluctuate depending on seasonal conditions.

- A qualified biologist shall conduct a pre-construction survey for northwestern pond turtle within seven days prior to the start of ground-disturbing activities at each bridge location. The pre-construction survey shall also include a survey of surrounding upland habitat for the presence of turtle nests if conducted during the nesting season. Eggs and hatchlings could be present in the nest site beyond the nesting season, and therefore, a pre-construction turtle nest survey is recommended to identify nest sites if construction occurs from April 1 – January 31. These timeframes will depend on local weather conditions, and the timing of the pre-construction turtle nest survey should be based on the weather conditions present at the time and at the discretion of the qualified biologist.

- If nesting northwestern pond turtles are identified within the survey limits, then no work shall commence within 300 feet of the nest until the turtles have hatched. The 300-foot buffer should be indicated by temporary fencing if construction has or will begin before the nesting period has ended (the period from egg laying to emergence of hatchlings is normally April to November). If a non-nesting northwestern pond turtle is found in the project site during preconstruction surveys, construction activities should not start until the turtle has been relocated by a qualified biologist with appropriate approvals from CDFW to a suitable location outside of the construction zone. The qualified biologist should notify the City and CDFW within 24 hours if northwestern pond turtle is found and shall notify of any individuals that have been relocated. Any northwestern pond turtles observed in the survey limits will be reported to the CNDDB.

- If construction does not commence within seven days of the pre-construction survey, or halts for more than seven days, then an additional survey is required prior to starting or resuming work.

5.3 SPECIAL-STATUS BIRDS AND NESTING MIGRATORY BIRDS AND RAPTORS

Special-status birds and migratory birds and raptors protected under federal, State, and/or local laws and policies have potential to nest and forage within the Study Area including Cooper's hawk, Swainson's hawk, and white-tailed kite. Although no active nests were observed during the field survey, the Study Area and adjacent land contain suitable habitat to support a variety of nesting birds within trees, shrubs, structures, and on bare ground.

Active nests and nesting birds are protected by the California FGC Sections 3503 and 3503.5, 3513 and the MBTA. Ground-disturbing and other construction activities including vegetation clearing, tree removal/trim, and construction could impact nesting birds if these activities occur during the nesting season (generally February 1 to August 31). To avoid impacts to nesting birds, all ground disturbing activity shall be completed between September 1 and January 31, if feasible. If construction cannot occur outside of the nesting season, the following measures shall be implemented:

- If construction activities occur during the nesting season, a qualified biologist shall conduct a nesting bird survey to determine the presence of any active nests within the study area. additionally, the surrounding 500 feet of the study area shall be surveyed for active raptor nests, where accessible, and the surrounding 0.5 mile of the study area shall be surveyed for active Swainson's hawk nests, where accessible. The nesting bird survey shall be conducted within seven days prior to commencement of ground-disturbing or other construction activities at each bridge location. If the nesting bird survey shows that there is no evidence of active nests, then a letter report shall be prepared to document the survey and be provided to the City, and no additional surveys are recommended. If construction does not commence within seven days of the nesting bird survey, or halts for more than seven days, then an additional survey is required prior to starting or resuming work within the nesting season.

    - If active nests are found, then the qualified biologist shall establish a species-specific buffer to prohibit development activities near the nest to avoid and minimize nest disturbance until the young have successfully fledged or the biologist determines that the nest is no longer active. Buffer distances may range from 30 feet for some songbirds up to 0.5 mile for Swainson's hawk. Nest monitoring may also be warranted during certain phases of

construction to ensure nesting birds are not adversely impacted. The need for nest monitoring would be determined by the qualified biologist based upon the species nesting and the location of the nest in relation to the project disturbance area, proposed levels of project disturbance, and existing disturbance levels. If active nests are found under any of the bridges or within any trees slated for removal/trimming, then an appropriate buffer shall be established around the bridge/tree, and no construction shall occur until a qualified biologist determines that the nest has successfully fledged and/or is no longer active. Nest avoidance buffer distances may need to be expanded if the biologist determines that the initial avoidance buffer is still resulting in avoidance behavior from the adults.

- If construction occurs outside of the nesting bird season (September 1 to January 31), a nesting bird survey and environmental training for nesting birds would not be required.

5.4 SPECIAL-STATUS MAMMALS

Pallid bat has potential to roost in trees within the Study Area and under the bridges. No evidence of active bats roosts were observed during the survey. However, suitable roosting habitat is present, and impacts on bat roosts may occur if in proximity to construction activities. The following measures are recommended to avoid potential impacts to pallid bat and other bat species:

- A qualified biologist shall conduct a pre-construction survey within seven days of the commencement of ground-disturbing or other construction activities at each bridge location. This survey may be combined with the nesting bird survey, if possible. If no bats are observed, a letter report shall be prepared to document the survey, and no additional measures are recommended. If construction does not commence within seven days of the pre-construction survey, or halts for more than seven days, an additional survey is recommended before starting work.

- If bats are present and roosting on or within 100 feet of the project footprint, then the biologist shall establish an appropriate no-disturbance buffer around the roost site. No construction activities should occur within the no-disturbance buffer until a qualified biologist has determined the roost is no longer active. Additional mitigation measures for bat species, such as the installation of bat boxes or alternate roost structures, would be recommended only if special-status bat species are found to be roosting within the project area.

5.5 WORKER ENVIRONMENTAL AWARENESS TRAINING

A qualified biologist shall conduct an environmental awareness training for all project-related personnel before the initiation of work. The training shall include the identification of Sanford's arrowhead, northwestern pond turtle, Cooper's hawk, Swainson's hawk, white-tailed kite, other nesting and migratory birds, and pallid pat; required practices before the start of construction; general measures that are being implemented to protect the species as they relate to the project; penalties for non-compliance; and boundaries of the permitted disturbance zones. Upon completion of the training, all construction personnel shall sign a form stating they have attended the training and understand all the measures. Proof of this instruction shall be kept on file with the City and biologists on-site.

5.6 PROTECTED TREES

Prior to issuance of a Building or Grading Permit for the project, the City shall submit a final Tree Impact Assessment for impacts to trees from project construction activities located within the City of Citrus Heights (Indian River, Matheny, and Patton Bridges) and County of Sacramento (Sundance Bridge). The Tree Impact Assessment report shall include all preservation measures, including details for modified construction methods that the City shall undertake during construction to ensure the long-term health and safety of the trees. The impact assessment report shall take into account improvement plans that show any encroachment into the driplines of any protected trees. If avoiding tree removal or construction within the dripline of protected trees is not feasible, other mitigation measures offered by a certified arborist and accepted by the Planning Division must be made. The proposed project shall abide by the Standard Policies and Procedures for Approved Work listed in Section 106.39.050 of the City's Tree Preservation and Protection Ordinance, and the County's required measures in Sections 19.12.130, 19.12.140, 19.12.150, and 19.12.160. If required by the City or County upon approval of the Tree Permits, replacement tree plantings or in-lieu mitigation fees will be completed or paid in accordance with City and County requirements. Prior to any project activities that could potentially impact protected trees, an International Society of Arborists (ISA) certified arborist shall conduct an arborist assessment of the inventoried trees and prepare an arborist survey report. The arborist survey report shall be used to determine tree protection measures and shall be submitted to the City of Citrus Heights along with a Tree Permit application. All measures and tree mitigation requirements in the Tree Permit shall be followed.

5.7 AQUATIC RESOURCES

Arcade and Cripple creeks occur within the Study Area as well as two ephemeral drainages. These features are hydrologically connected to the Natomas Ditch, which is a direct tributary to the Sacramento River, a traditional navigable water. Traditionally navigable waters and features with a direct and continuous surface connection to such waters during the wet season are considered waters of the U.S. regulated by the USACE.

- Prior to the initiation of any construction activities that could result in impacts to potentially regulated aquatic features, the extent of the Ordinary High Water Mark (OHWM) of aquatic features within the study area shall be mapped, and applicable permits shall be prepared and submitted to the appropriate regulatory agencies for any project-related impacts to these features. Any conditions included in the final permits, including prescribed mitigation measures, shall be required to be implemented before filling or impacting these features.

- Section 404 authorization from the USACE and a Section 401 Water Quality Certification from the RWQCB may be required before the start of construction that will impact any waters of the U.S. Any waters of the U.S. or jurisdictional wetlands that would be lost or disturbed shall be replaced or rehabilitated on a "no-net-loss" basis in accordance with the USACE mitigation guidelines and City requirements. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods agreeable to the agencies.

- If a 404 permit is required for the proposed project, then water quality concerns during construction would be addressed in the Section 401 water quality certification from the Regional Water Quality Control Board.

- If the aquatic features are determined to not be subject to federal jurisdiction, then these features may still be subject to waste discharge requirements under the Porter-Cologne Water Quality Control Act. Section 13260(a) of the Porter-Cologne Water Quality Control Act (contained in the California Water Code) requires any person discharging waste or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The discharge of dredge or fill material into the ditches may constitute a discharge of waste that could affect the quality of waters of the State. A report of waste discharge shall be filed for impacts to non-federal waters, if required.

- The creek corridor is also likely regulated by CDFW under Section 1600 of the California Fish and Game Code. CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in DBH. If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that shall allow the protection of those resources. If these measures are agreeable to the parties involved, they shall enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

5.8 SUMMARY OF AVOIDANCE AND MINIMIZATION MEASURES

- Conduct a special-status plant survey between May and October no more than two years before the start of construction to determine the presence or absence of Sanford's arrowhead in the Study Area.
- Flag known populations of Sanford's arrowhead for avoidance and consult with CDFW if populations cannot be avoided.
- Conduct a pre-construction survey for northwestern pond turtle, nesting birds, and bats within seven days prior to the start of construction.
- Conduct an environmental awareness training for all project-related personnel before the initiation of work.
- Obtain an applicable tree permit if protected trees are planned to be impacted or removed as part of the proposed project.
- Obtain a map of the OHWM of aquatic features and acquire all applicable permits for impact or fill of regulated aquatic resources.

6.0 REFERENCES

Bolster, B.C., editor. 1998. Terrestrial Mammal Species of Special Concern in California. Draft Final Report prepared by P.V. Brylski, P.W. Collins, E.D. Pierson, W.E. Rainey and T.E. Kucera. Report submitted to California Department of Fish and Game Wildlife Management Division, Nongame Bird and Mammal Conservation Program for Contract No. FG3146WM.

California Department of Fish and Wildlife (CDFW). 2025. *California Natural Diversity Database* (CNDDB). For *Citrus Heights, Folsom, Roseville, Rocklin, Carmichael, Buffalo Creek, Rio Linda, Pleasant Grove,* and *Sacramento East SE* USGS 7.5-minute series quadrangles, Sacramento, CA.

California Native Plant Society (CNPS). 2025. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39) For: *Citrus Heights, Folsom, Roseville, Rocklin, Carmichael, Buffalo Creek, Rio Linda, Pleasant Grove,* and *Sacramento East SE* USGS 7.5-minute series quadrangles, Sacramento, CA

City of Citrus Heights. 2011. General Plan. Available at: https://www.citrusheights.net/202/General-Plan.

2024. Tree Preservation and Protection Regulations. Available at: https://www.citrusheights.net/224/Tree-Protection-Regulations.

Jones & Stokes. 2007. *Existing Conditions and Assessment Report and Stream Corridor Management Plan for the Arcade Creek Watershed, Sacramento County, California*. Prepared for the City of Sacramento, Department of Utilities.

Laudenslayer, William, Jr. 2010. *California Wildlife Habitat Relationships System, California Department of Fish and Game, California Interagency Wildlife Task Group*. Original excerpt updated by CWHR staff in 2010.

Nafis, G. 2025. California Herps - A Guide to the Amphibians and Reptiles of California. Available at: http://www.californiaherps.com/.

Thomson, R.C., Wright, A.N., and H.B. Shaffer. 2016. California Amphibian and Reptile Species of Special Concern. Oakland, California: University of California Press.

U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2025a. Web Soil Survey: Area of Interest (AOI). Available at: http://websoilsurvey.sc.egov.usda.gov.

2025b. AgACIS. Available at: https://agacis.rcc-acis.org/.

U.S. Fish and Wildlife Service (USFWS). 2025a. Information for Planning and Consultation (IPaC) Trust Resource Report: City of Citrus Heights Creek Erosion and Bridge Scour Protection.

USFWS 2024b. National Wetlands Inventory. Available at: https://www.fws.gov/program/national-wetlands-inventory.

U.S. Geological Survey (USGS). 2021. *Citrus Heights, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. *California's Wildlife: California Wildlife Habitat Relationships*. Volumes I-III. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Game. Available at: https://wildlife.ca.gov/Data/CWHR.

This page intentionally left blank

Appendix A

CNDDB, CNPS, and USFWS Lists of Regionally Occurring Special-Status Species

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Citrus Heights (3812163) OR Folsom (3812162) OR Roseville (3812173) OR Rocklin (3812172) OR Carmichael (3812153) OR Buffalo Creek (3812152) OR Rio Linda (3812164) OR Pleasant Grove (3812174) OR Sacramento East (3812154))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Alkali Meadow Alkali Meadow	CTT45310CA	None	None	G3	S2.1	
Alkali Seep Alkali Seep	CTT45320CA	None	None	G3	S2.1	
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Andrena subapasta An andrenid bee	IIHYM35210	None	None	G1G2	S1S2	
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astur cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Athene cunicularia burrowing owl	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Bombus crotchii Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus pensylvanicus American bumble bee	IIHYM24260	None	None	G3G4	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
Calycadenia spicata spicate calycadenia	PDAST1P090	None	None	G3?	S3	1B.3
Chloropyron molle ssp. hispidum hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
Clarkia biloba ssp. brandegeeae Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T3	S3	
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Dumontia oregonensis hairy water flea	ICBRA23010	None	None	G1G3	S1	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Elderberry Savanna Elderberry Savanna	CTT63440CA	None	None	G2	S2.1	
Falco columbarius merlin	ABNKD06030	None	None	G5	S3S4	WL
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3	4.2
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S2	
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2G3	S2	1B.2
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Juncus leiospermus var. ahartii Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2
Juncus leiospermus var. leiospermus Red Bluff dwarf rush	PMJUN011L2	None	None	G2T2	S2	1B.1
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G4	S3S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S3	

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Melospiza melodia pop. 1 song sparrow ("Modesto" population)	ABPBXA3013	None	None	G5T3?Q	S3?	SSC
Nannopterum auritum double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Navarretia myersii ssp. myersii pincushion navarretia	PDPLM0C0X1	None	None	G2T2	S2	1B.1
Northern Claypan Vernal Pool Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Northern Volcanic Mud Flow Vernal Pool Northern Volcanic Mud Flow Vernal Pool	CTT44132CA	None	None	G1	S1.1	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	SSC
Orcuttia tenuis slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
Orcuttia viscida Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S3	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	

Record Count: 57

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: 12/08/2025 17:44:59 UTC
Project Code: 2025-0119491
Project Name: Citrus Heights Creek Erosion and Bridge Scour Protection Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2025-0119491
Project Name: Citrus Heights Creek Erosion and Bridge Scour Protection Project
Project Type: Bridge - Maintenance
Project Description: Creek channel and slope stabilization at three bridge locations within the City of Citrus Heights.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.68850775,-121.26094565546282,14z



Counties: Sacramento County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

REPTILES

NAME	STATUS
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111 General project design guidelines: https://ipac.ecosphere.fws.gov/project/TGESY2FXUFEGJDOJP2KNOPAD64/documents/generated/11271.pdf	Proposed Threatened

AMPHIBIANS

NAME	STATUS
Western Spadefoot *Spea hammondii* Population: Northern DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425 General project design guidelines: https://ipac.ecosphere.fws.gov/project/TGESY2FXUFEGJDOJP2KNOPAD64/documents/generated/11271.pdf	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743 General project design guidelines: https://ipac.ecosphere.fws.gov/project/TGESY2FXUFEGJDOJP2KNOPAD64/documents/generated/11271.pdf	Proposed Threatened
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498 General project design guidelines: https://ipac.ecosphere.fws.gov/project/TGESY2FXUFEGJDOJP2KNOPAD64/documents/generated/11271.pdf	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

NAME STATUS

General project design guidelines:
https://ipac.ecosphere.fws.gov/project/TGESY2FXUFEGJDOJP2KNOPAD64/documents/generated/11271.pdf

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency:	HELIX Environmental Planning Inc.
Name:	Christine Gonzalez
Address:	1677 Eureka Road Suite 100
Address Line 2:	Suite 100
City:	Roseville
State:	CA
Zip:	95661
Email	christineh@helixepi.com
Phone:	9164351202

CNPS Rare Plant Inventory

Search Results

2 matches found. Click on scientific name for details

Search Criteria: , CRPR is one of [**1A:1B:2A:2B:3**] , Fed List is one of [**FE:FT:FC**] **and** State List is one of [**CE:CT:CR:CC**] , 9-Quad include [**3812162:3812163:3812173:3812172:3812153:3812152:3812164:3812174:3812154**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	FT	CE	G2	S2	1B.1	Yes	1974-01-01	 © 2013 Justy Leppert
Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	Apr-Jul(Sep)	FE	CE	G1	S1	1B.1	Yes	1974-01-01	 © Rick York and CNPS

Showing 1 to 2 of 2 entries

Go to top

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 8 December 2025].

Appendix B

Potential for Special-Status Species in the Region to Occur in the Study Area

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Plants			
Balsamorhiza macrolepis big-scale balsamroot	--/--/1B.2	A perennial herb found on serpentine soils within chaparral, cismontane woodland, and valley and foothill grassland habitats from 35 – 1,465 meters elevation. This species blooms from March – June (CNPS 2025).	**No Potential.** Serpentine soils do not occur in the Study Area. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Calycadenia spicata spicate calycadenia	--/--/1B.3	An annual herb found in valley and foothill grasslands and cismontane woodlands. It occurs on dry, adobe or clay soils that are gravelly or rocky; often in disturbed areas, openings, and roadsides from 40 – 1,400 meters elevation. This species blooms from May – September (CNPS 2025).	**No Potential**. The Study Area is below the known elevational range of this species and adobe or clay soils are absent. There is one documented occurrence of this species within five miles of the Sundance Bridge Study Area (CDFW 2025).
Chloropyron molle ssp. *hispidum* hispid salty bird's-beak	--/--/1B.1	An annual hemi-parasitic herb found on alkaline soils in meadows, seeps, playas, and valley and foothill grasslands from 5 – 155 meters elevation. This species blooms from June – September (CNPS 2025).	**No Potential.** Alkaline soils and suitable habitats do not occur in the Study Area. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Downingia pusilla dwarf downingia	--/--/2B.2	An annual herb found in vernal pools and mesic microsites in valley and foothill grasslands from 1 – 445 meters elevation. This species blooms from March - May (CNPS 2025).	**No Potential.** Vernal pools and mesic microsites in grasslands do not occur in the Study Area. There is one documented occurrence of this species within five miles of the Sundance Bridge Study Area (CDFW 2025).
Gratiola heterosepala Boggs Lake hedge-hyssop	--/SE/1B.2	An annual herb found on clay soils in vernal pools and on the margins of marshes, swamps, and lakes from 4 – 2,410 meters elevation. This species blooms from April - August (CNPS 2025).	**No Potential.** Clay soils do not occur in the Study Area and suitable aquatic habitats are also absent. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Juncus leiospermus var. *ahartii* Ahart's dwarf rush	--/--/1B.2	An annual herb found in vernal pools within mesic areas of valley and foothill grasslands from 30 – 100 meters elevation. This species blooms from March – May (CNPS 2025).	**No Potential.** Vernal pools and vernally mesic grasslands do not occur in the Study Area. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Juncus leiospermus var. *leiospermus* Red Bluff dwarf rush	--/--/1B.1	An annual herb found in vernal pools and mesic microsites in chaparral, cismontane woodland, meadow, seep, and grassland habitats from 30 – 1,255 meters elevation. This species blooms from March – June (CNPS 2025).	**No Potential.** Vernal pools and vernally mesic microsites do not occur in the Study Area. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Legenere limosa legenere	--/--/1B.1	An annual herb found in vernal pools from 1 – 1,000 meters elevation. This species blooms from April - June (CNPS 2025).	**No Potential.** Vernal pools do not occur in the Study Area. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Navarretia myersii ssp. *myersii* pincushion navarretia	--/--/1B.1	An annual herb found in vernal pools from 45 – 100 meters elevation. This species is often found on clay soils and blooms from April – May (CNPS 2025).	**No Potential.** Vernal pools do not occur in the Study Area and the Study Area is below the known elevational range of this species. There is one documented occurrence of this species within five miles of the Sundance Bridge Study Area (CDFW 2025).
Orcuttia tenuis slender Orcutt grass	FT/SE/1B.1	An annual herb found in vernal pools in valley and foothill grasslands from 25 – 1,755 meters elevation. This species is often found on gravelly substrates and blooms from May – September (CNPS 2025).	**No Potential.** Vernal pools do not occur in the Study Area. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Orcuttia viscida Sacramento Orcutt grass	FE/SE/1B.1	An annual herb found in vernal pools from 15 – 85 meters elevation. This species blooms from April - July (CNPS 2025).	**No Potential.** Vernal pools do not occur in the Study Area. There are three documented occurrences of this species within five miles of the Sundance Bridge Study Area (CDFW 2025).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Sagittaria sanfordii Sanford's arrowhead	--/--/1B.2	An emergent, perennial, rhizomatous herb that occurs in marshes, swamps, ponds, and slow-moving drainages from 0 to 605 meters elevation. This species blooms from May – October (CNPS 2025).	**High Potential.** Arcade and Cripple Creeks provide suitable habitat for this species, and it was observed in Cripple Creek in the Patton Bridge Study Area. This species could also establish in other portions of Arcade and Cripple Creeks if rhizomes are washed downstream from existing populations. There are seven documented occurrences of this species within five miles of the Study Area; five within five miles of the Sundance Bridge Study Area, five within five miles of the Indian River Bridge and Matheny Bridge Study Area (with three overlapping); and three within five miles of the Patton Bridge Study Area (all overlapping; CDFW 2025).
Wildlife			
Invertebrates			
Bombus crotchii Crotch's bumble bee	--/SCE/--	This species occurs in grassland and scrub habitats. New colonies are initiated by solitary queens, generally in the early spring, which typically occupy abandoned rodent burrows (CDFW 2019). This species is a generalist forager and has been reported visiting a wide variety of flowering plants. The flight period for queens in California is from February to October. New queens hibernate over the winter and initiate a new colony the following spring. Crotch's bumble bees are rare throughout their range and are in decline in the Central Valley and southern California (CDFW 2019). The most current known range of this species follows a small strip from western Trinity County south to Tehama County and along the entire Central Valley and coast south of Monterey to the southernmost portions of the State. The range is generally bound on the east by the high Sierra Nevada range and areas east of Bishop, Ridgecrest, and the Salton Sea (CDFW 2023).	**No Potential**. Grassland and scrub habitats do not occur in the Study Area. The Study Area is located in an urban environment and is isolated from natural habitats this species could occur in. In addition, this species is currently considered rare throughout its range and is in decline in California. There are three documented occurrences of this species within five miles of the Sundance Bridge Study Area (CDFW 2025).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Branchinecta lynchi vernal pool fairy shrimp	FT/--/--	This species generally occurs in vernal pools but may also be found in seasonal wetlands, swales, and alkali pools. Typically found in turbid water but also occurs in clear water with abundant aquatic vegetation (CDFW 2025).	**No Potential**. Vernal pools and other suitable aquatic habitats do not occur in the Study Area. There are two documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Danaus plexippus pop. 1 monarch - California overwintering population	FC/--/--	Overwintering populations of monarch butterflies roost in wind protected tree groves, especially *Eucalyptus* spp., and species of pine or cypress with nectar and water sources nearby. Winter roost sites extend along the coast from Mendocino County to Baja California. As caterpillars, monarchs feed exclusively on the leaves of milkweed (*Asclepias* sp.; Nial *et al*. 2019 and USFWS 2020). Monarch butterfly migration routes pass east over the Sierra Nevada in the fall and back to the California coast in the spring. The overwintering population is located along the Coast while summer breeding areas occur in interior California and North America with spring breeding areas located further east (USFWS 2020).	**Low Potential.** The Study Area is not located in or near a winter roost zone and no milkweed plants were observed on-site. Individual butterflies may pass through the Study Area during migration but are not expected to be impacted by the project. There are no documented occurrences within five miles of the Study Area (CDFW 2025).
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT/--/--	This species depends on elderberry shrubs (*Sambucus* spp.) and typically occurs near rivers or streams. Stems at least a 1-inch diameter or greater are necessary for larvae and pupae development. Adults emerge in spring until early summer and exit holes are visible on shrub stems year-round (CDFW 2025).	**No Potential**. No elderberry shrubs were observed in the Study Area. There are ten documented occurrences of this species within five miles of the Study Area; ten within five miles of the Sundance Bridge Study Area and three of the ten within five miles of the Indian River Bridge and Matheny Bridge Study Area (CDFW 2025).
Lepidurus packardi vernal pool tadpole shrimp	FE/--/--	This species occurs in a variety of seasonally inundated habitats, particularly low-alkalinity seasonal pools in grasslands. Known to occur in vernal pools, wetlands, and other freshwater habitats. Generally occurs in larger, deeper features where dissolved oxygen levels are higher and features remain inundated for longer periods (CDFW 2025).	**No Potential**. Vernal pools and other suitable aquatic habitats do not occur in the Study Area. There is one documented occurrence of this species within five miles of the Indian River Bridge and Matheny Bridge Study Area (CDFW 2025).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Fishes			
Oncorhynchus mykiss irideus pop. 11 Central Valley steelhead	FT/--/SSC	This distinct population segment includes all naturally spawned anadromous steelhead populations below impassable barriers in the Sacramento and San Joaquin rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, as well as two artificial propagation programs: the Coleman National Fish Hatchery, and Feather River Hatchery steelhead hatchery programs. Steelhead spawn in rivers and streams with cool, clear, water and suitable silt free substrate (NMFS 2016).	**No Potential.** Arcade and Cripple Creeks do not provide suitable habitat for this species. Both creeks have been substantially altered by urbanization and no longer support suitable spawning habitat for salmonids. In addition, natural and artificial barriers are present within and downstream of the Study Area. There are two documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Amphibians			
Spea hammondii western spadefoot	FPT/--/SSC	This species occurs in a variety of open habitats including grasslands, coastal sage scrub, chaparral, sandy washes, and playas. It can also be found in valley-foothill woodlands and appears to prefer open areas with sandy or gravelly soils. This species spends the majority of its life underground and typically emerges between October and May to breed. Breeding occurs in vernal pools, depressional wetlands, and sometimes puddles. Breeding sites must remain inundated for at least 30 days for larvae to mature (CDFW 2025).	**No Potential.** Suitable breeding habitat does not occur in the Study Area and open habitat with sandy/gravelly soils is absent. In addition, the Study Area is located in an urban environment and is isolated from natural habitats this species could occur in. There is one documented occurrence of this species within five miles of the Sundance Bridge Study Area (CDFW 2025).
Reptiles			
Actinemys marmorata northwestern pond turtle	FPT/--/SSC	This species occurs in a variety of aquatic habitats; typically, permanent ponds, lakes, streams, irrigation ditches, canals, marshes, or pools in intermittent drainages. It appears to prefer areas lined with abundant vegetation and either rocky or muddy substrates. This species requires basking sites such as logs, rocks, cattail mats or exposed banks. The active season is from February to November, and breeding occurs from April to May. Sometime between late April and August, females climb onto land to dig a nest, usually along stream	**Moderate Potential**. Arcade and Cripple Creeks within the Study Area may provide suitable habitat for this species when sufficiently inundated. Arcade and Cripple Creeks in the Indian River Bridge and Matheny Bridge Study Area were completely dry at the time of the field survey on July 10, 2025, and did not provide suitable habitat for this species. However, Arcade Creek was inundated upstream of this segment in the Sundance Bridge Study Area and suitable

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
		or pond margins in areas with full sunlight, where they lay a clutch of 2 - 11 eggs. Hatchlings may emerge in late summer or fall, but some turtles may overwinter in the nest and emerge the following spring (Nafis 2025). Overwintering occurs in upland terrestrial habitats close to water sources (approximately 300 feet), in which they will bury themselves under loose soil (CDFW 2025). Nesting sites in uplands may be as far as 400 meters (1,312 feet) or more from the aquatic habitat, although the distance is usually much less and is generally around 100 meters (328 feet). In nonriverine habitats that experience little water level fluctuation, this species may overwinter underwater (Thomson *et al.* 2016).	habitat was present in this segment at the time of the field survey. There are five documented occurrences of this species within five miles of the Study Area; four within five miles of the Sundance Bridge Study Area and one within five miles of the Indian River Bridge and Matheny Bridge Study Area (CDFW 2025).
Thamnophis gigas giant garter snake	FT/ST/--	This species is endemic to the San Joaquin and Sacramento Valley floors. It inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands. This species requires adequate water during its active season (early spring through mid-fall) to provide food and cover, and also requires emergent, herbaceous wetland vegetation for foraging and cover, grassy banks and openings in waterside vegetation for basking, and higher elevation uplands for cover and refuge from flood waters during its dormant season (winter). It inhabits small mammal burrows and other soil crevices with sunny exposure along south and west facing slopes, above prevailing flood elevations when dormant. This species is primarily found in marshes and sloughs as well as slow-moving creeks but is absent from large rivers (USFWS 2024).	**No Potential.** Arcade and Cripple Creeks within the Study Area are within the historic range of this species but are outside of current known populations (Nafis 2025). Both creeks have been substantially altered by urbanization and no longer provide suitable habitat for this species. Both creeks in the Indian River Bridge and Matheny Bridge Study Area were completely dry at the time of the field survey on July 10, 2025, which is the time period this species requires water. Some water was flowing in the Sundance Bridge Study Area during the field survey but is isolated from other suitable habitats. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Birds			
Astur cooperii Cooper's hawk	--/--/WL	This species occurs in open woodlands, riparian forests, montane coniferous forests, and other open woodland habitats. It may also occur in wooded suburban habitats. Cooper's hawk nests high within a large tree and preys on medium-sized birds and small mammals (Zeiner et al. 1990).	**High Potential**. Suitable nesting and foraging habitats are present in the Study Area, especially in the valley oak woodland. There is one documented occurrence of this species within five miles of the Sundance Bridge Study Area (CDFW 2025).
Agelaius tricolor tricolored blackbird	--/ST/SSC	This species is common locally throughout central California. It nests and seeks cover in emergent wetland vegetation and thorny vegetation such as Himalayan blackberry (*Rubus armeniacus*). The nesting area must be large enough to support a minimum colony of 50 pairs as they are a highly colonial species. Typical nesting areas are in large wetlands, marshes, and large brambles of thorny vegetation in suitable foraging habitat. This species forages on the ground in croplands, grassy fields, flooded land, and on edges of ponds for insects (Shuford and Gardali 2008).	**Low Potential**. Suitable nesting habitat is not present in the Study Area, but this species could occasionally forage in the ruderal/disturbed portion of the Study Area. This species generally occurs in open, grassland, marsh, or agricultural habitats which are not present in or adjacent to the Study Area. Because these habitat types and suitable nesting habitat are absent from the Study Area, this species is not expected to occur or only expected to pass through or occasionally forage within the Study Area. There is one documented occurrence of this species within five miles of the Sundance Bridge Study Area (CDFW 2025).
Ammodramus savannarum grasshopper sparrow	--/--/SSC	This species is a summer resident of foothills and lowlands west of the Cascade-Sierra Nevada crest. It occurs in grasslands with scattered shrubs or other tall structures which it utilizes as singing perches. Grasshopper sparrows nest on the ground in dense grass with overhanging taller grasses and forbs (Zeiner et al. 1990).	**No Potential.** Suitable grassland habitat does not occur in or adjacent to the Study Area. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Aquila chrysaetos golden eagle	--/--/FP	This species occurs in a variety of open and semi-open habitats; generally rolling foothills, mountain areas, sage-juniper flats, and deserts. Typically nests in canyons, along cliffs, and in large trees. They avoid developed areas and uninterrupted stretches of forest. They are found primarily in mountains up to 12,000 feet, canyonlands, rimrock terrain, and riverside cliffs and bluffs (CDFW 2025).	**No Potential.** Suitable habitat for this species is not present in the Study Area. The Study Area is located in an urban environment and is isolated from natural habitats this species could occur in. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Athene cunicularia burrowing owl	--/SC/SSC	This species occurs in a variety of open habitats; typically grasslands, desert scrub, agricultural fields, washes, and disturbed areas such as golf courses or vacant lots. Burrowing owls forage on the ground in areas with low, sparse vegetation and with an abundance of small mammal burrows. They nest in burrows, especially those of California ground squirrel (*Otospermophilus beecheyi*), but will also use other refuge sites such as rubble piles, pipes, and culverts. In the Central Valley of California, most foraging occurs within a 600-meter radius of the nest (Gervais et al. 2003).	**No Potential**. Suitable open habitat for this species is not present in the Study Area and no burrows or other suitable refugia locations were observed. In addition, the Study Area is located in an urban environment and is isolated from natural habitats this species could occur in. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Buteo regalis ferruginous hawk	--/--/WL	In California, this species is known to breed in the upper northeast portion of the State and occurs throughout most of the State as a winter migrant. This species occurs in arid and semi-arid open grasslands, sagebrush flats, desert scrub, low foothills, and areas of pinyon and juniper habitat. It preys upon ground squirrels, rabbits, mice, and gophers. (Dechant et al. 1999).	**No Potential.** This species is generally a winter migrant in California and does not nest in the vicinity of the Study Area. The Study Area is located in an urban environment and is isolated from natural habitats this species could occur in. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Buteo swainsoni Swainson's hawk	--/ST/--	This species occurs in a variety of open habitats including expansive grasslands, agricultural areas, and open woodlands. They breed in California and winter in Mexico and South America. Swainson's hawks usually arrive in the Central Valley between March 1 and April 1 and migrate south between September and October. This species usually nests in trees adjacent to suitable foraging habitat but is	**Low Potential**. This species could potentially nest in the Study Area, especially in trees along Arcade or Cripple creeks. However, open habitat suitable for foraging is generally absent from the Study Area and the Study Area is located in an urban environment which may reduce the suitability of the habitat for this species.

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
		known to forage in areas away from the nest. Nests are usually located in trees near the edges of riparian stands, in lone trees or groves of trees in agricultural fields, and in mature roadside trees. Mature oak and riparian trees are the most used nest trees, typically associated with high quality foraging habitat (CDFW 2025). Suitable foraging areas for Swainson's hawk include native grasslands or lightly grazed pastures, alfalfa and other hay crops, idle land, certain grain and row croplands, and ruderal lands. Swainson's hawks primarily feed on voles; but will take a variety of prey including small mammals, birds, and insects.	There are two documented occurrences of this species within five miles of the Study Area; one within five miles of the Sundance Bridge Study Area and one within five miles of the Indian River Bridge and Matheny Bridge Study Area (CDFW 2025).
Coccyzus americanus occidentalis western yellow-billed cuckoo	FT/SE/--	This species occurs at isolated sites in the Sacramento Valley, and along the Kern and Colorado River systems in southern California. It occurs in valley foothill and desert riparian habitats dominated by willows and riparian habitats with dense understory foliage along river bottoms or other mesic habitats with high humidity. This species appears to prefer dense willows for roosting but will also use adjacent orchards in the Sacramento Valley. This species typically requires expansive riparian habitat for nesting (Zeiner et al. 1990). Riparian habitats between 100 to 200 acres are considered suitable nesting habitat, and areas between 50 to 100 acres considered marginal. This species rarely nests within habitat less than 50 acres and sites less than 37 acres are considered unsuitable (USFWS 2014).	**No Potential.** Expansive riparian habitat does not occur in the Study Area. In addition, the Study Area is located in an urban environment and is generally isolated from natural habitats this species could occur in. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Elanus leucurus white-tailed kite	--/--/FP	This species occurs in a variety of habitats including grasslands, savannah, oak woodland, riparian woodland, open suburban areas, and agriculture fields. Nest trees typically have a dense canopy or are within a dense group of trees, such as riparian forest or oak woodland. Foraging occurs within un-grazed or lightly-grazed fields, agricultural areas, and open grasslands (CDFW 2025).	**Low Potential.** This species could potentially nest in the Study Area, especially in trees along Arcade or Cripple Creeks. However, open habitat suitable for foraging is generally absent from the Study Area and the Study Area is located in an urban environment which may be unsuitable for this species. There are six documented occurrences of this species within five miles of the Study Area; five within five miles of the Sundance Bridge Study Area; three within five miles of the Indian River Bridge and Matheny Bridge Study Area (with two overlapping) and one within five miles of the Patton Bridge Study Area (overlapping occurrence; CDFW 2025).
Falco columbarius merlin	--/--/WL	This species is an uncommon winter migrant in California that breeds in Alaska and Canada. It occurs in a variety of habitats during winter including estuaries, Great Basin grassland, and valley and foothill grasslands. This species does not breed or nest within California (CDFW 2025).	**No Potential.** Suitable habitat for this species is not present in the Study Area and this species does not nest in California. In addition, the Study Area is located in an urban environment and is isolated from natural habitats this species could occur in. There is one documented occurrence of this species within five miles of the Sundance Bridge Study Area (CDFW 2025).
Laterallus jamaicensis coturniculus California black rail	--/ST/FP	The largest concentrations of this species are found in the tidal salt marshes of the northern San Francisco Bay region, primarily in San Pablo and Suisun Bays. Smaller populations also occur in San Francisco Bay, the Outer Coast of Marin County, freshwater marshes in the foothills of the Sierra Nevada, and in the Colorado River area (Spautz et. al. 2005). This species inhabits brackish marsh habitats, primarily in the upper marsh zone dominated by alkali heath (*Frankenia salina*), cattail (*Typha* spp.), and rush (*Juncus* spp.); and prefers lower salinity environments. In the Sierra Nevada	**No Potential.** Marsh or wetland habitats do not occur in the Study Area. No wetland fringes occur along Arcade or Cripple Creeks within the Study Area that could potentially provide habitat for this species. In addition, the Study Area is located in an urban environment and is generally isolated from natural habitats this species could occur in. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
		foothills, this species is a year-round resident along wetland edges where water is generally 1.2 inches or less and is typically found in wetlands 0.25 acre or larger. This species is typically associated with perennial wetlands associated with flowing water such as irrigation canals, perennial streams, and springs with dense vegetation in the Sierra Nevada foothills. It forages on the ground, under cover of dense vegetation (Richmond et al. 2010).	
Melospiza melodia song sparrow (Modesto Population)	--/--/SSC	This species occurs in the lower basin of the Central Valley, from Colusa County south to Stanislaus County and east of Suisun Marshes. It breeds in riparian thickets in shrubs or vines near fresh or saline emergent wetland habitat. Nests are typically situated low to the ground or on the ground under dense riparian vegetation (Shuford and Gardali 2008).	**No Potential.** The Study Area is outside of this species' known range and wetland habitat is absent. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Nannopterum auritum double-crested cormorant	--/--/WL	This species is a yearlong resident along the entire coast of California and on inland lakes, in fresh, salt, and estuarine waters. Rests in daytime and roosts overnight beside water on offshore rocks, islands, steep cliffs, dead branches of tall trees, wharfs, jetties, or even transmission lines. Nests in colonies along coastal cliffs, islands, and along large lake margins in the interior of the state (Zeiner et al. 1998).	**No Potential.** Suitable aquatic habitats do not occur in the Study Area. In addition, the Study Area is located in an urban environment and is isolated from natural habitats this species could occur in. There is one documented occurrence of this species within five miles of the Sundance Bridge Study Area (CDFW 2025).
Pandion haliaetus osprey	--/--/WL	Osprey breed in Northern California from the Cascade Ranges southward to Lake Tahoe, and along the coast south to Marin County. They prey primarily on fish but also predate small mammals, birds, reptiles, and invertebrates. Foraging areas include open, clear waters of rivers, lakes, reservoirs, bays, estuaries, and surf zones. Habitat and nesting requirements include large trees, snags, and dead-topped trees in open forest habitats for cover and nesting (Zeiner et al. 1990).	**No Potential.** Suitable nesting and foraging habitats do not occur in the Study Area. In addition, the Study Area is located in an urban environment and is isolated from natural habitats this species could occur in. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
Progne subis purple martin	--/--/SSC	This species occurs as an uncommon summer resident and migrant, primarily from mid-March to late September, and breeds from May to mid-August. Martins are most abundant in mesic regions, near large wetlands and other water bodies, and at upper slopes and ridges, which likely concentrate aerial insects (Shuford and Gardali 2008). This species nests in cavities in open areas with low canopy cover at the height of the nest, near large bodies of water that support high densities of large insects. Martins use a variety of cavities including in bridges, large tree snags, and collapsed lava tubes. This species is very sensitive to competition from European starlings and is extirpated from most low-elevation areas by starlings (Shuford and Gardali 2008).	**No Potential.** Suitable nesting habitat does not occur in the Study Area. No suitable cavities were observed at the three bridges that could support nesting for this species and no tree snags or other suitable nesting areas were observed in the Study Area. In addition, many European starlings were observed in the Study Area which typically limit the potential this species can occur. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Riparia riparia bank swallow	--/ST/--	This species is found primarily in riparian and lowland habitats in California. They nest in colonies along cliffs or steep riverbanks in holes. In California, a majority of the population is situated along the Sacramento River and the Feather River. Other smaller populations persist near Monterey and north of Shasta counties (Zeiner *et al*. 1990).	**No Potential.** Suitable nesting habitat does not occur in the Study Area and the Study Area is not located near the Sacramento or Feather rivers. There are three documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Mammals			
Antrozous pallidus pallid bat	--/--/SSC	Pallid bat occurs throughout California except for the high Sierra Nevada and the northern Coast Ranges. Suitable habitats include grasslands, shrublands, woodlands, and forests from sea level to 6,000 feet elevation. This species is most common in open, dry habitats with rocky areas for roosting; roosts also include cliffs, abandoned buildings, bird boxes, hollow trees, and under bridges. This species is primarily a crevice dweller, but recent studies have shown that they are also dependent upon tree roosts. Particularly, in northern California, pallid bat is more dependent	**Moderate Potential**. Suitable roosting habitat is present for this species within the Study Area. Several trees with cavities/hollows were observed in the Study Area that could provide roosting habitat and this species could forage throughout the Study Area. No evidence of roosting bats was observed under the four bridges but this species could utilize the bridges as roosting habitat. There is one documented occurrence of this species within five miles of the Sundance Bridge Study Area (CDFW 2025).

Species Name/ Common Name[1]	Status[2]	Habitat, Ecology and Life History	Potential to Occur
		upon oak woodland and oak savannah in lower elevations and may be found in coniferous forest, including redwoods at mid to higher elevations. This species is intolerant of roost disturbance and it has a high loyalty to roosting sites. If this species experiences frequent disturbance at a roost site, they will abandon the roost (Bolster ed. 1998).	
Taxidea taxus American badger	--/--/SSC	This species occurs in a variety of dry, open habitats including grasslands, open woodlands, shrublands, and open chaparral. Loose, friable soil is required for this species to dig den sites. It needs sufficient food, friable soils and open, uncultivated ground. This species is typically found in areas away from human activity (CDFW 2025).	**No Potential**. Suitable open habitat does not occur in the Study Area. In addition, the Study Area is located in an urban environment and is isolated from natural habitats this species could occur in. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).

[1] Sensitive species reported in CNDDB or CNPS on the "*Citrus Heights*" and eight surrounding USGS quads, or in the USFWS list for the Study Area.

[2] Status is as follows: Federal (ESA) listing/State (CESA) listing/other CDFW status or CRPR. F = Federal; S = State of California; E = Endangered; T = Threatened; C = Candidate; P = Proposed; FP=Fully Protected; SSC=Species of Special Concern; WL=Watch List.

[3] Status in the Project site is assessed as follows. **No Potential:** The Study Area is outside the known distribution of the species; or there is no suitable habitat present for the species; or, the species is not known to occur within five miles of the Study Area boundary, and its dispersal capability is less than five miles. **Low Potential:** There are no documented occurrences within five miles of the Study Area boundary, and the existing habitat is of low or marginal quality, or all documented occurrences within five miles of the Study Area line are believed to be extirpated, and existing habitat is of low or marginal quality, or extant occurrences are documented within five miles of the Study Area, and the most recent occurrence is greater than or equal to 25 years old. **Moderate Potential:** Documented occurrences are reported within five miles of the Study Area, the most recent occurrence is less than 25 but greater than 10 years old, and suitable habitat is present; or critical habitat is mapped within the Study Area, all primary constituent elements (PCEs) are present within the Study Area, and suitable habitat is present. **High Potential:** There are extant occurrences within one mile of the Study Area, the most recent occurrence is less than 10 years old, and there is suitable habitat within the Study Area; or critical habitat is mapped within the Study Area, documented occurrences are present within one mile of the Study Area, suitable habitat is present, and all PCEs are present within the Study Area.

CRPR = California Rare Plant Rank: 1B – rare, threatened, or endangered in California and elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere. Extension codes: .1 – seriously endangered; .2 – moderately endangered.

REFERENCES

Bolster, B.C., editor. 1998. Terrestrial Mammal Species of Special Concern in California. Draft Final Report prepared by P.V. Brylski, P.W. Collins, E.D. Pierson, W.E. Rainey and T.E. Kucera. Report submitted to California Department of Fish and Game Wildlife Management Division, Nongame Bird and Mammal Conservation Program for Contract No. FG3146WM.

California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database (CNDDB); For: *Citrus Heights, Folsom, Roseville, Rocklin, Carmichael, Buffalo Creek, Rio Linda, Pleasant Grove,* and *Sacramento East* USGS 7.5-minute series quadrangles, Sacramento, CA.

2023. Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species. California Department of Fish and Wildlife. Sacramento, CA.

2019. Report to the Fish and Game Commission: Evaluation of the Petition from the Xerces Society, Defenders of Wildlife and the Center for Food Safety to List Four Species of Bumble Bees as Endangered Under the California Endangered Species Act. April 2019. Special California Department of Fish and Wildlife, Sacramento, California, USA.

California Native Plant Society (CNPS). 2025. Inventory of Rare and Endangered Plants (online edition, v8-03 0.45) For: *Citrus Heights, Folsom, Roseville, Rocklin, Carmichael, Buffalo Creek, Rio Linda, Pleasant Grove,* and *Sacramento East* USGS 7.5-minute series quadrangles, Sacramento, CA.

Dechant, J. A., M. L. Sondreal, D. H. Johnson, L. D. Igl, C. M. Goldade, A. L. Zimmerman, and B. R. Euliss. 1999 (revised 2002). Effects of management practices on grassland birds: Ferruginous hawk. Northern Prairie Wildlife Research Center, Jamestown, ND. 23 pages.

Gervais, J. A., Rosenberg, D. K., and Anthony, R. G. 2003. Space use and pesticide exposure risk of male Burrowing Owls in an agricultural landscape. J. Wildl. Mgmt. 67:156–165.

Nafis, G. 2025. California Herps - A Guide to the Amphibians and Reptiles of California. Available at: http://www.californiaherps.com/.

National Marine Fisheries Service (NMFS). 2016. California Central Valley Steelhead Distinct Population Segment: 5-year Review. California Central Valley Area Office.

Nial K.R., Drizd, L. and Voorhies K.J. 2019. Butterflies Across the Globe: A Synthesis of the Current Status and Characteristics of Monarch (*Danaus plexippus*) Populations Worldwide. Front. Ecol. Evol. 7:362. doi: 10.3389/fevo.2019.00362

Richmond, O.W., Chen, S.K., Risk, B.B., Tecklin, J., and S. R. Beissinger. 2010. California Black Rails Depend on Irrigation-fed Wetlands in the Sierra Nevada Foothills. California Agriculture: Volume 2, Number 2.

Shuford, W.D., and T. Gardali, editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Spautz, Hildie; Nur, Nadav; Stralberg, Diana. 2005. California Black Rail (*Laterallus jamaicensis coturniculus*) Distribution and Abundance in Relation to Habitat and Landscape Features in the San Francisco Bay Estuary. In: Ralph, C. John; Rich, Terrell D., editors 2005. Bird Conservation Implementation and Integration in the Americas: Proceedings of the Third International Partners in Flight Conference. 2002 March 20-24; Asilomar, California, Volume 1 Gen. Tech. Rep. PSW-GTR-191. Albany, CA: U.S. Dept. of Agriculture, Forest Service, Pacific Southwest Research Station: p. 465-468

U.S. Fish and Wildlife Service (USFWS). 2020. Monarch *(Danaus plexippus*) Species Status Assessment Report. V2.1 96 pp + appendices.

2014. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Department of Fish and Game, Sacramento, California.

Appendix C

Plant and Wildlife Species Observed in the Study Area

Plant Species Observed

Family	Scientific Name	Common Name
Native		
Alismataceae	*Sagittaria sanfordii*	Sanford's arrowhead
Asteraceae	*Artemisia douglasiana*	California mugwort
Cyperaceae	*Cyperus eragrostis*	tall flatsedge
Fabaceae	*Acmispon americanus*	Spanish lotus
Fagaceae	*Quercus lobata*	valley oak
	Quercus wislizeni	interior live oak
Juncaceae	*Juncus mexicanus*	Mexican rush
Lauraceae	*Umbellularia californica*	California bay
Oleaceae	*Fraxinus latifolia*	Oregon ash
Onagraceae	*Epilobium brachycarpum*	annual fireweed
Salicaceae	*Populus fremontii*	Fremont cottonwood
Non-native		
Alliaceae	*Allium neapolitanum*	white garlic
Apiaceae	*Torilis arvensis*	field hedge parsley
Apocynaceae	*Vinca minor*	common periwinkle
Araliaceae	*Hedera helix*	English ivy
Arecaceae	*Washingtonia robusta*	Mexican fan palm
Asteraceae	*Carduus pycnocephalus*	Italian thistle
	Centaurea solstitialis	yellow star-thistle
	Cichorium intybus	chicory
	Dittrichia graveolens	stinkwort
	Lactuca serriola	prickly lettuce
	Taraxacum officinale	common dandelion
Bignoniaceae	*Catalpa speciosa*	northern catalpa
Brassicaceae	*Brassica nigra*	black mustard
	Capsella bursa-pastoris	shepherd's purse
Ericaceae	*Rhododendron* sp.	rhododendron
Fabaceae	*Albizia julibrissin*	silk tree
	Vicia villosa	hairy vetch
	Trifolium hirtum	rose clover
Geraniaceae	*Erodium botrys*	storksbill
	Geranium dissectum	cutleaf geranium
Juglandaceae	*Juglans* sp.	walnut
Lamiaceae	*Mentha pulegium*	pennyroyal
Malvaceae	*Malva parviflora*	cheeseweed mallow
Moraceae	*Ficus carica*	common fig
Myrsinaceae	*Lysimachia arvensis*	scarlet pimpernel
Oleaceae	*Ligustrum lucidum*	Chinese privet
Phytolaccaceae	*Phytolacca americana*	American pokeweed
Plantaginaceae	*Plantago lanceolata*	English plantain
Platanaceae	*Platanus × acerifolia*	London planetree
Poaceae	*Avena fatua*	wild oat
	Bromus diandrus	ripgut brome
	Bromus hordeaceus	soft brome
	Cynodon dactylon	Bermuda grass
	Cynosurus echinatus	dogtail grass
	Elymus caput-medusae	medusahead

Family	Scientific Name	Common Name
Poaceae (cont.)	*Festuca perennis*	Italian ryegrass
	Hordeum murinum	barley
	Paspalum dilatatum	Dallis grass
	Phalaris aquatica	canary grass
	Sorghum halepense	johnsongrass
Polygonaceae	*Rumex crispus*	curly dock
Rosaceae	*Rubus armeniacus*	Himalayan blackberry
Simaroubaceae	*Ailanthus altissima*	tree of heaven
Ulmaceae	*Ulmus* sp.	elm

Wildlife Species Observed

Family	Scientific Name	Common Name
Birds		
Anatidae	*Anas platyrhynchos*	Mallard
Ardeidae	*Ardea alba*	Great egret
Columbidae	*Columba livia*	Rock pigeon
	Zenaida macroura	Mourning dove
Corvidae	*Aphelocoma californica*	California scrub-jay
	Corvus brachyrhynchos	American crow
Fringillidae	*Haemorhous mexicanus*	House finch
	Spinus psaltria	Lesser goldfinch
Icteridae	*Agelaius phoeniceus*	Red-winged blackbird
	Euphagus cyanocephalus	Brewer's blackbird
Paridae	*Baeolophus inornatus*	Oak titmouse
Parulidae	*Setophaga coronata*	Yellow-rumped warbler
Passerellidae	*Junco hyemalis*	Dark-eyed junco
	Melozone crissalis	California towhee
	Pipilo maculatus	Spotted towhee
Passeridae	*Passer domesticus*	House sparrow
Phasianidae	*Meleagris gallopavo*	Wild turkey
Picidae	*Colaptes auratus*	Northern flicker
	Melanerpes formicivorus	Acorn woodpecker
Sturnidae	*Sturnus vulgaris*	European starling
Trochilidae	*Calypte anna*	Anna's hummingbird
Turdidae	*Catharus guttatus*	Hermit thrush
	Sialia mexicana	Western bluebird
	Turdus migratorius	American robin
Tyrannidae	*Sayornis nigricans*	Black phoebe
Mammals		
Cervidae	*Odocoileus hemionus columbianus*	Black-tailed deer
Procyonidae	*Procyon lotor*	Raccoon

Appendix D

Representative Site Photographs



Photo 1. Representative view of the Study Area at the Indian River Drive crossing; facing northeast. Photo taken 7/10/2025.



Photo 2. View of the Indian River Drive crossing on the southern bank of Arcade Creek; facing east. Photo taken 7/10/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 3. View of the Indian River Drive crossing on the southern bank of Arcade Creek; facing northwest. Photo taken 7/10/2025.



Photo 4. Arcade Creek upstream of the Indian River Drive crossing; facing south. Photo taken 7/10/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 5. Arcade Creek downstream of the Indian River Drive crossing; facing west. Photo taken 7/10/2025.



Photo 6. Bank of Arcade Creek at the Indian River Drive crossing with Tree #12 in the foreground; facing south. Photo taken 7/10/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 7. Valley oak woodland habitat at the Indian River Drive crossing; facing east. Photo taken 7/10/2025.



Photo 8. Ephemeral drainage at the Indian River Drive crossing; facing southwest. Photo taken 7/10/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 9. Confluence of Arcade Creek and Cripple Creek at the Indian River Drive crossing; facing northeast. Photo taken 7/10/2025.



Photo 10. Representative view of the Matheny Way crossing; facing east. Photo taken 7/10/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 11. Representative view of the Matheny Way crossing with Tree #9 and Tree #10 on the left side of the photo; facing west. Photo taken 7/10/2025.



Photo 12. View of Arcade Creek with the Matheny Way crossing in the background; facing east. Photo taken 7/10/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 13. View of Arcade Creek west of the Matheny Way crossing; facing west. Photo taken 7/10/2025.



Photo 14. View of Arcade Creek east of the Matheny Way crossing; facing north. Photo taken 7/10/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 15. View of the Matheny Way crossing from the bed of Arcade Creek with Tree #4; facing south. Photo taken 7/10/2025.



Photo 16. View of Arcade Creek and the surrounding valley oak woodland from the Matheny Way crossing; facing east. Photo taken 7/10/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 17. Representative view of the Arcade-Cripple Creek Trail crossing; facing east. Photo taken 7/10/2025.



Photo 18. View of the Arcade-Cripple Creek Trail crossing; facing west. Photo taken 7/10/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 19. Arcade Creek east of the Arcade-Cripple Creek Trail crossing; facing east. Photo taken 7/10/2025



Photo 20. Arcade Creek west of the Arcade-Cripple Creek Trail crossing with ruderal/disturbed habitat within the transmission line right-of-way on the opposite bank; facing west. Photo taken 7/10/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 21. Valley oak woodland within the Arcade-Cripple Creek Trail crossing Study Area; facing south. Photo taken 7/10/2025.



Photo 22. Ephemeral drainage within the Arcade-Cripple Creek Trail crossing Study Area; facing south. Photo taken 7/10/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 23. View of the Patton Avenue crossing; facing northeast. Photo taken 12/4/2025.



Photo 24. Disturbed habitat abutting Cripple Creek and Tree #18 at the Patton Avenue crossing; facing north. Photo taken 12/4/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos



Photo 25. Sanford's arrowhead observed in the bed of Cripple Creek near the crossing; facing southeast. Photo taken 12/4/2025.



Photo 26. Sanford's arrowhead observed in the bed of Cripple Creek near the crossing; facing west. Photo taken 12/4/2025.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\BRA\Appendices\App D_Photos

Appendix D

Cultural Resources Assessment

HELIX Environmental Planning

Citrus Heights Creek Erosion and Bridge Scour Protection Project

Cultural Resources Assessment

May 2026 | 04339.00027.001

Prepared for:

City of Citrus Heights
6360 Fountain Square Drive
Citrus Heights, CA 95621

Prepared by:

HELIX Environmental Planning, Inc.
1108 Iron Point Road, Suite 130
Folsom, CA 95630

This page intentionally left blank

TABLE OF CONTENTS

Section **Page**

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1

2.0 PROJECT LOCATION AND DESCRIPTION 1

2.1 Project Location 1
2.2 Project Description 1
2.2.1 Indian River Bridge 2
2.2.2 Matheny Bridge 2
2.2.3 Sundance Bridge 2
2.2.4 Patton Bridge 3
2.3 Area of Potential Effects 3
2.4 Personnel 3

3.0 CULTURAL SETTING 4

3.1 Precontact 4
3.2 Ethnography 6
3.3 History 7

4.0 REGULATORY FRAMEWORK 8

4.1 National Historic Preservation Act of 1966 (16 USC 470) 8
4.1.1 Section 106 8
4.1.2 National Register of Historic Places 9
4.2 California Environmental Quality Act 10
4.2.1 California Register of Historical Resources 11
4.3 California Health and Safety Code §7050.5 12
4.4 California Public Resources Code §5097.98 12
4.5 City of Citrus Heights General Plan 12

5.0 BACKGROUND RESEARCH 14

5.1 CHRIS RECORDS SEARCH 14
5.1.1 Previous Studies 14
5.1.2 Previously Recorded Resources 16
5.1.3 Caltrans Bridge Survey 17
5.2 Native American Heritage Commission Sacred Lands File Search 17

6.0 PEDESTRIAN SURVEY 17

6.1 Survey Methods 17
6.2 Survey Results 17
6.2.1 Indian River Bridge and Matheny Bridge Study Area 17
6.2.2 Sundance Bridge Study Area 18
6.2.3 Patton Bridge Study Area 18

TABLE OF CONTENTS (cont.)

Section			Page
7.0	SUMMARY AND RECOMMENDATIONS		19
	7.1	Summary	19
	7.2	Recommendations	19
		7.2.1 Accidental Discovery of Cultural Resources	19
		7.2.2 Accidental Discovery of Human Remains	20
8.0	REFERENCES		21

LIST OF TABLES

No.	Title	Page
1	Previous Studies Conducted Within 0.5 Mile of the APE	14
2	Previously Recorded Cultural Resources Within 0.5 Mile of the APE	16

LIST OF APPENDICES

A Figures
B Representative Survey Photographs

ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CHL	California Historical Landmark
CHRIS	California Historical Resources Information System
City	City of Citrus Heights
CFR	Code of Federal Regulations
County	Sacramento County
CRA	Cultural Resources Assessment
CRHR	California Register of Historical Resources
CCTS	Central California Taxonomic System
CSU	California State University
HELIX	HELIX Environmental Planning, Inc.
IS/MND	Initial Study / Mitigated Negative Declaration
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NPS	National Park Service
PG&E	Pacific Gas and Electric
PRC	Public Resources Code
project	Citrus Heights Creek Erosion and Bridge Scour Protection Project
RPA	Registered Professional Archaeologist
sf	square feet
SHPO	State Historic Preservation Officer
USACE	U.S. Army Corps of Engineers
USC	United States Code
USGS	U.S. Geological Survey

This page intentionally left blank

EXECUTIVE SUMMARY

This report summarizes the findings of a Cultural Resources Assessment (CRA) completed by HELIX Environmental Planning, Inc. (HELIX) for the proposed Citrus Heights Creek Erosion and Bridge Scour Protection Project (project) located in the City of Citrus Heights (City) in Sacramento County, California. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath the Indian River Drive Bridge (Indian River Bridge), Matheny Way Bridge (Matheny Bridge), Arcade-Cripple Creek Trail Bridge (Sundance Bridge), and Patton Avenue Bridge (Patton Bridge). The project would also include the removal of an abandoned Consolidated Communications, Inc. and Comcast joint trench with exposed conduits in the creek bed near the Indian River Bridge, and would include the relocation of existing and exposed Pacific Gas and Electric (PG&E) inactive and active gas lines near the Matheny Bridge. The project work would occur where natural erosion is impacting existing public infrastructure and inhibiting City maintenance activities.

The project is proposed to extend the service life of the bridges, maintain public safety, protect critical infrastructure, and reduce long-term maintenance needs. The City is required to submit a cultural resources assessment to ensure compliance with State and local laws and regulations as they relate to cultural resources, including the California Environmental Quality Act (CEQA). The project may also qualify as an *undertaking* subject to the requirements of Section 106 of the National Historic Preservation Act (NHPA) for the anticipated Clean Water Act Section 404 permitting with the U.S. Army Corps of Engineers (USACE), and this CRA is also intended to fulfill the requirements of the NHPA.

A records search of the project's Areas of Potential Effects (APE) and a 0.5-mile radius identified 28 previous cultural resource studies, including six that included or intersected the APE. The records search also identified six cultural resources within the search radius, although none of the resources are located within the APE itself. These are dominated by historic-era buildings and include one precontact lithic scatter.

HELIX archaeologists conducted pedestrian surveys of the entirety of the APE. Ground visibility was generally poor during the surveys (i.e., less than 15 percent of the ground surface was visible). No precontact or historic-era cultural resources were found during the surveys.

Based on the results of this CRA, HELIX recommends implementation of measures to address the accidental discovery of cultural resources and/or human remains during project activities (see Section 7.2, *Recommendations*). HELIX concludes that, with the implementation of these recommendations, the following findings are appropriate for the project:

- ***No Significant Impact on Historical or Unique Archaeological Resources*** under *CEQA Guidelines* Section 15064.5;
- ***No Significant Impact to Human Remains*** resulting from disturbance; and
- ***No Adverse Effect to Historic Properties*** under Section 106 (36 Code of Federal Regulations [CFR] Part 800.5[a]).

No additional study or documentation for cultural resources are recommended at this time. However, in the unlikely event that archaeological cultural resources, and/or human remains, or funerary objects are discovered during project construction, the provisions contained in Section 7.2 of this report should be implemented to avoid or substantially reduce the severity of impacts to such finds.

1.0 INTRODUCTION

This Cultural Resources Assessment (CRA) addresses the proposed Citrus Heights Creek Erosion and Bridge Scour Protection Project (herein referred to as the "proposed project" or "project") located in the City of Citrus Heights (City) in Sacramento County (County), California. The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath the Indian River Drive Bridge (Indian River Bridge), the Matheny Way Bridge (Matheny Bridge), the Arcade-Cripple Creek Trail Bridge (Sundance Bridge), and the Patton Avenue Bridge (Patton Bridge).

An Initial Study/Mitigated Negative Declaration (IS/MND) is being prepared to satisfy the requirements of the California Environmental Quality Act (CEQA; PRC Section 21000 et seq.) and the CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that State and local government agencies consider the environmental consequences of projects over which they have discretionary authority before they approve or implement those projects. The project may also qualify as an *undertaking* subject to the requirements of Section 106 of the National Historic Preservation Act (NHPA) for the anticipated Clean Water Act Section 404 permitting with the U.S. Army Corps of Engineers (USACE). Therefore, this CRA, which has been prepared to identify cultural resources and/or human remains that may be subject to impact or disturbance as a result of project implementation, is intended to satisfy the requirements of both CEQA and NHPA.

2.0 PROJECT LOCATION AND DESCRIPTION

2.1 PROJECT LOCATION

The project site comprises three noncontiguous locations, or study areas, in the City of Citrus Heights: the Indian River Bridge and Matheny Bridge cross Arcade Creek share a study area just north of Greenback Lane; the Sundance Bridge also crosses Arcade Creek, and its study area is located east of Fair Oaks Boulevard on the Arcade-Cripple Creek Trail in the Sundance Natural Area; and the Patton Bridge crosses Cripple Creek, and its study area is located just south of Twin Oaks Avenue. The Indian River Bridge and Matheny Bridge study area is located within Section 33, Township 10 North, Range 6 East; the Sundance Bridge study area is located within Section 30, Township 10 North, Range 7 East; and the Patton Bridge study area is located within Section 13, Township 10 North, Range 6 East. All three project site locations are depicted on the U.S. Geological Survey (USGS) *Citrus Heights* 7.5-minute quadrangle. See Figure 1, *Site and Vicinity Map*, for the project vicinity map and Figures 2a through 2c, *Indian River Drive and Matheny Way Area of Potential Effects*, *Sundance Bridge Area of Potential Effects*, and *Patton Bridge Area of Potential Effects*, respectively, for aerial maps (all figures are included as Appendix A, *Figures*).

2.2 PROJECT DESCRIPTION

The project would include the installation of scour and erosion protection measures, including creek channel and slope stabilization, underneath Indian River Bridge, Matheny Bridge, Sundance Bridge, and Patton Bridge. The project work would occur where natural erosion is impacting existing public infrastructure and inhibiting City maintenance activities. The project is proposed to extend the service life of the bridges, maintain public safety, protect critical infrastructure, and reduce long-term

maintenance needs. A detailed description of proposed project activities at each project impact area is outlined below.

2.2.1 Indian River Bridge

Project activities at the Indian River Bridge project impact area would include the installation of rock slope protection in the creek bed. The project would place rock slope protection in the form of Class IV[1] stones used as rip rap on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel. Smooth foundation would be placed underneath the filter. Rip rap would be placed on the creek bed and on the embankments of Arcade Creek from the existing rip rap to the edge of the abutment walls. The total project impact area at Indian River Bridge would be 0.27 acre.

The project would also include the removal of an abandoned Consolidated Communications and Comcast joint trench with exposed conduits in the creek bed. The proposed project would include slope restoration on the west, or downstream, side of the abandoned joint trench.

The Indian River Bridge study area would be accessed from Indian River Drive. Tree removal is anticipated for the proposed project activities at the Indian River Bridge.

2.2.2 Matheny Bridge

Project activities at the Matheny Bridge project impact area would include the installation of rock slope protection in the creek bed. The project would place rock slope protection in the form of Class I[2], II[3], or IV stones used as rip rap on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel. Smooth foundation would be placed underneath the filter. Rip rap would be placed on the creek bed and on the embankments of Arcade Creek from the existing rip rap to the edge of the abutment walls. The total project impact area at Matheny Bridge would be 0.14 acre.

The proposed project activities would require the coordination with Pacific Gas and Electric and the City to relocate existing exposed inactive and active gas lines.

The Matheny Bridge study area would be accessed from Matheny Way. Tree removal is anticipated for the proposed project activities at the Matheny Bridge.

2.2.3 Sundance Bridge

Project activities at the Sundance Bridge project impact area would include the installation of rock slope protection in the creek bed. The project would place rock slope protection in the form of Class I or II stones used as rip rap on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel.

[1] Class IV stones refer to 300 pound weighted rocks, as designated by Caltrans Rock Slope Protection (RSP) Guidelines. Available at: https://dot.ca.gov/-/media/dot-media/programs/design/documents/f0002770-2016-07-15-implementation-of-rsp-design-a11y.pdf.

[2] Class I stones refer to 20 pound weighted rocks, as designated by Caltrans Rock Slope Protection (RSP) Guidelines. Available at: https://dot.ca.gov/-/media/dot-media/programs/design/documents/f0002770-2016-07-15-implementation-of-rsp-design-a11y.pdf.

[3] Class II stones refer to 60 pound weighted rocks, as designated by Caltrans Rock Slope Protection (RSP) Guidelines. Available at: https://dot.ca.gov/-/media/dot-media/programs/design/documents/f0002770-2016-07-15-implementation-of-rsp-design-a11y.pdf.

Smooth foundation would be placed underneath the filter. Rip rap would be placed on the creek bed and on the embankments of Arcade Creek from the existing rip rap to the edge of the abutment walls. The total project impact area at Sundance Bridge would be 0.04 acre. The Sundance Bridge project impact area would be accessed from the existing trail in Sundance Park. Tree removal is not anticipated for the proposed project activities at Sundance Bridge.

2.2.4 Patton Bridge

Project activities at the Patton Bridge project impact area would include the installation of rock slope protection in the creek bed. The project would grade the existing conditions to expose three encompassed existing piers adjacent to the right abutment and fill the existing erosion on the left abutment. The project would also grade the slope of the embankments and place Class I or II stones as rip rap along the embankments and channel bed. The soil would be replaced with Class IV stones used as rip rap and placed on top of filter fabric or on top of at least a 6-inch thick layer of sand and gravel. The total project impact area at Patton Bridge would be 0.12 acre.

The Patton Bridge study area would be accessed from Patton Avenue. Tree removal is not anticipated for the proposed project activities at Patton Bridge.

2.3 AREA OF POTENTIAL EFFECTS

The Area of Potential Effects (APE) for the project is defined as the geographic area within which project activities may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist.

For the purposes of this CRA, the APE corresponds to the three discrete study areas described in Chapter 2.0 above, although actual project impact areas would be limited to smaller areas within each study area. APE maps showing the study area and impact area boundaries are provided as Figures 2a through 2c:

- Indian River Bridge and Matheny Bridge: The study area that includes these two bridges measures 11.12 acres, including a 0.27-acre project impact area for the Indian River Drive Bridge and a 0.14-acre project impact area for the Matheny Way Bridge.
- Sundance Bridge: The study area measures 4.45 acres, including a 0.04-acre project impact area.
- Patton Bridge: The study area measures 1.19 acres, including a 0.12-acre project impact area.

All construction staging would be contained within the project impact areas, which, when combined, is approximately 0.43 acre. The vertical extent of the APE has not yet been determined but is expected to extend to no more than 26 inches below the current ground surface. The only exception is at the Indian River Bridge, where the plunge pool will extend to a maximum depth of 86 inches.

2.4 PERSONNEL

This CRA was conducted and written by HELIX Senior Cultural Resources Project Manager, Clarus Backes, M.A., RPA. Mr. Backes meets the Secretary of the Interior's Professional Qualifications Standards for Archeology (36 Code of Federal Regulations [CFR] Part 61) and is a cultural resources project manager

with 26 years of professional experience throughout California. He has overseen numerous projects for compliance with Section 106 of the NHPA and CEQA. Fieldwork for this CRA was conducted by Mr. Backes and HELIX staff archaeologist Leah Wargo, M.A., RPA.

3.0 CULTURAL SETTING

The following is a brief overview of the prehistoric and historic background that provides context within which to understand the background and significance of sites found in the general vicinity of the project site. This section is not intended to be a comprehensive review of current research in the area but instead serves as a generalized overview. Descriptions that are more detailed can be found in ethnographic studies, mission records, and major published sources, including Kroeber (1925), Wallace (1955), Warren (1968), Wilson and Towne (1978), Moratto (1984), and Chartkoff and Chartkoff (1984).

3.1 PRECONTACT

Early archaeological investigations in central California were conducted at sites located in the Sacramento-San Joaquin Delta region. The first published account documents investigations in the Lodi and Stockton area (Schenck and Dawson 1929). The initial archaeological reports were typically limited to descriptive narratives, although more systematic approaches were sponsored by Sacramento Junior College in the 1930s. At the same time, the University of California at Berkeley excavated several sites in the lower Sacramento Valley and Delta region, which revealed archaeological site patterns based on variations of inter-site assemblages. Research during the 1930s identified temporal periods in central California prehistory and provided an initial chronological sequence (Lillard and Purves 1936; Lillard et al. 1939). In 1939, Lillard noted that each cultural period led directly to the next and that influences spread from the Delta region to other regions in central California (Lillard et al. 1939). In the late 1940s and early 1950s, Beardsley (1948, 1954) documented similarities in artifacts between sites in the San Francisco Bay region and the Delta and refined his findings into a cultural model that ultimately became known as the Central California Taxonomic System (CCTS). This system proposed a uniform, linear sequence of cultural succession. The CCTS system was challenged by Gerow (1954, 1974; Gerow with Force 1968), whose work looked at radiocarbon dating to show that Early and Middle Horizon sites were not subsequent developments but, at least partially, contemporaneous.

To address some of the flaws in the CCTS system, Fredrickson (1973) introduced a revision that incorporated a system of spatial and cultural integrative units. Fredrickson separated cultural, temporal, and spatial units from each other and assigned them to six chronological periods: Paleo-Indian (10000 to 6000 B.C.); Lower Middle and Upper Archaic (6000 B.C. to A.D. 500); and Emergent (Upper and Lower, A.D. 500 to 1800). The suggested temporal ranges are similar to earlier horizons, which are broad cultural units that can be arranged in a temporal sequence (Moratto 1984). In addition, Fredrickson defined several patterns, which are a general way of life shared within a specific geographical region. These patterns include:

- Windmiller Pattern or Early Horizon (3000 to 1000 B.C.)
- Berkeley Pattern or Middle Horizon (1000 B.C. to A.D. 500)
- Augustine Pattern or Late Horizon (A.D. 500 to historic period)

Brief descriptions of these temporal ranges and their unique characteristics follow.

Windmiller Pattern or Early Horizon (3000 to 1000 B.C.)

Characterized by the Windmiller Pattern, the Early Horizon was centered in the Cosumnes district of the Delta and emphasized hunting rather than gathering, as evidenced by the abundance of projectile points in relation to plant processing tools. Additionally, atlatl, dart, and spear technologies typically included stemmed projectile points of slate and chert but minimal obsidian. The large variety of projectile point types and faunal remains suggests exploitation of a variety of terrestrial and aquatic species (Bennyhoff 1950; Ragir 1972). Burials occurred in cemeteries and intra-village graves. These burials typically were ventrally extended and contain a high number of grave goods, although some dorsal extensions with a westerly orientation are also known. Trade networks focused on the acquisition of ornamental and ceremonial objects in finished form rather than on raw material. The presence of artifacts made of exotic materials such as quartz, obsidian, and shell indicates an extensive trade network that may represent the arrival of Utian populations into central California. Also indicative of this period are rectangular *Haliotis* and *Olivella* shell beads and charmstones that were usually perforated.

Berkeley Pattern or Middle Horizon (1000 B.C. to A.D. 500)

The Middle Horizon is characterized by the Berkeley Pattern, which displays considerable changes from the Early Horizon. This period exhibited a strong milling technology represented by minimally shaped cobble mortars and pestles, although metates and manos were still used. Dart and atlatl technologies during this period were characterized by non-stemmed projectile points made primarily of obsidian. Fredrickson (1973) suggests that the Berkeley Pattern marked the eastward expansion of Miwok groups from the San Francisco Bay Area. Compared with the Early Horizon, there is a higher proportion of grinding implements at this time, implying an emphasis on plant resources rather than on hunting. Typical burials were in flexed positions with variable cardinal orientation and included some cremations. As noted by Lillard, the practice of spreading ground ochre over the burial was common at this time (Lillard et al. 1939). Grave goods during this period are generally sparse and typically include only utilitarian items and a few ornamental objects. However, objects such as charmstones, quartz crystals, and bone whistles occasionally were present, which suggests the economic or ceremonial significance of the individual (Hughes 1994). During this period, larger populations are indicated by the number and depth of sites compared with the Windmiller Pattern. According to Fredrickson (1973), the Berkeley Pattern reflects gradual expansion or assimilation of different populations, with a gradual shift in economic emphasis, rather than abrupt population replacement.

Augustine Pattern or Late Horizon (A.D. 500 to historic period)

The Late Horizon is characterized by the Augustine Pattern, which represents a further shift in the general subsistence pattern. Changes include the introduction of bow and arrow technology, with acorns becoming the predominant food resource. Trade systems expanded to include raw resources as well as finished products. The Augustine Pattern is also marked by an increase in baked clay artifacts and extensive use of elaborately shaped Haliotis ornaments. Burial patterns retained the use of flexed burials with variable orientation, but there was a reduction in the use of ochre and widespread evidence of cremation (Moratto 1984). Judging from the number and types of grave goods associated with the two types of burials, cremation seems to have been reserved for individuals of higher status, whereas other individuals were buried in flexed positions. Johnson (1976) suggests that the Augustine Pattern represents the expansion of the Wintuan population from the north, which resulted in combining new traits with those established during the Berkeley Pattern.

Central California research has expanded from an emphasis on defining chronological and cultural units to a more comprehensive look at settlement and subsistence systems. This shift is illustrated by the early use of burials to identify mortuary assemblages and more recent research using osteological data to determine the health of prehistoric populations (Dickel et al. 1984). Although debate continues over a single model or sequence for central California, the general framework consisting of three temporal/cultural units is generally accepted, although the identification of regional and local variation is a major goal of current archaeological research.

3.2 ETHNOGRAPHY

At the time of European contact, the project vicinity was occupied by the Southern Maidu (alternatively known as Nisenan), who were identified by their language, which is a subgroup of the California Penutian linguistic family. The Maidu are divided, mainly on dialectic grounds, into the Southern Maidu (living within the American River drainage plus parts of the Bear, Cosumnes, and Yuba rivers), the Northeastern Maidu (on the upper reaches of the North and Middle Forks of Feather River), and the Northwestern Maidu (below the foothills of the Sierra Nevada where the south, middle, north, and west branches of Feather River converge and on upper Butte and Chico creeks as well as parts of the Sacramento Valley). The Southern Maidu villages ranged in population from 15 to 25 people, with the tribal centers averaging more than 500 people. Large settlements consisted of one major village with associated smaller, seasonal camps. Villages were typically located on ridges above major streams and rivers and were inhabited mainly in the winter months. During the hot summer months, the Southern Maidu moved to cooler temporary camps in higher elevations.

The local environment provided abundant food sources, with seasonal gathering conducted mainly by women and children. Hunting and fishing, primarily conducted by the men, were year-round pursuits but were most successful in the late summer and early fall. The Southern Maidu had few contacts outside their immediate tribal territory, and those contacts were limited to warfare, trade, and ceremonial gatherings. Villages were led by a headman or advisor, but each extended family had a leader who assisted the village headman. Some of the headsman's duties included advising the people in general, preventing them from trespassing, directing ceremonies and festivities, arbitrating disputes, and leading the village in times of warfare. Typically, the dead were cremated along with their property, and their dwelling was either moved or destroyed.

The Maidu practiced a religion called *Kuksu*, which was widespread among California Native Americans and appeared in various forms. Ceremonies were typically conducted in the semi–subterranean dance houses that were centrally located within each village. A ceremony celebrated annually in the fall was the mourning ceremony that honored ancient ancestors as well as the individuals who had died during the year.

Early contact with the Spanish was limited to the southern edge of the Southern Maidu territory, with most early accounts resulting from early penetrations of the Spanish into the Plains Miwok territory. During the late 18th century, systematic removal to the missions and resistance by the Miwok occurred along the southern border of Maidu territory. No records exist of the Maidu being removed to the missions. However, the Maidu did receive missionized Native Americans into their territory, as well as displaced Miwok villagers on their southern borders (Wilson and Towne 1978:387–97).

In 1833, a massive epidemic, believed to have been malaria, swept through the Sacramento Valley (Cook 1955). The exact number of casualties is unknown, but it is estimated that 75 percent of the Maidu

population was killed, leaving only a fraction of the original number to face the intruding miners and settlers that arrived when gold was discovered in Coloma in 1848.

3.3 HISTORY

The first Europeans to visit the interior of California were Spanish expeditions launched to recapture Native Americans who had escaped from the rule of coastal missions (Heizer and Almquist 1971, Napton 1997:6). Catholic missions were the hallmark of the Spanish Period (1796-1822) in California, during which time 21 missions were established by the Franciscan Order along the coast between San Diego (among the earliest of missions) and San Francisco. Among the first Europeans to formally explore the Central Valley was Lieutenant Gabriel Moraga, who led excursions in the area between 1806 and 1808 to examine the area's main waterways, including what we today call the American, Calaveras, Cosumnes, Feather, Merced, Mokelumne, Sacramento, San Joaquin, and Stanislaus rivers. In 1813, Moraga again ventured into the Central Valley, this time focusing on the south, and coined the name of the San Joaquin River (Hoover et al. 2002:369). Luis Arguello led the last of the Spanish expeditions into the Central Valley in 1817 when he traveled up the Sacramento River, past current-day Sacramento, and into the mouth of the Feather River before turning back to the coast (Beck and Haase 1974:18, 20; Grunsky 1989:3-4).

The most drastic and permanent change to the Native Americans' way of life came with the establishment of the Spanish Mission system. By the early 1800s, the mission fathers began a process of cultural change that brought the majority of the local Native Americans into the missions, although the Maidu, especially the ones living in the mountain regions, were not as affected as the Native Americans living in the coastal regions near the missions. At the expense of traditional skills, the neophytes were taught the pastoral and horticultural skills of the Hispanic tradition. Spanish missionaries traveled into the Valley to recapture escaped neophytes and recruit inland Native Americans for the coastal missions. In 1834, the Mission system was officially secularized, and the majority of the mission Native American population dispersed to local ranches, villages, or nearby pueblos (Kroeber 1925). Soon after the establishment of the mission system, a process of granting large parcels of land to prominent individuals began. Within a few years, ranchos occupied large tracts in the vicinity of the missions, and a pastoral economy involving the missions, the ranchos, and native inhabitants was established (Kyle et al. 1990).

With the declaration of Mexican independence in 1821, Spanish control of Alta California ended, although little change actually occurred. Political change did not take place until mission secularization in 1834, when Native Americans were released from missionary control, and the mission lands were granted to private individuals. Shoup and Milliken (1999) state that mission secularization removed the social protection and support on which Native Americans had come to rely. It exposed them to further exploitation by outside interests, often forcing them into a marginal existence as laborers for large ranchos. Following mission secularization, the Mexican population grew as the native population continued to decline. European–American settlers began to arrive in Alta California during this period and often married into Mexican families in order to become Mexican citizens who were eligible to receive land grants. In 1846, on the eve of the U.S.–Mexican War (1846 to 1848), the estimated population of Alta California was 8,000 non–natives and 10,000 natives. However, these estimates have been debated - Cook (1976) suggests the Native American population was 100,000 in 1850; the U.S. Census of 1880 reported the Native American population as 20,385.

Settlement of the Sacramento area began in the late 1830s and early 1840s, when entrepreneurs such as John Sutter and Jared Sheldon obtained land grants from the Mexican government in exchange for an

agreement to protect Mexican interests in these remote regions. In 1839, John Sutter built the earliest Euro-American settlement within Sacramento County. Named Sutter's Fort, it was a well-known outpost that brought with it an increase in Euro-American trappers, hunters, and settlers to the Sacramento area. John Sutter also founded New Helvetia, a trading and agricultural outfit, which was based out of Sutter's Fort, close to the location where the Sacramento and American rivers split, near today's City of Sacramento (Hoover et al. 2002).

The Mexican period was also characterized by the exploration of the western Sierra Nevada mountain range by American fur trappers and later, miners. Jedediah Smith, an American trapper, is known to have explored the Sierra Nevada in 1826 and 1827, entering the Sacramento Valley and traveling along the American and Cosumnes rivers and through the San Joaquin Valley. Soon after, other trappers ventured into the area, including those involved with the Hudson's Bay Company in 1832 (Hoover et al. 2002:370). Colonel J. Warner is also known to have traveled with the Ewing-Young trapping expedition, which passed through the Central Valley in 1832 and 1833 (Gilbert 1879:11).

The American period in California began in 1848 with the end of the Mexican-American War (1846 – 1848), and the ensuing Treaty of Guadalupe Hidalgo, which officially made California a territory of the United States. Soon after, gold was discovered at Sutter's Mill, located along the American River in Coloma. By 1849, over 80,000 people had emigrated to try to stake their claims and strike it rich in the California Gold Rush. Due to this population boom, and the industries that popped up as a result, California was made the 31st state of the United States in 1850, and by 1854, the bustling town of Sacramento was made the state capital.

4.0 REGULATORY FRAMEWORK

4.1 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (16 USC 470)

The National Historic Preservation Act of 1966 (16 United States Code [USC] 470), enacted in 1966, declared a national policy of historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer (SHPO) and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes in preserving their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP).

4.1.1 Section 106

Section 106 of the NHPA states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in or eligible for inclusion in the NRHP, and that the ACHP must be afforded an opportunity to comment on such undertakings through a process outlined in 36 CFR Part 800. The Section 106 process involves the identification of historic properties within the APE, the determination of whether the undertaking will cause an adverse effect on historic properties, and the resolution of those adverse effects through consultation with parties to the Section 106 review process, most prominently including the California SHPO and Native American tribes.

4.1.2 National Register of Historic Places

The National Register was authorized by Section 101 of the NHPA as the nation's official list of cultural resources worthy of preservation. Properties listed in the National Register consist of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture. Properties listed in or eligible for listing in the National Register are considered in planning and environmental review, and effects to such properties are primarily addressed under Section 106.

The criteria for determining a resource's eligibility for National Register listing are defined at 36 CFR Part 60.4 and are as follows:

> … the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> A) That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> B) That are associated with the lives of persons significant in our past; or
>
> C) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> D) That have yielded, or may be likely to yield, information important in prehistory or history.

Under Criteria A, B, and C, the National Register places an emphasis on a resource appearing as it did during its period of significance to convey historical significance; under Criterion D, properties convey significance through the information they contain.

National Register Bulletin *How to Apply the National Register Criteria for Evaluation* states that in order for a property to qualify for listing in the National Register, it must meet at least one of the National Register criteria by (1) being associated with an important historic context, *and* (2) retaining historic integrity of those features necessary to convey its significance (National Park Service 1997). The historic context of a resource will define the theme(s), geographical limits, and period of significance by which to evaluate a resource's significance (National Park Service 1997:7).

Generally, cultural properties must be 50 years of age or more to be eligible for listing in the National Register. According to the National Park Service (1997:2), "properties that have achieved significance within the past 50 years shall not be considered eligible" unless such properties are "of exceptional importance."

4.1.2.1 Historic Integrity

In addition to meeting one or more of the significance criteria, a cultural resource must retain its historic integrity to be considered eligible for listing in the National Register. Historic integrity is defined as the ability of a resource to convey its significance. The evaluation of integrity must be grounded in an understanding of a resource's physical features and its environment, and how these relate to its significance. "The retention of specific aspects of integrity is paramount for a property to convey its

significance" (National Park Service 1997:44). There are seven aspects of integrity to consider when evaluating a cultural resource: location, design, setting, materials, workmanship, feeling, and association (National Park Service 1997:44-45).

- *Location* is the place where the historic property was constructed or the place where the historic event occurred. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons.

- *Design* is the combination of elements that create the form, plan, space, structure, and style of a property. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials.

- *Setting* is the physical environment of a historic property. Setting refers to the character of the place in which the property played its historical role. Physical features that constitute the setting of a historic property can be either natural or manmade, including topographic features, vegetation, paths or fences, or relationships between buildings and other features or open space.

- *Materials* are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

- *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is the evidence of the artisan's labor and skill in constructing or altering a building, structure, object, or site.

- *Feeling* is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character.

- *Association* is the direct link between an important historic event or person and a historic property.

For archaeological resources, the term "integrity" is used to describe the level of preservation or quality of information contained within a district, site, or excavated assemblage. Integrity is relative to the specific significance that the resource conveys. Although it is possible to correlate the seven aspects of integrity with standard archaeological site characteristics, those aspects are often unclear for evaluating the ability of an archaeological resource to convey significance under Criterion D. Under Criterion D, the integrity of archaeological resources is judged according to the ability of the site to yield scientific and cultural information that can be used to address important research questions (Little et al. 2000:35-42).

4.1.2.2 Eligibility

Resources that have a significant association with an important historic context, meet the age guidelines, and possess integrity will generally be considered eligible for listing in the National Register.

4.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to CEQA, a historical resource is a resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historic resources, or identified as significant in a local survey conducted in accordance with state guidelines, are

also considered historic resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in, or determined eligible for listing in, the CRHR, or is not included in a local register or survey, shall not preclude a Lead Agency, as defined by CEQA, from determining that the resource may be a historic resource as defined in California Public Resources Code (PRC) Section 5024.1.7.

CEQA applies to archaeological resources when (1) the historic or precontact archaeological resource satisfies the definition of a historical resource, or (2) the historic or precontact archaeological resource satisfies the definition of a "unique archaeological resource." A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria (PRC § 21083.2[g]):

1. The archaeological resource contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information.

2. The archaeological resource has a special and particular quality, such as being the oldest of its type or the best available example of its type.

3. The archaeological resource is directly associated with a scientifically-recognized important prehistoric or historic event or person.

4.2.1 California Register of Historical Resources

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC § 5024.1[a]). Certain properties, including those listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP) and California Historical Landmarks (CHL), numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys, or designated by local landmarks programs, may be nominated for inclusion in the CRHR.

A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria (PRC § 5024.1[c]):

Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

Criterion 2: It is associated with the lives of persons important in our past.

Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.

Criterion 4: It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to be recognizable as historic resources and to convey the reasons for their significance. It is possible that a resource whose integrity does not satisfy NRHP criteria may still be eligible for listing in the CRHR. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Resources that have achieved significance within the past 50 years also may be eligible for inclusion in the CRHR, provided that enough time has lapsed to obtain a scholarly perspective on the events or individuals associated with the resource.

4.3 CALIFORNIA HEALTH AND SAFETY CODE §7050.5

Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined if the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of this identification.

4.4 CALIFORNIA PUBLIC RESOURCES CODE §5097.98

Section 5097.98 of the California Public Resources Code states that the NAHC, upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Part 7050.5, shall immediately notify those persons (i.e., the Most Likely Descendant or "MLD") it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site.

4.5 CITY OF CITRUS HEIGHTS GENERAL PLAN

The City of Citrus Heights General Plan (Plan) contains goals, policies, and actions that embody the City's approach for achieving the community's vision for its future. Goals identify physical, economic, environmental, and/or social ends that the community desires. The policies are used directly to guide City decision-makers and staff to respond by developing proposals and community actions. Applicable sections of the Plan having to do with cultural resources conservation are outlined below (City of Citrus Heights 2011).

Resource Conservation: This element of the Plan addresses biological resources, open space, energy conservation, and cultural resources. Its focus is on the protection and enhancement of these limited resources.

GOAL 42: Preserve and protect the City's Native American heritage.

- *Policy 42.1*: Determine early in the planning process whether archaeological resources may potentially be located on a development site.

- Action A. In the event that any prehistoric, historic, or paleontological resources are discovered during construction-related earth-moving activities, all work within 50 feet of the resources shall be halted and the developer shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant by the qualified archaeologist, then representatives from the City of Citrus Heights and the qualified archaeologist and/or paleontologist would meet to determine the appropriate course of action.

- Action B. In the event that human remains are discovered during the implementation of the proposed project, the local coroner must be contacted immediately. Both the Native American Heritage Commission (pursuant to NAGPRA) and any identified descendants should be notified, and recommendations received, if the remains are determined to be of Native American origin (CEQA Guidelines Section 15064.5, Health and Safety Code Section 7070.5, Public Resources Code Sections 5097.94 and 5097.98).

GOAL 43: Preserve and protect places that embody the City's social, architectural and agricultural history.

- *Policy 43.1*: Encourage property owners to maintain and preserve historic properties in the best possible condition.

    - Action A. Adopt a Historic Preservation Ordinance to identify and preserve important historic resources.

- *Policy 43.2*: Incorporate natural resources such as land and water into development when appropriate to understanding and appreciating the history of a site.

    - Action A. Review and revise the grading ordinance to require appropriate mitigation measures when historic or archaeological resources are discovered prior to or during development of property.

- *Policy 43.3*: Support preservation of historic resources, including providing for adaptive reuse where appropriate.

    - Action A. Pursue grants for historic preservation.

    - Action B. Implement the State Historical Building Code on eligible resources.

    - Action C. Establish thresholds by which future projects can be judged when considering historic impacts. These standards should include height and massing considerations for proposed projects that are located in close proximity to historic resources (individual structures or districts) and should define locations for potential prehistoric resources.

5.0 BACKGROUND RESEARCH

5.1 CHRIS RECORDS SEARCH

On July 10, 2025, and December 2, 2025, records searches were conducted at the North Central Information Center (NCIC) at California State University (CSU), Sacramento, a repository of the California Historical Resources Information System (CHRIS). The records searches addressed the entire APE and a 0.5-mile radius around the APE. The purposes of the records searches were to (1) identify precontact and historic-era resources within the search radius, (2) determine which portions of the APE have been previously studied, and (3) ascertain the potential for cultural resources and human remains to occur within the APE. The searches included reviews of USGS archaeological site location maps at the NCIC, built environment and archaeological resource records, and data from previous studies. Sacramento County listings in the NRHP, CRHR, California State Historic Resources Inventory, Built Environment Resource Directory for Sacramento County, and Caltrans Bridge Survey were also examined.

5.1.1 Previous Studies

The NCIC records search identified 28 studies that have previously been conducted within a 0.5-mile radius of the APE. Of these, six studies addressed areas that included or intersected the APE. The previous studies are summarized below in Table 1, *Previous Studies Conducted Within 0.5 Mile of the APE*, below.

Table 1
PREVIOUS STUDIES CONDUCTED WITHIN 0.5 MILE OF THE APE

Report Number NCIC-	Year	Title	Author(s)	Affiliation	Within APE?
00046	1976	An Archeological Reconnaissance of Two Localities in Sunrise Recreation and Park District: Sacramento County, California	Johnson, J. J.	California State University, Sacramento	No
00123	1977	Cultural Resource Assessment of the Proposed Greenback Woods Subdivision, Sacramento County	Peak, A. S.	Peak and Associates	Yes
00227	1978	Cultural Resource Assessment of the Proposed Hidden Creek Development, Sacramento County, CA	Peak, A. S.	Peak and Associates	No
00312	1982	Cultural Resource Assessment of the Creekside Manor Development, Sacramento County, CA	Peak, A. S.	Peak and Associates	No
00417	1979	Cultural Resource Assessment of Sacramento Municipal Utility District's Project B, Phase I, 230kV Transmission Line, the Orangevale Tap, Placer County, to Orangevale Substation, Sacramento County, California	Peak, A. S.	Peak and Associates	Yes
00430	1980	A Cultural Resource Study of the Arcade Creek Project, Sacramento County, California	Derr, E. H.	Archaeological Study Center	No

Report Number NCIC-	Year	Title	Author(s)	Affiliation	Within APE?
00590	1980	An Archaeological Survey of the Creekwood Development, Sacramento County, California	Derr, E. H.	Archaeological Study Center	No
03023	1998	Negative Historic Property Survey Report for the Greenback Lane/Interstate 80 Interchange Project, Sacramento County, California	Bakic, T.	PAR Environmental Services, Inc.	No
03027	1992	Draft Environmental Impact Report for Greenback Lane Widening, I-80 to Parkoaks Drive, A Distance of 1.07 Miles	Barry, A.	Unknown	No
06250	2002	Historic Property Survey Report for the Greenback Lane Widening Project	Nadolski, J. A.	Pacific Legacy, Inc.	No
06257	2001	Historical and Cultural Resource Assessment Proposed Telecommunications Facility	Pastron, A. G.	Brown & Mills, Inc.	No
06264	2002	Cultural Resources Assessment: Oaks at Arcade Creek Development Parcel, Sacramento County, California	Green, J. K.	ECORP Consulting, Inc.	No
06283	1989	An Archaeological Survey of the Proposed Wendell Herron Rezone	Warner, L. E.	Unknown	No
06301	1989	An Archaeological Survey of the Proposed Jan Mojzis Land Division	Warner, L. E.	Unknown	No
06454	2004	Sacramento County Flood Hazard Mitigation, Sacramento County Department of Water Resources	US Department of Homeland Security, FEMA, and A. Amaglio	US Department of Homeland Security, FEMA	No
06722	2005	Archaeological Inventory Survey Proposed Fair Oaks Drive-In Development Project, c. 21 acres North of Greenback Lane, Fair Oaks, Sacramento County, CA	Jensen, P.	Jensen & Associates	No
07130	2002	Roseville Energy Facility Cultural Resources	Hatoff, B., and R. Egherman	URS	Yes
08619	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	Arrington, C.	SWCA Environmental Consultants	No
10345	2009	Cultural Resources Investigation for ClearWire Site CA-SAC0621-A "Greenback & Auburn" 6212 Auburn Boulevard, Citrus Heights, Sacramento County, California 95621	Losee, C.	Archaeological Resources Technology	No
10382	2006	City of Citrus Heights Historical Resources Survey	Roland, C.	Roland Nawi Associates	Yes
10582	2010	Toa Baptist Church - CA-SAC0630A	Supernowicz, D. E.	EarthTouch, Inc.	No
12183	2016	Cultural Resources Inventory Report: Mitchell Farms, Sacramento County, California	Webb, M.	ECORP Consulting, Inc.	No

Report Number NCIC-	Year	Title	Author(s)	Affiliation	Within APE?
13083	2020	Cultural and Paleontological Resources Inventory and Effects Assessment for the Sacramento Suburban Water District Arcade Creek Crossing Project, City of Citrus Heights, Sacramento County, California	Sikes, N. E., P. Hanes, and C. J. Arrington	Natural Investigations Company	Yes
13201	2021	Section 106 Review of Federally-Funded Residential Rehabilitation Project at 5935 Auburn Boulevard #152, City of Citrus Heights, Sacramento County	Cotter, S.	Citrus Heights Housing & Human Services Program	No
13779	2021	Phase I Cultural Resources Survey of the SN010 Foothill Farms Collocation Monopole Site, Trileaf Project #676041	Macko, M.	Trileaf Corporation	No
14294	2023	Section 106 Review of Federally Funded Residential Rehabilitation Project at 5935 Auburn Boulevard #7, City of Citrus Heights, Sacramento County	Piva, N.	City of Citrus Heights	No
14295	2023	Section 106 Review of Federally Funded Residential Rehabilitation Project at 5935 Auburn Boulevard #31, City of Citrus Heights, Sacramento County	Piva, N.	City of Citrus Heights	No
14406	2021	Cultural Resources Study, Sacramento Area Sewer District Creek Crossing Project, Sacramento County, CA	Gross, C.	Analytical Environmental Services	Yes

5.1.2 Previously Recorded Resources

The NCIC records search also identified six previously documented cultural resources within 0.5 mile of the APE, although none of the resources are located within the APE itself. They are described briefly in Table 2, *Previously Recorded Cultural Resources Within 0.5 Mile of the APE*, below.

Table 2
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN 0.5 MILE OF THE APE

Primary # P-34-	Year	Recorder(s)	Resource Type	Age	Description	Within APE?	NRHP/CRHR Status
000015	1980	Carvey, A., E. Derr	Site	Precontact	Lithic scatter, including a core fragment and fire-affected rock	No	Not evaluated
001322	2002	SaintClair, M.	Building	Historic	Abandoned residence (1934)	No	Not eligible
001328	2002	Napoli, A.	Building	Historic	Van Maren House (ca. 1849; moved/remodeled 1919)	No	Not eligible
004033	2006	Roland, C.	Building	Historic	12 Mile House (roadhouse; 1930)	No	CRHR eligible

Primary # P-34-	Year	Recorder(s)	Resource Type	Age	Description	Within APE?	NRHP/CRHR Status
004263	2010	Supernowicz, D. E.	Building	Historic	Twin Oaks Baptist Church (1963)	No	Not eligible
005171	2006	Roland, C.	Building	Historic	DeKay/Sunrise Ranch (1868)	No	Not eligible

5.1.3 Caltrans Bridge Survey

Reviews of the Caltrans Bridge Survey determined that none of the four bridges addressed in this report qualify for inclusion in the NRHP.

5.2 NATIVE AMERICAN HERITAGE COMMISSION SACRED LANDS FILE SEARCH

On July 9, 2025, HELIX requested that the NAHC conduct a search of their Sacred Lands File (SLF) for the presence of Native American sacred sites or human remains in the vicinity of the Indian River Bridge/Matheny Bridge and Sundance Bridge study areas. A written response received from the NAHC on July 11, 2025, stated that the results of the SLF search were negative. On February 23, 2025, HELIX submitted a separate SLF search request for the Patton Bridge study area. NAHC responded on February 24, 2025, and stated that the results were also negative for that study area.

6.0 PEDESTRIAN SURVEY

This section describes the methods and results of the field surveys of the APE. Survey photographs are included as Appendix B, *Representative Site Photographs*.

6.1 SURVEY METHODS

The project's APE was surveyed on July 17, 2025, and December 16, 2025. The pedestrian survey involved the systematic investigation of the ground surface of the entire APE, including all three study areas and their associated impact areas, by walking in 10-meter transects unless prohibited by vegetation or topography. During the pedestrian survey, the ground surface was examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, precontact ceramics), soil discoloration that might indicate the presence of a precontact cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations, wells) or historic-era debris (e.g., metal, glass, ceramics). Ground disturbances such as landscape modifications and cut banks were also visually inspected.

6.2 SURVEY RESULTS

6.2.1 Indian River Bridge and Matheny Bridge Study Area

During the survey, ground visibility in the Indian River Bridge and Matheny Bridge study area was less than 10 percent in most areas due to dense grass and brush cover (Photograph 1). Visibility was slightly better, but still poor, in areas with less tree cover where the ground surface was obscured by a thick

carpet of matted dry grass (Photograph 2). Private property and development extend as far as Arcade Creek's southern bank in some areas (Photograph 3).

The creek was dry at the time of the survey, which allowed a thorough examination of the creek bed. Portions of the creek within the APE are deeply cut and appear to have actively eroded during the last rainy season (Photograph 4). Water-borne debris, including lumber, was seen on the creek banks in some areas (Photograph 5), and tabular concrete fragments were seen in the creek bed. No exposed bedrock was visible within the creek.

No precontact or historic-era cultural resources were found during the survey of the Indian River Bridge and Matheny Bridge study area.

6.2.2 Sundance Bridge Study Area

Ground visibility was poor during the survey of the Sundance Bridge study area, with less than 15 percent of the ground surface visible due to dense vegetation and oak duff (Photograph 6). The terrain in the area is gently undulating, with a gradual incline to the east. Arcade Creek was flowing slowly with muddy water at the time of the survey, making it impossible to see the creek bed (Photograph 7). Nevertheless, no exposed bedrock was seen in the vicinity.

The area was littered with modern debris, including food wrappers, discarded clothing, plastic water bottles, modern food cans, and tarp fragments. Most of this debris seemed to originate from homeless encampments that are prevalent throughout the area.

No precontact or historic-era cultural resources were found during the survey of the Sundance Bridge study area.

6.2.3 Patton Bridge Study Area

Ground surface visibility throughout the Patton Bridge study area was poor (less than 15 percent) during the survey due to thick grass, blackberry bramble, and oak duff, as well as non-native vegetation such as cactus, St. John's Wort, yucca, and bamboo (Photograph 8). The area appears to consist primarily of undulating floodplain, some of it developed and graded, and some of it seemingly shaped by seasonal water flow. Cripple Creek held standing water at the time of the survey (Photograph 9). No exposed bedrock was visible in the vicinity of the creek.

The area is surrounded by development, which also affected accessibility of the study area – some property fencelines extended into the study area and restricted access (Photograph 10). There was sparse modern trash within the study area, including plastic beverage containers, plastic wrappers, and materials likely leftover from residential activity, such as fence posts and sheets of plywood. There were also remnants of concrete debris near the creek, likely left from bridge construction/maintenance and other utilities work in the area.

In the far eastern portion of the Patton Bridge study area, an approximately 90-foot-long segment of a possible ditch was observed running north-south from a horse corral outside of the northeast quadrant of the project area to Cripple Creek (Photograph 11). The ditch is most visible at its southern end, where it is approximately 2.5 feet deep, and becomes less visible approximately 20 feet north of the creek.

7.0 SUMMARY AND RECOMMENDATIONS

7.1 SUMMARY

HELIX conducted this CRA to assist the City in addressing the requirements of CEQA and Section 106 of the NHPA. This CRA was prepared based on background research and a field survey of the entirety of the project's APE.

This assessment determined that six previously documented resources are located within 0.5 mile of the APE, although none are located within the APE itself. During the field survey, no undocumented cultural resources were found within any of the three areas that comprise the APE. These findings suggest that the likelihood of precontact or historic-era cultural resources being encountered during project implementation is low.

Despite the low cultural sensitivity of the APE, HELIX recommends implementation of measures to address the accidental discovery of cultural resources and/or human remains during project activities. These recommendations are summarized in Section 7.2, *Recommendations*.

HELIX concludes that, with the implementation of these recommendations, the following findings are appropriate for the project:

- ***No Significant Impact on Historical or Unique Archaeological Resources*** under *CEQA Guidelines* Section 15064.5;
- ***No Significant Impact to Human Remains*** resulting from disturbance; and
- ***No Adverse Effect to Historic Properties*** under Section 106 (36 CFR Part 800.5[a]).

No additional study or documentation for cultural resources are recommended at this time. However, in the unlikely event that archaeological cultural resources, and/or human remains, or funerary objects are discovered during project construction, the provisions contained in Section 7.2 of this report should be implemented to avoid or substantially reduce the severity of impacts to such finds.

7.2 RECOMMENDATIONS

7.2.1 Accidental Discovery of Cultural Resources

In the event that cultural resources are exposed during ground-disturbing activities, construction activities should be halted within 100 feet of the discovery. Cultural resources could consist of but are not limited to stone, bone, wood, or shell artifacts, or features, including hearths, structural remains, or historic dumpsites. If the resources cannot be avoided during the remainder of construction, a qualified archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards should assess the resource and provide appropriate management recommendations. If the discovery proves to be CRHR- or NRHP-eligible, additional documentation and analysis, such as data recovery excavation, may be warranted.

7.2.2 Accidental Discovery of Human Remains

Although unlikely, there is always the possibility that ground-disturbing activities during construction may uncover previously undocumented human remains. In the event of an accidental discovery or recognition of any human remains during project construction, guidelines from both Public Resources Code (PRC) Section 5097.98 should be considered.

In accordance with PRC Section 5097.98, if there is a discovery or recognition of human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance of the specific location or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains are Native American, the coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" of the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98, or

2. Where the following conditions occur, the City shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the project impact area in a location not subject to further subsurface disturbance:

    - The NAHC is unable to identify a most likely descendant, or the most likely descendant failed to make a recommendation within 48 hours after being notified by the commission;

    - The descendant identified fails to make a recommendation; or

    - The City rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the City.

8.0 REFERENCES

Beardsley, R.K

1948 Cultural Sequences in Central California Archaeology. *American Antiquity* 14:1–28.

1954 Temporal and Areal Relationships in Central California Archaeology. *University of California Archaeological Survey Reports* 25. Berkeley.

Beck, W. A., and Y. D. Haase

1974 *Historical Atlas of California*. University of California Press. Berkeley, California.

Bennyhoff, J.

1950 California Fish Spears and Harpoons. *University of California Anthropological Records* 9(4):295–338.

Chartkoff J.L. and K.K. Chartkoff.

1984 *The Archaeology of California.* Stanford University Press, Menlo Park.

City of Citrus Heights

2011 General Plan. Available at: https://www.citrusheights.net/202/General- Plan.

Cook, S.F.

1955 The Epidemic of 1830–1833 in California and Oregon. *Archaeology and Ethnology* 43(3).

1976 *The Population of the California Indians 1769–1970*. University of California Press. Berkeley, California.

Dickel, D.N., P.D. Schulz, and H.M. McHenry

1984 Central California: Prehistoric Subsistence Changes and Health. In *Paleopathology at the Origins of Agriculture*, edited by Mark Nathan Cohen and George J. Armelagos, pp. 439–462. Academic Press, Inc., Orlando, Florida.

Fredrickson, D.A.

1973 Early Cultures of the North Coast Ranges, California. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Davis.

Gerow, B.A.

1954 The Problem of Cultural Sequences in Central California Archaeology. Paper presented at the Annual Meeting of the American Association for the Advancement of Sciences.

1974 Comments on Fredrickson's Cultural Diversity. *Journal of California Anthropology* 1(2):239–246.

Gerow, B.A., with R. Force

1968 *An Analysis of the University Village Complex with a Reappraisal of Central California Archaeology.* Stanford University Press. Stanford, California.

Gilbert, F. T.

1879 *History of San Joaquin County, California*. Thompson and West, Oakland.

Grunsky, F. R.
1989 *Pathfinders of the Sacramento Region*. Elk Grove Library, California.

Heizer, R. F., and A. J. Almquist
1971 *The Other Californians: Prejudice and Discrimination Under Spain, Mexico and the United States to 1920.* University of California Press, Berkeley.

Hoover, Mildred B., Hero E. Rensch, and Ethel G. Rensch
2002 *Historic Spots in California.* 5th edition, revised by Douglas E. Kyle, Stanford University Press, Stanford.

Hughes, R.E. (editor)
1994 Toward a New Taxonomic Framework for Central California. In: *Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson*. Assembled and edited by Richard E. Hughes. *Contributions of the University of California* No. 52, Archaeological Research Facility, Berkeley, CA.

Johnson, J.J.
1976 Archaeological Investigations at the Blodgett Site (CA–SAC–267), Sloughhouse Locality, California. Report to the U.S. National Parks Service, Western Regional Office, Tucson, AZ.

Kroeber, A. L.
1925 Handbook of the Indians of California. *Bureau of American Ethnology Bulletin* 78. Washington, D.C.

Kyle, D.E., M.B. Hoover, H.E. Rensch, E.G. Rensch, and W. N. Abeloe
1990 *Historical Spots in California*. Stanford. Stanford University Press.

Lillard, J.B. and W.K. Purves
1936 *The Archaeology of the Deer Creek–Cosumnes Area, Sacramento Co., California.* Sacramento Junior College Department of Anthropology, Bulletin 1.

Lillard, J.B., R.F. Heizer, and F. Fenenga
1939 *An Introduction to the Archaeology of Central California.* Sacramento Junior College Department of Anthropology, Bulletin 2.

Little, B., E.M. Seibert, J. Townsend, J.H. Sprinkle, and J. Knoerl
2000 Guidelines for Evaluating and Registering Archaeological Properties. *National Register Bulletin 36*. U.S. Department of the Interior, National Park Service.

Moratto, M.J.
1984 *California Archaeology*. San Diego. Academic Press.

Napton, Kyle L.
1997 Archaeological and Historical Cultural Resources Investigations of the proposed Alpine Natural Gas Operating Company, Calaveras County Natural Gas Distribution Project A. 96-08-015 (Phase I: La Contenta/Rancho Calaveras).

National Park Service
1997 How to Apply National Register Criteria for Evaluation. *National Register Bulletin*. U.S. Department of the Interior, National Park Service.

Ragir, S.R.
1972 The Early Horizon in Central California Prehistory. *Contribution of the University of California Archaeological Research Facility* 15. Berkeley. CA.

Schenck, W.E., and E.J. Dawson
1929 Archaeology of the Northern San Joaquin Valley. *American Archaeology and Ethnology* 25:286–413.

Shoup, L.H., and R.T. Milliken
1999 *Inigo of Rancho Posolmi: the Life and Times of a Mission Indian.* Ballena Press. Novato, California.

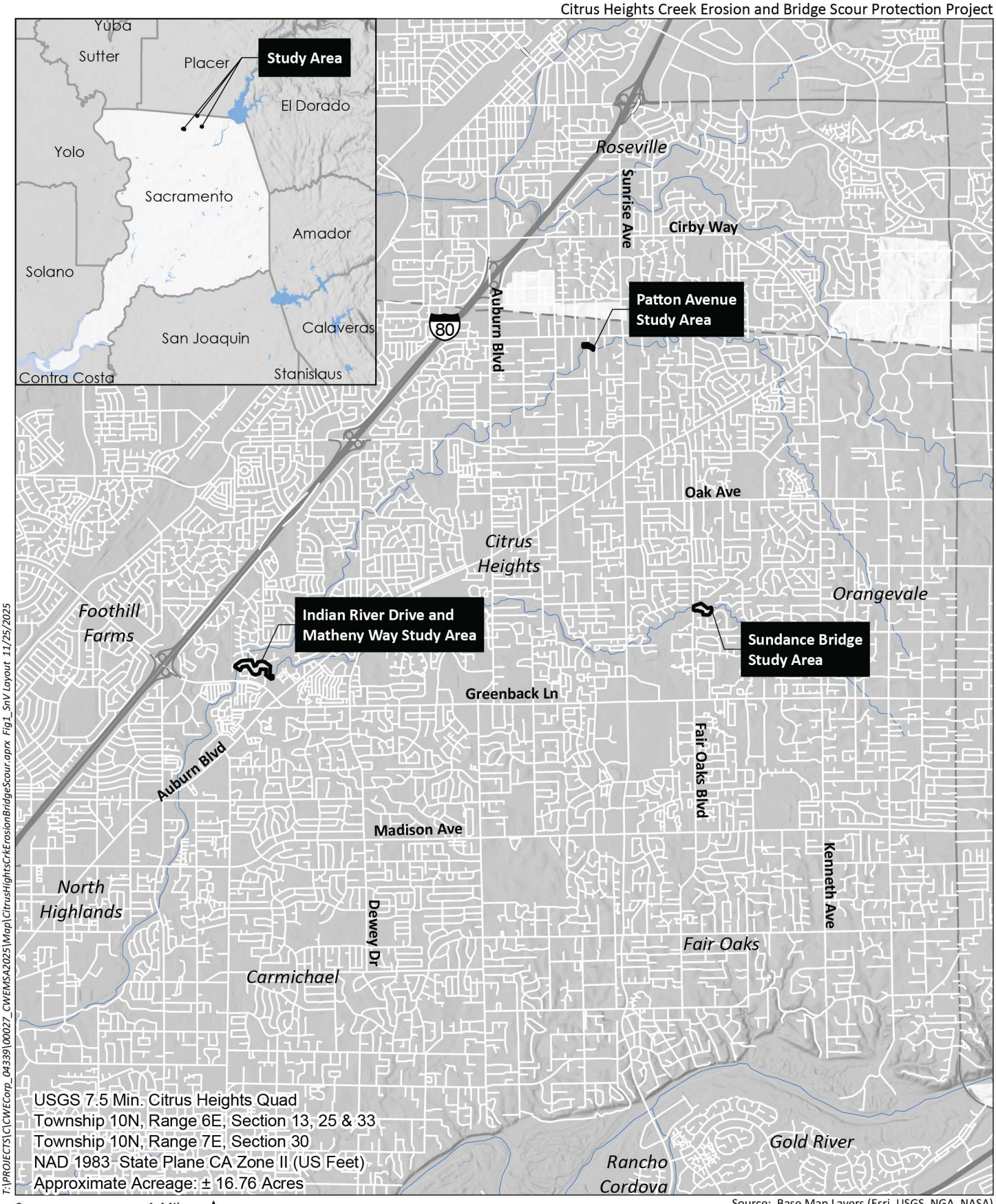
Wallace, W.J.
1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3):214–230.

Warren, C.N.
1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast. *Archaic Prehistory in the Western United States*, C. Irwin–Will.

Wilson, Norman L. and Arlene Towne
1978 Nisenan. In: *Handbook of North American Indians: California*, Volume 8, edited by Robert F. Heizer. William G. Sturtevant, Editor, Smithsonian Institution, Washington, D.C.

Appendix A

Figures



T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig1_SnV Layout 11/25/2025

Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1



T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig3a_IndianRiverAerial Map5/15/2026

Source: Aerial (DigitalGlobe, 4/26/2022)

HELIX Environmental Planning

Indian River Drive and Matheny Way Area of Potential Effects

Figure 2a

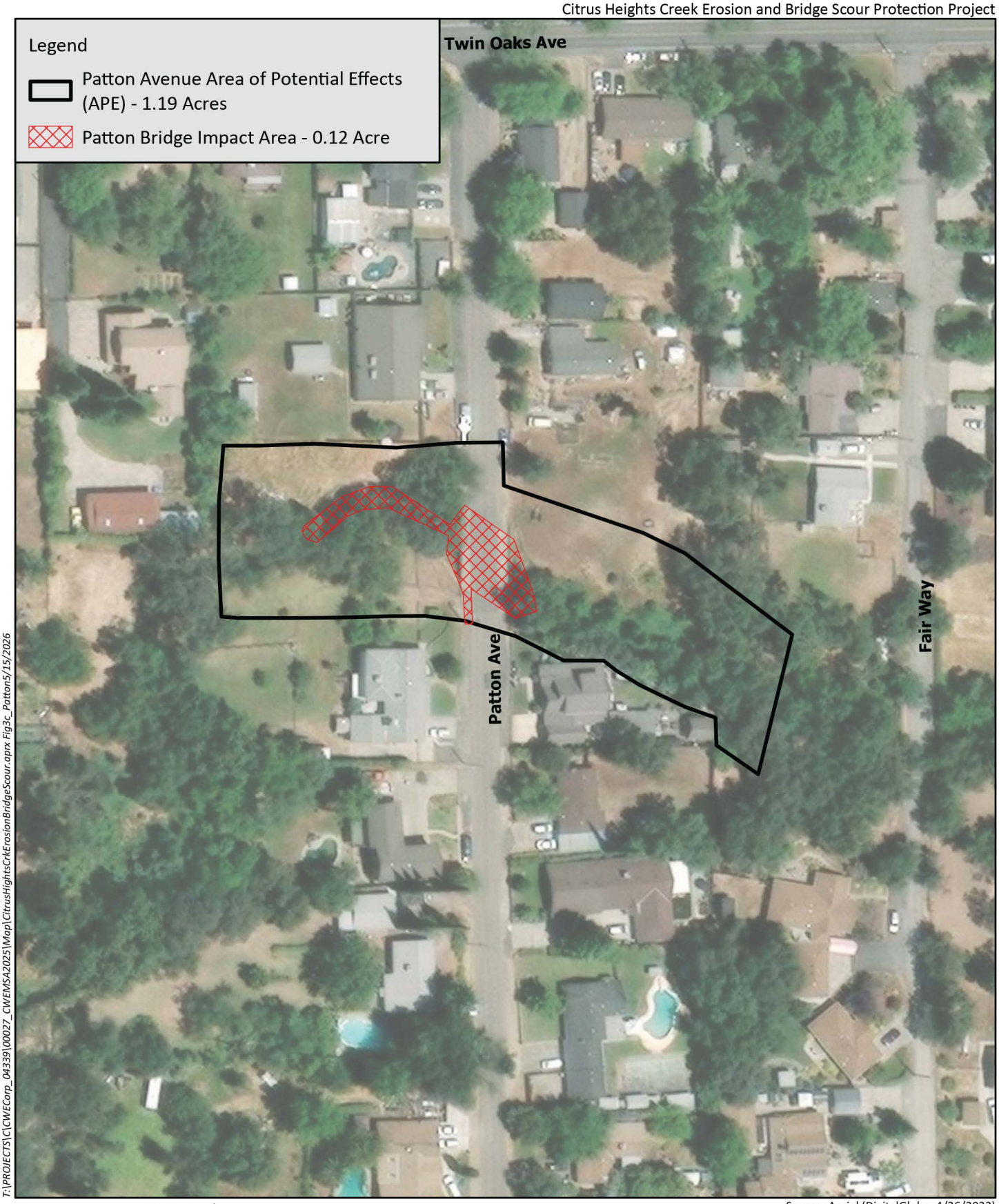


Source: Aerial (DigitalGlobe, 4/26/2022)

HELIX Environmental Planning

Sundance Bridge Aerial Map
Area of Potential Effects

Figure 2b



T:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025\Map\CitrusHightsCrkErosionBridgeScour.aprx Fig3c_Patton5/15/2026

0 100 Feet

Source: Aerial (DigitalGlobe, 4/26/2022)

HELIX Environmental Planning

Patton Bridge Aerial Map Area of Potential Effects

Figure 2c

Appendix B

Representative Survey Photographs



Photograph 1. Dense vegetation in the Indian River Bridge and Matheny Bridge study area, looking east.



Photograph 2. Matted dry grass in the Indian River Bridge and Matheny Bridge study area, looking south.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\CRA\Report\App B Photos



Photograph 3. Private property extending into the Indian River Bridge and Matheny Bridge study area, looking northwest.



Photograph 4. Arcade Creek through the Indian River Bridge and Matheny Bridge study area, looking northwest.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\CRA\Report\App B Photos



Photograph 5. Water-borne debris in the Indian River Bridge and Matheny Bridge study area, looking south.



Photograph 6. Dense vegetation and duff in the Sundance Bridge study area, looking southeast.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\CRA\Report\App B Photos



Photograph 7. Arcade Creek under the Sundance Bridge, looking southwest.



Photograph 8. Dense vegetation in the Patton Bridge study area, looking west.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\CRA\Report\App B Photos



Photograph 9. Cripple Creek under the Patton Bridge, looking west.



Photograph 10. Private property extending into the Patton Bridge study area, looking south.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\CRA\Report\App B Photos



Photograph 11. Possible ditch at the point where it drains into Cripple Creek, Patton Bridge study area, looking southwest.

W:\PROJECTS\C\CWECorp_04339\00027_CWEMSA2025-2028\001_CitrusHeightsCrkErosionBridgeScour\Reports\CRA\Report\App B Photos

Appendix E

Mitigation Monitoring and Reporting Program

MITIGATION MONITORING AND REPORTING PROGRAM

Citrus Heights Creek Erosion and Bridge Scour Protection Project

Purpose of Mitigation Monitoring and Reporting Program: The California Environmental Quality Act (CEQA), Public Resources Code (PRC) Section 21081.6, requires that a Mitigation Monitoring and Reporting Program (MMRP) be established upon completing findings. CEQA stipulates that "the public agency shall adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation."

This MMRP has been prepared in compliance with Section 21081.6 of CEQA to ensure that all required mitigation measures are implemented and completed according to schedule and maintained in a satisfactory manner during the construction and operation of the project, as required. The City of Citrus Heights (City) is the Lead Agency for the Citrus Heights Creek Erosion and Bridge Scour Protection Project (project) under CEQA and shall administer and implement this MMRP. The City is responsible for reviewing all monitoring reports, enforcement actions, and document disposition. The City shall rely on information provided by the project site observers/monitors (e.g., construction manager, project manager, biologist, archaeologist, etc.) as accurate and up-to-date and shall provide personnel to field check mitigation measure status, as required.

A table (attached) has been prepared to assist the responsible parties in implementing the MMRP. The table identifies individual mitigation measures, monitoring/mitigation timing, the responsible person/agency for implementing the measure, and space to confirm implementation of the mitigation measures. The numbering of mitigation measures follows the numbering sequence found in the Initial Study/Mitigated Negative Declaration (IS/MND).

MITIGATION MONITORING AND REPORTING PROGRAM
Citrus Heights Creek Erosion and Bridge Scour Protection Project

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
AIR QUALITY				
Mitigation Measure AQ-1: Basic Construction Emissions Control Practices The following Basic Construction Emissions Control Practices are considered feasible for controlling fugitive dust from a construction site. Control of fugitive dust is required by SMAQMD Rule 403 and enforced by SMAQMD staff. Prior to issuing construction permits, contracts, or orders the City shall verify the following measures specified on construction contracts and/or construction documentation. • Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads. • Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered. • Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited. • Limit vehicle speeds on unpaved roads to 15 miles per hour (mph). • All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be	Prior to issuing permits.	City		

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
laid as soon as possible after grading unless seeding or soil binders are used. • Minimize idling time by either shutting equipment off when not in use or reducing time of idling to 5 minutes. Provide clear signage that posts this requirement for workers at the entrances to the site; and • Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.				
BIOLOGICAL RESOURCES				
Mitigation Measure BIO-1: Sanford's Arrowhead Avoidance At Indian River Bridge, Matheny Bridge, and Sundance Bridge: • A qualified botanist shall conduct a special-status plant survey within the appropriate identification (blooming) period (May - October) prior to the initiation of any ground-disturbing activities. The survey should be conducted within two years of the anticipated start date of construction and preferably the same year as the start of construction. If no special-status plants are observed, then a letter report documenting the survey results should be prepared and no further measures are recommended. • If special-status plants are observed within the study area, the location of the special-status plants shall be marked with pin flags or other highly visible markers and may also be marked by a sub-meter accurate GPS. The project proponent shall determine if the special-status plant(s) on-site can be avoided by project design or utilize	Prior to the initiation of ground-disturbing activities.	Qualified Botanist; Project Proponent; CDFW		

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
construction techniques to avoid impacts to the special-status plant species. All special-status plants to be avoided shall have exclusion fencing or other highly visible material marking the avoidance area (if necessary) and the avoidance area shall remain in place throughout the entire construction period. If special-status plants are observed in portions of the study area that are not located near the project footprint, exclusion fencing may not be needed. A qualified botanist shall determine if exclusion fencing will be needed based on the location of the plant(s) and the most current project design. • If special-status plants are found within the study area and cannot be avoided, the project proponent shall consult with the CDFW to determine appropriate measures to mitigate for the loss of special-status plant populations. These measures may include gathering seed/rhizomes from impacted populations for planting within nearby suitable habitat, preserving or enhancing existing offsite populations of the plant species affected by the project, or restoring suitable habitat for special-status plant species as directed by the regulatory agencies. At Patton Bridge: • A qualified botanist shall flag populations of Sanford's arrowhead in the vicinity of the work area for avoidance prior to commencement of project construction. The vicinity of the work area for flagging will be determined by the final engineering plans at the discretion of the botanist. All flagged Sanford's arrowhead shall be avoided by construction activities. A biological monitor may be warranted during construction if plants are in close proximity to the work area and have potential to be impacted by construction.				

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
• If Sanford's arrowhead cannot be avoided, the project proponent shall consult with the CDFW to determine appropriate measures to mitigate for the loss of special-status plant populations. These measures may include gathering seed/rhizomes from impacted populations for planting within nearby suitable habitat, preserving or enhancing existing offsite populations of the plant species affected by the project, or restoring suitable habitat for special-status plant species as directed by the regulatory agencies.				
Mitigation Measure BIO-2: Worker Environmental Awareness Training A qualified biologist shall conduct an environmental awareness training for all project-related personnel before the initiation of work. The training shall include the identification of Sanford's arrowhead, northwestern pond turtle, Cooper's hawk, Swainson's hawk, white-tailed kite, other nesting and migratory birds, and pallid pat; required practices before the start of construction; general measures that are being implemented to protect the species as they relate to the project; penalties for non-compliance; and boundaries of the permitted disturbance zones. Upon completion of the training, all construction personnel shall sign a form stating they have attended the training and understand all the measures. Proof of this instruction shall be kept on file with the City and biologists on-site.	Prior to the initiation of ground-disturbing activities.	Qualitied Biologist; Construction Personnel		
Mitigation Measure BIO-3: Pre-Construction Northwestern Pond Turtle Survey Construction is recommended to commence during the active season for northwestern pond turtle (February – November) when this species is mobile. These timeframes are dependent on local weather conditions and can fluctuate depending on seasonal conditions. A qualified biologist shall conduct a pre-construction survey for northwestern pond turtle within seven days prior to the start of ground-disturbing activities	Within seven days of initiation of ground-disturbing activities.	Qualified Biologist; City; CDFW		

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
at each bridge location. The pre-construction survey shall also include a survey of surrounding upland habitat for the presence of turtle nests if conducted during the nesting season. Eggs and hatchlings could be present in the nest site beyond the nesting season, and therefore, a pre-construction turtle nest survey is recommended to identify nest sites if construction occurs from April 1 – January 31. These timeframes will depend on local weather conditions, and the timing of the pre-construction turtle nest survey should be based on the weather conditions present at the time and at the discretion of the qualified biologist. If nesting northwestern pond turtles are identified within the survey limits, then no work shall commence within 300 feet of the nest until the turtles have hatched. The 300-foot buffer should be indicated by temporary fencing if construction has or will begin before the nesting period has ended (the period from egg laying to emergence of hatchlings is normally April to November). If a non-nesting northwestern pond turtle is found in the project site during preconstruction surveys, construction activities should not start until the turtle has been relocated by a qualified biologist with appropriate approvals from CDFW to a suitable location outside of the construction zone. The qualified biologist should notify the City and CDFW within 24 hours if northwestern pond turtle is found and shall notify of any individuals that have been relocated. Any northwestern pond turtles observed in the survey limits will be reported to the CNDDB. If construction does not commence within seven days of the pre-construction survey, or halts for more than seven days, then an additional survey is required prior to starting or resuming work.				

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
Mitigation Measure BIO-4: Pre-Construction Nesting Special-Status and Migratory Birds Survey Active nests and nesting birds are protected by the California FGC Sections 3503 and 3503.5, 3513 and the MBTA. Ground-disturbing and other construction activities including vegetation clearing, tree removal/trim, and construction could impact nesting birds if these activities occur during the nesting season (generally February 1 to August 31). To avoid impacts to nesting birds, all ground disturbing activity shall be completed between September 1 and January 31, if feasible. If construction cannot occur outside of the nesting season, the following measures shall be implemented: • If construction activities occur during the nesting season, a qualified biologist shall conduct a nesting bird survey to determine the presence of any active nests within the study area. Additionally, the surrounding 500 feet of the study area shall be surveyed for active raptor nests, where accessible, and the surrounding 0.5 mile of the study area shall be surveyed for active Swainson's hawk nests, where accessible. The nesting bird survey shall be conducted within seven days prior to commencement of ground-disturbing or other construction activities at each bridge location. If the nesting bird survey shows that there is no evidence of active nests, then a letter report shall be prepared to document the survey and be provided to the City, and no additional surveys are recommended. If construction does not commence within seven days of the nesting bird survey, or halts for more than seven days, then an additional survey is required prior to starting or resuming work within the nesting season.	Within seven days of initiation of ground-disturbing activities.	Qualified Biologist; City		

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
○ If active nests are found, then the qualified biologist shall establish a species-specific buffer to prohibit development activities near the nest to avoid and minimize nest disturbance until the young have successfully fledged or the biologist determines that the nest is no longer active. Buffer distances may range from 30 feet for some songbirds up to 0.5 mile for Swainson's hawk. Nest monitoring may also be warranted during certain phases of construction to ensure nesting birds are not adversely impacted. The need for nest monitoring would be determined by the qualified biologist based upon the species nesting and the location of the nest in relation to the project disturbance area, proposed levels of project disturbance, and existing disturbance levels. If active nests are found under any of the bridges or within any trees slated for removal/trimming, then an appropriate buffer shall be established around the bridge/tree, and no construction shall occur until a qualified biologist determines that the nest has successfully fledged and/or is no longer active. Nest avoidance buffer distances may need to be expanded if the biologist determines that the initial avoidance buffer is still resulting in avoidance behavior from the adults. • If construction occurs outside of the nesting bird season (September 1 to January 31), a nesting bird survey and environmental training for nesting birds would not be required.				

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
Mitigation Measure BIO-5: Pre-Construction Roosting Bat Survey A qualified biologist shall conduct a pre-construction survey within seven days of the commencement of ground-disturbing or other construction activities at each bridge location. This survey may be combined with the nesting bird survey, if possible. If no bats are observed, a letter report shall be prepared to document the survey, and no additional measures are recommended. If construction does not commence within seven days of the pre-construction survey, or halts for more than seven days, an additional survey is recommended before starting work. If bats are present and roosting on or within 100 feet of the project footprint, then the biologist shall establish an appropriate no-disturbance buffer around the roost site. No construction activities should occur within the no-disturbance buffer until a qualified biologist has determined the roost is no longer active. Additional mitigation measures for bat species, such as the installation of bat boxes or alternate roost structures, would be recommended only if special-status bat species are found to be roosting within the project area.	Within seven days of initiation of ground-disturbing activities.	Qualified Biologist; City		
Mitigation Measure BIO-6: Aquatic Resources and Permitting Requirements Prior to the initiation of any construction activities that could result in impacts to potentially regulated aquatic features, the extent of the Ordinary High Water Mark (OHWM) of aquatic features within the study area shall be mapped, and applicable permits shall be prepared and submitted to the appropriate regulatory agencies for any project-related impacts to these features. Any conditions included in the final permits, including prescribed mitigation measures, shall be required to be implemented before filling or impacting these features. Section 404 authorization from the USACE and a Section 401 Water Quality	Prior to the initiation of ground-disturbing activities.	Project Proponent		

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
Certification from the RWQCB may be required before the start of construction that will impact any waters of the U.S. Any waters of the U.S. or jurisdictional wetlands that would be lost or disturbed shall be replaced or rehabilitated on a "no-net-loss" basis in accordance with the USACE mitigation guidelines and City requirements. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods agreeable to the agencies. If a 404 permit is required for the proposed project, then water quality concerns during construction would be addressed in the Section 401 water quality certification from the Regional Water Quality Control Board. If the aquatic features are determined to not be subject to federal jurisdiction, then these features may still be subject to waste discharge requirements under the Porter-Cologne Water Quality Control Act. Section 13260(a) of the Porter-Cologne Water Quality Control Act (contained in the California Water Code) requires any person discharging waste or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The discharge of dredge or fill material into the ditches may constitute a discharge of waste that could affect the quality of waters of the State. A report of waste discharge shall be filed for impacts to non-federal waters, if required. The creek corridor is also likely regulated by CDFW under Section 1600 of the California Fish and Game Code. CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in DBH. If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that shall allow the protection of those resources. If these measures are agreeable to the parties involved, they shall enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.				

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
Mitigation Measure BIO-7: Tree Impact Assessment and Permit Application Prior to issuance of a Building or Grading Permit for the project, the City shall submit a final Tree Impact Assessment for impacts to trees from project construction activities located within the City of Citrus Heights (Indian River, Matheny, and Patton Bridges) and County of Sacramento (Sundance Bridge). The Tree Impact Assessment report shall include all preservation measures, including details for modified construction methods that the City shall undertake during construction to ensure the long-term health and safety of the trees. The impact assessment report shall take into account improvement plans that show any encroachment into the driplines of any protected trees. If avoiding tree removal or construction within the dripline of protected trees is not feasible, other mitigation measures offered by a certified arborist and accepted by the Planning Division must be made. The proposed project shall abide by the Standard Policies and Procedures for Approved Work listed in Section 106.39.050 of the City's Tree Preservation and Protection Ordinance, and the County's required measures in Sections 19.12.130, 19.12.140, 19.12.150, and 19.12.160. If required by the City or County upon approval of the Tree Permits, replacement tree plantings or in-lieu mitigation fees will be completed or paid in accordance with City and County requirements. Prior to any project activities that could potentially impact protected trees, an International Society of Arborists (ISA) certified arborist shall conduct an arborist assessment of the inventoried trees and prepare an arborist survey report. The arborist survey report shall be used to determine tree protection measures and shall be submitted to the City of Citrus Heights along with a Tree Permit application. All measures and tree mitigation requirements in the Tree Permit shall be followed.	Prior to issuing permits.	ISA Certified Arborist; City		

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
CULTURAL RESOURCES				
Mitigation Measure CUL-1: Accidental Discovery of Cultural Resources In the event that cultural resources are exposed during ground-disturbing activities, construction activities shall be halted within 100 feet of the discovery. Cultural resources could consist of but are not limited to stone, bone, wood, or shell artifacts, or features, including hearths, structural remains, or historic dumpsites. If the resources cannot be avoided during the remainder of construction, a qualified archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards shall assess the resource and provide appropriate management recommendations. If the discovery proves to be CRHR- or NRHP-eligible, additional documentation and analysis, such as data recovery excavation, may be warranted.	Immediately upon discovery.	Construction Personnel; Qualified Archaeologist		
Mitigation Measure CUL-2: Accidental Discovery of Human Remains Although unlikely, there is always the possibility that ground-disturbing activities during construction may uncover previously undocumented human remains. In the event of an accidental discovery or recognition of any human remains during project construction, guidelines from both Public Resources Code (PRC) Section 5097.98 shall be considered. In accordance with PRC Section 5097.98, if there is a discovery or recognition of human remains, the following steps shall be taken: 1. There shall be no further excavation or disturbance of the specific location or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains are Native American, the coroner shall contact the NAHC within 24 hours, and the	Immediately upon discovery.	Construction Personnel; County Coroner; NAHC; City		

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
NAHC shall identify the person or persons it believes to be the "most likely descendant" of the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98, or 2. Where the following conditions occur, the City shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the project impact area in a location not subject to further subsurface disturbance: • The NAHC is unable to identify a most likely descendant or the most likely descendant failed to make a recommendation within 48 hours after being notified by the commission; • The descendant identified fails to make a recommendation; or The City rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the City.				

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
GEOLOGY AND SOILS				
Mitigation Measure GEO-1: Avoid and Minimize Impacts to Paleontological Resources In the event paleontological or other geologically sensitive resources (such as fossils or fossil formations) are identified during any phase of project construction, all excavations within 100 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at the City who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, the City shall implement those measures which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code Section 21083.2.	Immediately upon discovery.	Construction Personnel; Qualified Paleontologist; City		
HAZARDS AND HAZARDOUS MATERIALS				
Mitigation Measure HAZ-1: Avoid and Minimize Impact to Underground Utilities At least seven (7) days prior to ground disturbing activities, the applicant shall call Underground Service Alert at 811 to provide notification of the planned activities, including the locations of excavation activities. No ground disturbing activities shall take place until the locations of the underground utilities are identified and marked at the site by the utility provider. The construction contractor shall conduct an on-site meeting pursuant to Gov. Code Section 4216, to determine actions required to verify the location of the underground utilities. If excavation is planned to occur within 15 feet of the locations of field marked underground utilities, hand tools shall be used to expose the exact location of all lines before using any power-driven excavation equipment in the area. Should construction activities result in any damage to underground utilities (including a slight gouge, scrape, or dent to a pipeline, its coating, or	At least seven days prior to ground-disturbing activities.	Project Proponent; Construction Contractor		

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
any component attached to or running alongside the pipe, such as a wire), the damage shall be immediately reported by calling the utility provider(s).				
Mitigation Measure HAZ-2: Utility Coordination and Safe Removal Procedures Prior to any ground-disturbing activities associated with the relocation or removal of utilities at the Indian River Bridge and Matheny Bridge locations, the City shall contact Consolidated Communications (CCI), Comcast, and Pacific Gas and Electric (PG&E) to provide notification of planned excavation that would impact the abandoned CCI and Comcast joint trench conduits at Indian River Bridge active and inactive PG&E gas lines at Matheny Bridge. No ground-disturbing activities shall occur until the abovementioned underground and exposed utilities have been identified and field-marked by the responsible utility provider(s). In accordance with California Government Code Section 4216, the City, excavation contractor, and relevant pipeline or utility operators shall conduct an on-site coordination meeting prior to the start of work to review the planned excavation methods, discuss utility protection requirements, and determine appropriate verification procedures for locating and removing utilities in the creek bed. If excavation or utility removal activities are planned to occur within 15 feet of any marked or exposed utility line, hand tools shall be used to expose and verify the exact location of all lines in the proposed excavation areas prior to the use of any power-driven excavation equipment in the area. Construction personnel shall implement all safety protocols required by each utility owner, including any required stand-by monitoring, pressure test requirements, or temporary shutoff procedures for the active PG&E gas line.	Prior to the initiation of ground-disturbing activities.	Construction Contractor; City		

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
If construction activities result in damage to a utility, including minor coating scrapes, wire disturbance, conduit breakage, or any visible gouge, dent, or abrasion to a pipeline or line component, work shall immediately stop in the affected area. The damage shall be immediately reported to the appropriate utility provider, and repairs shall be completed consistently with the utility owner's specifications before work may resume.				
HYDROLOGY AND WATER QUALITY				
Mitigation Measure HYD-1: Preparation and Implementation of a Dewatering Plan Prior to the start of any in-water construction activities, the City shall prepare a project-specific Dewatering Plan for review and approval by the City Engineer and applicable regulatory agencies. The plan shall describe the methods for isolating work areas and maintaining downstream flows. The plan shall also identify best management practices to prevent turbidity, sedimentation, or pollutant discharges downstream and outline procedures for gradually returning flows to the channel once construction is complete. The City shall implement all elements of the approved Dewatering Plan throughout construction.	Prior to the initiation of ground-disturbing activities.	City		
Mitigation Measure HYD-2: Standard Construction Best Management Practices The City shall implement the following standard construction BMPs throughout construction to minimize potential water quality impacts. • The project impact area shall be delineated and/or fenced prior to the start of construction. • Appropriate erosion control measures shall be used (e.g., hay bales, filter fences, vegetative buffer strips, or other accepted equivalents) to reduce siltation and contaminated runoff from leaving the proposed	Throughout construction activities.	City; Construction Personnel		

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
project impact area. The integrity and effectiveness of the BMPs shall be inspected daily by the resident engineer. Corrective actions and repairs shall be carried out immediately. • Construction by-products and pollutants such as petroleum products, chemicals, or other deleterious materials shall not be used adjacent to or within the creeks. • A plan for the emergency clean-up of any spills of fuel or other materials shall be available on-site when construction equipment is in use, and adequate materials shall be available for spill clean-up and during storm events. • Construction vehicles and equipment shall be maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease. • Leaking vehicles and equipment shall be removed from the site. • Materials storage areas containing hazardous or potentially toxic materials such as petroleum products shall have an impermeable membrane between the ground and the hazardous material and shall be bermed to prevent the discharge of pollutants to ground water and runoff water. • Equipment shall be re-fueled and serviced at designated construction staging areas, as far as possible from the creeks.				

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
• All construction material and fill shall be stored and contained in a designated area that is located as far away as possible from the creeks to prevent transport of materials into the creeks. • No litter, debris, or side cast shall be dumped or permitted to enter creeks. • During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.				
TRIBAL CULTURAL RESOURCES				
Mitigation Measure TCR-1: Accidental Discovery of Tribal Cultural Resources If any suspected TCRs or resources of cultural significance to UAIC, including but not limited to features, anthropogenic/cultural soils, cultural belongings or objects (artifacts), shell, bone, shaped stones or bone, or ash/charcoal deposits are discovered by any person during construction activities including ground disturbing activities, all work shall pause immediately within 100 feet of the find, or an agreed upon distance based on the project area and nature of the find. Work shall cease in and within the immediate vicinity of the find regardless of whether the construction is being actively monitored by a Tribal Monitor, cultural resources specialist, or professional archaeologist. A Tribal Representative and the City shall be immediately notified, and the Tribal Representative in coordination with the City shall determine if the find is a TCR (PRC Section 21074) and the Tribal Representative shall make recommendations for further evaluation and treatment, as necessary.	Immediately upon discovery.	UAIC Tribal Monitor, Cultural Resources Specialist, or Professional Archaeologist; Construction Contractor; City		

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
Treatment and Documentation: • The culturally affiliated Tribe shall consult with the City to (1) identify the boundaries of the new TCR and (2) if feasible, identify appropriate preservation in place and avoidance measures, including redesign or adjustments to the existing construction process, and long-term management, or 3) if avoidance is infeasible, a reburial location in proximity of the find where no future disturbance is anticipated. Permanent curation of TCRs will not take place unless approved in writing by the culturally affiliated Tribe. • The construction contractor(s) shall provide secure, on-site storage for culturally sensitive soils or objects that are components of TCRs that are found or recovered during construction. Only Tribal Representatives shall have access to the storage. Storage size shall be determined by the nature of the TCR and can range from a small lock box to a conex box (shipping container). A secure (locked), fenced area can also provide adequate on-site storage if larger amounts of material must be stored. • The construction contractor(s) and City shall facilitate the respectful reburial of the culturally sensitive soils or objects. This includes providing a reburial location that is consistent with the Tribe's preferences, excavation of the reburial location, and assisting with the reburial, upon request. • Any discoveries shall be documented on a Department of Parks and Recreation (DPR) 523 form within two weeks of the discovery and submitted to the appropriate CHRIS center in a timely manner.				

Mitigation Measure	Monitoring/ Mitigation Timing	Reporting/ Responsible Party	Verification of Compliance	
			Initials	Date
• Work at the TCR discovery location shall not resume until authorization is granted by the City in coordination with the culturally affiliated Tribe. • If articulated or disarticulated human remains, or human remains in any state of decomposition or skeletal completeness are discovered during construction activities, the County Coroner and the culturally affiliated Tribe shall be contacted immediately. Upon determination by the County Coroner that the find is Native American in origin, the Native American Heritage Commission will assign the Most Likely Descendent who will work with the project proponent to define appropriate treatment and disposition of the burials.				