COUNTY OF TULARE
RESOURCE MANAGEMENT AGENCY

5961 South Mooney Boulevard
Visalia, CA 93277

Initial Study and Mitigated Negative Declaration

Bridge Preventative Maintenance Program – Group 5
BPMPL-5946(169)

September 2025

Prepared by
County of Tulare Resource Management Agency
Economic Development and Planning Branch
Environmental Planning Division

INITIAL STUDY CHECKLIST

1. **Project Title:** Bridge Preventative Maintenance Program – Group 5 (BPMPL-5946(169))

2. **Lead Agency:** Tulare County Resource Management Agency
5961 S. Mooney Blvd.
Visalia, CA 93277

3. **Contact Persons:** Carlos Gonzalez, Engineer II (Project Manager) – 559-624-7159
Gary Mill, Chief Planner, Environmental Planning Division – 559-624-7199

4. **Project Location:** The Bridge Preventative Maintenance Program (BPMP) – Group 5 Project (Project) proposes to perform maintenance on 17 bridges located throughout Tulare County. Each bridge site is located along a public road; however, the Project area at each bridge encompasses a small portion of the Assessor Parcel Number's (APN's) listed in **Table 1** below:

Table 1. Project APN, General Plan Designation, and Zoning

Bridge Number	APN	General Plan Designation	Zoning
46C0036	111-180-015	VA-Valley Agriculture	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	111-180-062		
	111-180-064		
46C0058	045-100-009	VA-Valley Agriculture	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
46C0059	045-100-009	VA-Valley Agriculture	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	045-100-021		AE-80 Exclusive Agricultural Zone – 80 Acre Minimum
46C0087	305-060-013	FA-Foothill Agriculture	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	305-060-014		
	305-190-021		
46C0106	318-130-005	VA-Valley Agriculture	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	318-290-002		
46C0108	319-100-002	VA-Valley Agriculture	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	319-110-005		
46C0202	325-030-005	FA-Foothill Agriculture	FA – Foothill Agricultural
46C0204	325-210-053	Mountain Framework Plan area/Great Western Divide South Half Plan (Unadopted)	A-1 Agricultural
	325-210-065		
46C0205	344-190-004	Mountain Framework Plan area/Great Western Divide South Half Plan (Unadopted)	A-1 Agricultural
	344-190-007		
46C0226	035-250-003	VA-Valley Agriculture	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	035-250-008		
	035-260-002		
	035-260-013		
46C0269	228-010-019	VA-Valley Agriculture	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	228-010-021		
46C0309	210-160-027	VA-Valley Agriculture	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	210-170-008		
46C0318	318-120-014	VA-Valley Agriculture	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	316-180-008		
	316-180-012		
46C0330	053-120-007	VA-Valley Agriculture	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	053-160-006		

Bridge Number	APN	General Plan Designation	Zoning
46C0403	111-050-042	VA-Valley Agriculture	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	111-130-011		
46C0408	103-110-006	UR-Urban Reserve	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	103-500-001		Government/Public
46C0420	077-040-029	UR-Urban Reserve	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	077-040-031		

5. **Applicant:** Tulare County Resource Management Agency
   5961 S. Mooney Blvd.
   Visalia, CA 93277

6. **Owner(s)** Not Applicable

7. **General Plan Designation:** The Project proposes to perform maintenance on 17 bridges located throughout Tulare County. **Table 1**, above, lists each bridge location and its corresponding general plan designation.

8. **Zoning:** The Project proposes to perform maintenance on 17 bridges located throughout Tulare County. The table above lists each bridge location and its corresponding zone code and name.

9. **Description of Project (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)** Tulare County (County), in cooperation with the California Department of Transportation (Caltrans), proposes to perform maintenance on 17 bridges throughout various locations within the County (**Figure 1. Project Vicinity** and **Figure 2. Project Location**). A summary of the 17 bridges, including bridge number and location, included in the Project is listed in **Table 2**, below.

   The County is responsible for the maintenance of 359 bridges within the boundaries of Tulare County. In 2015, the County developed a BPMP, that includes five category groups of maintenance activities, with the following objectives: maintain the existing bridge inventory in a structurally safe and serviceable condition; correct minor structural defects; repair deficiencies early in a bridge's life prior to encountering major, more costly rehabilitation, reconstruction, or replacement; and extend the service life of existing bridges. Group 5 includes scour countermeasures (streambed degradation or localized scour), which is often the highest priority, and the repair, restoration, and strengthening of structural elements.

   The purpose of the Project is to extend the service life of 17 bridges within the County considered to be in generally good condition. Preventative maintenance activities are needed to provide improved safety and operations on each facility.

   The proposed Project would implement preventive maintenance measures primarily consisting of scour protection repairs and other miscellaneous work including but not limited to deck treatment, spall repair, structural connection repairs, joint repairs, bridge bearing repairs, and overlay (asphalt concrete) removal. Erosion control will be placed where necessary and disturbed areas will be revegetated. A summary of specific work items per bridge is included in **Table 2**, below:

Table 2. Project Location and Work Description

Bridge Number	Facility Carried/Intersected	Location	Work Description
46C0036	Rd. 168/Tulare Irrigation District (TID) Canal	0.1 mi N of SR 198	• Clear debris/rubble in TID Canal • Grout exposed piles and place grout bags in front of piers
46C0058	D60 / Cross Creek	2.05 mi S of AVE 352	• Partially grouted rock slope protection (RSP) along the whole creek width
46C0059	D60 / Cross Creek	1.95 mi S of AVE 352	• Clear debris/rubble in Cross Creek • South abutment rubble to be removed and replaced with properly sized RSP • Drop structure downstream of bridge • Grout exposed piles at abutments • Partially grouted riprap along full length of channel
46C0087	M120 / Deer Creek	0.5 mi E of RD 272	• Grout exposed pier piles and place cut-off walls at piers • Partially grouted riprap at abutments and piers • Methacrylate deck treatment • Roadway approach work
46C0106	Road 144 / Deer Creek	0.1 mi S of AVE 72	• Grout exposed pier piles and place partially grouted riprap around piers • Methacrylate deck treatment • Roadway approach work
46C0108	Avenue 88 / Deer Creek	0.2 mi E of RD 176	• Place partially grouted riprap around piers • Methacrylate deck treatment • Clear debris within Deer Creek
46C0202	M112 / Deer Creek	5.86 mi SE of M120	• Replace left rotated wingwall • Add cut-off walls to both abutment footings
46C0204	M112 / Tyler Creek	0.3 mi N of M56	• Place downdrains around wingwalls • Repaint areas where the paint system is damaged or no longer effective
46C0205	SR56 (Hot Springs Rd.)/Deer Creek	16.4 mi E of M109	• Cut-off wall at abutment 1
46C0226	Avenue 428 / Friant Kern Canal	0.4 mi E of RD 144	• Methacrylate deck treatment • Reset bearings at abutment 4 • Remove AC from sliding steel plate joint to allow for joint movement • Place RSP or turf reinforcement mat at abutments
46C0269	Road 80 / Elk Bayou	1.1 mi N of AVE 160	• Remove asphalt concrete surfacing (and re-stripe deck) • Place RSP at piers and abutments • Replace bridge rail
46C0309	Avenue 220 / Lewis Creek	0.25 mi E of RD 244	• Grout and place cut-off walls at abutments
46C0318	Road 136 / Deer Creek	0.6 mi S of AVE 78	• Place partially grouted riprap at piers • Clear debris within Deer Creek • Deck treatment – Polyester concrete overlay

Bridge Number	Facility Carried/Intersected	Location	Work Description
46C0330	Road 180 / Cottonwood Creek	0.4 mi N of AVE 352	• Place RSP along channel and around wingwalls • Clear debris within Cottonwood Creek • Roadway approach work
46C0403	Avenue 304 / Crocker Cut	0.2 mi E of RD 180	• Construct cut-off wall along downstream • Remove asphalt concrete (AC) at both approaches and along bridge
46C0408	Road 152 / Mill Creek	0.4 mi N of SR 198	• Place partially grouted riprap at piers • Replace or add additional grout bags at upstream portions of abutments
46C0420	Road 108 / Saint Johns River	0.75 mi S of AVE 328	• Grout exposed piles • Place partially grouted riprap along full channel width • Methacrylate deck treatment • Place RSP within Saint Johns River

Temporary road closures and detours will take place at select bridge sites. The anticipated duration of the road closures will be approximately 4−6hours depending upon access needs of residents and available detour options. Temporary construction easements (TCEs) and partial right-of-way (ROW) will likely be needed on a limited basis to accommodate the construction of the proposed preventative maintenance activities. Full ROW takes are not anticipated. Construction at all bridge locations is expected to be completed in approximately 12 months.

The Project is federally funded through the Highway Bridge Program, as such it requires compliance with both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The lead agency for the CEQA compliance is the County, and the lead agency for the NEPA compliance is Caltrans.

10. Surrounding land uses and setting (Brief description): See **Table 3**, below, for the surrounding land uses and setting at each bridge location.

Table 3. Surrounding Land Use

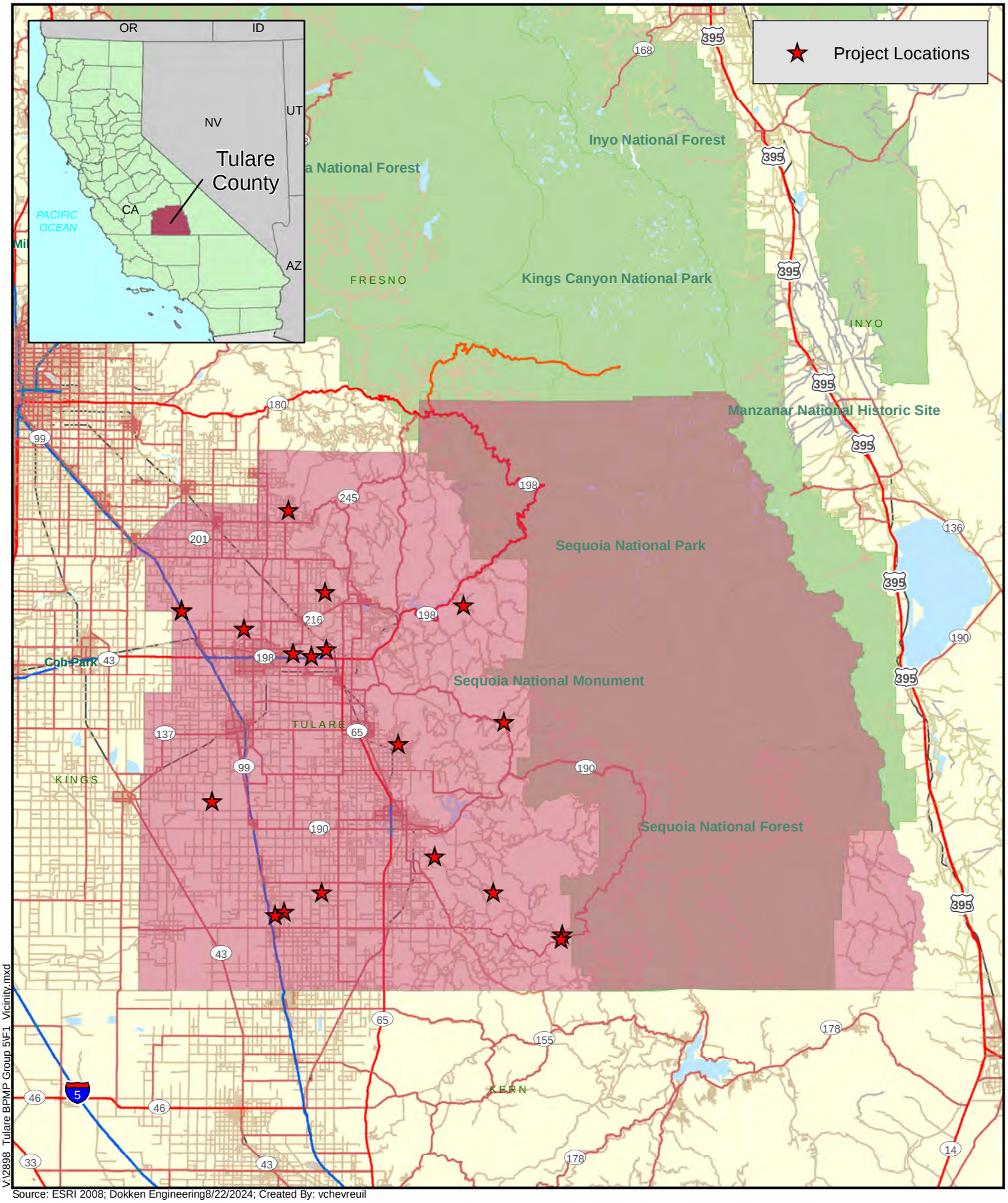
Bridge Number	General Plan Designation	Surrounding Land Use
46C0036	Valley Agriculture	While agricultural fields generally surround Bridge 46C0036, about a dozen residences are within approximately ¼-mile of Bridge #46C0036, mostly upstream of the TID Canal and Bridge 46C0036.
46C0058	Valley Agriculture	Bridge 46C0058 and 46C0059 are located within an approximately ¾-mile wide floodplain with the adjacent lands primarily agricultural fields. The nearest agricultural facility and nearest residence are approximately 1.2 miles and 2 miles, respectively.
46C0059	Valley Agriculture	
46C0087	Foothill Agriculture	Bridge 46C0087 is located at the lower edge of the foothills, with an adjacent quarry and nearby grazing areas. The nearest residence is 0.6 miles west, at the edge of agricultural fields of the Central Valley.
46C0106	Valley Agriculture	The area surrounding Bridge 46C0106 and 46C0108 are primarily agricultural fields, with occasional agricultural facilities and residences.
46C0108	Valley Agriculture	
46C0202	Foothill Agriculture	Bridge 46C0202 is located in the foothills in primarily grazing lands with no nearby residences or structures.

Bridge Number	General Plan Designation	Surrounding Land Use
46C0204	Mountain Framework Plan area/Great Western Divide South Half Plan (Unadopted)	Current land uses in the area surrounding Bridge 46C0204 include occasional residences and some associated foothill-agricultural fields. The nearest residence is approximately 350 feet from Bridge 46C0204.
46C0205	Mountain Framework Plan area/Great Western Divide South Half Plan (Unadopted)	Current land uses in the area surrounding Bridge 46C0205 include low density residences and associated grazing areas in addition to an adjacent RV camping/recreational area.
46C0226	Valley Agriculture	The area surrounding Bridge 46C0226 is principally agricultural fields. Medium density residences begin about 0.5 miles west of Bridge 46C0226 with houses north of East Orosi. The nearest residence is approximately 0.3 mile to the west.
46C0269	Valley Agriculture	The area surrounding Bridge 46C0269 is principally agricultural fields with scattered agricultural facilities. Residences are sparse with the nearest at approximately 0.4 mile.
46C0309	Valley Agriculture	Bridge 46C0309 is located in an area of undeveloped floodplain, generally 500-700 feet in width, beyond which is mostly agricultural fields, although open space and grazing lands of the foothills begin about ¼ mile to the east. Residences are mixed with agricultural fields at a low to medium density, with the nearest located adjacent to Bridge 46C0309.
46C0318	Valley Agriculture	The area surrounding this site is primarily agricultural fields, with occasional agricultural facilities and residences.
46C0330	Valley Agriculture	The area surrounding Bridge 46C0330 is principally agricultural fields, with an agricultural facility approximately 0.1 miles away and the nearest residence at about ¼ mile.
46C0403	Valley Agriculture	The area surrounding Bridge 46C0403 is principally agricultural fields, with a nearby agricultural facility and the nearest residence at approximately 0.14 mile.
46C0408	Urban Reserve	Bridge 46C0408 is surrounded with agricultural fields, a few agricultural facilities, and four residences within ¼-mile. Dense residential neighborhoods of Visalia begin 0.5 miles to the west.
46C0420	Urban Reserve	Bridge 46C0420 is surrounded with agricultural fields, associated agricultural facilities, and 3-5 residences within ¼-mile, with one adjacent to the Project site. Dense residential neighborhoods of Visalia begin 0.6 miles to the south.

11. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):** Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), United States Army Corps of Engineers (USACE), San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD), Caltrans, Central Valley Flod Protection Board (CVFPB) and United States Fish and Wildlife Service (USFWS).

12. **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 include, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc?** Pursuant to Assembly Bill (AB) 52, a Sacred Land File request was submitted to the Native American Heritage Commission (NAHC) on January 25, 2024, and was returned with positive results within the Springville United States Geological Survey (USGS) 7.5-minute quadrangle. All bridges located within this quadrangle have since been removed from the Project. All remaining bridge sites produced negative results. On May 20, 2024, tribal consultation notices were sent to eighteen (18) tribal contacts representing eight (8) Native American tribes. To date (that is, at the time of release of this draft IS/MND), the County received two responses from the Santa Rosa Rancheria Tachi Yokut Tribe and North Fork Mono Tribe. The Santa Rosa Rancheria Tachi Yokut Tribe deferred to the Tulare River Reservation due to location of the Project and the North Fork Mono Tribe stated that the tribe has no comment. No other responses were

received. Mitigation measures have been included in the project to reduce potential impacts on tribal cultural resources in the event that any potential resources are unearthed during construction-related activities.



V:\2898 Tulare BPMP Group 5\F1 Vicinity.mxd

Source: ESRI 2008; Dokken Engineering8/22/2024; Created By: vchevreuil

0 10 20 30 40 Miles

FIGURE 1
Project Vicinity

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



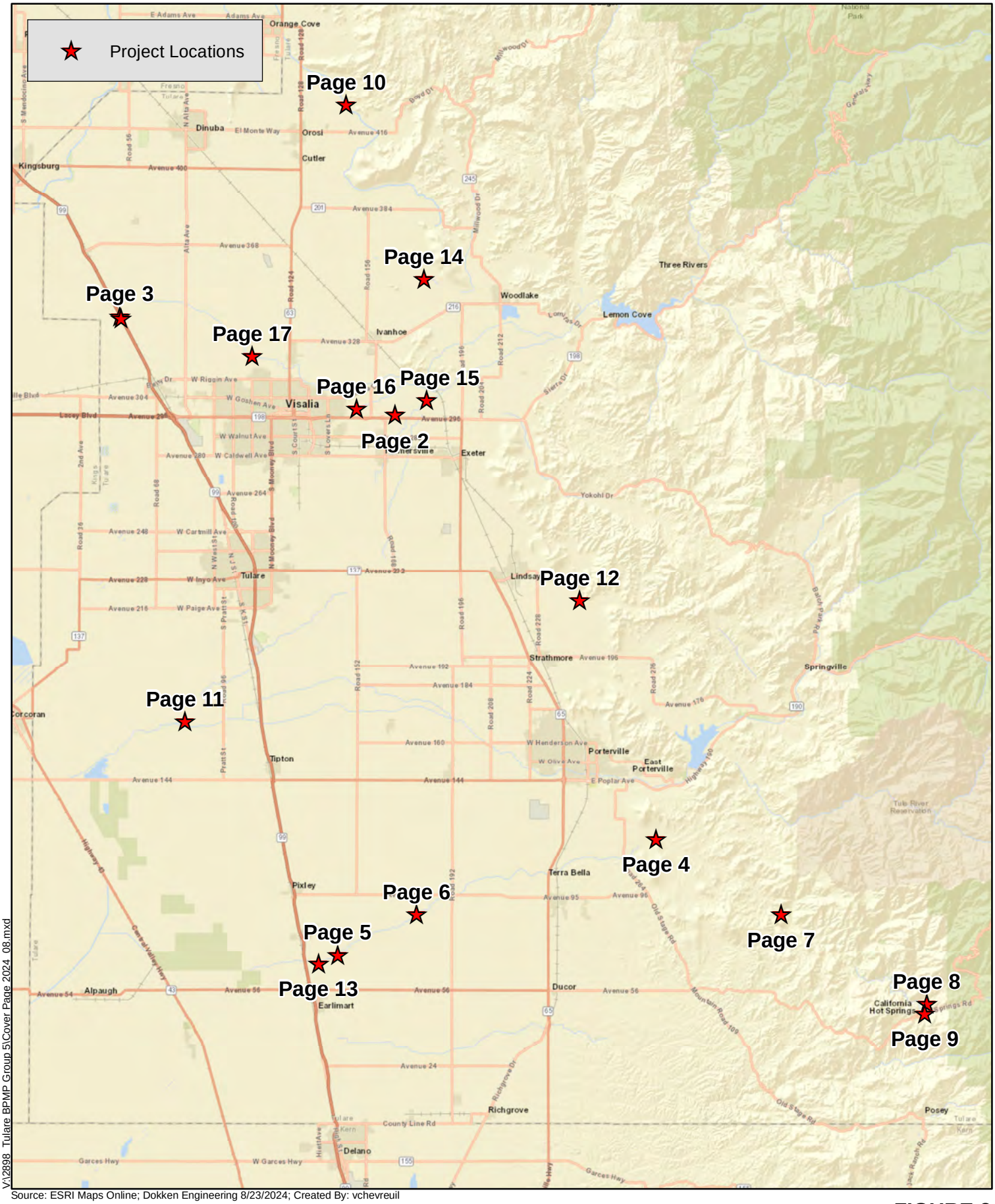
Source: ESRI World Street Maps Online; Dokken Engineering 8/22/2024; Created By: vchevreuil

V:\2898 Tulare BPMP Group 5\F2 Location.mxd

0 5 10 15 20 Miles

FIGURE 2
Project Location

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



Source: ESRI Maps Online; Dokken Engineering 8/23/2024; Created By: vchevreuil

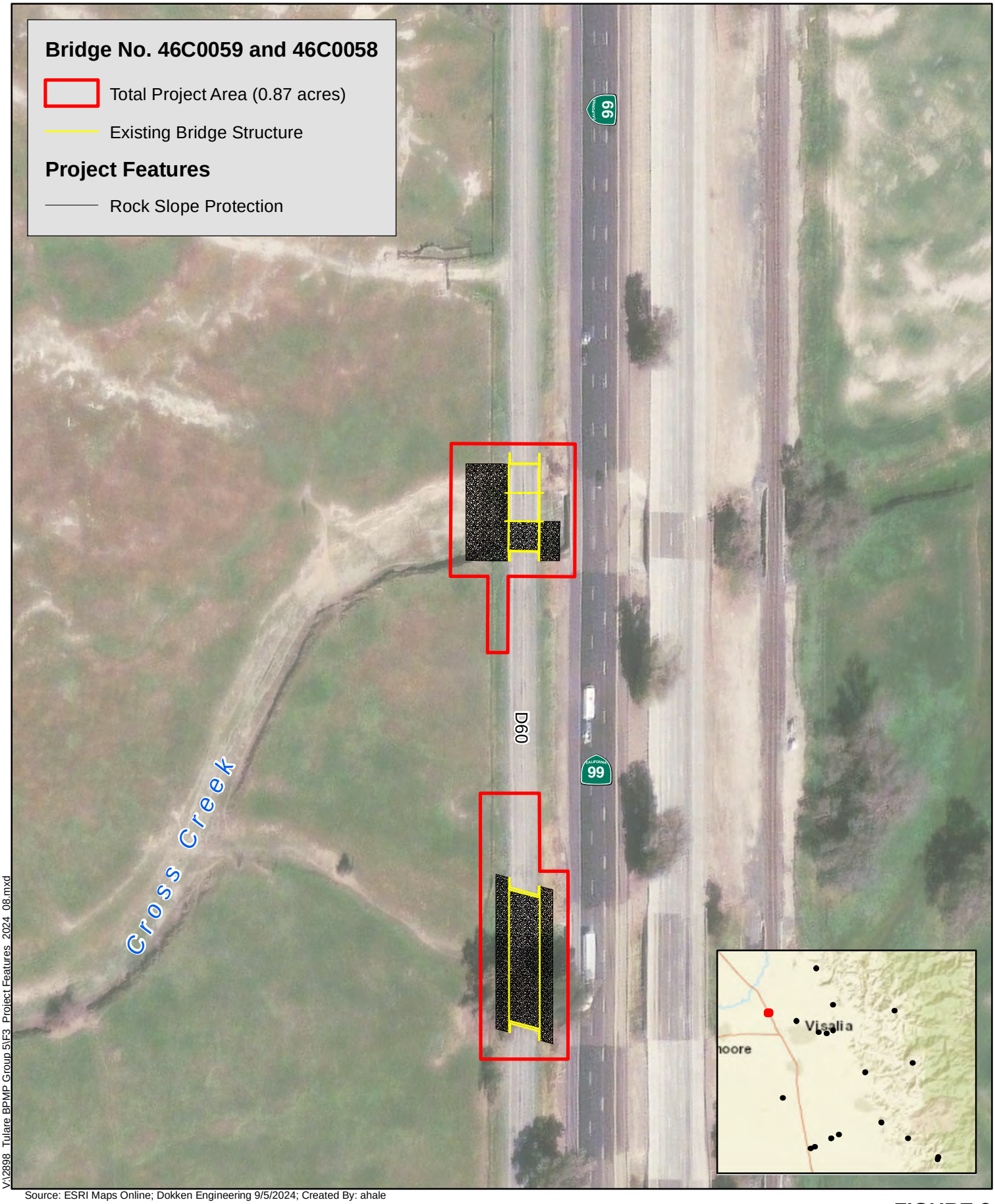
0 5 10 15 Miles

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FIGURE 3
Project Features
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



FIGURE 3
Project Features
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 125 feet

0 75 150 Feet

FIGURE 3
Project Features
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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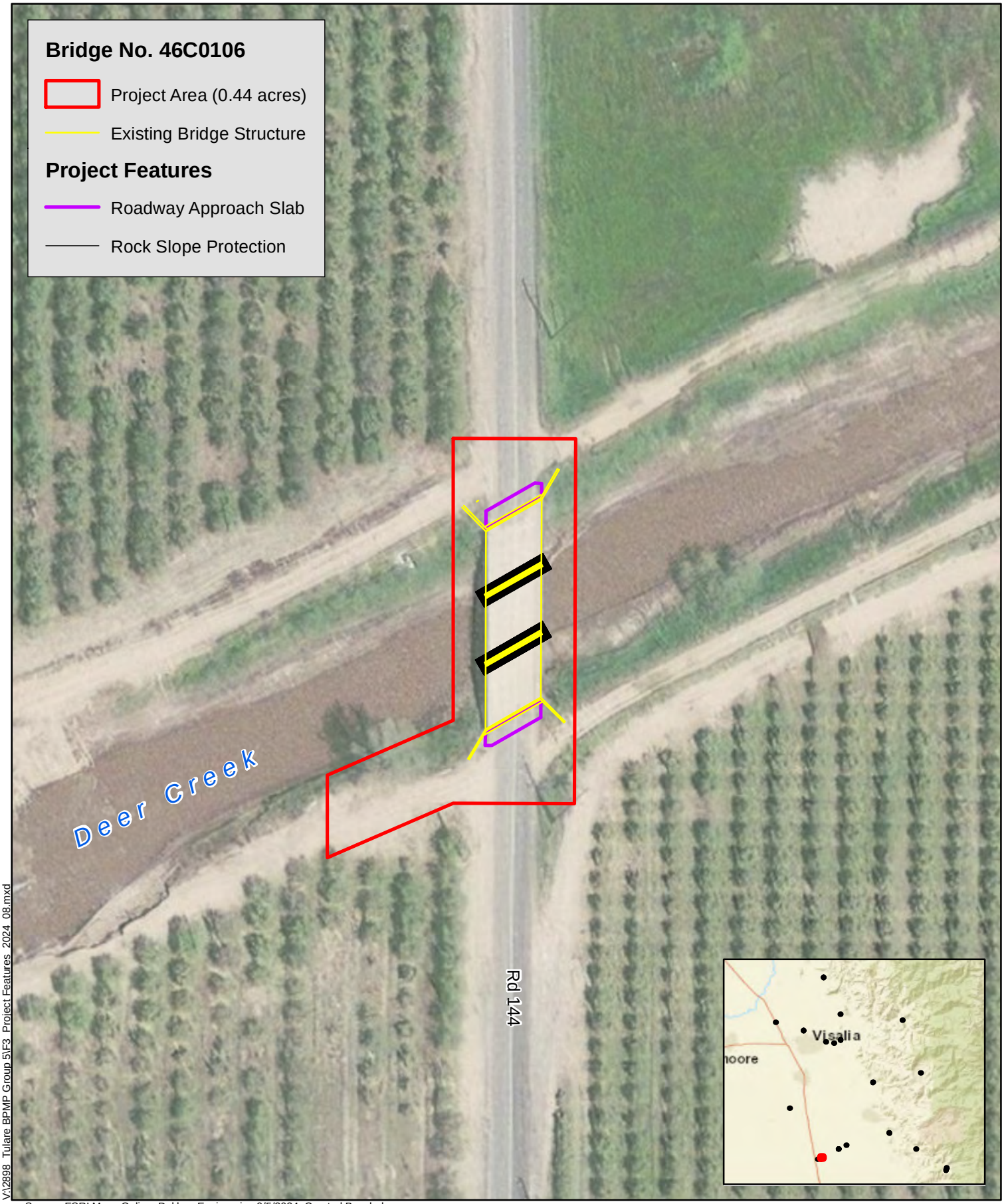
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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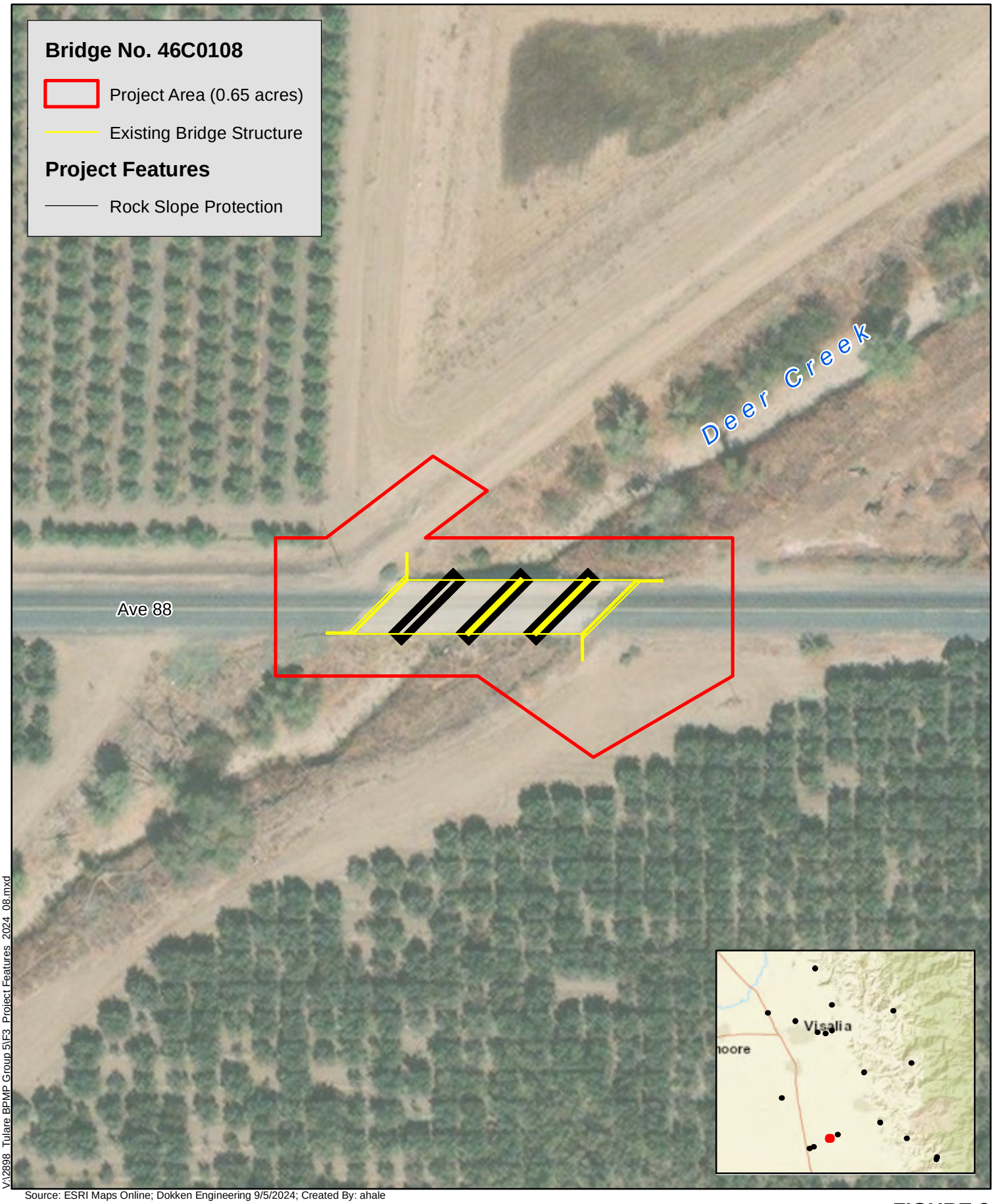
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



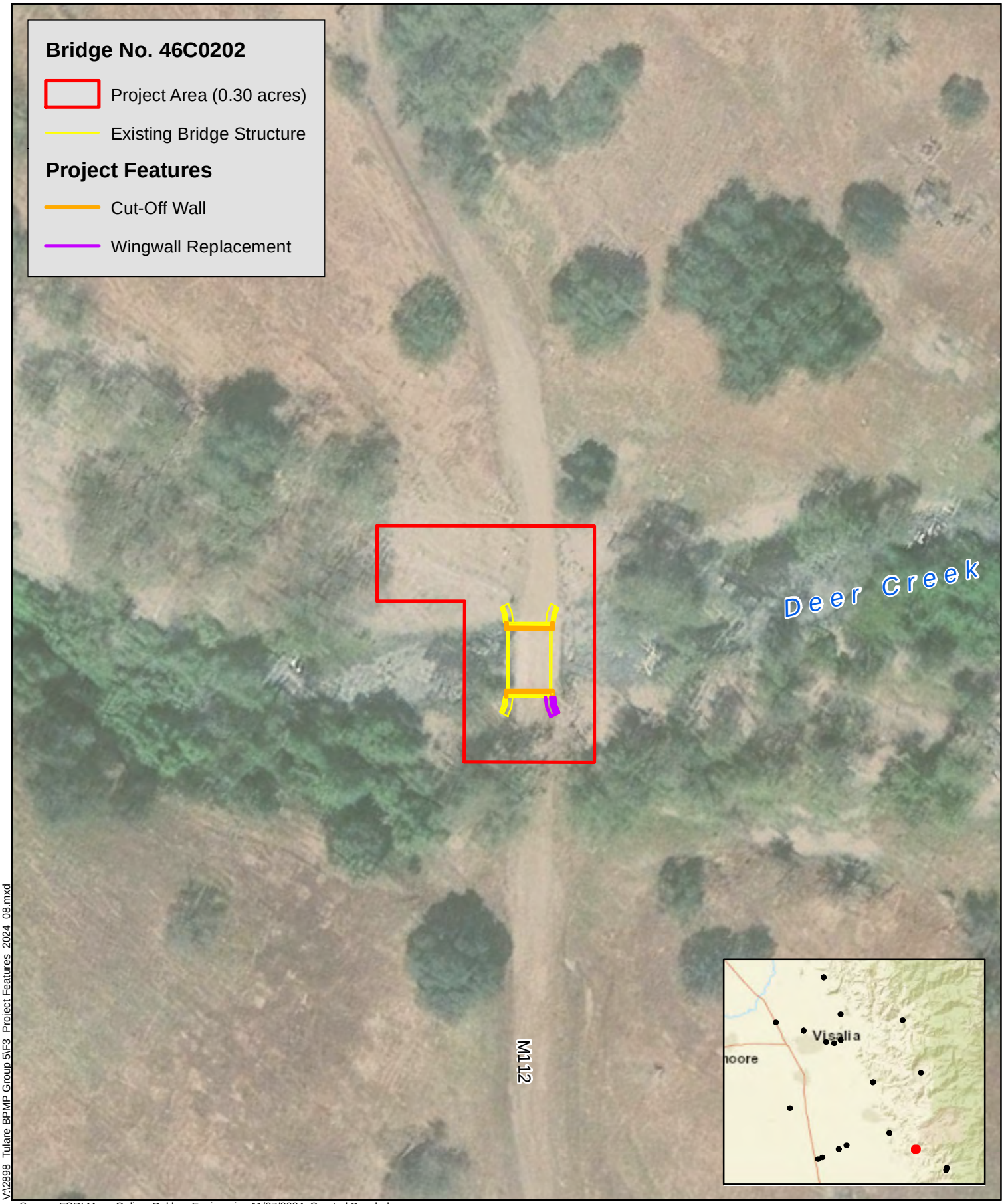
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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 11/27/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



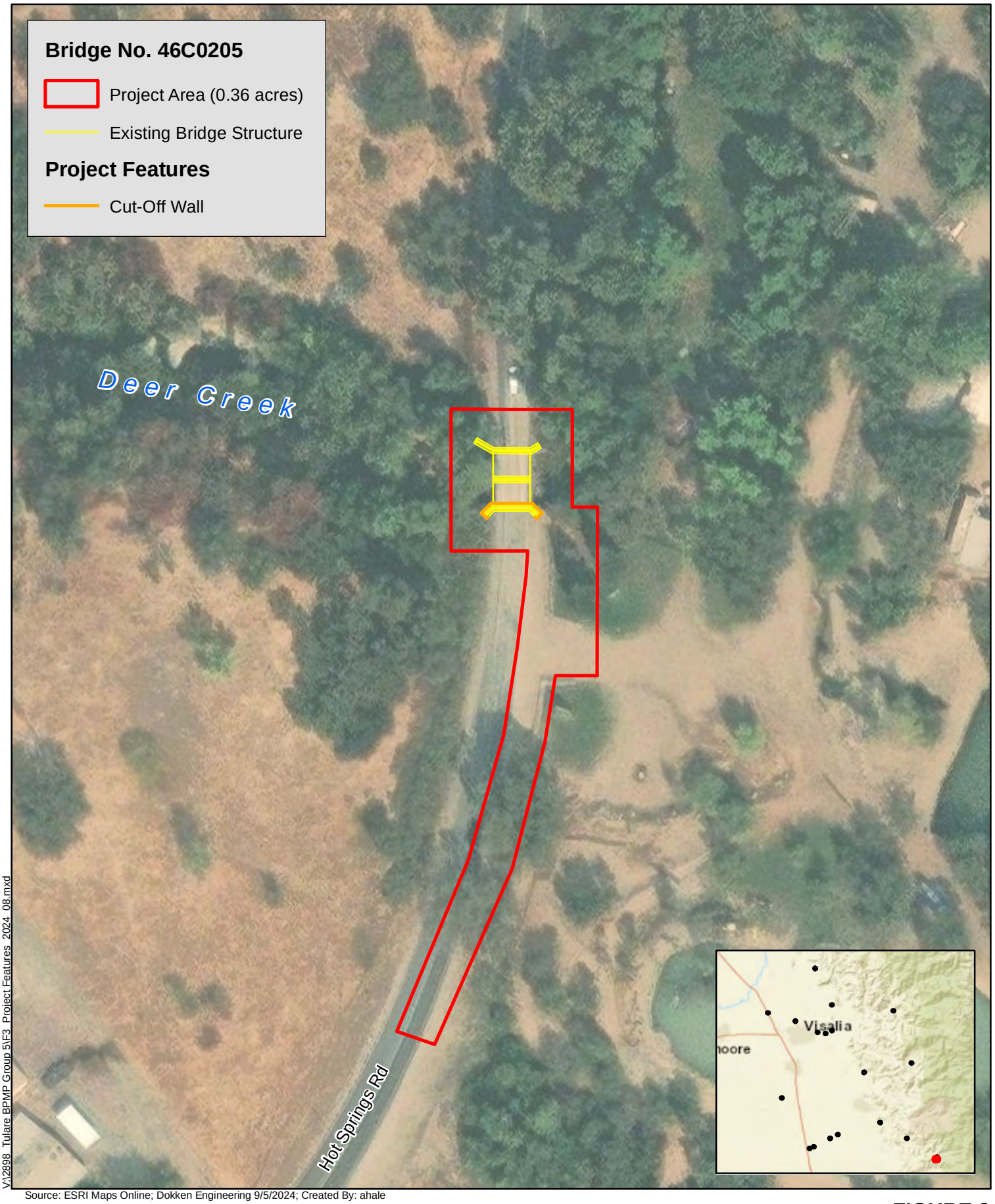
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



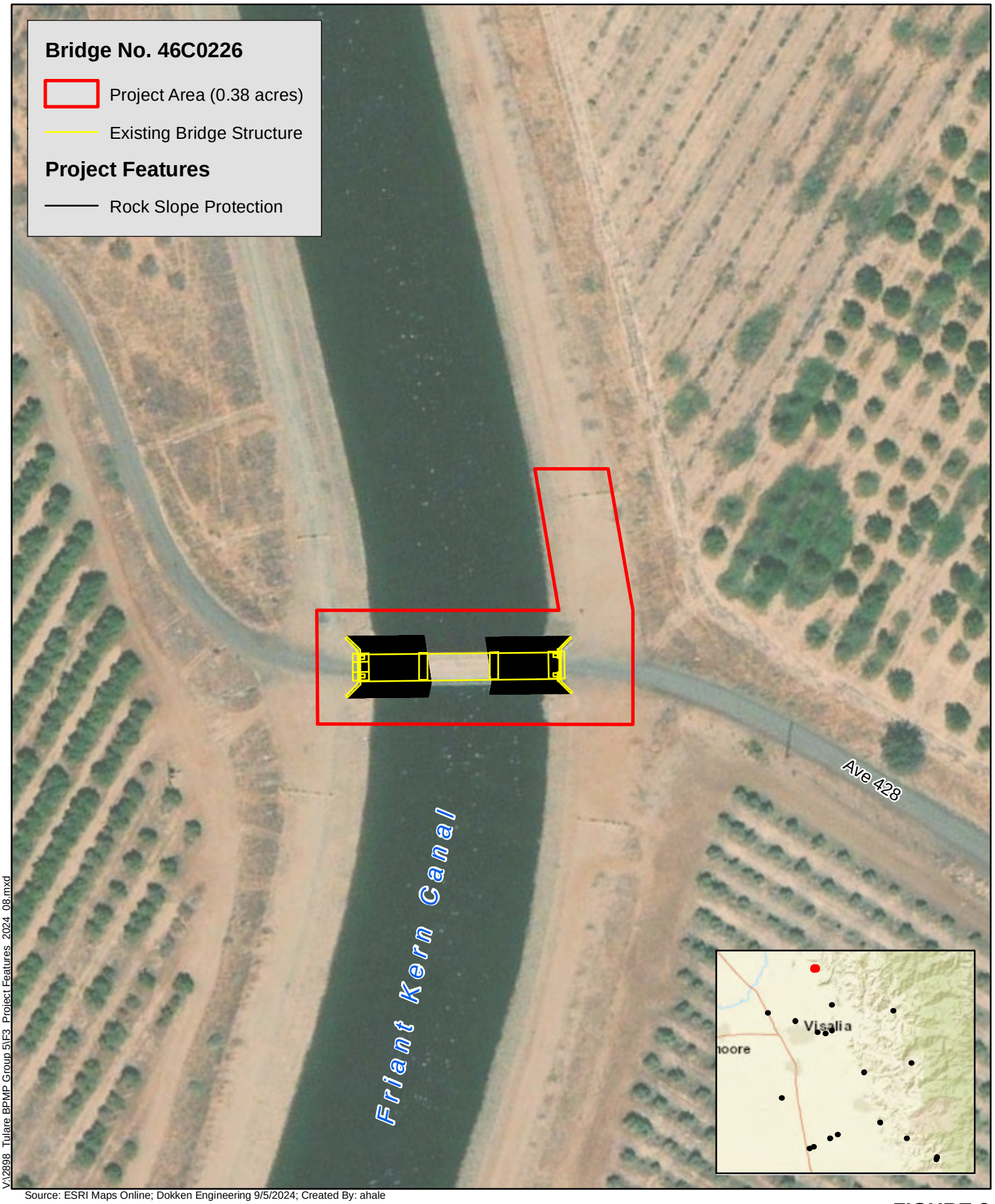
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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
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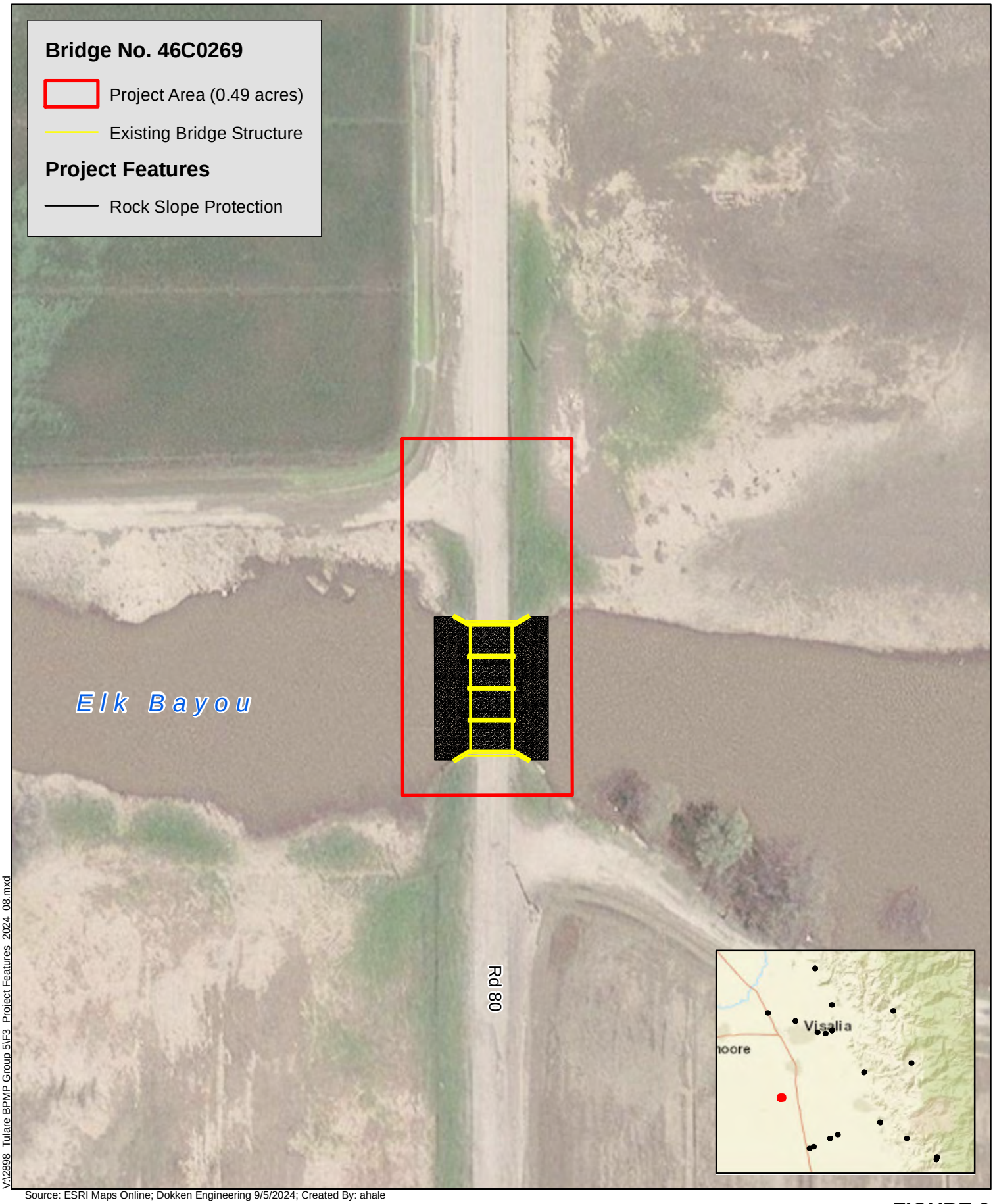


Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
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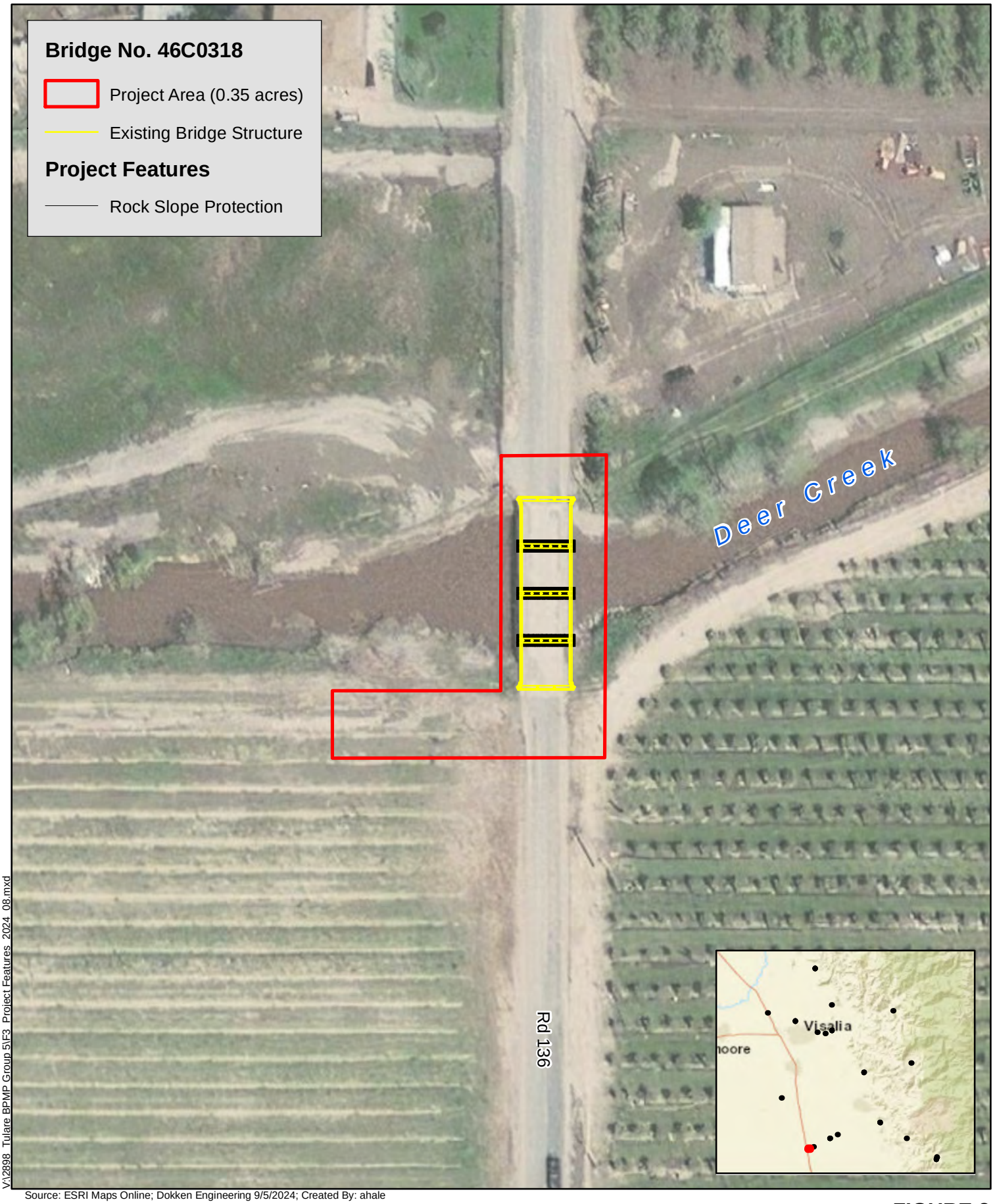
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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

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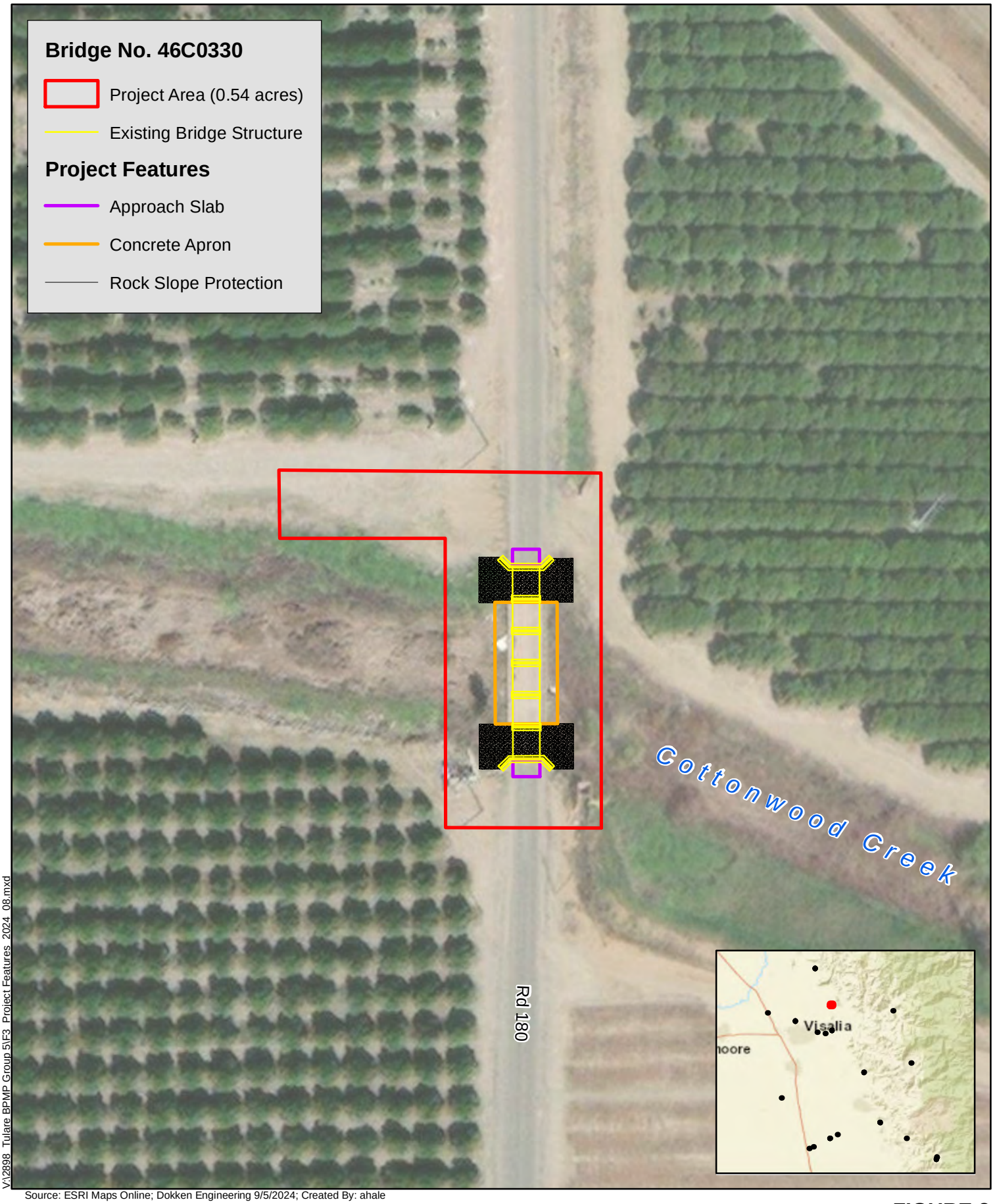
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

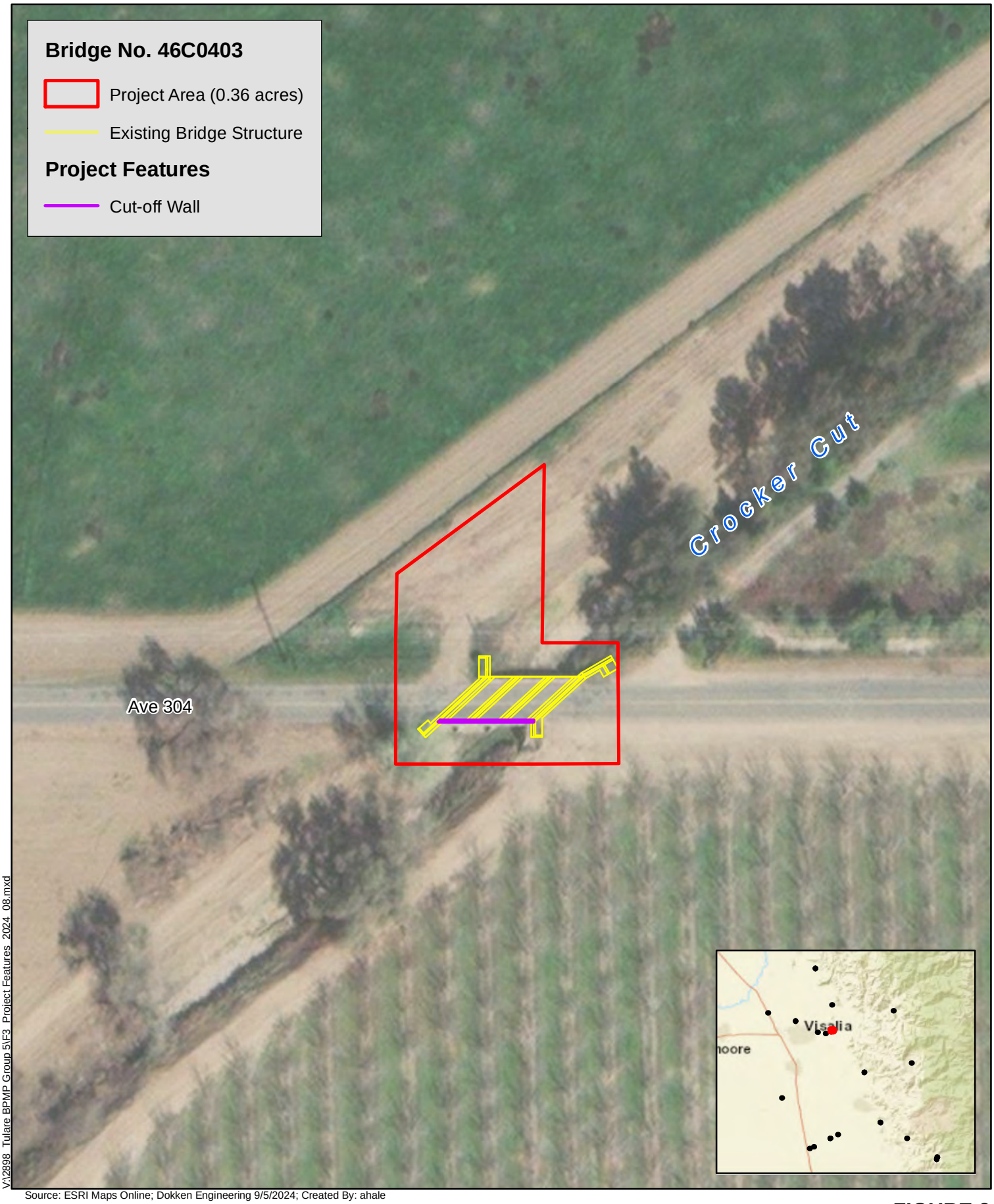


Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



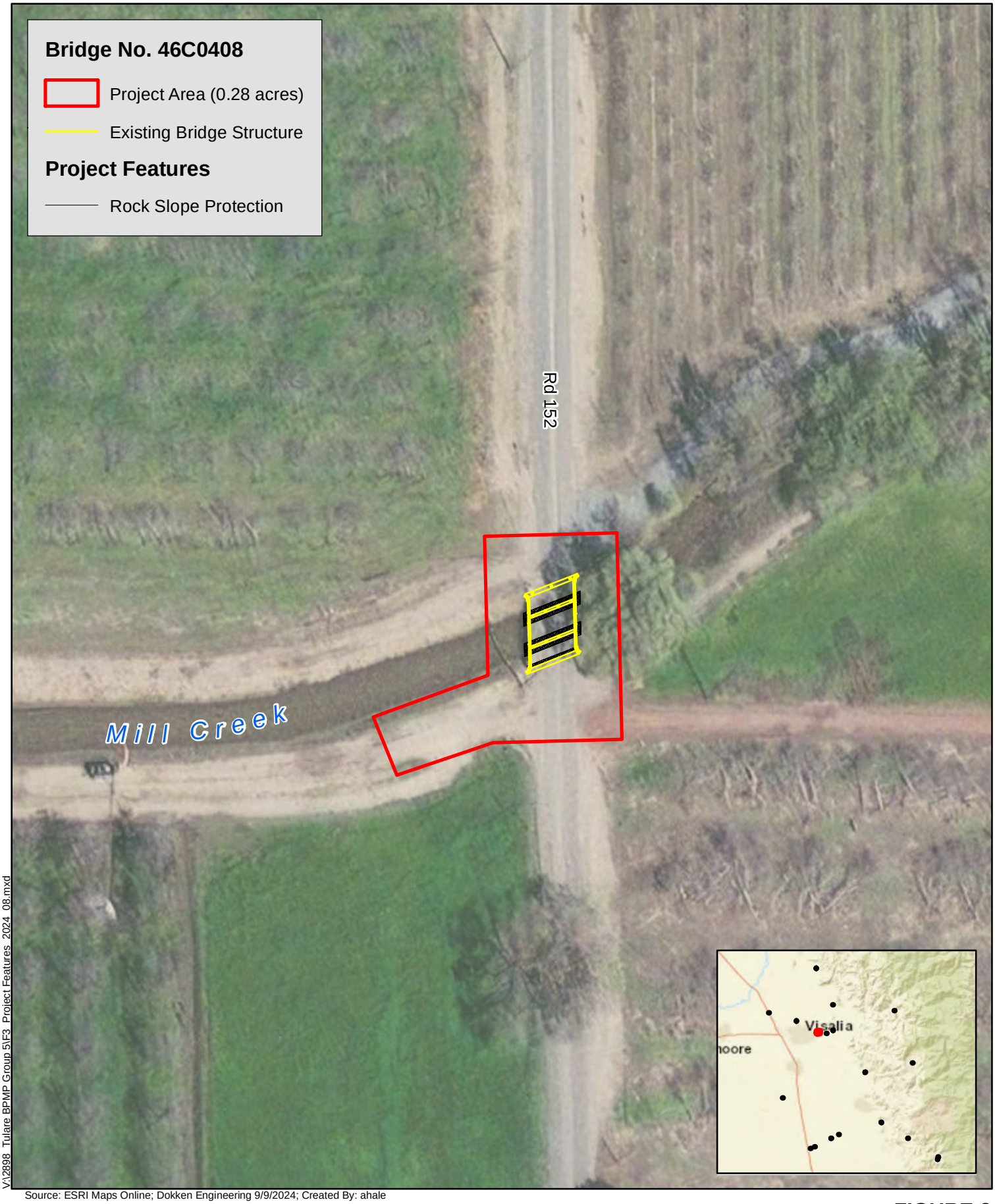
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

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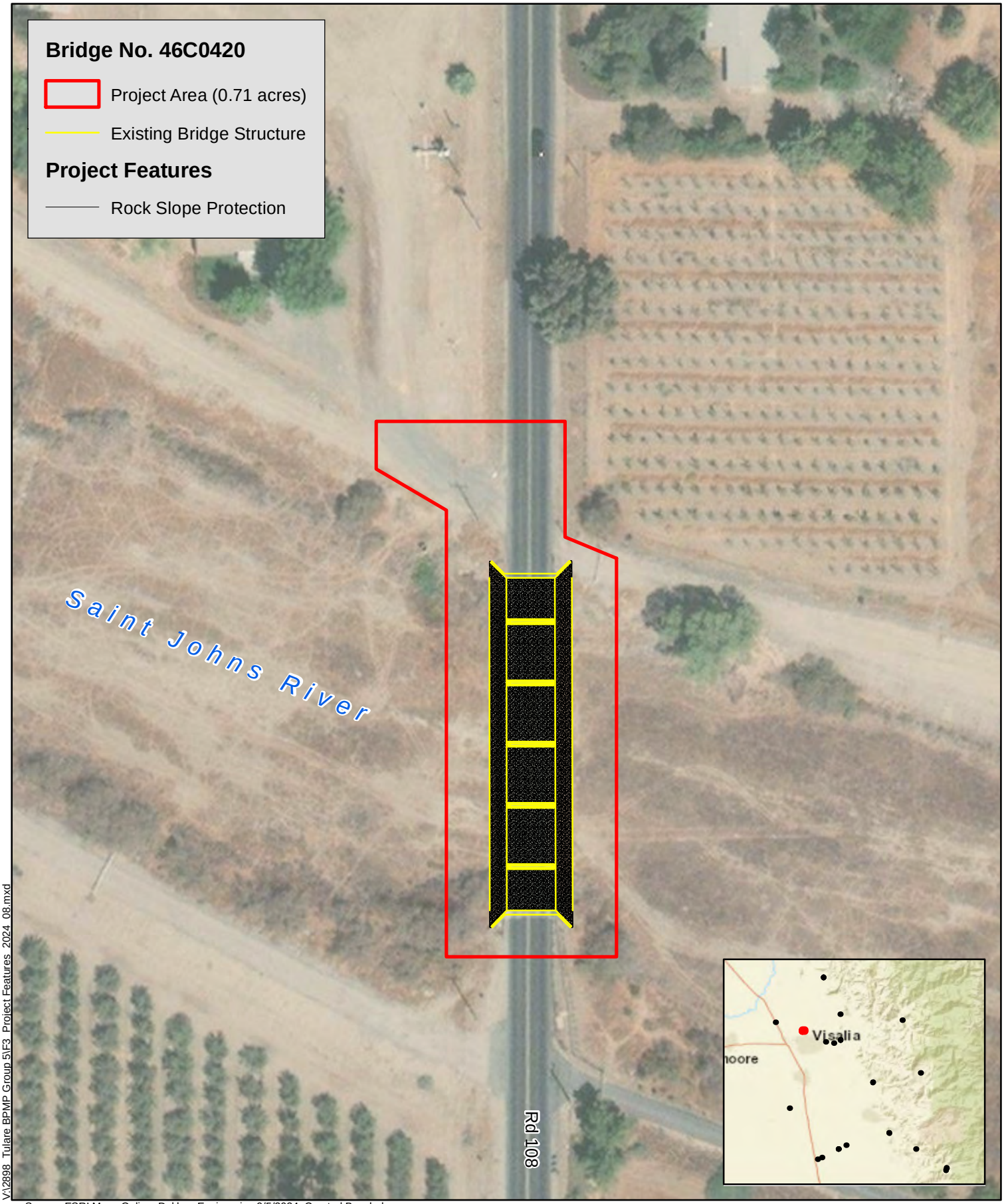


Source: ESRI Maps Online; Dokken Engineering 9/9/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



V:\2898 Tulare BPMP Group 5\F3 Project Features 2024 08.mxd

Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

A. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

B. 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 or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

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

☐ I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature:  Date: 9/23/2025

Gary A. Mills — Chief Planner, Environmental Planning
Printed Name — Title

Signature:  Date: 9/23/2025

Michael Washam, ACE — Associate Director
Printed Name — Title

C. EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (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 will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

I. AESTHETICS

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
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)	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?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

The following analysis is based on the information provided in the Tulare County General Plan 2030 Update (General Plan), General Plan 2030 Update Background Report (Background Report), Tulare County General Plan 2030 Update Recirculated Draft Environmental Impact Report (General Plan RDEIR), and the resources cited in this analysis:

REGULATORY SETTING

Federal

None are applicable to the Project.

State

California Scenic Highway Program

The Scenic Highway Program allows county and city governments to apply to Caltrans to establish a scenic corridor protection program which was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263. Two Eligible State Scenic Highways occur in Tulare County, State Route (SR) 198 and 190; however, they are not Designated State Scenic Highways.

Local

Tulare County General Plan 2030 Update

The following General Plan policies for this resource apply to this Project: SL-1.3 *Watercourses*; SL-3.*2 Urban Expansion Edges*; SL-4.1 *Design of Highways;* and ERM-1.7 *Planting of Native Vegetation*.

PROJECT IMPACT ANALYSIS

a) Would the project have a substantial adverse effect on a scenic vista?

No Impact. According to the Tulare County General Plan, the County contains the following natural scenic landscapes in Tulare County: the Sierra Nevada Mountains, the Foothills, and the Valley Floor, which have the potential to provide scenic vistas. Fourteen (14) bridges are located on the Valley Floor and three (3) are located in the Foothills. A majority of the maintenance work would occur within the stream channel of each bridge site, which would not impact existing views of the natural scenic landscapes. Proposed work to occur on the bridge deck and roadways include methacrylate deck treatment and roadway approach work at a few locations (see **Table 2** for more information). This work would not block views of these landscapes either. Lastly, no bridge sites are located within the Sierra Nevada Mountains. Impacts on scenic vistas will not occur as a result of the Project.

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

No Impact. Currently, there is one officially designated scenic highway and two highways that are eligible for designation within Tulare County.[1] Approximately two (2) miles of the officially designated Scenic Highway SR 180 passes through Tulare County; however, the nearest bridge location (46C0226) is greater than 18 miles from this segment. SR 190 and SR 198 are both eligible for designation as a State Scenic Highway. Bridge 46C0087 is the closest site to SR 190 but is located on a different road and is located 2.5 miles from this segment. Bridges 46C0408 and 46C0036 are near SR 198 but are located on different roads. None of the bridge sites are located on a state designated scenic highway and; therefore, no impact will occur.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? In urbanized areas, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. The Project proposes to perform maintenance on 17 bridges throughout Tulare County. Most of the maintenance work would occur within the stream channel of each bridge site, which would not impact existing views of the natural scenic landscapes. Bridge deck treatment and/or roadway approach work is proposed to occur on the bridge deck and roadways at nine (9) bridge sites (bridge 46C0087, 46C0106, 46C0108, 46C0226, 46C0269, 46C0318, 46C0330, 46C0403, and 46C0420). The proposed Project does not include major vertical features or other visual intrusions that would block views of the surrounding setting. Vegetation removal as a result of the Project is anticipated. Temporary impacts to riparian vegetation will result from construction access including equipment and personnel, and permanent impacts will primarily result from the placement of RSP around the existing bridge piers and abutments. At bridge 46C0205, a cut-off wall will be constructed along the existing bridge structure and will result in minor permanent impacts to riparian habitat. The Project is expected to temporarily impact a cumulative 0.54 acres and permanently impact a cumulative 0.06 acres of riparian habitat. Tree removal is not anticipated proposed as a result of the Project at any of the bridge locations. Implementation of mitigation measures **BIO-2** and **BIO-5** will minimize temporary impacts. Given that permanent impacts are minimal and mitigation measures will further reduce temporary impacts, the Project's impacts to existing visual character and quality would be less than significant. See Item IV. Biological Resources for more information regarding vegetation removal. Lastly, during construction, motorists and nearby residents may observe heavy construction equipment, temporary traffic control features, and construction workers. Changes in the visual environment would be minimal and would not drastically alter the visual character of the Project area. Visual impacts would be temporary and therefore, a less than significant impact would occur.

[1] Caltrans. California State Scenic Highway System Map. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa. Accessed May 2025.

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

No Impact. New light sources are not proposed as part of Project. Additionally, the contractor will not be permitted to work during the night and construction lighting will not be allowed. There would be no impact to light and glare as a result of the Project. No impact will occur.

MITIGATION MEASURES

See Item IV. Biological Resources for **BIO-2** through **BIO-5**.

II. AGRICULTURAL AND FOREST RESOURCES

		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the Rural Valley Lands Plan point evaluation system prepared by the County of Tulare as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. 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 agriculture use, or a Williamson Act contract?	☐	☐	☒	☐
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources code 12220(g), timberland (as defined in Public Resource 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?	☐	☐	☐	☒

The following analysis is based on the information provided in the General Plan, Background Report, General Plan RDEIR, and the resources cited in this analysis:

REGULATORY SETTING

Federal

Farmland Protection Policy Act (FPPA)[2]

The FPPA is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that to the extent possible federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years.

[2] Caltrans. California State Scenic Highway System Map. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa. Accessed May 2025.

State

Farmland Mapping and Monitoring Program (FMMP)

Administered by the California Department of Conservation (DOC), the FMMP produces maps and statistical data used to identify and monitor changes in the state's agricultural land base. The FMMP classifies land into categories such as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Grazing Land based on soil quality and land use characteristics.

California Land Conservation Act of 1965

The Williamson Act (Government Code §§ 51200–51297.4) allows local governments to enter into contracts with private landowners to restrict land use to agricultural or open space purposes in exchange for property tax relief. Land under Williamson Act contracts is protected from development or non-agricultural uses unless the contract is rescinded or canceled under specific provisions of the law.

Forest Practice Act and California Department of Forestry and Fire Protection (CAL FIRE)

The Forest Practice Act (Public Resources Code §§ 4511–4628) regulates timber harvesting on non-federal lands in California. CAL FIRE oversees compliance with forest protection regulations, including the requirement for Timber Harvesting Plans in areas subject to commercial timber production.

Local

Tulare County General Plan 2030 Update

The following General Plan policy for this resource applies to this Project: AG-1.17 *Agricultural Water Resources*.

PROJECT IMPACT ANALYSIS

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

Less Than Significant Impact. To identify if Farmland would be impacted by the Project, GIS data from the DOC's FMMP was obtained.[3] Eight (8) bridge sites encompass a portion of prime farmland, and three (3) bridge sites encompass a portion of unique farmland. There are no bridge sites located within farmlands of statewide importance. TCE's on land designated as prime, unique, and farmland of local importance would occur at 12 bridge sites (bridge 46C0036, 46C0058, 46C0059, 46C0106, 46C0108, 46C0226, 46C0269, 46C0309, 46C0318, 46C0330, 46C0403, and 46C0408). All areas acquired for TCE's will return to pre-existing conditions after Project completion. Partial ROW may be required at three (3) bridge sites (bridge 46C0087, 46C0330, and 46C0420); however, RSP will need to be installed in the channel where land is not actively farmed. The Project will not convert any type of farmland to non-agricultural use and; therefore, a less than significant impact would occur.

b) Would the project conflict with existing zoning for agriculture use, or a Williamson Act contract?

Less Than Significant Impact. Project activities at eight (8) bridge sites are partially located within parcels that participate under the Williamson Act.[4] See **Table 4** below for anticipated partial ROW acquisition and TCE's on Williamson Act parcels. Partial ROW acquisition will be needed at bridge 46C0330 and 46C0420 to install RSP in the channel where land is not actively farmed. Additionally, after Project completion, the areas acquired for TCE's will

[3] California Department of Conservation. Farmland Mapping & Monitoring Program. https://www.conservation.ca.gov/dlrp/fmmp. Accessed May 2025.

[4] California Department of Conservation. DLRP Data Downloads. https://gis.conservation.ca.gov/portal/home/group.html?id=b1494c705cb34d01acf78f4927a75b8f#overview. Accessed May 2025.

return to pre-existing conditions. Therefore, impacts to land zoned for agricultural use or currently under a Williamson Act contract would be less than significant.

Table 4. Williamson Act Parcels

Bridge Number	Williamson Act Parcels	Partial ROW[1] Acquisition	TCE's?[2]
46C0106	318-130-005	No	Yes
	318-290-002	No	No
46C0108	319-100-002	No	Yes
	319-110-005	No	
46C0202	325-030-005	No	Yes
46C0226	035-250-008	No	Yes
	035-260-002	No	
46C0269	228-010-019	No	Yes
	228-010-021	No	
46C0330	053-120-007	Yes	Yes
	053-160-006		
46C0403	111-130-011	No	Yes
46C0420	077-040-029	Yes	No
	077-040-031		

1. Right-of-Way
2. Temporary Construction Easement

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production?

No Impact. According to the Background Report, timberlands are located in the eastern portion of Tulare County in the Sequoia National Forest and Sequoia and Kings Canyon National Park. None of the bridges included in the Project is located in these areas. No impact will occur.

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

No Impact. The Project area is not zoned as forest land. No impact will occur.

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

No Impact. As previously described, partial ROW acquisitions may be necessary at three (3) bridge sites; however, these areas will be confined to disturbed areas or associated channel where active farming is not present. TCE's are anticipated; however, these areas will return to pre-existing conditions. The Project would not result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use and; therefore, no impact will occur.

III. AIR QUALITY

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:		SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT IMPACT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
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?	☐	☐	☒	☐

The following analysis is based on the information provided in the General Plan, Background Report, General Plan RDEIR, the emissions calculations (**Attachment A**), and the resources cited in this analysis.

REGULATORY SETTING

Federal

At the federal level, the United States (U.S.) Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. The EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA). The federal CAA was first signed into law in 1963. Congress substantially amended the federal CAA in 1970, 1977, and 1990.

The EPA deals with global, international, national, and interstate air pollution issues. Their primary role at the state level is one of oversight of state air quality programs. The EPA sets federal standards for vehicle and stationary sources and provides research and guidance in air pollution programs.

The federal CAA required the EPA to set National Ambient Air Quality Standards (NAAQS) for several problem air pollutants on the basis of human health and welfare criteria. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare (e.g., crops, forests, materials, visibility, etc.). Primary NAAQS have been established for the following criteria air pollutants:

- Carbon Monoxide (CO)
- Ozone (O_3)
- Respirable particulate matter (PM_{10})
- Fine particulate matter ($PM_{2.5}$)
- Nitrogen dioxide (NO_2)
- Sulfur dioxide (SO_2)
- Lead (Pb)

All of the above, except CO, also have some form of secondary standard. The primary NAAQS standards are intended to protect, within an adequate margin of safety, those persons most susceptible to respiratory distress, such as people suffering from asthma or other illness, the elderly, very young children, or others engaged in strenuous work or exercise.

The EPA designates areas with air quality not meeting federal standards as “nonattainment.” The federal CAA further classifies nonattainment areas based on the severity of the nonattainment problem, with marginal, moderate, serious,

severe, and extreme nonattainment classifications for ozone. Nonattainment classifications for PM range from marginal to serious.

The federal CAA requires areas with air quality violating the NAAQS to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The SIP contains the strategies and control measures that states such as California will use to attain NAAQS. The federal CAA amendments of 1990 require states containing areas that violate the NAAQS to revise their SIP to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, rules, and regulations of Air Basins as reported by the agencies with jurisdiction over them. The EPA reviews SIPs to determine if they conform to the mandates of the federal CAA amendments and will achieve air quality goals when implemented. If the EPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan for the nonattainment area and impose additional control measures.

In addition to setting health-based standards for air pollutants, the EPA also oversees state and local actions to improve air quality. The following list provides a brief explanation of important regulations set forth by EPA:

Federal CAA

- Requires air quality plans to include measures necessary to achieve NAAQS.
- Requires all plans, programs, and projects that require federal approval, including transportation plans, to conform to air quality plans.
- Requires sanctions if all feasible measures are not expeditiously adopted.

State

The California Air Resources Board (CARB) is the state agency responsible for implementing the federal and state CAA's. CARB has established California Ambient Air Quality Standards (CAAQS), which include all criteria pollutants established by the NAAQS, but with additional regulations for Visibility Reducing Particles, sulfates, hydrogen Sulfide (H_2S), and vinyl chloride.

The Project is located within the San Joaquin Valley Air Basin, which includes San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and parts of Kern counties and is managed by the SJVUAPCD. Air basins are designated as attainment or nonattainment. Attainment is achieved when monitored ambient air quality data is in compliance with the standards for a specified pollutant. Non-compliance with an established standard will result in a nonattainment designation and an unclassified designation indicates insufficient data is available to determine compliance for that pollutant.

Standards and attainment status for listed pollutants in SJVUAPCD can be found in **Table 5**, below. Note that both state and federal standards are presented.

Table 5. SJVUAPCD Attainment Status[5]

Pollutant	Federal Standards	State Standards
O_3 – One hour	Revoked	Nonattainment/Severe
O_3 – Eight hour	Nonattainment/Extreme	Nonattainment
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment/Unclassified	Attainment/Unclassified
NO_2	Attainment/Unclassified	Attainment
SO_2	Attainment/Unclassified	Attainment
Pb (Particulate)	No Designation/Classification	Attainment
H_2S	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment

[5] San Joaquin Valley Unified Air Pollution Control District. https://www.valleyair.org/air-quality-information/ambient-air-quality-standards-valley-attainmnet-status/. Accessed June 2025.

Pollutant	Federal Standards	State Standards
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Local

Tulare County General Plan

The following General Plan for this resource apply to this Project: AQ-1.1: *Cooperation with Other Agencies*; AQ-1.5: *CEQA Compliance;* AQ-3.4 *Landscape*; AQ-4.1: *Air Pollution Control Technology;* AQ-4.2 *Dust Suppression Measures*; and AQ-4.6: *Asbestos Airborne Toxic Control and Dust Protection*.

PROJECT IMPACT ANALYSIS

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. According to SJVUAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI), projects with emissions below the thresholds of significance for criteria pollutants are determined to not conflict or obstruct implementation of the SJVUAPCD's air quality plan. The Project does not include any new operational emissions as the Project does not include the construction of any additional lanes and is not intended to increase the capacity of the road segment; thus, operational emissions are not evaluated. The equipment used to construct the Project will result in short-term, temporary construction-related air emissions. The SJVUAPCD's construction-related thresholds of significance are provided in **Table 6**.

Table 6. Air Quality Thresholds of Significance – Criteria Pollutants (Construction Emissions)[6]

CO (tons/year)	NO_X (tons/year)	Reactive Organic Gases (ROG) (tons/year)	SO_X (tons/year)	PM_{10} (tons/year)	$PM_{2.5}$ (tons/year)
100	10	10	27	15	15

Short-term construction-related emissions resulting from the Project construction were estimated using the Caltrans Construction Emissions Tool (Cal-CET) model, a spreadsheet-based model specifically designed to estimate emissions for various types of highway improvements projects (**Appendix A**). **Table 7** provides the results of the Cal-CET model for the Project construction phase compared to the SJVUAPCD's thresholds of significance. Since the Cal-CET model does not calculate SO_X emissions, emissions for this pollutant were done separately in CalEEMod.

Table 7. Project-related Criteria Pollutant Construction Emissions (Annual Average)

Bridge Number	CO (tons/year)	NO_X (tons/year)	ROG (tons/year)	SO_X (tons/year)	PM_{10} (tons/year)	$PM_{2.5}$ (tons/year)	Threshold Exceeded?
46C0036	0.015	0.015	0.002	0.0005	0.003	0.001	No
46C0058	0.019	0.036	0.006	0.0013	0.004	0.003	No
46C0059	0.028	0.051	0.009	0.0014	0.005	0.003	No
46C0087	0.021	0.029	0.005	0.0009	0.005	0.002	No
46C0106	0.004	0.006	0.001	0.0002	0.002	0.001	No
46C0108	0.002	0.003	0	0.0001	0.002	0	No
46C0202	0.002	0.004	0.001	0.0001	0.001	0	No
46C0204	0.001	0.002	0	<0.0001	0.002	0	No
46C0205	0.001	0.001	0	<0.0001	0.003	0	No
46C0226	0.004	0.006	0.001	0.0002	0.002	0.001	No
46C0269	0.008	0.013	0.002	0.0004	0.002	0.001	No
46C0309	0.002	0.003	0.001	<0.0001	0.001	0	No
46C0318	0.002	0.003	0	0.0001	0	0	No
46C0330	0.008	0.013	0.002	0.0004	0.002	0.001	No

[6] San Joaquin Valley Unified Air Pollution Control District. https://www.valleyair.org/media/m2ecyxiw/1-cms-format-ceqa-air-quality-thresholds-of-significance-criteria-pollutants.pdf. Accessed June 2025.

Bridge Number	CO (tons/year)	NO_X (tons/year)	ROG (tons/year)	SO_X (tons/year)	PM_{10} (tons/year)	$PM_{2.5}$ (tons/year)	Threshold Exceeded?
46C0403	0.002	0.004	0.001	0.0002	0.001	0	No
46C0408	0.008	0.008	0.001	0.0002	0.002	0.001	No
46C0420	0.056	0.058	0.009	0.0017	0.009	0.005	No
Total	**0.183**	**0.255**	**0.041**	**0.0079033**	**0.046**	**0.019**	No

As presented in **Table 7**, the emissions modeling indicates that construction-related emissions would not exceed SJVUAPCD's thresholds of significance for any criteria pollutant. Furthermore, the Project will implement and comply with SJVUAPCD's Regulation VIII (Fugitive Dust Rules) requirements to control fugitive dust emissions during construction-related activities. As such, the proposed Project would have a less than significant impact on air quality.

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

Less Than Significant Impact. According to the SJVUAPCD's GAMAQI, a project would be considered to contribute considerably to a significant cumulative impact if it would result in an increase in ROG, NO_X, SO_X, CO, PM_{10}, or $PM_{2.5}$ of more than its respective significance thresholds. As presented in **Table 7**, proposed Project construction-related activities emissions would not exceed the annual SJVAPCD thresholds of significance for ROG, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Additionally, the Project will implement and comply with SJVUAPCD's Regulation VIII (Fugitive Dust Rules) requirements to control fugitive dust emissions during construction-related activities. This Project would result in a less than significant cumulative impact on air quality.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Those who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illnesses. The County considers a sensitive receptor as a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollution. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. Residential structures are located within the vicinity of 10 bridge sites. For criteria pollutants, impacts on receptors are based on emissions during the highest daily emissions during construction and operation. As shown in **Table 7**, emissions generated from the construction of the Project are less than SJVAPCD screening criteria. Therefore, the proposed Project would have a less than significant impact on sensitive receptors within the Project area.

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

Less Than Significant Impact. The Project proposes to perform maintenance on 17 bridges throughout various locations within the County. Operation of the Project would not create odorous emissions. However, construction-related activities would include fuels and other odor sources (such as diesel-fueled equipment), which could result in the creation of objectionable odors. Since construction-related activities would be short-term, temporary, and spatially dispersed (i.e., intermittent), and occur in predominantly rural areas, these activities would not affect a substantial number of people. Therefore, odors generated by construction-related activities from the Project would result in a less than significant impact.

IV. BIOLOGICAL RESOURCES

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. 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?	☐	☐	☐	☒

This section provides an overview of the natural resources located within and adjacent to the Project areas, including an assessment of special-status species and sensitive habitats present. Also included is an analysis of the impacts that could occur to biological resources due to implementation of the proposed Project and appropriate mitigation measures to reduce or avoid significant impacts.

The analysis of biological resources presented in this section is based on the information provided in the General Plan, Background Report, General Plan RDEIR, 2024 Natural Environmental Study (NES; **Attachment B**), and the resources cited in this analysis.

REGULATORY SETTING

This section describes the federal, state, and local plans, policies, and laws that are relevant to biological resources within the Project areas. Applicable permits and approvals that will be required before construction of the Project are provided in the Initial Study Checklist on Page 5.

Federal

National Environmental Policy Act

The NEPA provides an interdisciplinary framework for environmental planning by federal agencies and contains action-forcing procedures to ensure that federal agency decisions take environmental factors into account. NEPA is applicable when a federal agency proposes an action, grants a permit, or agrees to fund or otherwise authorize any other entity to undertake an action that could possibly affect environmental resources. Caltrans is the designated NEPA lead agency for this Project acting under delegation from the Federal Highway Administration (FHWA).

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 (16 U.S.C. section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to Section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. These species and resources have been identified by USFWS or National Marine Fisheries Service (NMFS). The Project is located outside of NMFS jurisdictional boundaries and impacts to NMFS species, critical habitat, and/or essential fish habitat are not anticipated.

Clean Water Act

The Clean Water Act (CWA) was enacted as an amendment to the Federal Water Pollutant Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to Waters of the U.S. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The CWA empowers the U.S. EPA to set national water quality standards and effluent limitations and includes programs addressing both point source and nonpoint source pollution. Point source pollution originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Nonpoint source pollution originates over a broader area and includes urban contaminants in storm water runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless they are specifically authorized by a permit; permit review is the CWA's primary regulatory tool.

Section 401

The RWQCB has jurisdiction under Section 401 of the CWA and regulates any activity which may result in a discharge to surface waters. Typically, the areas subject to jurisdiction of the RWQCB coincide with Waters of the U.S. including any wetlands. The RWQCB also asserts authority over "Waters of the State" under WDRs pursuant to the Porter-Cologne Water Quality Control Act. The proposed Project is located within the Jurisdiction of the Central Valley RWQCB and would require WDRs from the Central Valley RWQCB.

Section 402

The California State Water Resources Control Board (SWRCB) regulates construction projects that involve ground disturbance of 1 acre or greater. These projects must obtain coverage under the SWRCB General Permit for Storm Water Discharges Associated with Construction Activity (General Construction Permit). Operators of regulated construction sites are required to develop a Stormwater Pollution Prevention Plan; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the General Construction Permit.

Section 404

The USACE regulates discharges of dredged or fill material into Waters of the U.S. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations).

Migratory Bird Treaty Act

Executive Order (EO) 13186 (signed January 10, 2001) directs each Federal agency taking actions that could adversely affect migratory bird populations to work with USFWS to develop a Memorandum of Understanding that will promote the conservation of migratory bird populations. Protocols developed under the Memorandum of Understanding will include the following agency responsibilities:

- avoid and minimize, to the maximum extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- restore and enhance habitat of migratory birds, as practicable; and
- prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist Federal agencies in their efforts to comply with the Migratory Bird Treaty Act (MBTA) (50 Code of Federal Regulations (CFR) 10 and 21) and does not constitute any legal authorization to take migratory birds. Take is defined under the MBTA as "the action of or attempt to pursue, hunt, shoot, capture, collect, or kill" (50 CFR 10.12) and includes intentional take (i.e., take that is the purpose of the activity in question).

Executive Order 13112 – Invasive Species

EO 13112 (signed February 3, 1999) directs all federal agencies to prevent and control introductions of invasive species in a cost-effective and environmentally sound manner. The EO and directives from FHWA require consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

State

California Environmental Quality Act

CEQA was created to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and to work to reduce these negative environmental impacts. The County is the CEQA lead agency for this Project.

California Endangered Species Act

The California Fish and Game Code (FGC) Section 2050, henceforth referred to as California Endangered Species Act (CESA), requires CDFW to establish a list of endangered and threatened species (Section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (Sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing).

CESA also requires CDFW to comply with CEQA (Pub. Resources Code Section 21000 et seq.) when evaluating incidental take permit applications (California FGC Section 2081(b) and California Code Regulations, Title 14, section 783.0 et seq.), and the potential impacts the project or activity for which the application was submitted may have on the environment. CDFW's CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity (California Code Regulations, Title 14, Section 783.5(d)(3)). CDFW cannot issue an incidental take permit if issuance would jeopardize the continued existence of the species (California FGC Section 2081(c); California Code Regulations, Title 14, Section 783.4(b)).

Section 1602: Streambed Alteration Agreement

Under California FGC 1602, public agencies are required to notify CDFW before undertaking any project that will divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occurs during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resources. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

Section 3503 and 3503.5: Bird and Raptors

California FGC Section 3503 prohibits the destruction of bird nests and Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests. Shrubs are present in and adjacent to the Project areas and could contain nesting sites.

Section 3513: Migratory Birds

California FGC Section 3513 prohibits the take or possession of any migratory non-game bird as designated in the MBTA or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. The act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to Waters of the State. Waters of the State include more than just Waters of the U.S., such as groundwater and surface waters not considered Waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by WDRs and may be required even when the discharge is already permitted or exempt under the CWA.

The RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired, and the standards cannot be met through point source or non-source point controls (National Pollutant Discharge Elimination System [NPDES] permits or Waste Discharge Requirements), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs) which specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

Local

Tulare County General Plan

The following General Plan policies from Chapter 8–Environmental Resources Management, Section 8.1–Biological Resources apply to this Project: ERM-1.1 *Protection of Rare and Endangered Species*; ERM-1.2 *Development in Environmentally Sensitive Areas;* ERM-1.4 *Protect Riparian Areas*; ERM-1.6 *Management of Wetlands*; ERM-1.7 *Planting of Native Vegetation;* ERM-1.8 *Open Space Buffers;* ERM-1.9: *Coordination of Management on Adjacent Lands;* ERM-1.15 *Minimize Lighting Impacts;* ERM-1.16 *Cooperation with Wildlife Agencies;* ERM-5.8 *Watercourse Development;* ERM-1.16 *Cooperation with Wildlife Agencies;* and ERM-5.8 *Watercourse Development.*

ENVIRONMENTAL SETTING

Study Area

The Biological Study Area (BSA) is defined as the area necessary for bridge maintenance activities at each of the 17 Project locations, including space for staging and access, plus an approximate 20-foot buffer to capture adjacent sensitive habitat resources. The cumulative Project BSA encompasses approximately 12.91 acres.

Biological Surveys and Jurisdictional Delineations

Biological field surveys of the Project locations were conducted between April 11 and April 15, 2022, by Dokken Engineering biologists Hanna Sheldon and Clare Favro to document existing biological resources, delineate potential jurisdictional waters, and survey for sensitive and protected species and/or their habitats. In addition, Dokken Engineering biologists delineated the ordinary high-water mark (OHWM) of jurisdictional aquatic resources present within the BSA in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States.[7]

Biological Conditions

Plant and wildlife species observed within the BSA during the April 2022 biological survey efforts were used to define habitat types based on composition, abundance, and cover. Land cover types identified within the BSA include oak woodland, riparian, nonnative grassland, ruderal vegetation, agriculture and roadway/barren. In addition, the proposed bridge maintenance locations encompass a variety of perennial and intermittent stream channels that provide aquatic habitat within the BSA (**Figure 4. Vegetation Communities**). Of these, the stream channel and riparian habitat are considered sensitive natural communities within the BSA. Each land cover type is defined below.

Riparian

Riparian vegetation is a transitional habitat community that occurs along the margins of the stream channels present within the BSA. The understory of this vegetation community is largely comprised of willows (*Salix sp*.) and Himalayan blackberry (*Rubus armeniacus*). Within the San Joaquin Valley, overstory vegetation primarily consists of Fremont cottonwood (*Populus fremontii*), eucalyptus (*Eucalyptus sp*.), and native oaks (*Quercus sp*.). At higher elevations, riparian habitat also includes trees such as western sycamore (*Platanus racemosa*) and white alder (*Alnus rhombifolia*). Riparian vegetation comprises approximately 1.27 acres of the BSA.

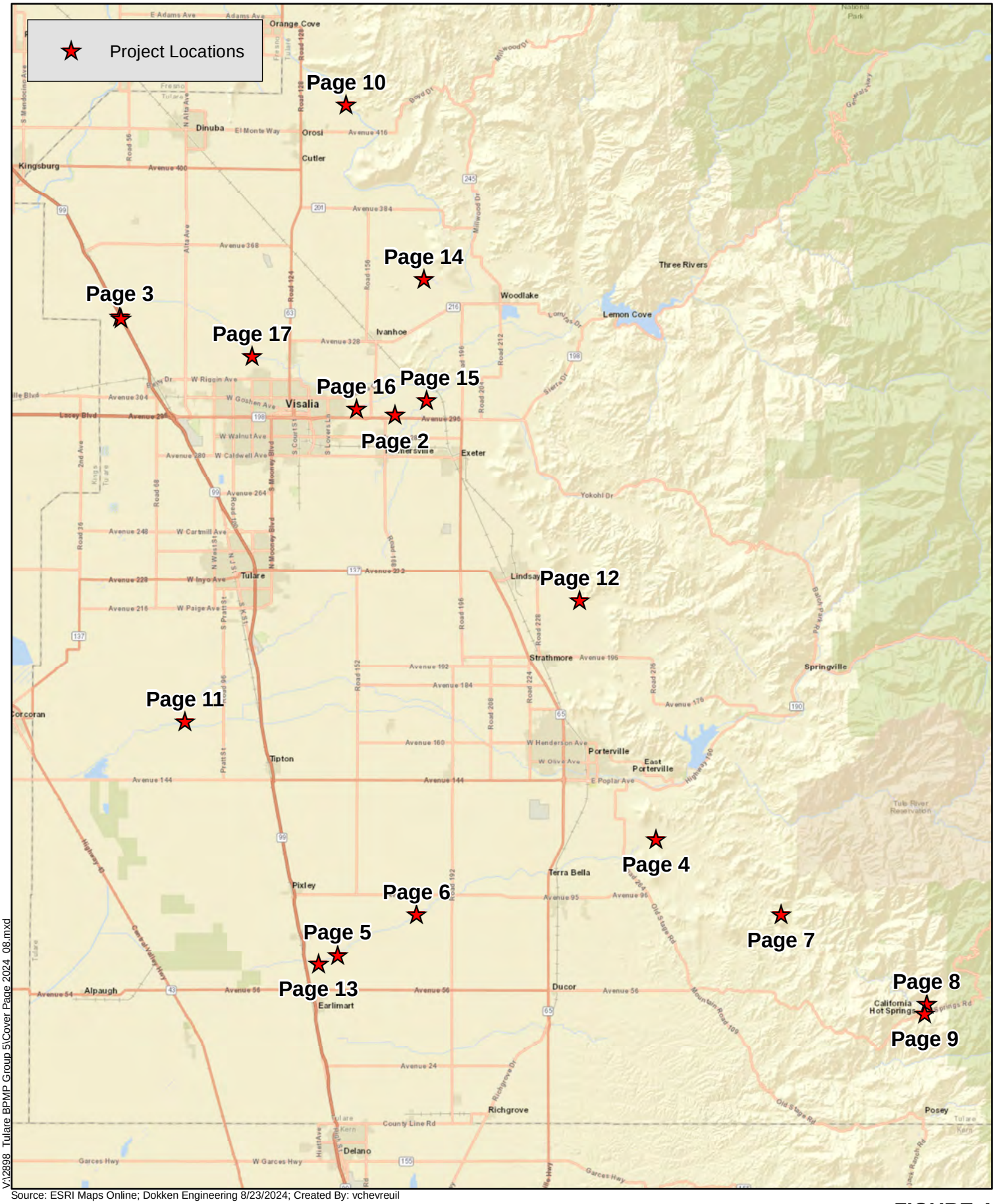
Stream Channel

The 17 proposed bridge maintenance locations include ten different aquatic features throughout Tulare County. Within the San Joaquin Valley, the stream channels that intersect the BSA primarily service adjacent agricultural communities; as such, these water ways have been channelized and intermittently flow for portions of the year. A notable exception is the Friant Kern Canal (bridge 46C0226), which is a perennial waterbody that flows year-round. Stream channels within the valley are highly disturbed due to adjacent agricultural development. Within the Sierra Nevada foothills, stream channels do not exhibit signs of human disturbance and include dense riparian corridors. Stream channel habitat comprises approximately 3.01 acres of the BSA.

Oak Woodland

Oak woodland habitat occurs adjacent to bridges 46C0036 and 46C0204. This vegetation community primarily consists of valley oak (*Quercus lobata*), interior live oak (*Quercus wislizeni*), and blue oak (*Quercus douglasii*) trees and comprises the habitat upland of the riparian corridors at these locations. Oak woodland habitat comprises approximately 0.17 acres of the BSA.

[7] Lichvar, R.W. & McColley, S.M. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.

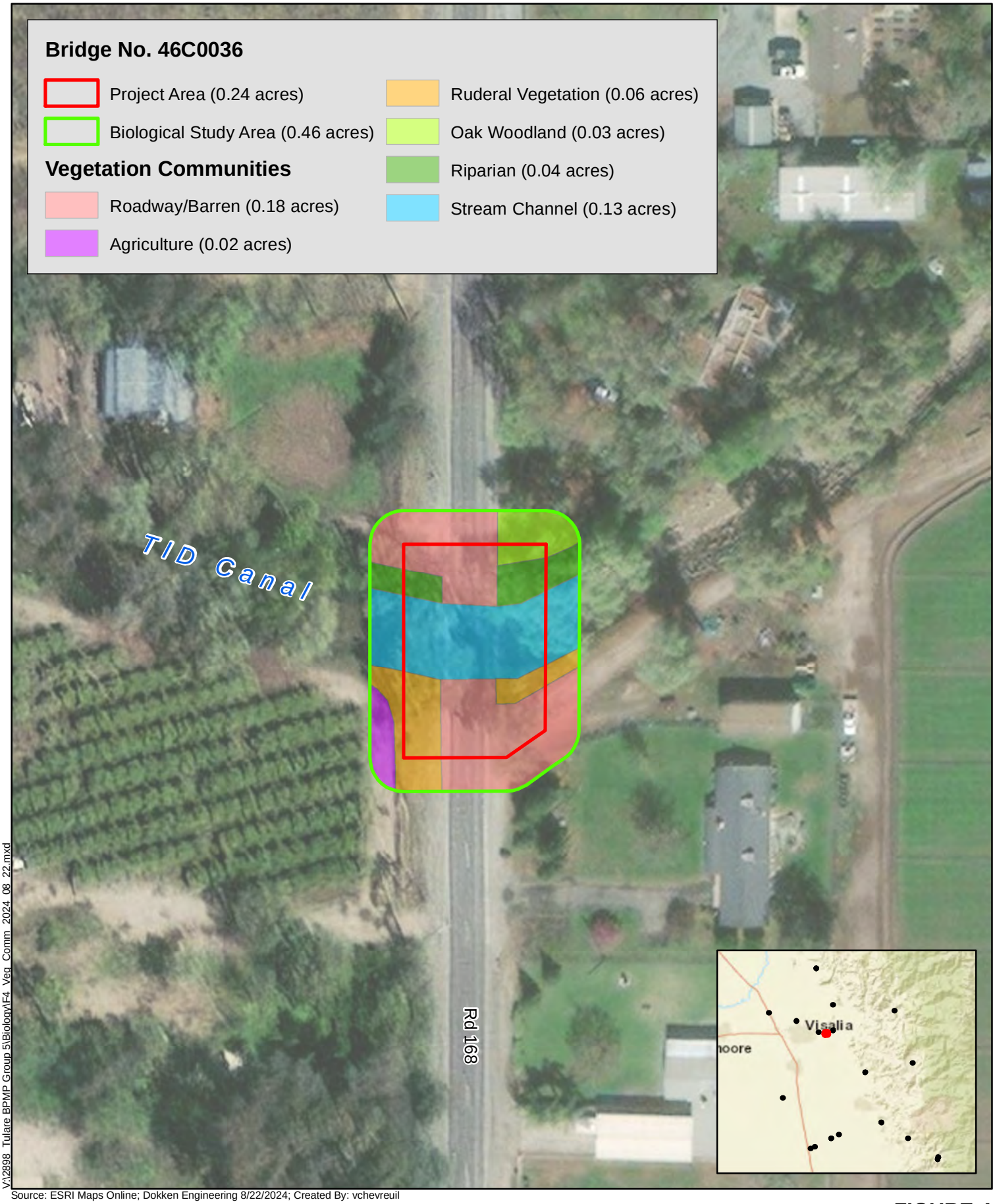


Source: ESRI Maps Online; Dokken Engineering 8/23/2024; Created By: vchevreuil

0 5 10 15 Miles

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FIGURE 4
Vegetation Communities
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



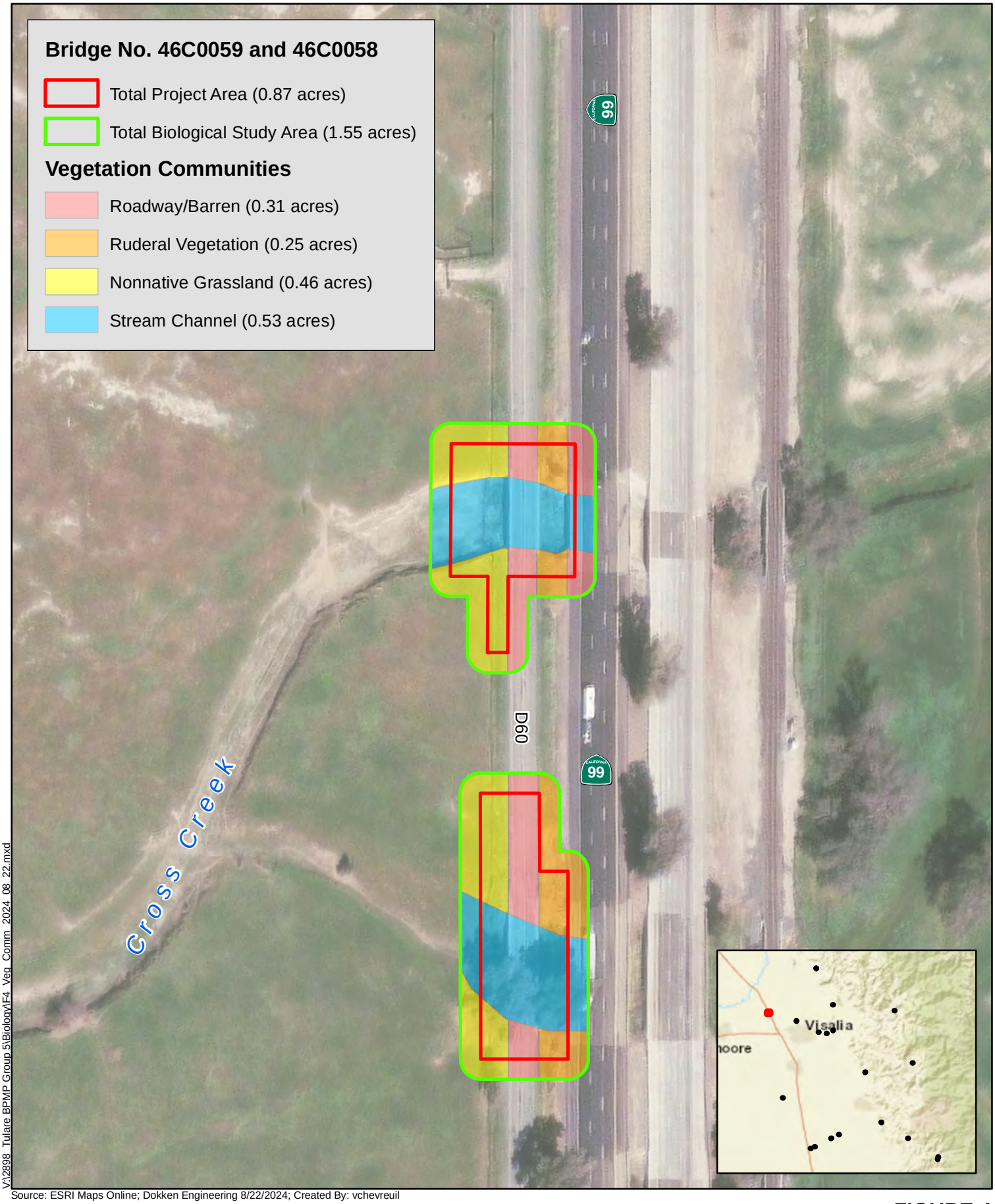
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Source: ESRI Maps Online; Dokken Engineering 8/22/2024; Created By: vchevreuil

1 inch = 75 feet

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FIGURE 4
Vegetation Communities
Page 2 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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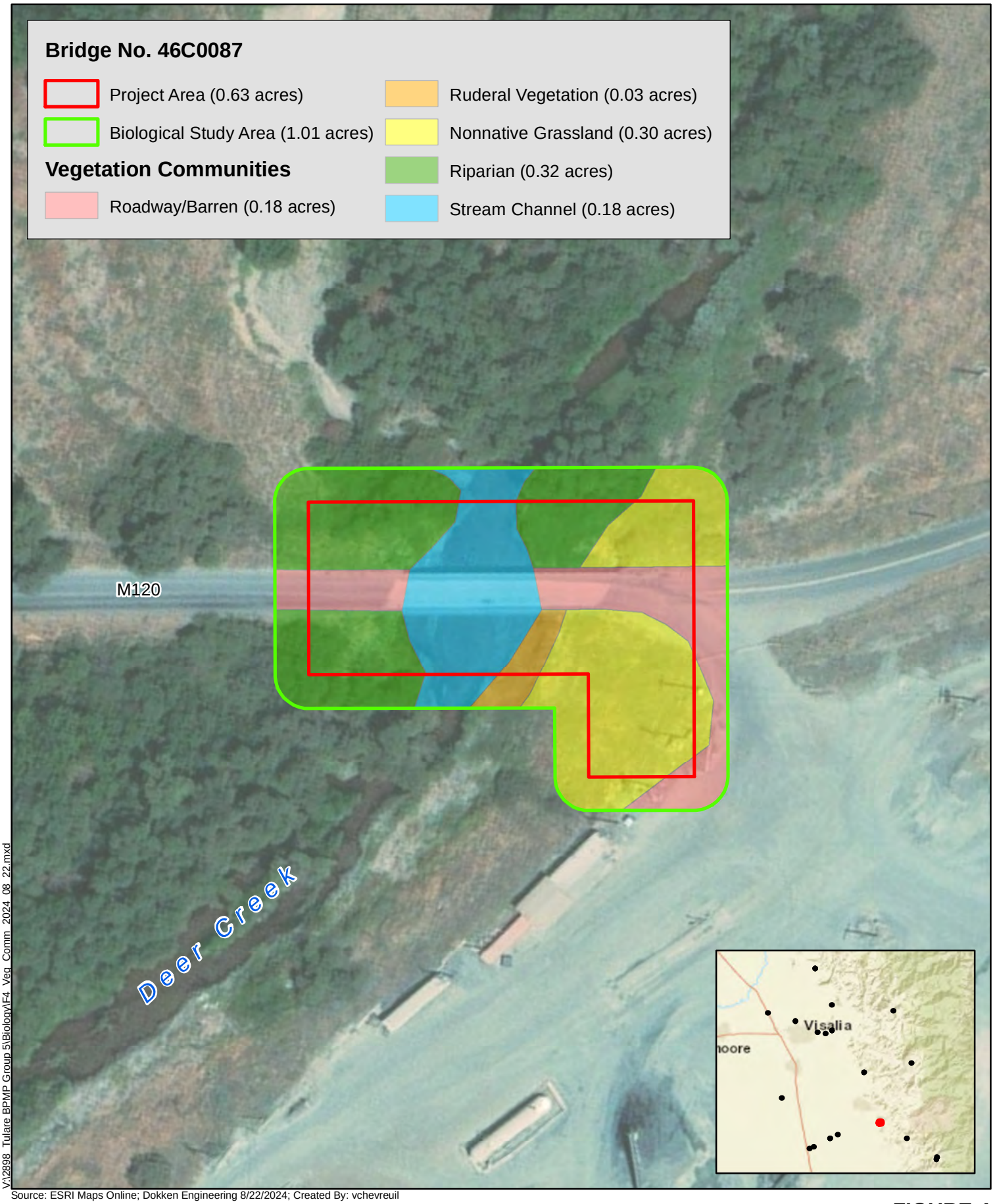
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FIGURE 4
Vegetation Communities

BPMPL-5946(169)
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Tulare County, California



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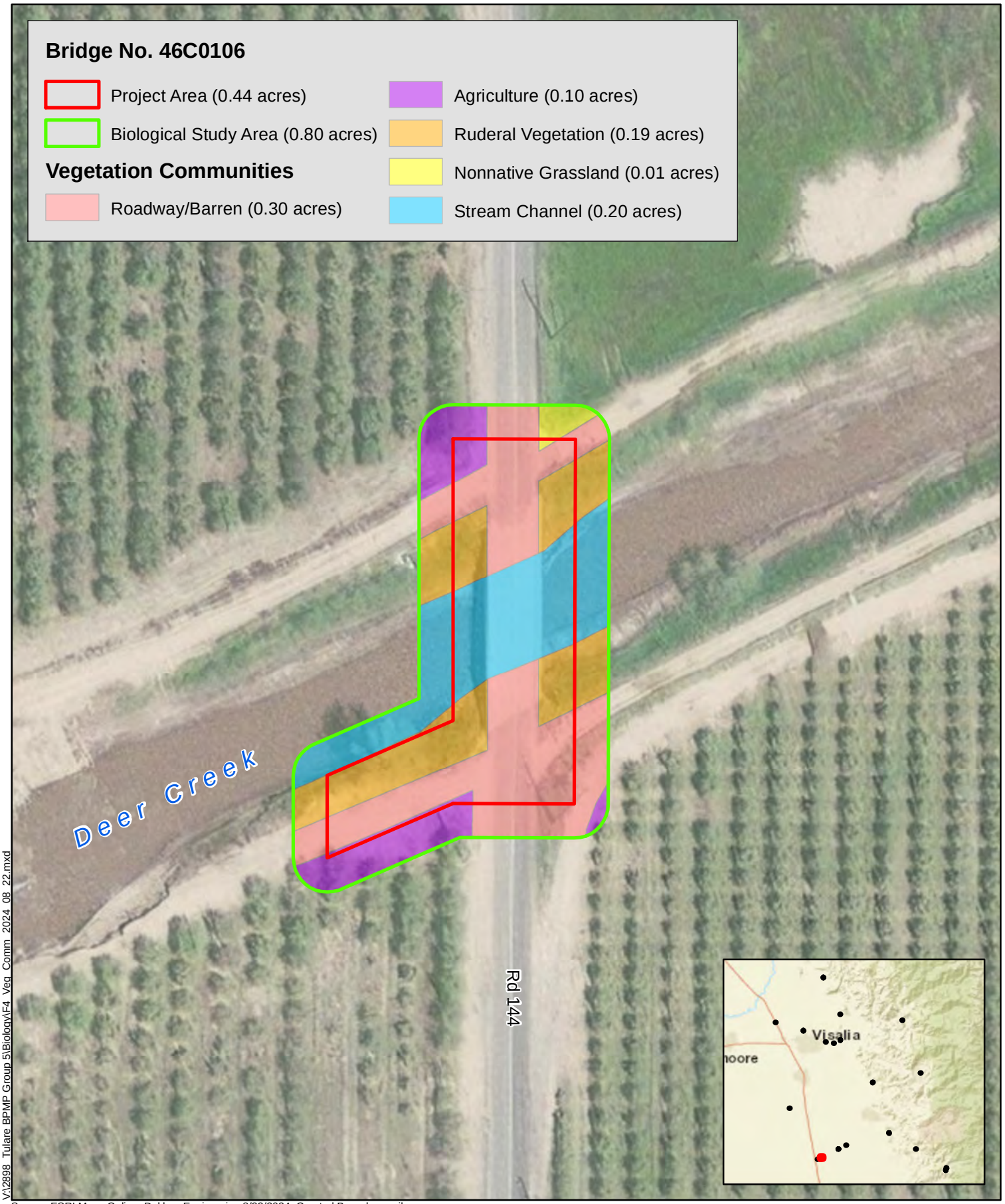
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Tulare County, California



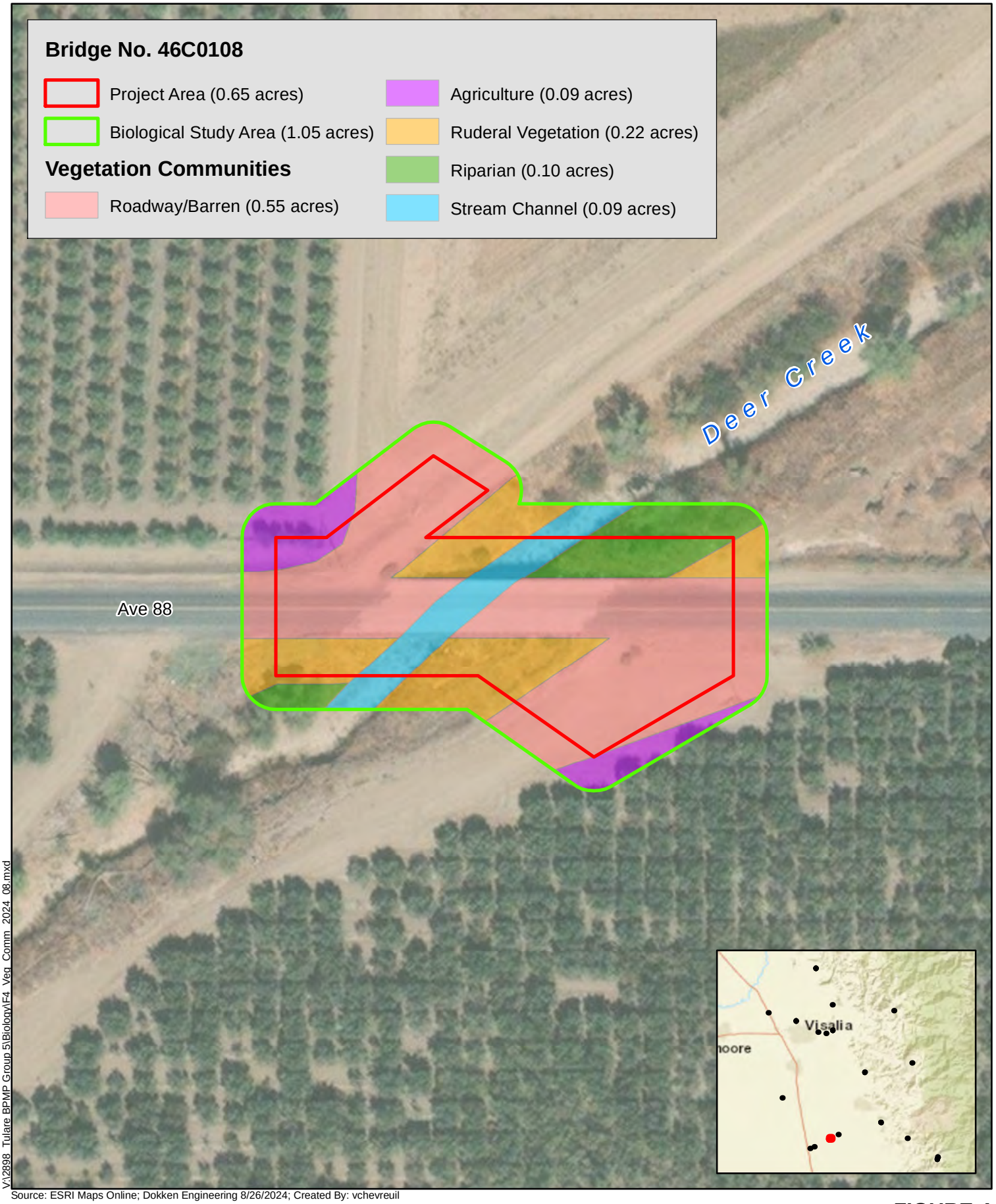
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FIGURE 4
Vegetation Communities
Page 5 of 17
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Tulare County, California



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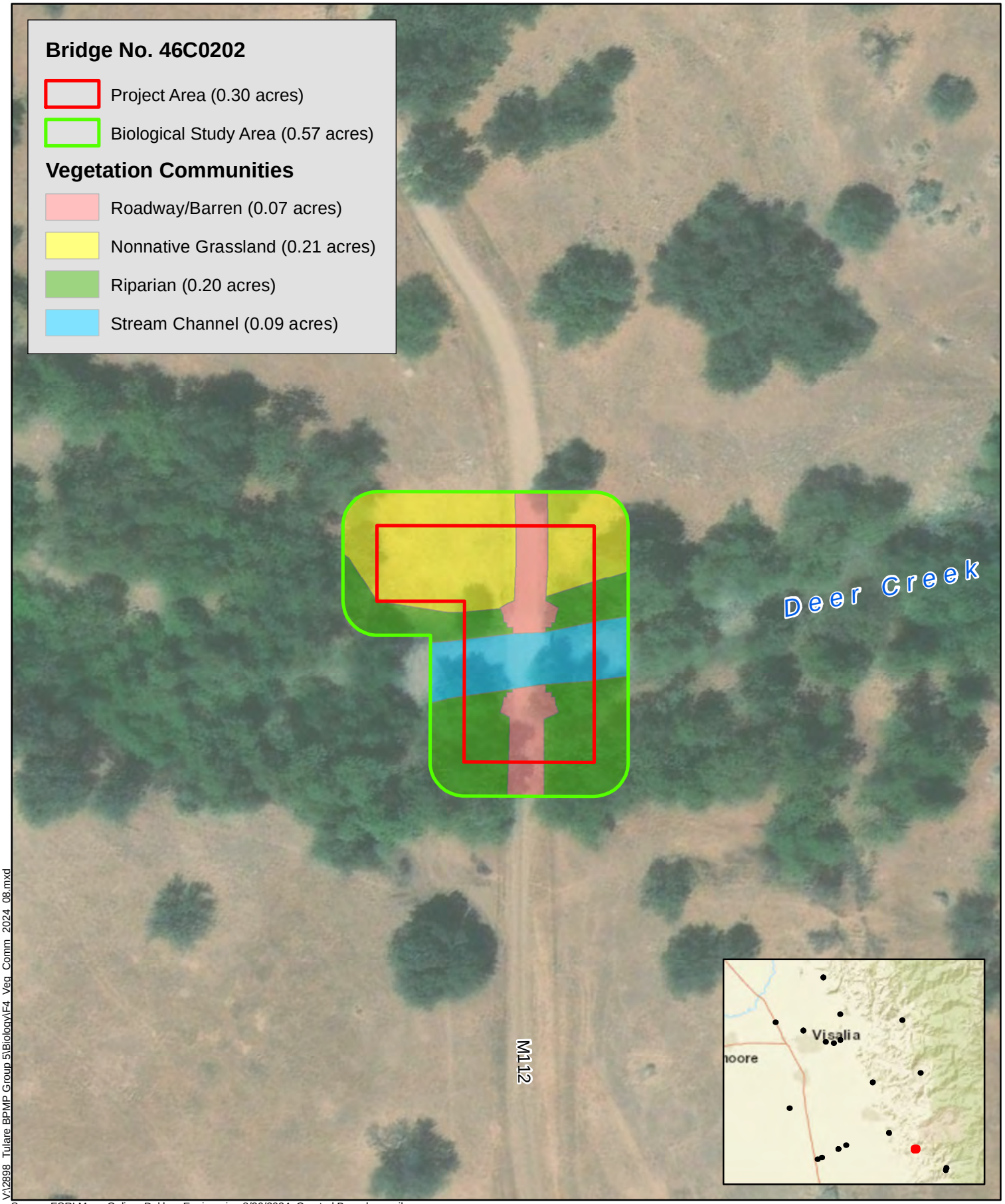
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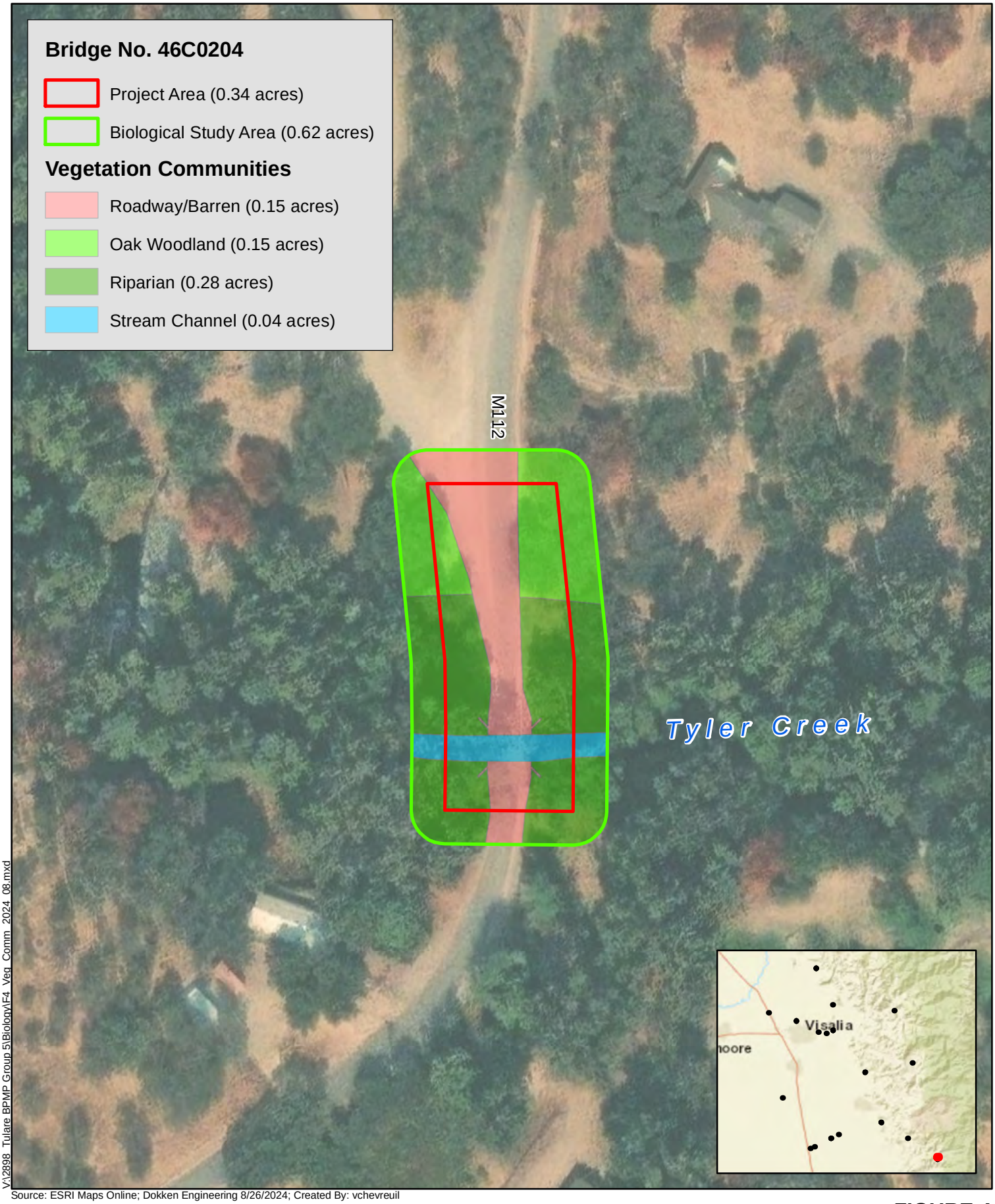
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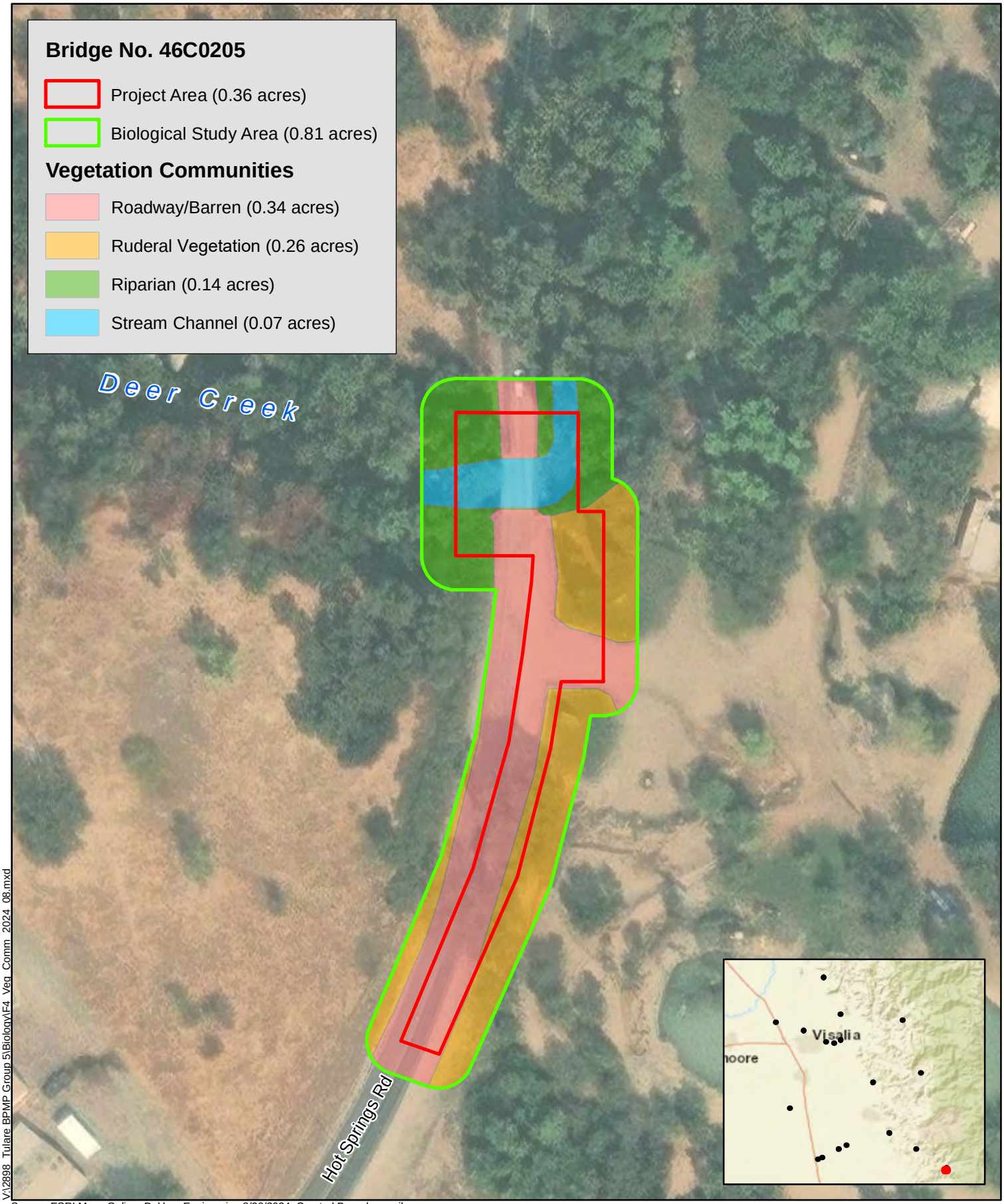
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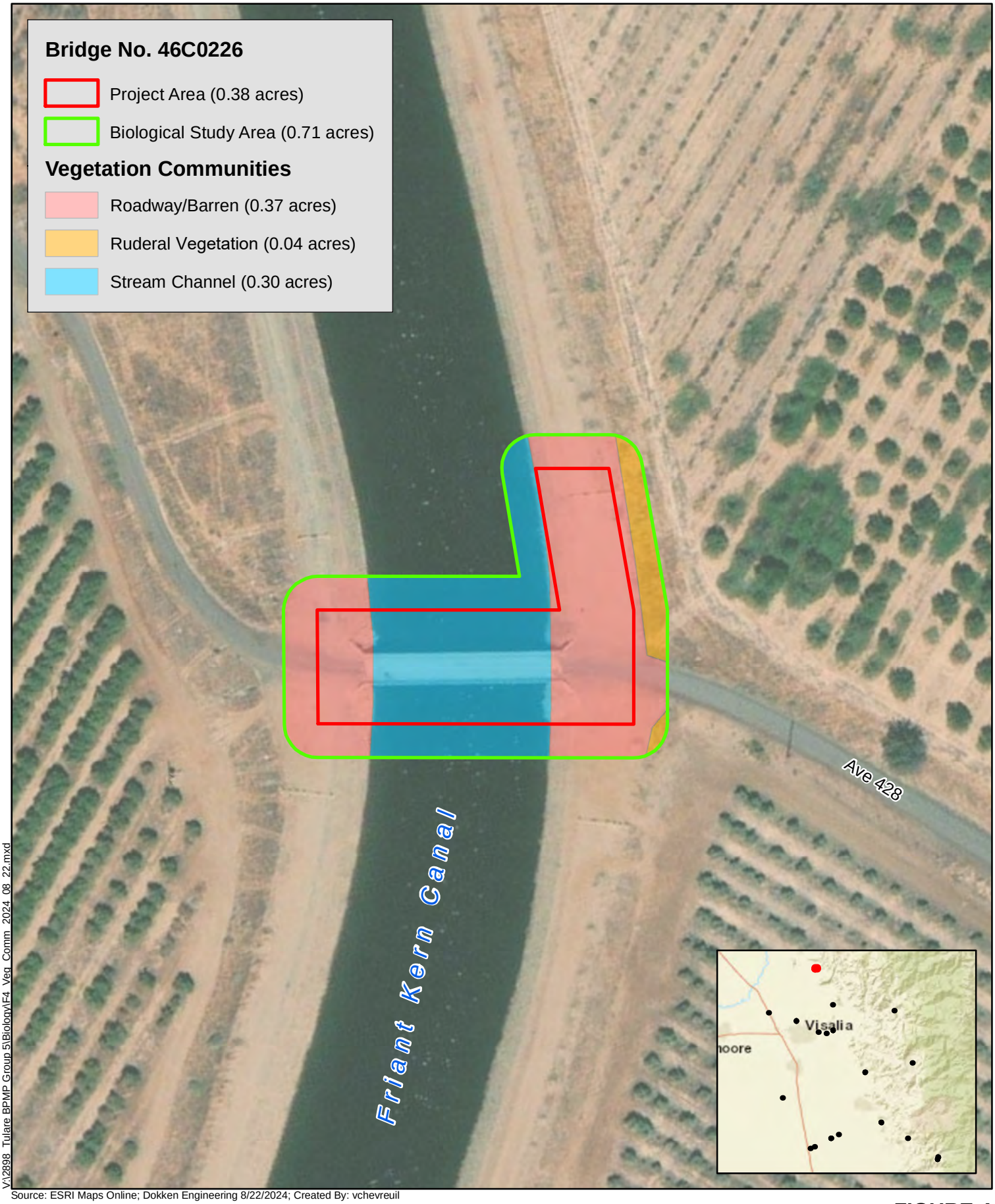
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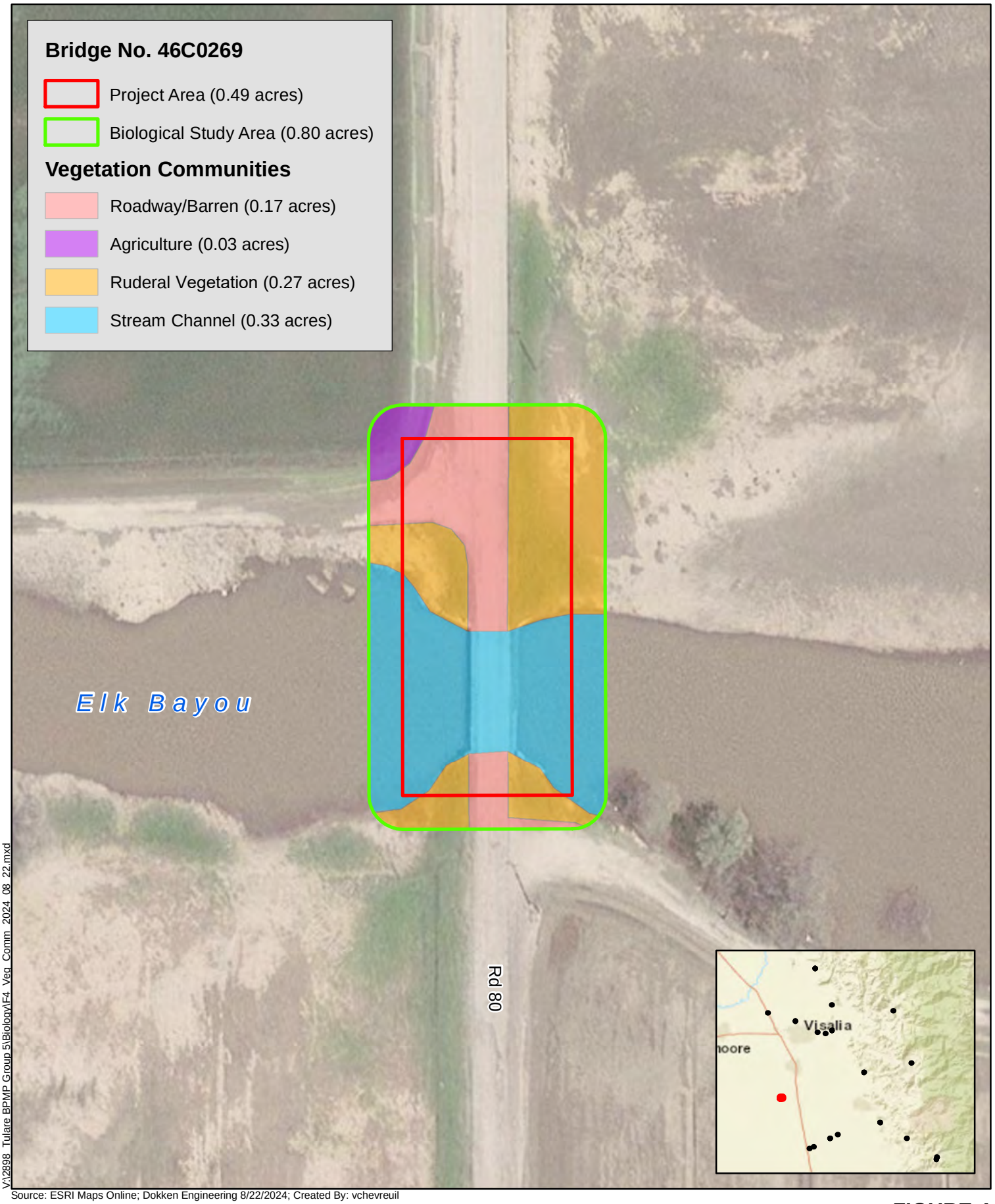
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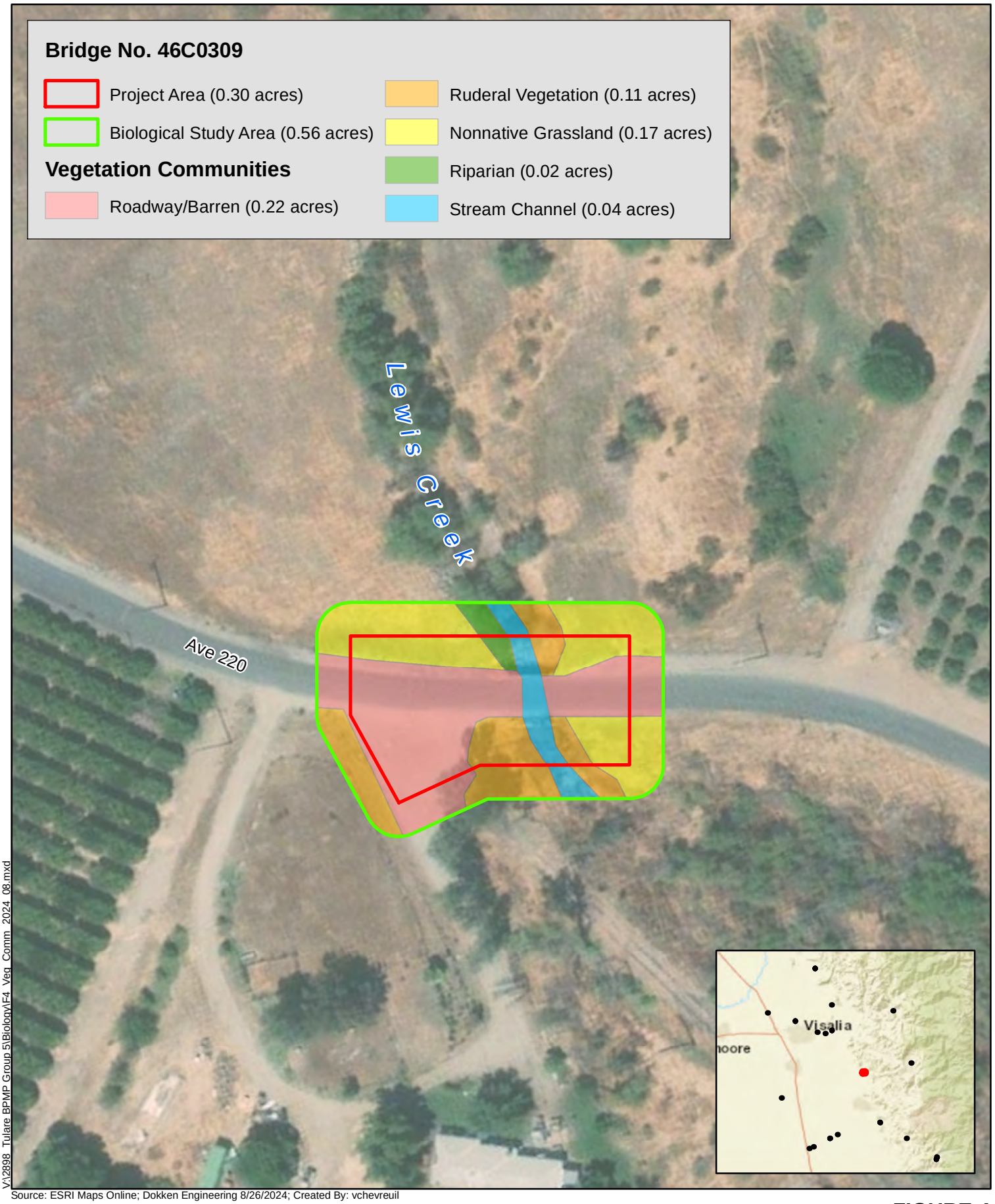
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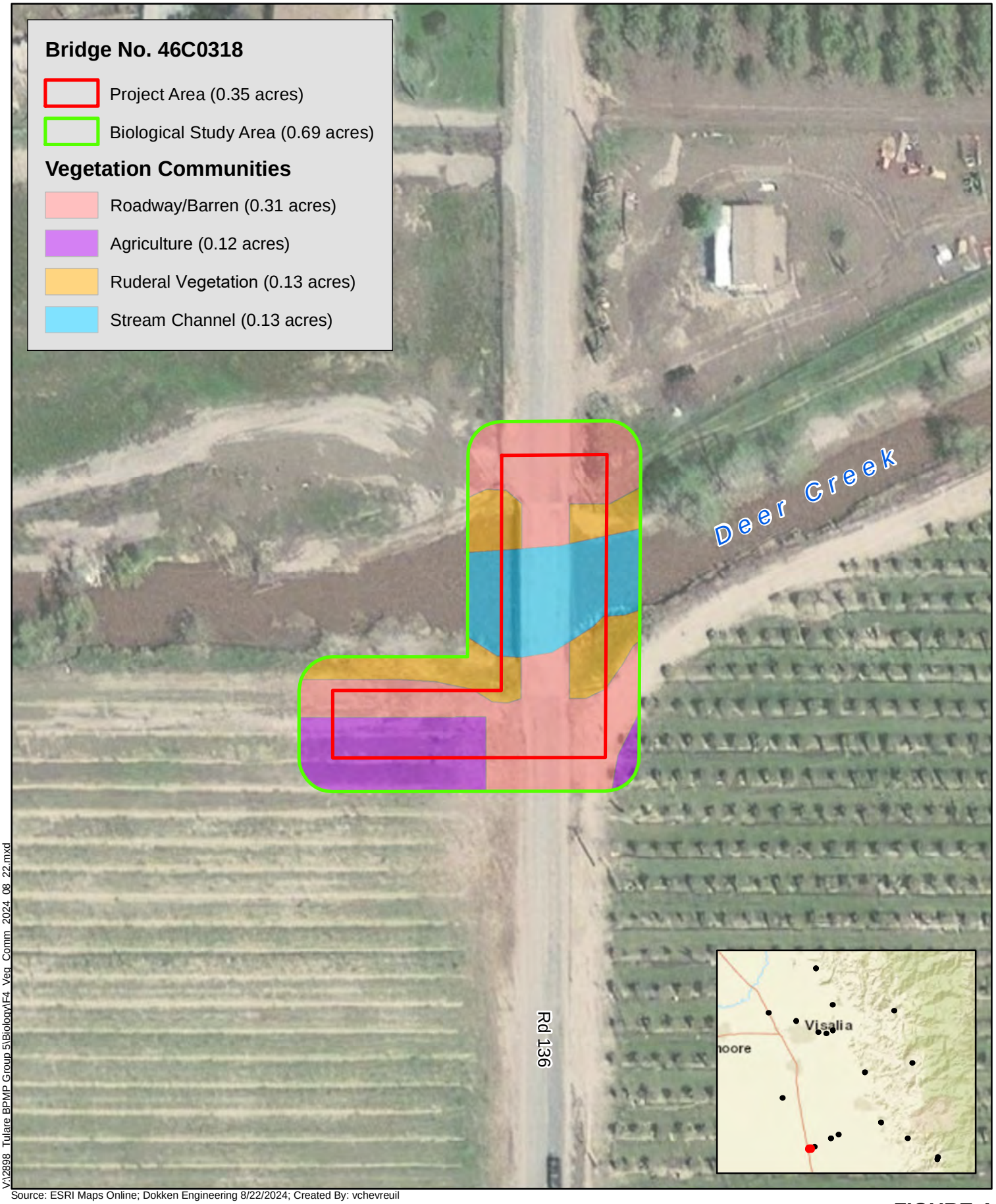
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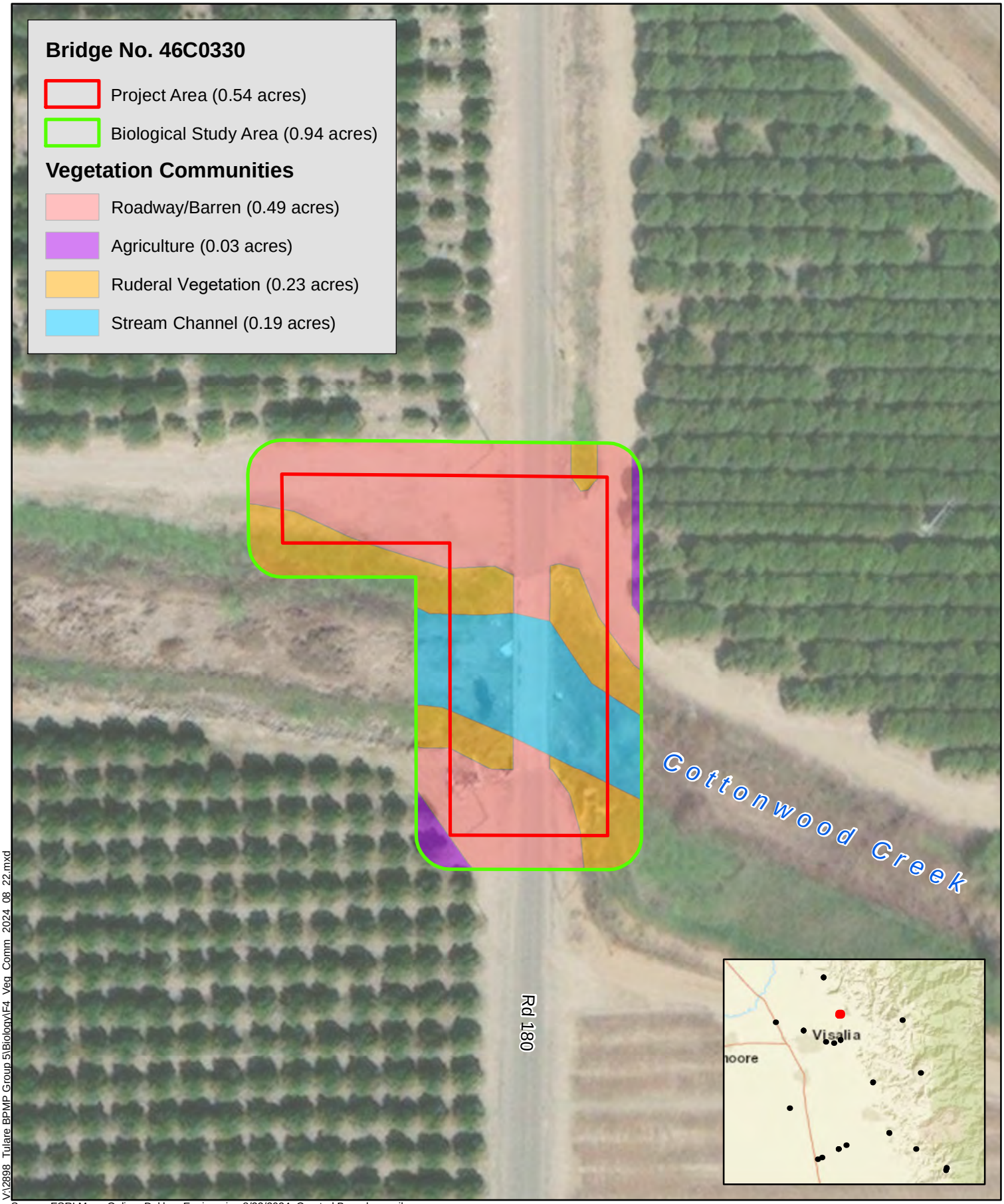
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FIGURE 4
Vegetation Communities

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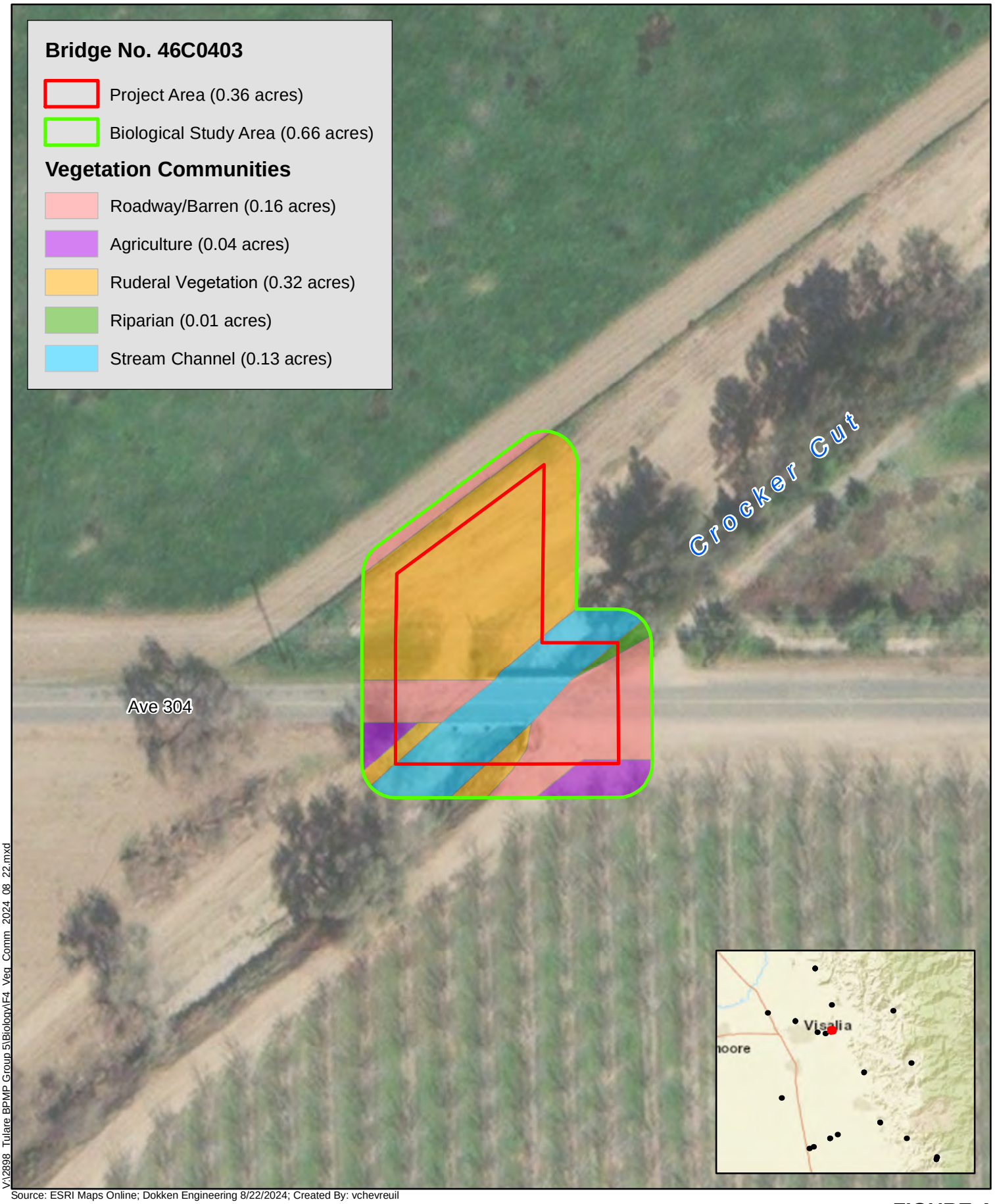
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Source: ESRI Maps Online; Dokken Engineering 8/22/2024; Created By: vchevreuil

1 inch = 75 feet

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FIGURE 4
Vegetation Communities
Page 14 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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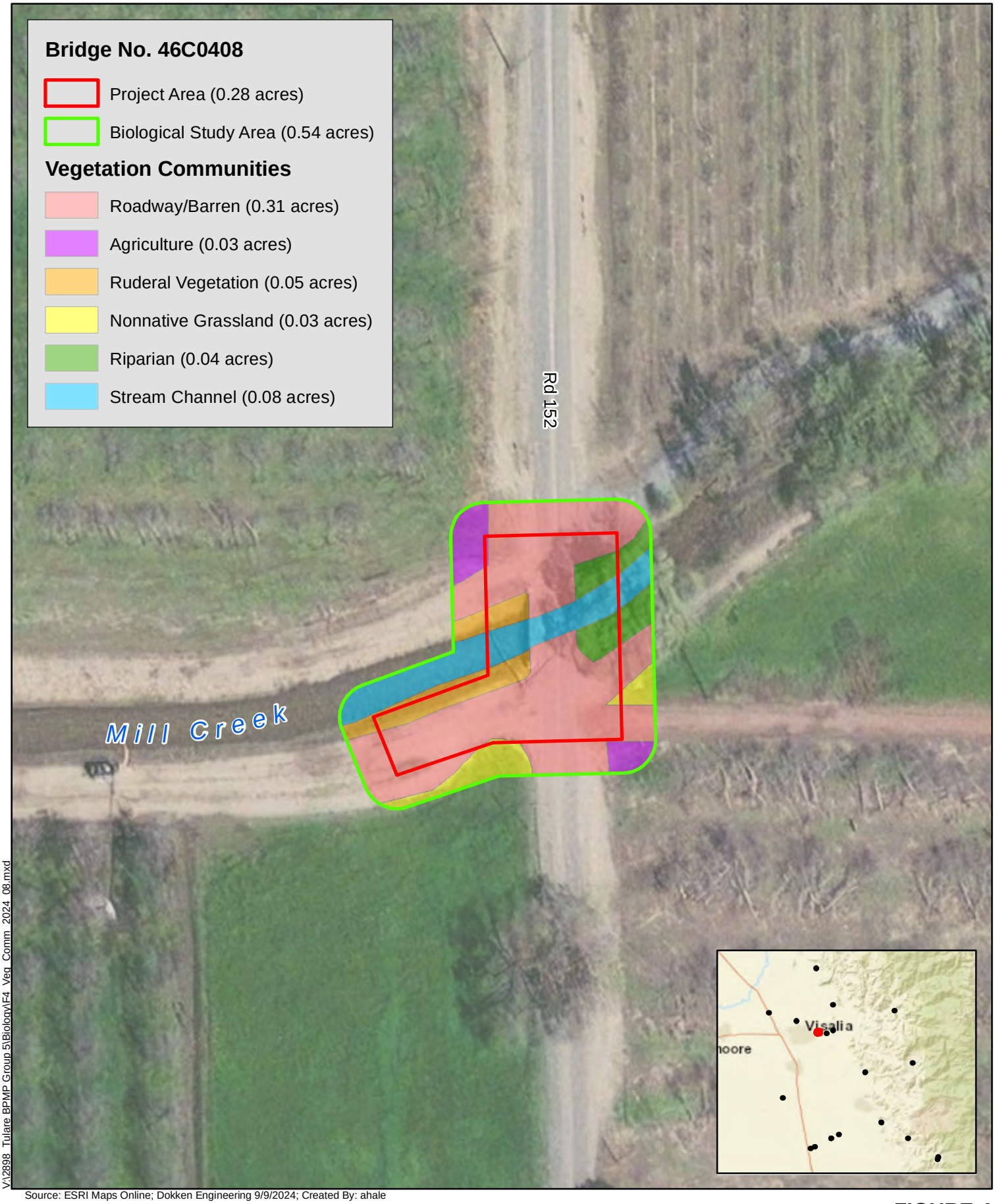
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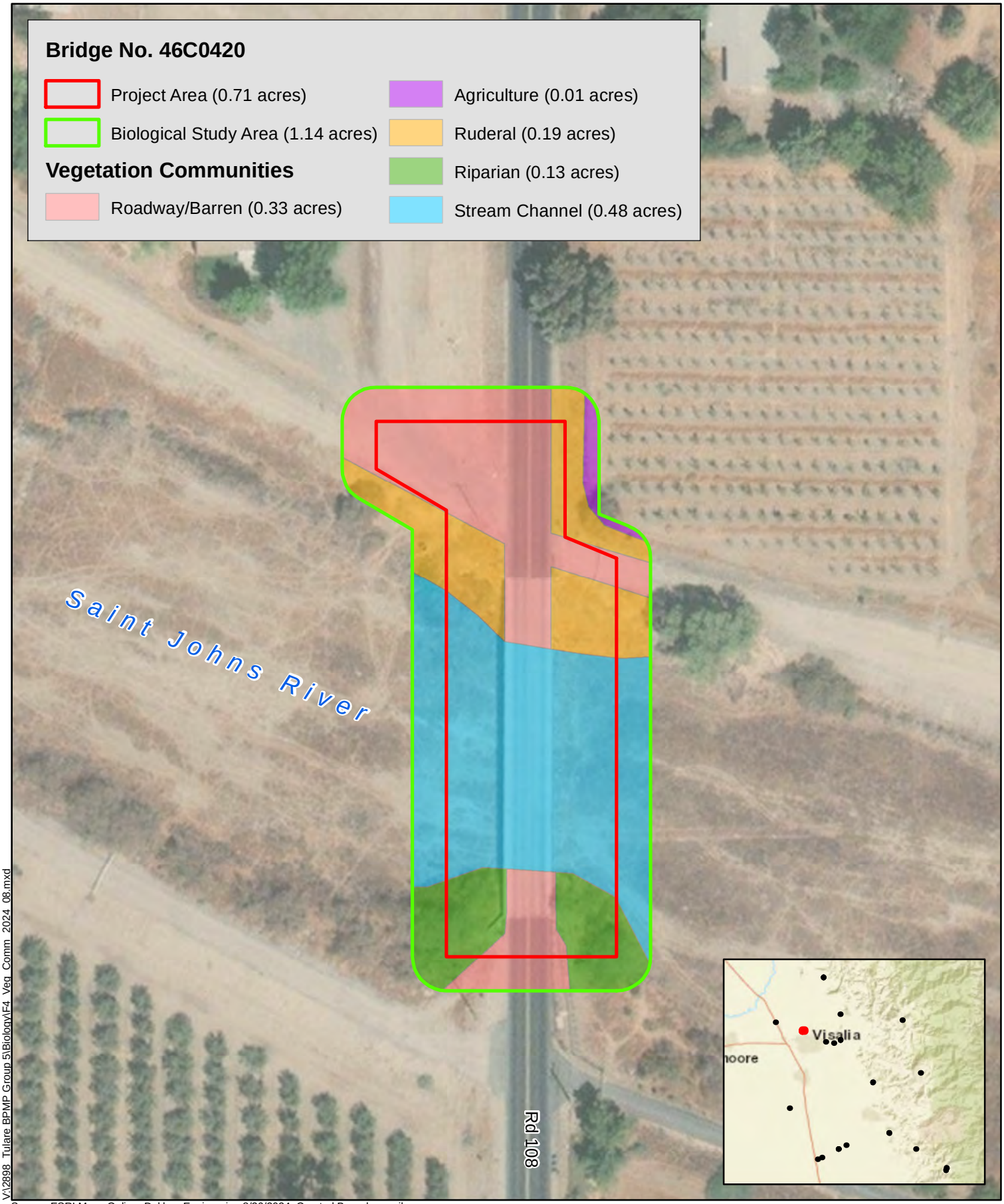
Source: ESRI Maps Online; Dokken Engineering 9/9/2024; Created By: ahale

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FIGURE 4
Vegetation Communities

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FIGURE 4
Vegetation Communities
Page 17 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

Nonnative Grassland

Within the BSA, non-native grassland typically occurs within the undeveloped parcels that border the proposed bridge maintenance locations. Common plant species within this habitat include non-native grasses such wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), and foxtail brome (*Bromus madritensis*). This vegetation community is most prominently featured at bridge maintenance locations situated within open space areas, including bridges 46C0058, 46C0059, 46C0202, and 46C0309. Non-native grassland comprises approximately 1.18 acres of the BSA.

Ruderal Vegetation

Ruderal vegetation typically consists of non-native pioneer species that dominate highly disturbed areas. Within the BSA, ruderal vegetation occurs within transitional areas such as roadway margins, adjacent to agricultural fields, and along the banks of stream channels that are regularly disturbed. Vegetation within this community is comprised of non-native and invasive species such as wild radish (*Raphanus sativus*), red-stemmed filaree (*Erodium cicutarium),* bull thistle (*Cirsium vulgare*), field mustard (*Brassica rapa*), and a variety of other non-native grasses. Ruderal vegetation comprises approximately 2.37 acres of the BSA.

Roadway/Barren

Within the BSA, developed land cover primarily consists of the paved, barren roadways and shoulders that approach the proposed bridge maintenance locations. For the bridges located within the San Joaquin Valley, dirt access roads that service local agricultural facilities are categorized as barren land cover within the BSA. Roadway/barren land comprises approximately 4.45 acres of the BSA.

Agriculture

Agricultural lands within the BSA consist of orchards that occur within the vicinity of the proposed bridge maintenance projects. Orchards typically consist of monospecific tree stands or crop fields that are regularly maintained via irrigation, pest control, and/or harvesting activities. Agricultural lands comprise approximately 0.46 acres of the BSA.

PROJECT IMPACT ANALSYIS

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation. Online databases from USFWS, Information for Planning and Consultation (IPaC), CDFW, California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS), and NMFS were queried for presence of potential threatened, endangered, rare or special-status species within USGS 7.5-minute quadrangles. The BSA was assessed for the potential for state or federally listed plant and wildlife species to occur. The potential for occurrence of special-status species was determined based on presence of suitable habitat, presence or absence of species during protocol surveys, and previously disturbed landcover. Literature research, habitat assessments, and biological surveys determined that four (4) plant species and 15 wildlife species returned by database searches were identified as having potential to occur within the Project's BSA.

The following is a discussion on special-status plant and wildlife species that were determined to have the potential of occurring within the Project's BSA, potential impacts, and avoidance, minimization, and mitigation measures that when incorporated will reduce impacts to a less than significant level.

Plants

The special-status plant species with potential to occur within the BSA include brittlescale (*Atriplex depressa*), earlimart orach (*Atriplex cordulata var. erecticaulis*), heartscale (*Atriplex cordulata var. cordulata*), and lesser saltscale (*Atriplex minuscula*). Each species is discussed individually below:

Brittlescale

Brittlescale is identified in the CNPS Rank 1B.2, indicating it is moderately rare throughout its range. Brittlescale is an annual herb that inhabits alkaline and clay soils of chenopod scrub, meadows, seeps, playas, vernal pools, and valley and foothill grassland communities. The blooming period for this species is between April and October, and it is typically found at elevations between sea level and approximately 1,050 feet.[8]

Survey Results for Brittlescale

This species was not observed during biological surveys, which were conducted during the species' blooming period; however, protocol level surveys, consisting of three or more site visits were not completed. Although there are no recent CNDDB occurrences of the species, bridges 46C0269 and 46C0318 include saline soils within non-native grassland habitat that may provide suitable habitat for this species. The species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat.

Project Impacts to Brittlescale

The Project will result in temporary impacts to upland habitat that could be potentially suitable for the species. Temporary impacts may include staging, grading, and clearing/grubbing at the bridge locations identified above. With the implementation of mitigation measures **BIO-1** through **BIO-5** and **BIO-10**, which includes pre-construction protocol rare plant surveys, potential impacts to brittlescale would be reduced to a less than significant level.

Earlimart Orach

Earlimart orach is identified in the CNPS Rank 1B.2, indicating it is moderately rare throughout its range. Earlimart orach is an annual herb that inhabits saline or alkaline soils of valley and foothill grassland communities. The blooming period for this species is between August and September, and it is found at elevations below approximately 330 feet.[9]

Survey Results for Earlimart Orach

The biological surveys were not conducted during the species bloom period; and therefore, the species was not detectable during site visits. There is a historic (2002) Calflora occurrence of this species located approximately 2.35 miles southwest of bridge 46C0269. In addition, bridges 46C0269 and 46C0318 include saline soils within non-native grassland habitat that may be potentially suitable for the species. Overall, there is a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat.

Project Impacts to Earlimart Orach

The Project will result in temporary impacts to upland habitat that could be potentially suitable for the species. Temporary impacts may include staging, grading, and clearing/grubbing at the bridge locations identified above. With the implementation of mitigation measures **BIO-1** through **BIO-5** and **BIO-10**, which includes pre-construction protocol rare plant surveys, potential impacts to Earlimart orach would be reduced to a less than significant level. Compensatory mitigation is not warranted.

Heartscale

Heartscale is identified in the CNPS as Rank 1B.2, indicating it is moderately rare throughout its range. Heartscale is an annual herb that inhabits saline or alkaline soils of chenopod scrub, meadows, seeps, and sandy valley and foothill grassland communities. The blooming period for this species is between April and October, and it is found at elevations below approximately 1,840 feet.[10]

[8] Calflora. https://www.calflora.org/. July 2025.
[9] The Jepson Herbarium. https://ucjeps.berkeley.edu/eflora/. July 2025.
[10] Calflora. Op.Cit.

Survey Results for Heartscale

This species was not observed during biological surveys, which were conducted during the species' blooming period; however, protocol level surveys, consisting of three or more surveys were not completed. Additionally, there are no recent CNDDB occurrences of this species in the vicinity of any of the proposed Project locations. However, bridges 46C0269 and 46C0318 include saline soils within non-native grassland habitat that may provide potentially suitable habitat for the species. The species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat.

Project Impacts to Heartscale

The Project will result in temporary impacts to upland habitat that could be potentially suitable for the species. Temporary impacts may include staging, grading, and clearing/grubbing at the bridge locations identified above. With the implementation of mitigation measures **BIO-1** through **BIO-5** and **BIO-10**, which includes pre-construction protocol rare plant surveys, potential impacts to heartscale would be reduced to a less than significant level. Compensatory mitigation is not warranted.

Lesser Saltscale

Lesser saltscale is identified in the CNPS as Rank 1B.1, indicating it is seriously threatened throughout its range. Lesser saltscale is an annual herb that inhabits saline or alkaline soils of chenopod scrub, playa, and valley and foothill grassland communities. The blooming period for this species is between May and October, and it is found at elevations below approximately 660 feet.[11]

Survey Results for Lesser Saltscale

The biological surveys were not conducted during the species bloom period; and therefore, the species was not detectable during site visits. There are no recent CNDDB occurrences of this species in the vicinity of any of the proposed Project locations. However, bridges 46C0269 and 46C0318 include saline soils within non-native grassland habitat that may provide potentially suitable habitat for this species. The species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat.

Project Impacts to Lesser Saltscale

The Project will result in temporary impacts to upland habitat that could be potentially suitable for the species. Temporary impacts may include staging, grading, and clearing/grubbing at the bridge locations identified above. With the implementation of mitigation measures **BIO-1** through **BIO-5** and **BIO-10**, which includes pre-construction protocol rare plant surveys, potential impacts to lesser saltscale would be reduced to a less than significant level. Compensatory mitigation is not warranted.

Wildlife

The special-status wildlife species with potential to occur within the BSA include American badger (*Taxidea taxus*), Bakersfield legless lizard (*Anniella grinnelli*), burrowing owl (*Athene cunicularia*), California tiger salamander–Central California Distinct Population Segment [DPS] (*Ambystoma californiense pop. 1*), coast horned lizard (*Phrynosoma blainvillii*), Crotch's bumble bee (*Bombus crotchii*), foothill yellow-legged frog–south Sierra DPS (*Rana boylii pop. 5*), loggerhead shrike (*Lanius ludovicianus*), northern California legless lizard (*Anniella pulchra*), pallid bat (*Antrozous pallidus*), San Joaquin coachwhip (*Masticophis flagellum ruddocki*), San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's hawk (*Buteo swainsoni*), northwestern pond turtle (*Actinemys marmorata*), and western spadefoot (*Spea hammondii*). Each species is discussed individually below:

American Badger

The American badger is a CDFW Species of Special Concern (SSC). The American badger most commonly inhabits treeless areas including tall grass and short grass prairies, grass-dominated meadows and fields within forested

[11] Ibid.

habitats. The species home range lies between 338-1549 acres with a supply of rodent prey.[12] The species requires friable soils for burrow construction. Typically, American badgers reuse old burrows for young rearing during March and April, although some may dig a new den each night for cover. The American badger is a nightly active, year-round species of California up to 12,000 feet elevation where habitat exists and is sensitive to automobile mortality, trapping and persistent poisons.[13]

Survey Results for American Badger

There are no CNDDB occurrences of this species in the vicinity of any of the proposed Project locations. However, bridges 46C0058 and 46C0059 fall within the expected range of the species and include treeless, dry, open herbaceous habitat features with friable soils. The species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat. No suitable habitat is present at any other Project location.

Project Impacts to American Badger

The Project will result in temporary impacts to upland habitat that could be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and species-specific measure **BIO-11**, potential impacts to American badger would be reduced to a less than significant level. Compensatory mitigation is not warranted.

Bakersfield Legless Lizard

The Bakersfield legless lizard (*Anniella grinnelli*, formerly *Anniella pulchra*) is considered a SSC under CDFW. This species inhabits warm, moist soils in vegetated areas such as beach dunes, chaparral, woodlands, desert scrubs, sandy washes, and stream terraces. Individuals spend most of their time burrowed in loose soils and are often found under surface objects such as rocks, boards, and logs. Known predators of Bakersfield legless lizards include snakes, mice, weasels, and birds. Geographically, the species is restricted to the southern San Joaquin Valley and east of the Carrizo Plain.[14]

Survey Results for Bakersfield Legless Lizard

There is a recent (2019) CNDDB observation of this species within Deer Creek, approximately 2.8 miles west of State Route 99. Due to its restricted range, potentially suitable habitat for this species is limited to bridge repair locations along Deer Creek, including bridges 46C0087, 46C0106, 46C0108, and 46C0318. Overall, there is a low to moderate potential for the species to occur at these bridge sites. No suitable habitat is present at any other Project location.

Project Impacts to Bakersfield Legless Lizard

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and **BIO-12**, which includes a pre-construction survey for the species, potential impacts to Bakersfield legless lizard would be reduced to a less than significant level. Compensatory mitigation is not warranted.

Burrowing Owl

The burrowing owl is listed as Candidate Endangered under CESA, is considered a SSC under CDFW and is also a USFWS Migratory Nongame Bird of Management Concern. Burrowing owls were historically common throughout much of California; however, due to habitat degradation and urbanization, populations have been drastically reduced. The owl can be a migrant or yearlong resident occupying disturbed open, arid habitats, particularly

[12] Zeiner, D.C., Laudenslayer, W.F., Mayer, K.E., & White, M. 1988-1990. California's Wildlife. Vol. I-III. California Department of Fish and Game.
[13] Ibid.
[14] Nafis, G. (2000-2020) California Herps - A Guide to the Amphibians and Reptiles of California. http://www.californiaherps.com/. July 2025

grasslands, deserts, and abandoned agricultural areas. The species requires friable soils for burrow construction and an adequate prey base. Burrowing owls rely on California ground squirrels and other fossorial mammals for burrow construction. Burrowing owl nests can be identified by the presence of owl excrement, pellets, debris, grass, and feathers in the vicinity of a burrow. Human development threatens burrowing owl populations by reducing available nesting habitat and decreasing rodent populations, which serve as the owl's main food source.

Survey Results for Burrowing Owl

There is a recent (2017) CNDDB occurrence of this species located within 1 mile of bridges 46C0058 and 46C0059. These Project locations are surrounded by disturbed open grassland and agricultural habitat communities that may provide suitable habitat for burrowing owl. Therefore, there is a low to moderate potential for the species to occur at these bridge locations. No suitable habitat is present at any other Project location.

Project Impacts to Burrowing Owl

The Project will result in temporary impacts to disturbed grassland and agricultural habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at bridges 46C0058 and 46C0059. The Project will not result in a permanent loss of potentially suitable burrowing owl habitat. With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and **BIO-13**, which includes pre-construction surveys for burrowing owl, potential impacts to the species would be reduced to a less than significant level. Compensatory mitigation is not warranted.

<u>California Tiger Salamander – Central California DPS</u>

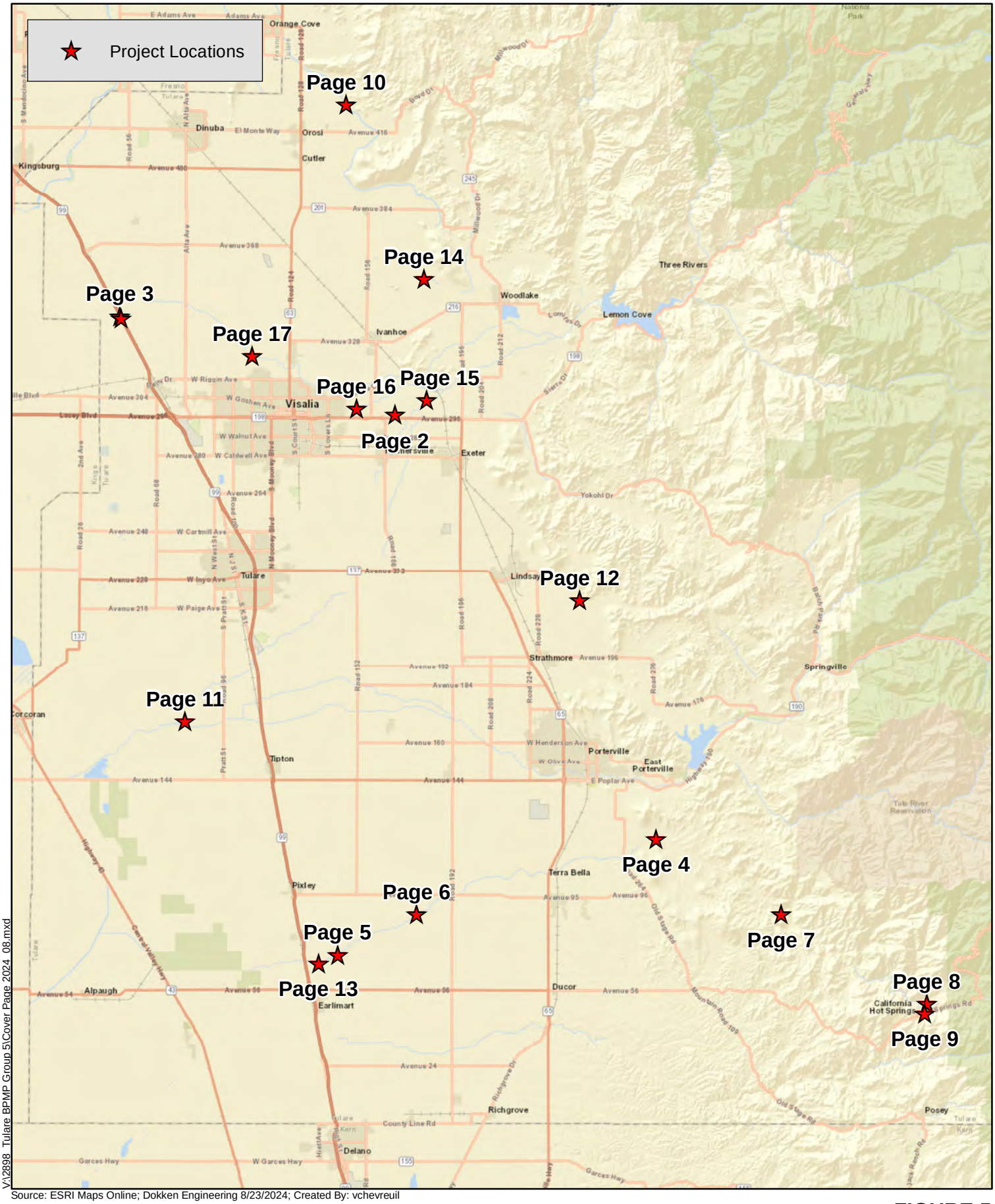
The California tiger salamander (CTS) is a state and federally listed species. The species' range spans from Yolo County to its southern extent in Santa Barbara County and can be found in annual grasslands within the Central Valley (Central California DPS). Adult salamanders spend much of their existence in pre-made subterranean refuges such as mammal burrows. The greatest threats to CTS include habitat loss, including both upland grassland habitat and seasonal aquatic breeding habitat. Their breeding season occurs between the months of December and February, where CTS emerge from underground during the first significant rain events of the fall/winter and begin migrating to seasonal breeding ponds. In August of 2005, the USFWS designated almost 200,000 acres of the Central Valley as Critical Habitat for the Central California DPS of CTS (50 CFR 4380). CTS Critical Habitat spans from Butte County south to San Luis Obispo and encompasses the northwestern extent of Tulare County.

Survey Results for California Tiger Salamander – Central California DPS

Bridges 46C0058 and 46C0059 fall within designated Critical Habitat for CTS and encompass potentially suitable CTS upland dispersal habitat. During biological survey efforts, small mammal burrows were observed in adjacent grassland habitat, which could serve as refugia for the species. Potentially suitable breeding habitat does not occur at these bridge locations but is present within a 1-mile radius of the Project areas. In addition, there is a historic (1999) CNDDB occurrence within Cross Creek, 3.3 miles southwest of the bridge locations. Due to the presence of locally suitable upland dispersal habitat as well as the local historic occurrence, the species has a low to moderate potential to occur at bridges 46C0058 and 46C0059. No suitable habitat is present at any other Project location.

Project Impacts to California Tiger Salamander – Central California DPS

The Project will result in approximately 0.14 acres of temporary impacts to potentially suitable CTS upland habitat due to equipment and personnel access at bridges 46C0058 and 46C0059 (**Figure 5. Project Impacts**). In addition, installation of RSP adjacent to the existing bridges will result in approximately 0.03 acres of permanent impacts to potentially suitable CTS upland habitat (**Figure 5. Project Impacts**). At these bridge locations RSP would be installed on top of the channel banks to prevent erosion. However, installation of RSP is not anticipated to severely degrade or decrease the quantity or quality of potentially suitable CTS upland habitat nor would it result in long-term impacts to CTS movement.

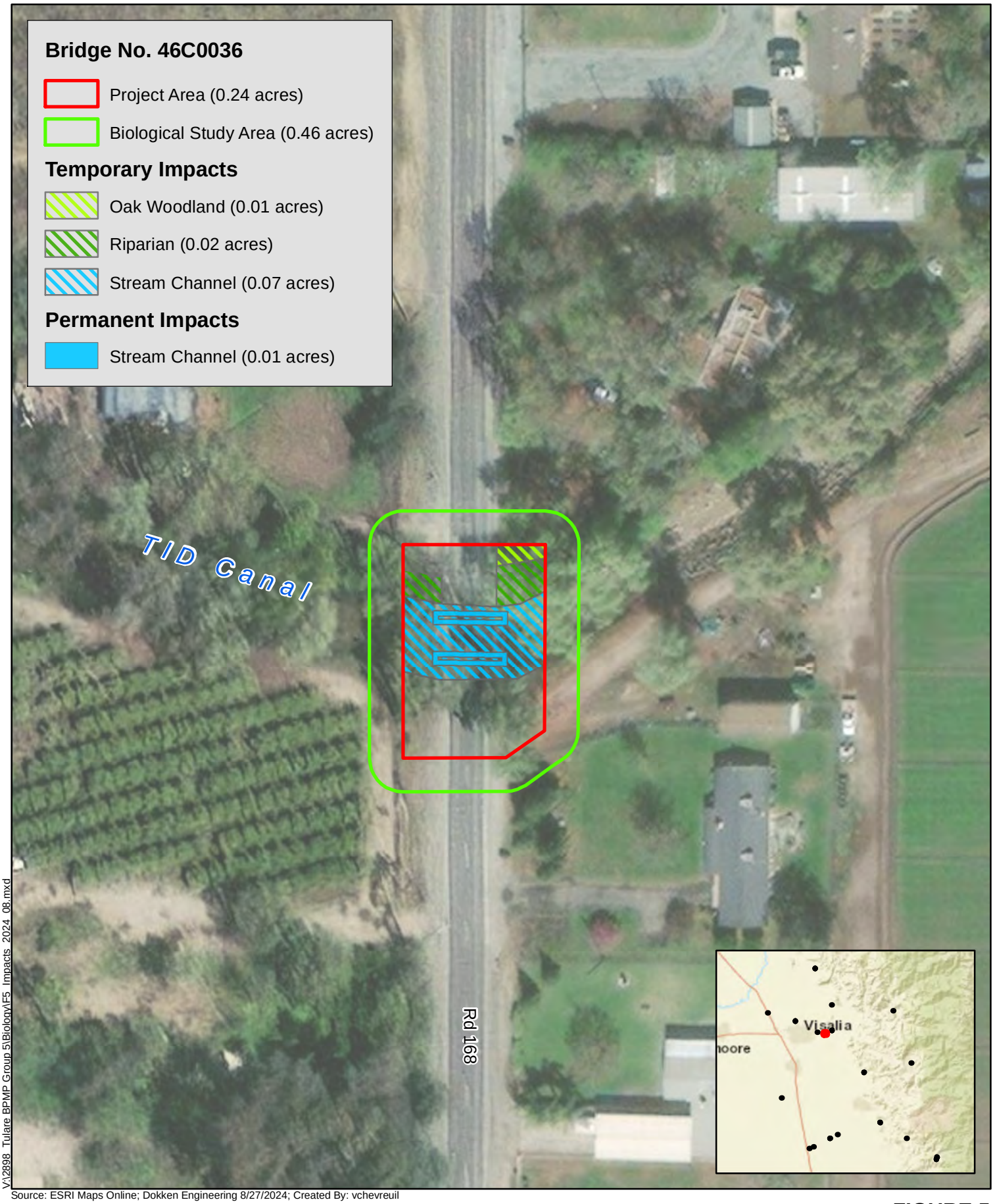


Source: ESRI Maps Online; Dokken Engineering 8/23/2024; Created By: vchevreuil

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FIGURE 5
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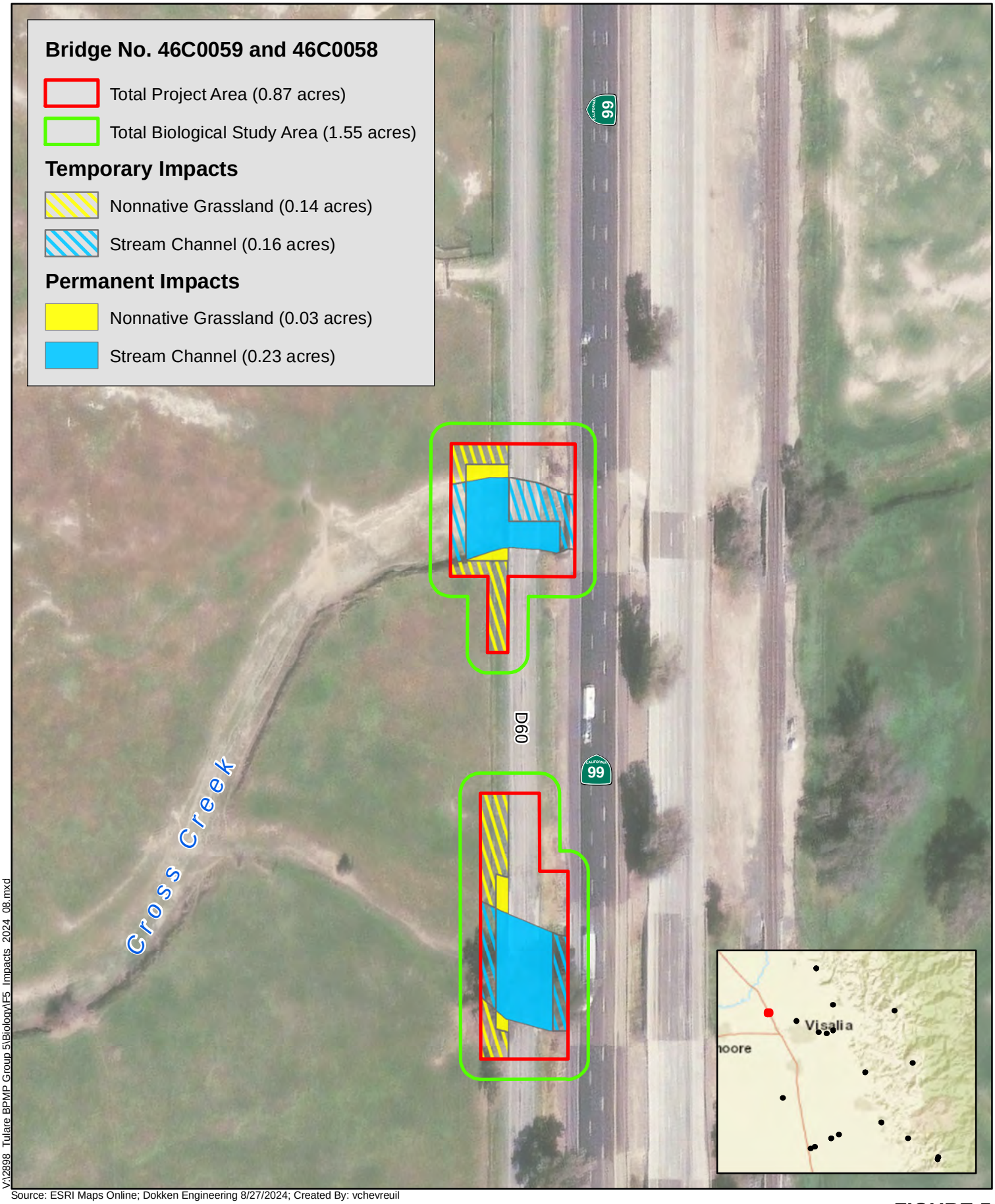
Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

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FIGURE 5
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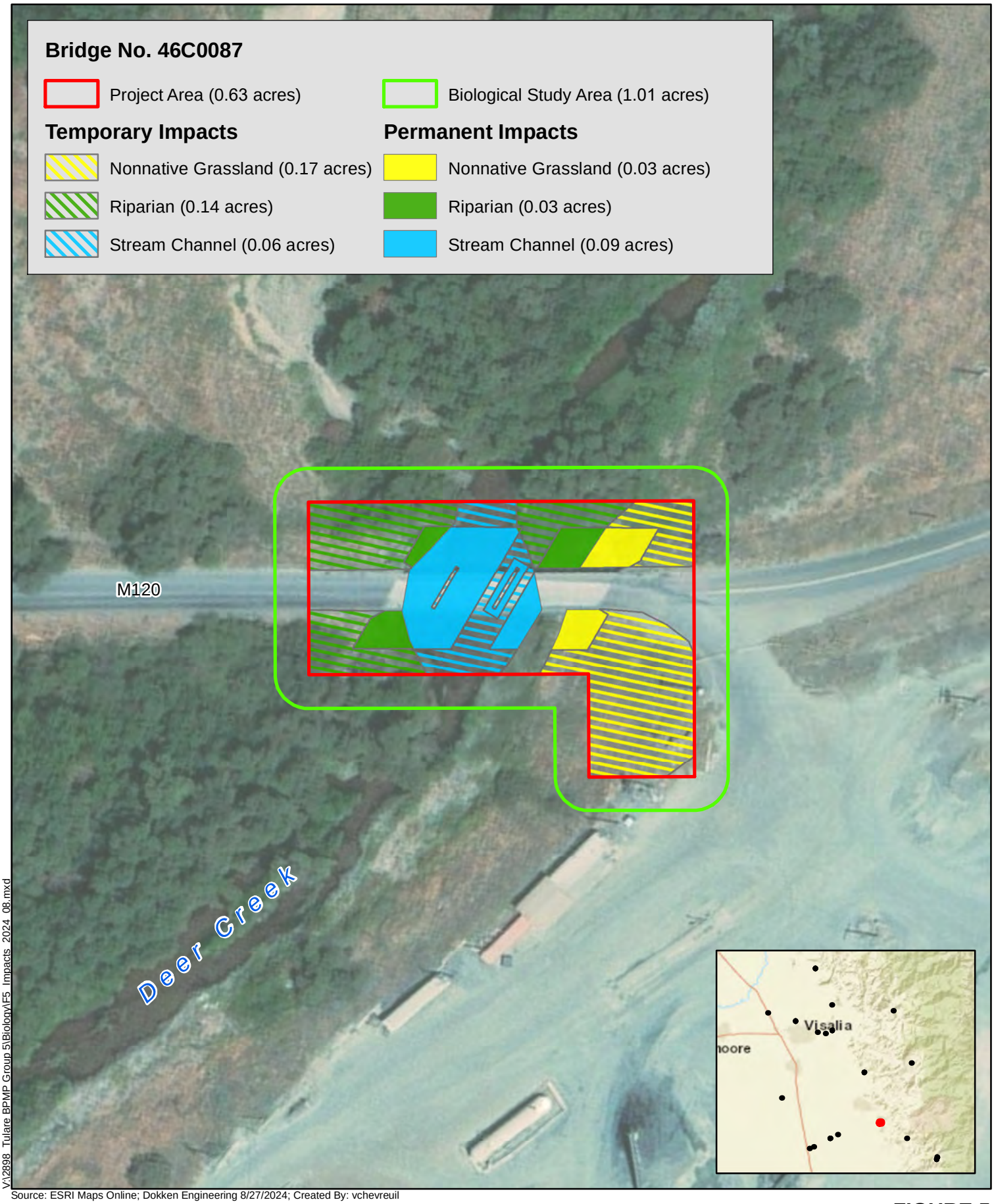


Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 125 feet

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FIGURE 5
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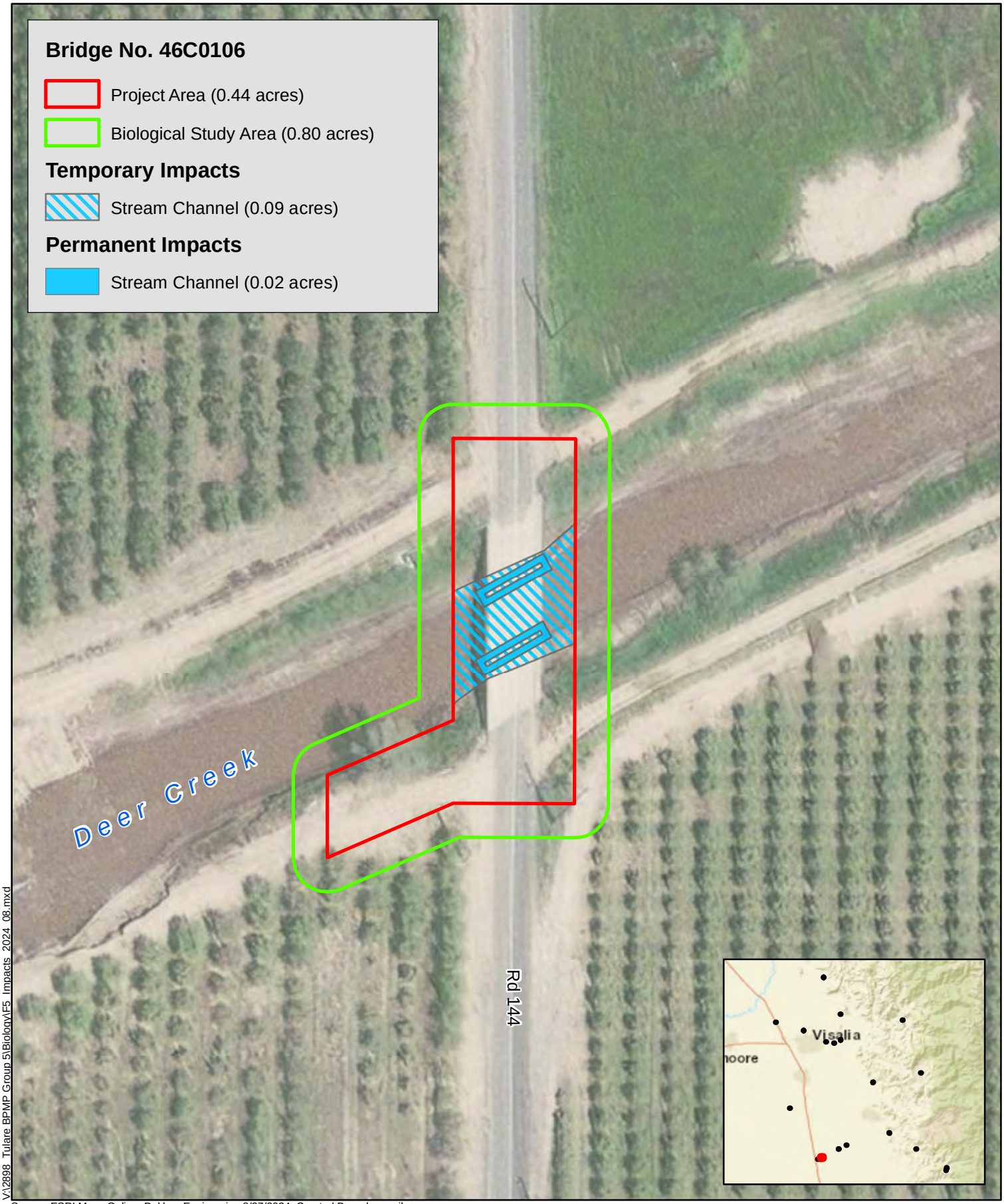
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FIGURE 5
Project Impacts

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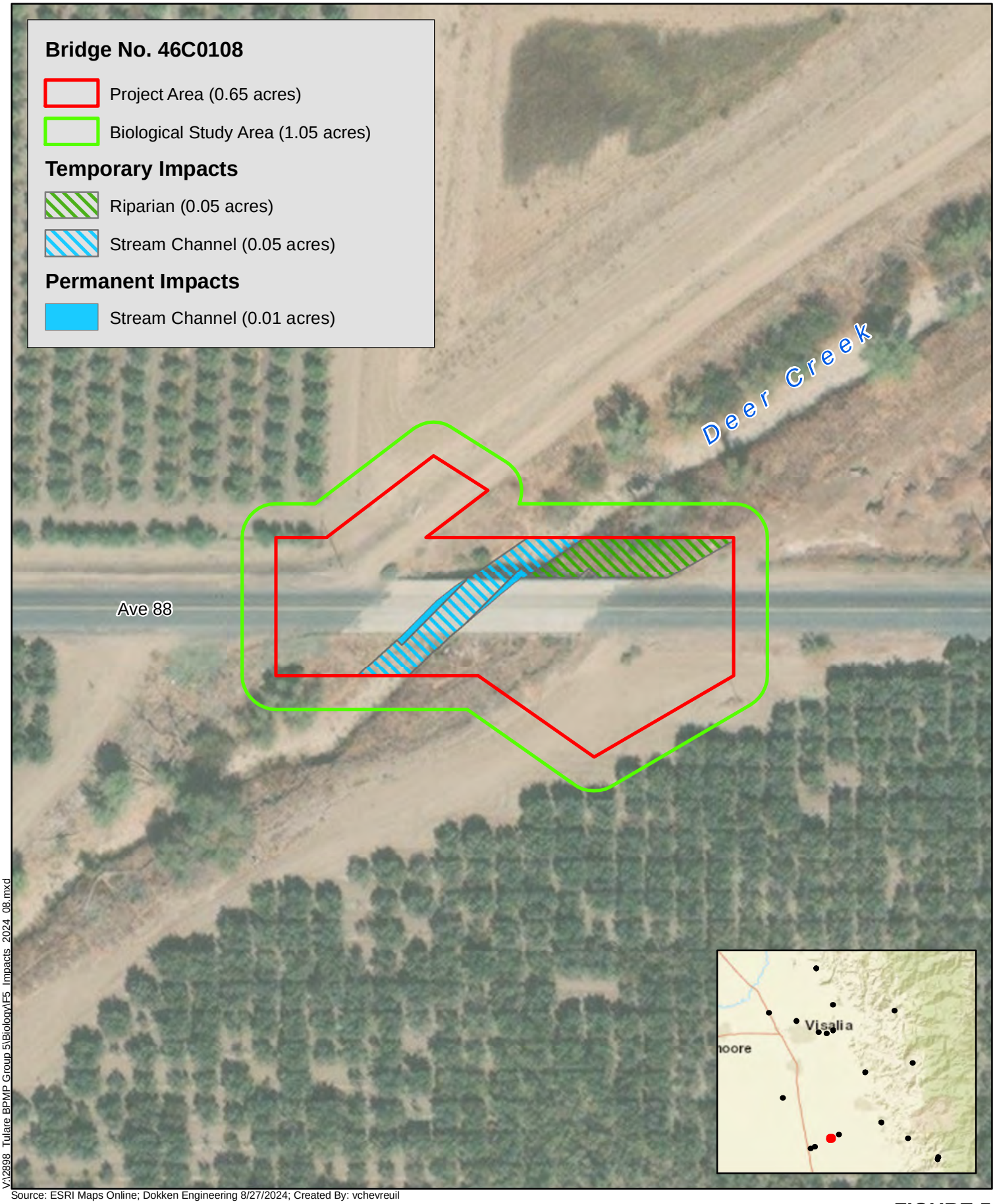
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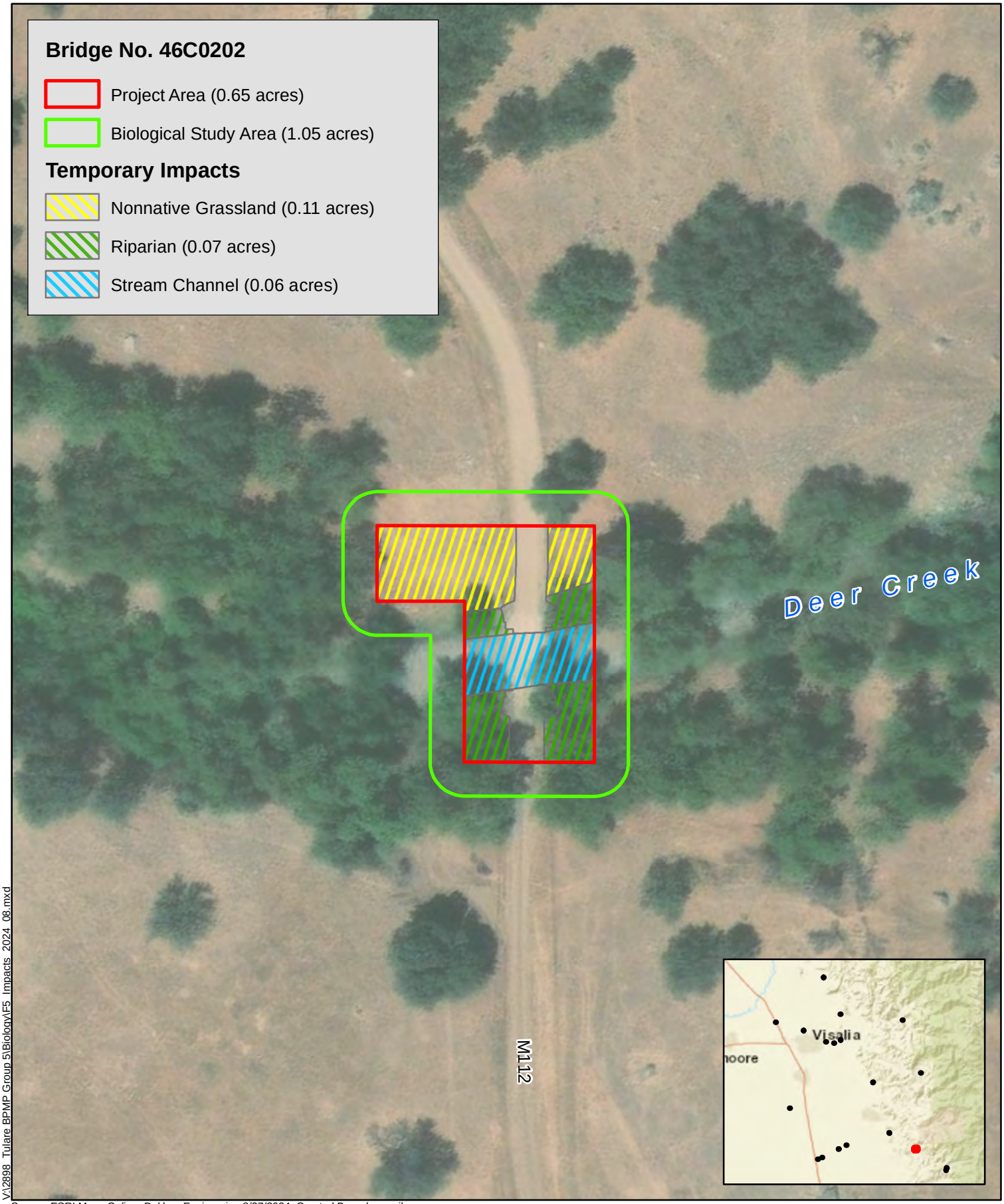
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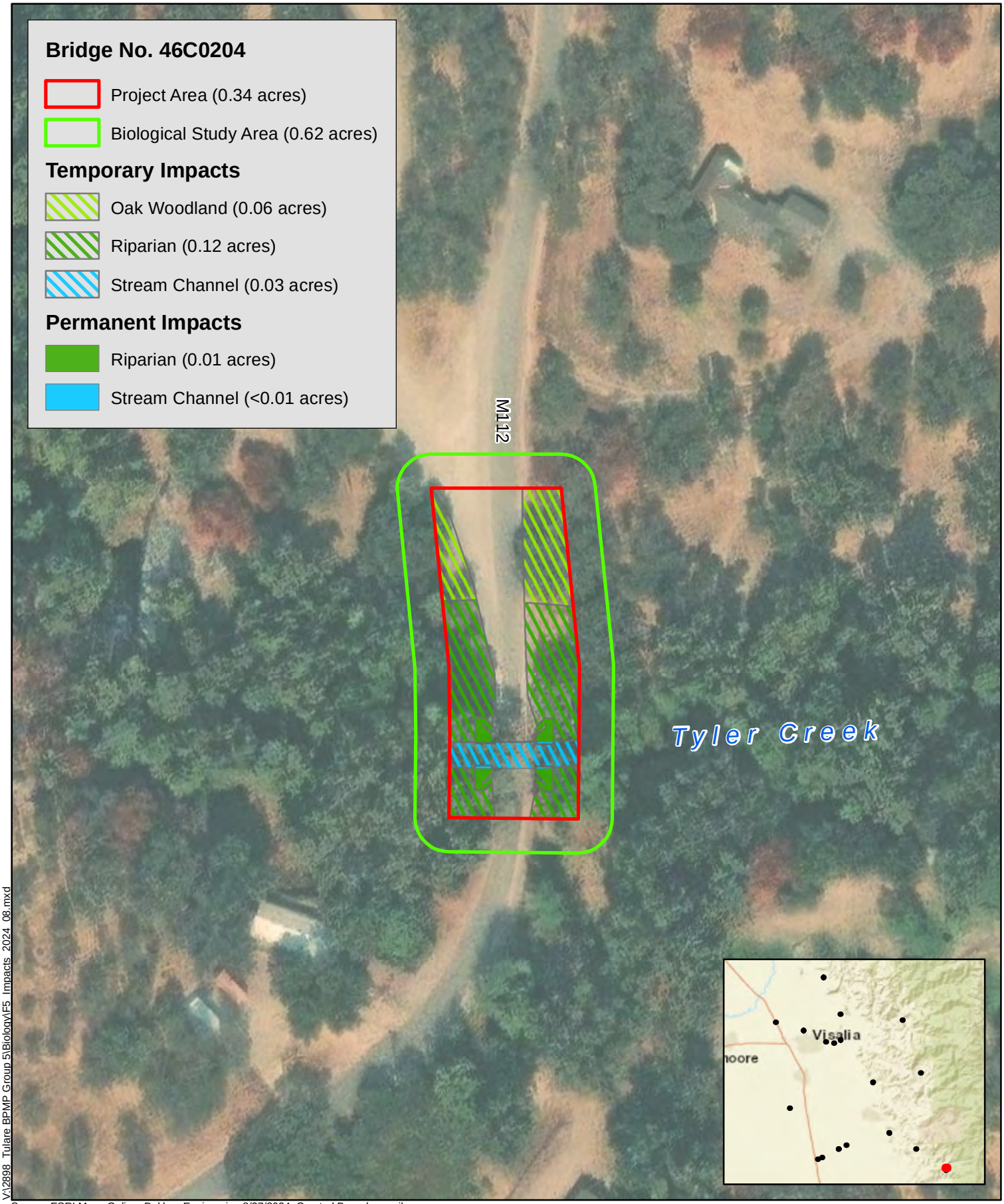
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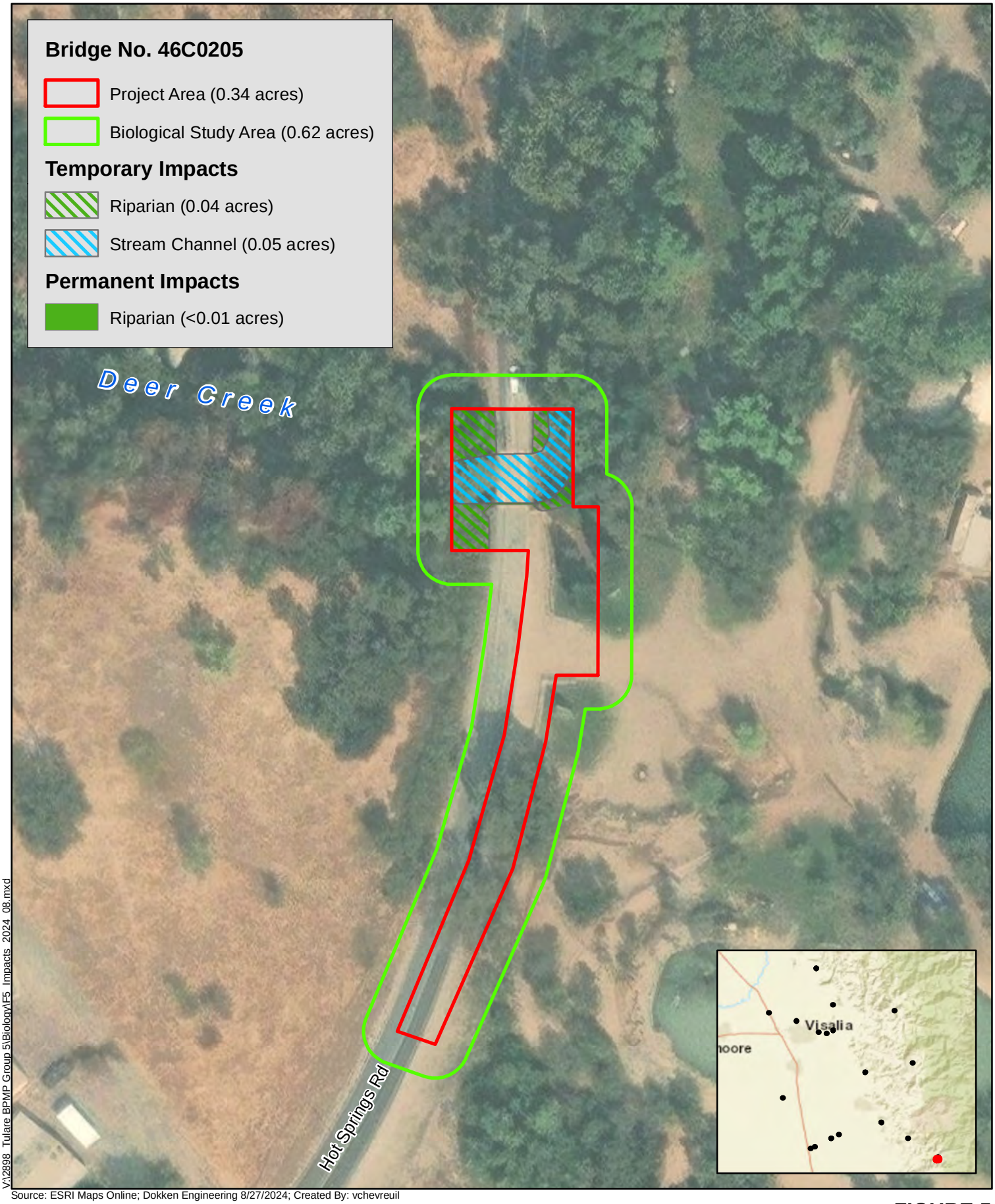
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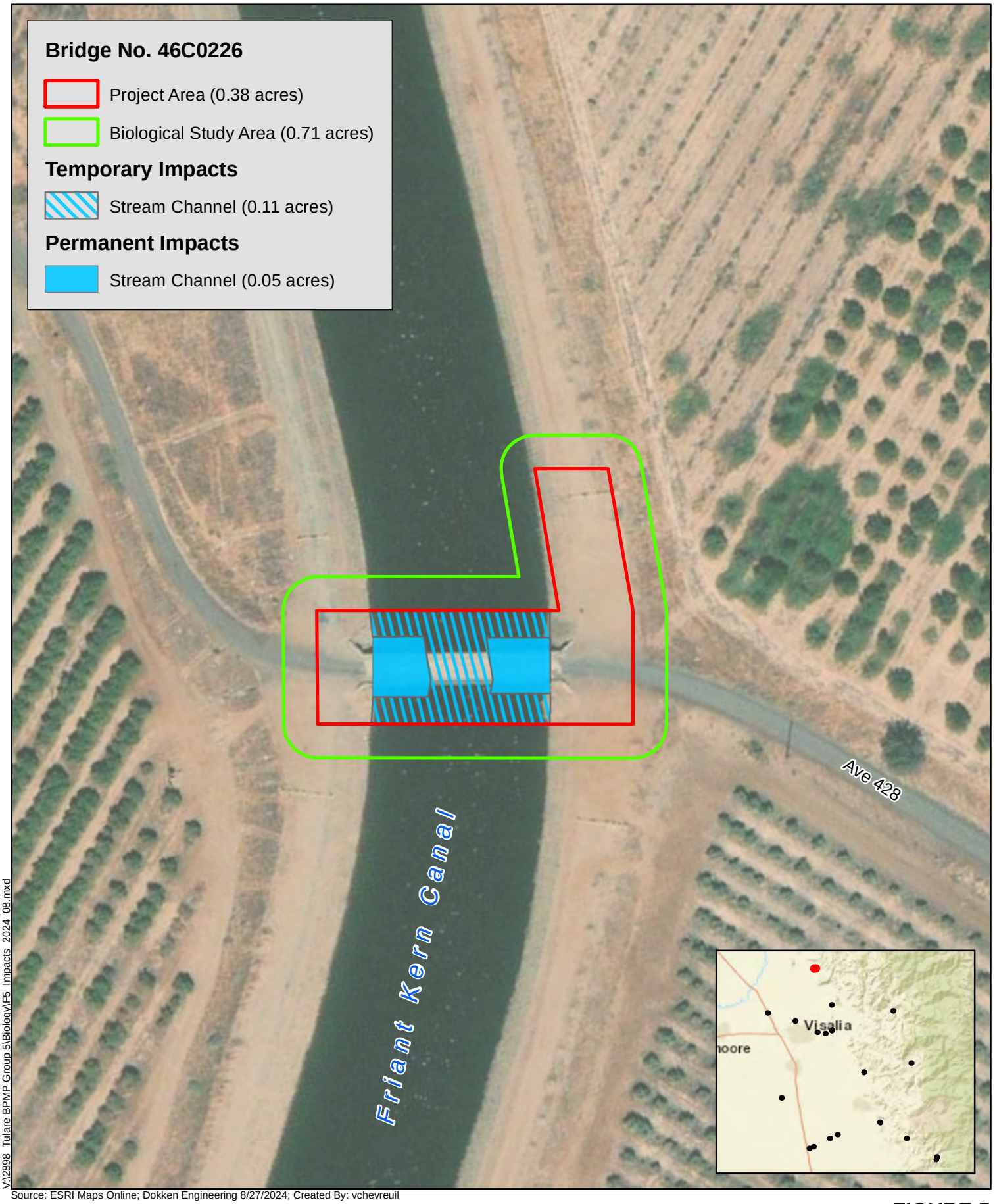
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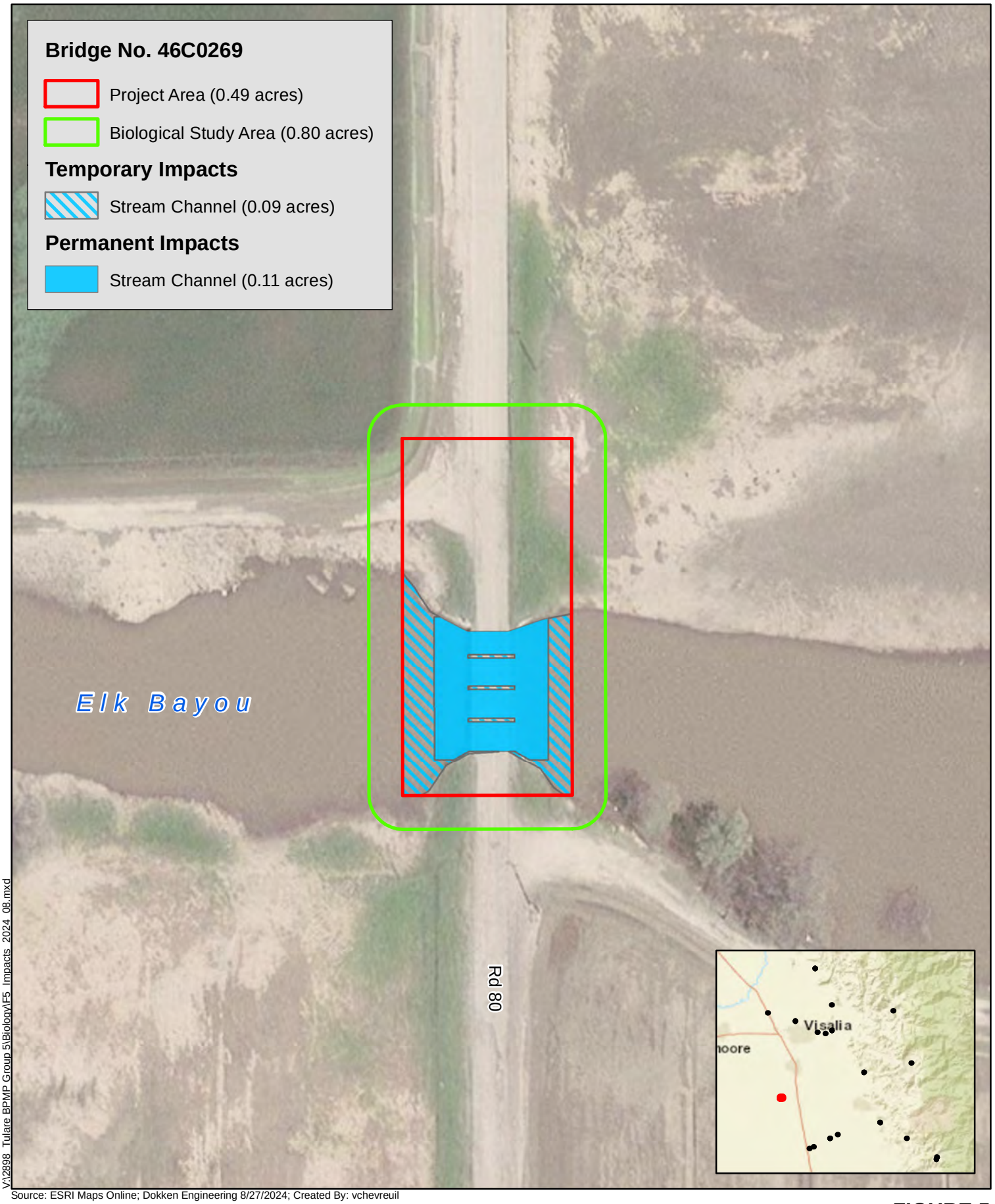
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FIGURE 5
Project Impacts

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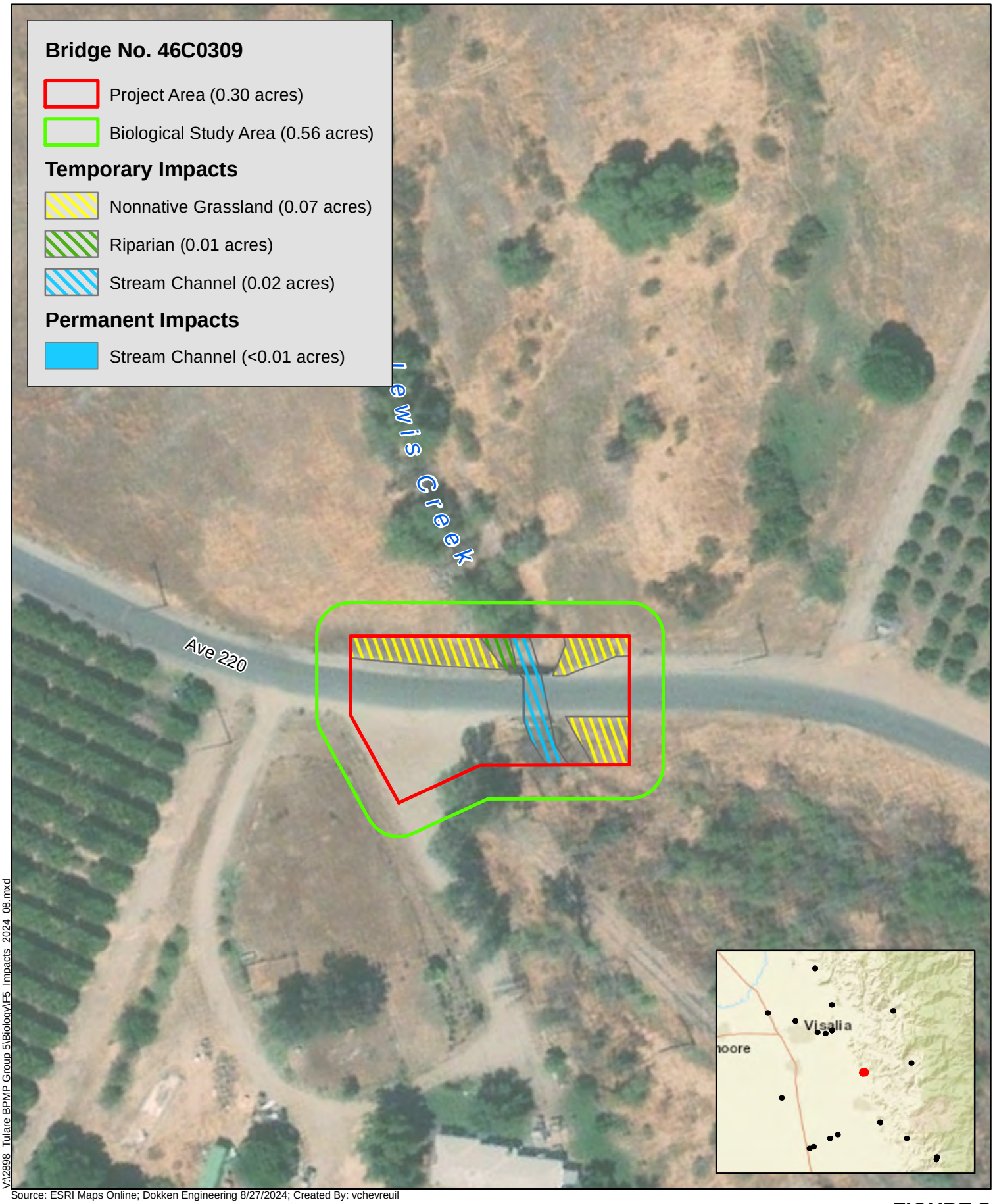
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FIGURE 5
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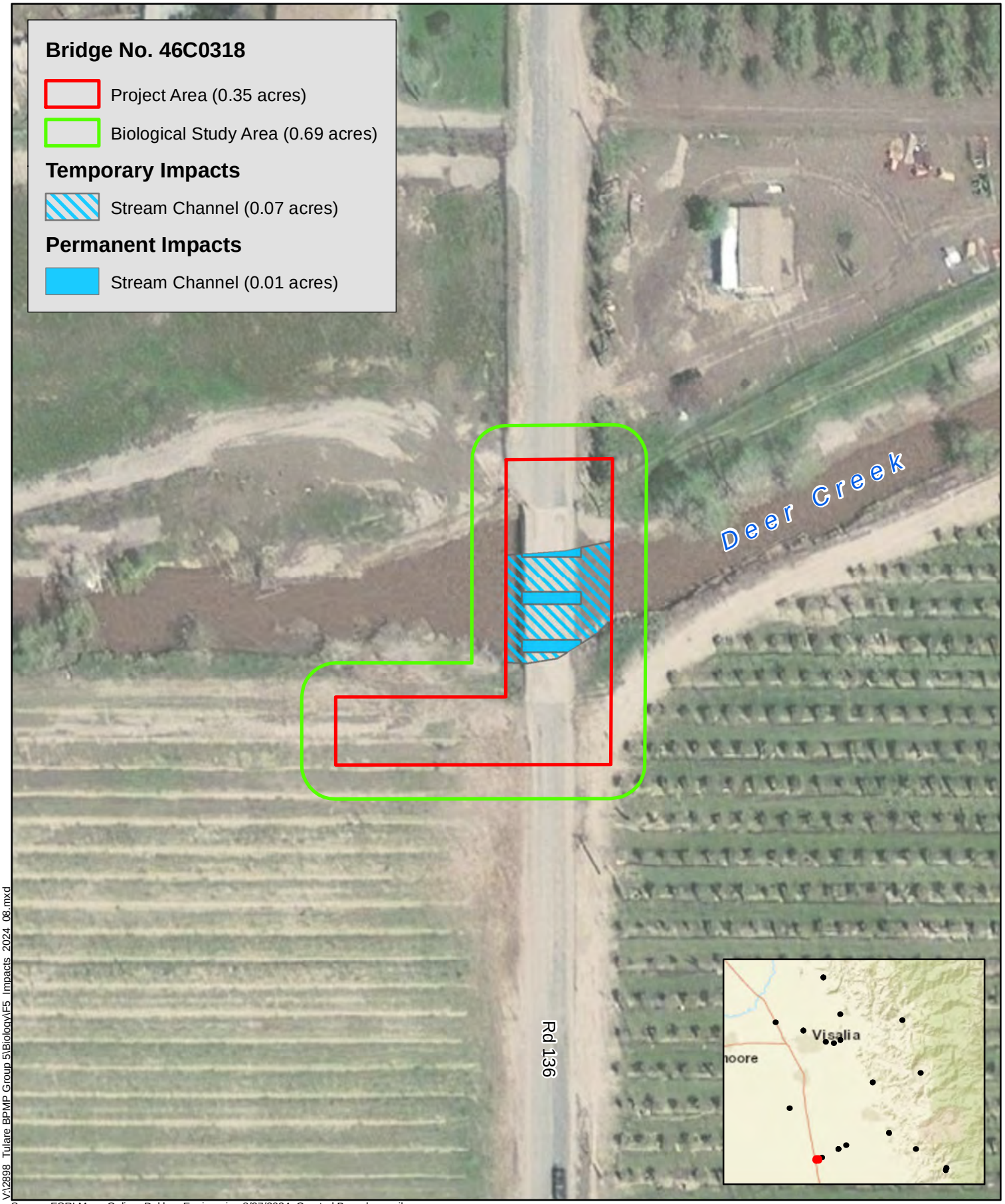
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FIGURE 5
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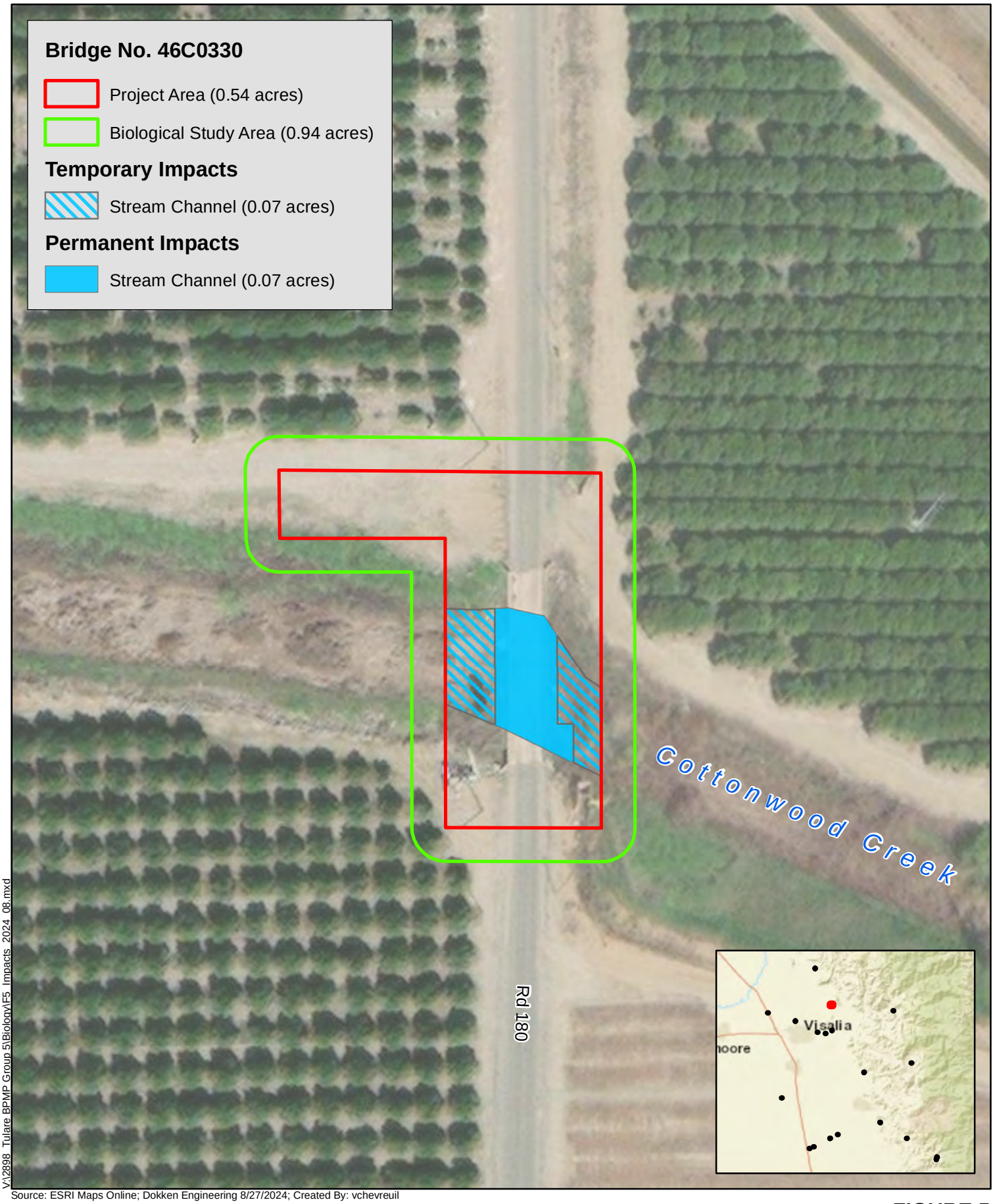
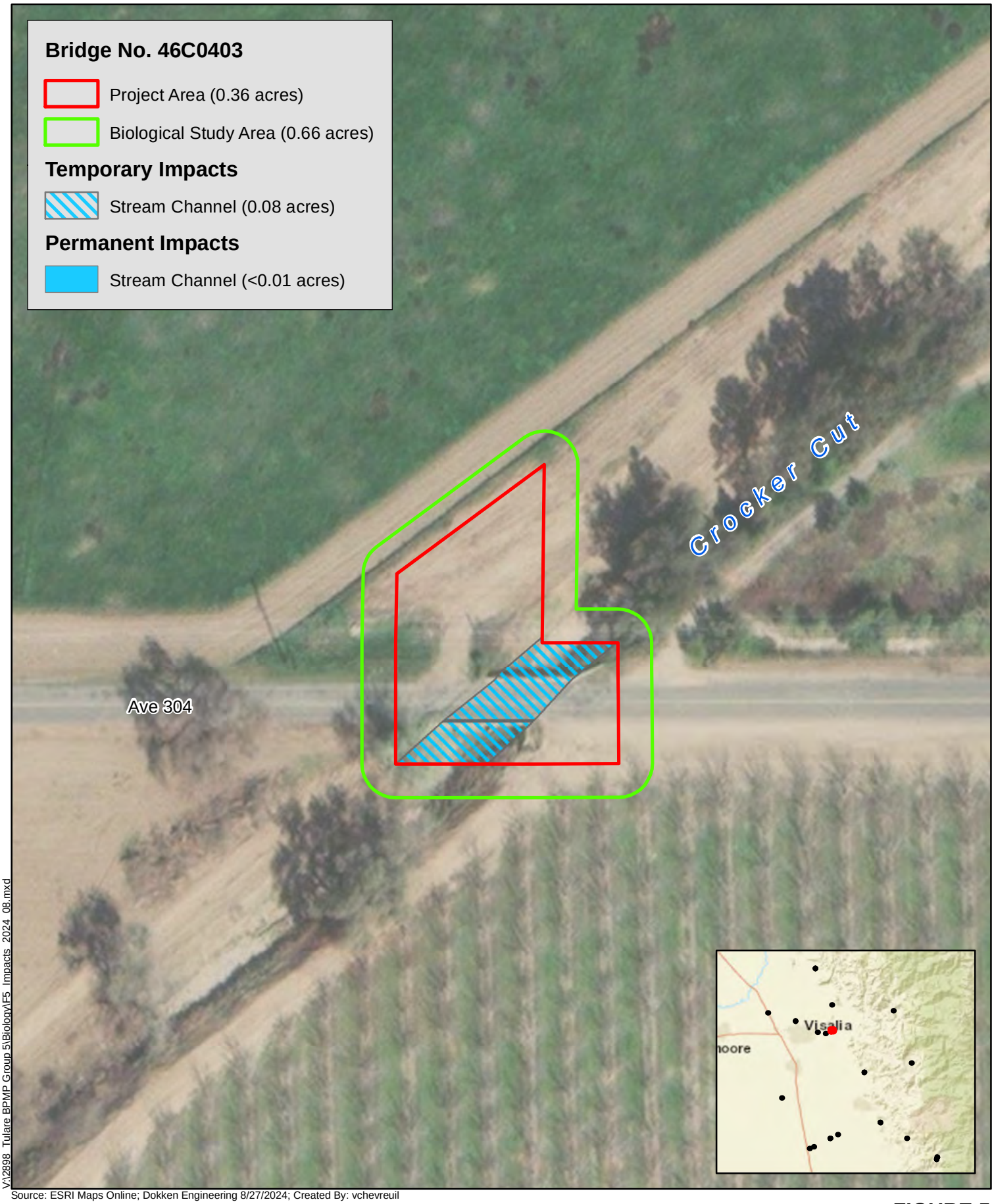


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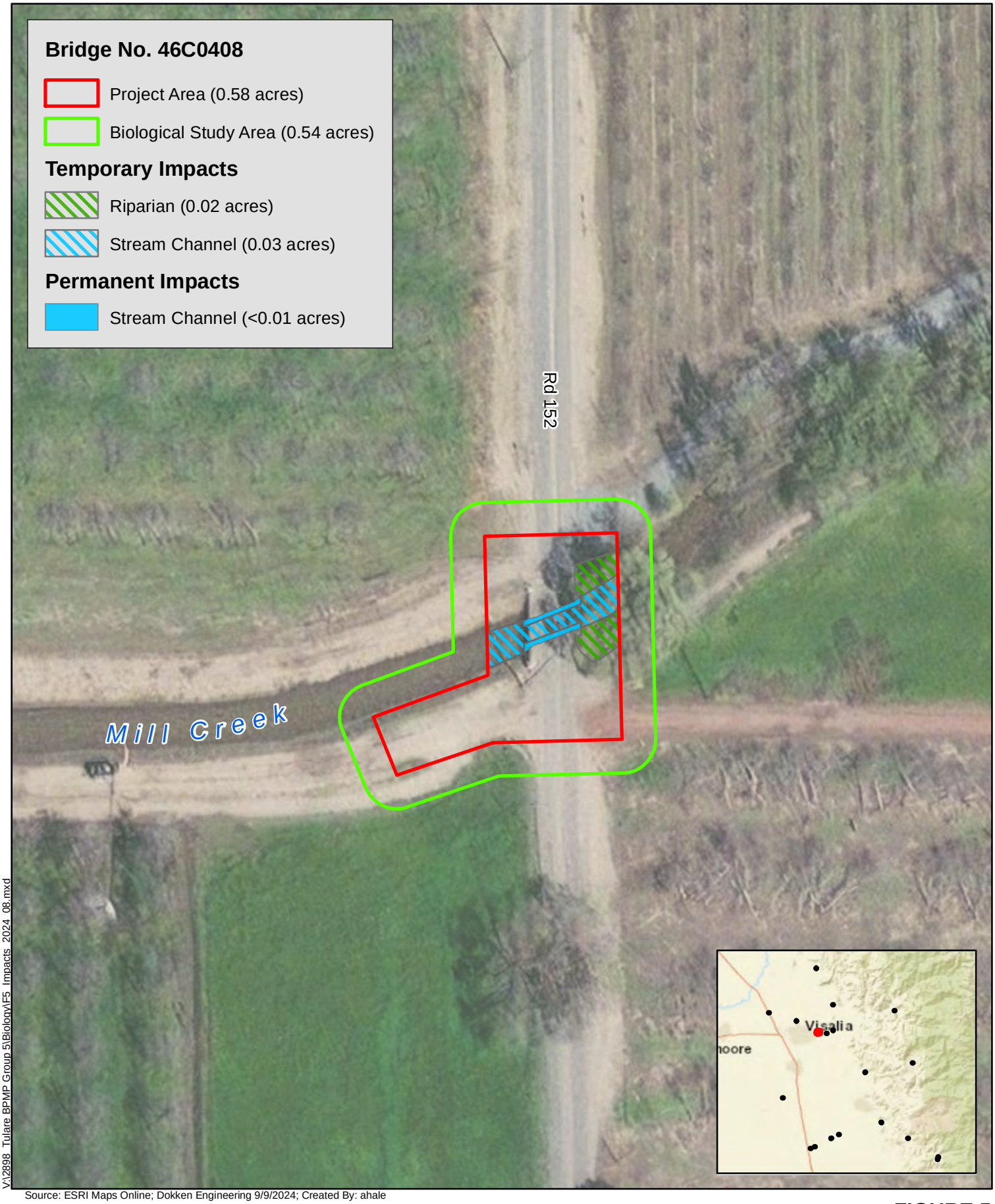


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FIGURE 5
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

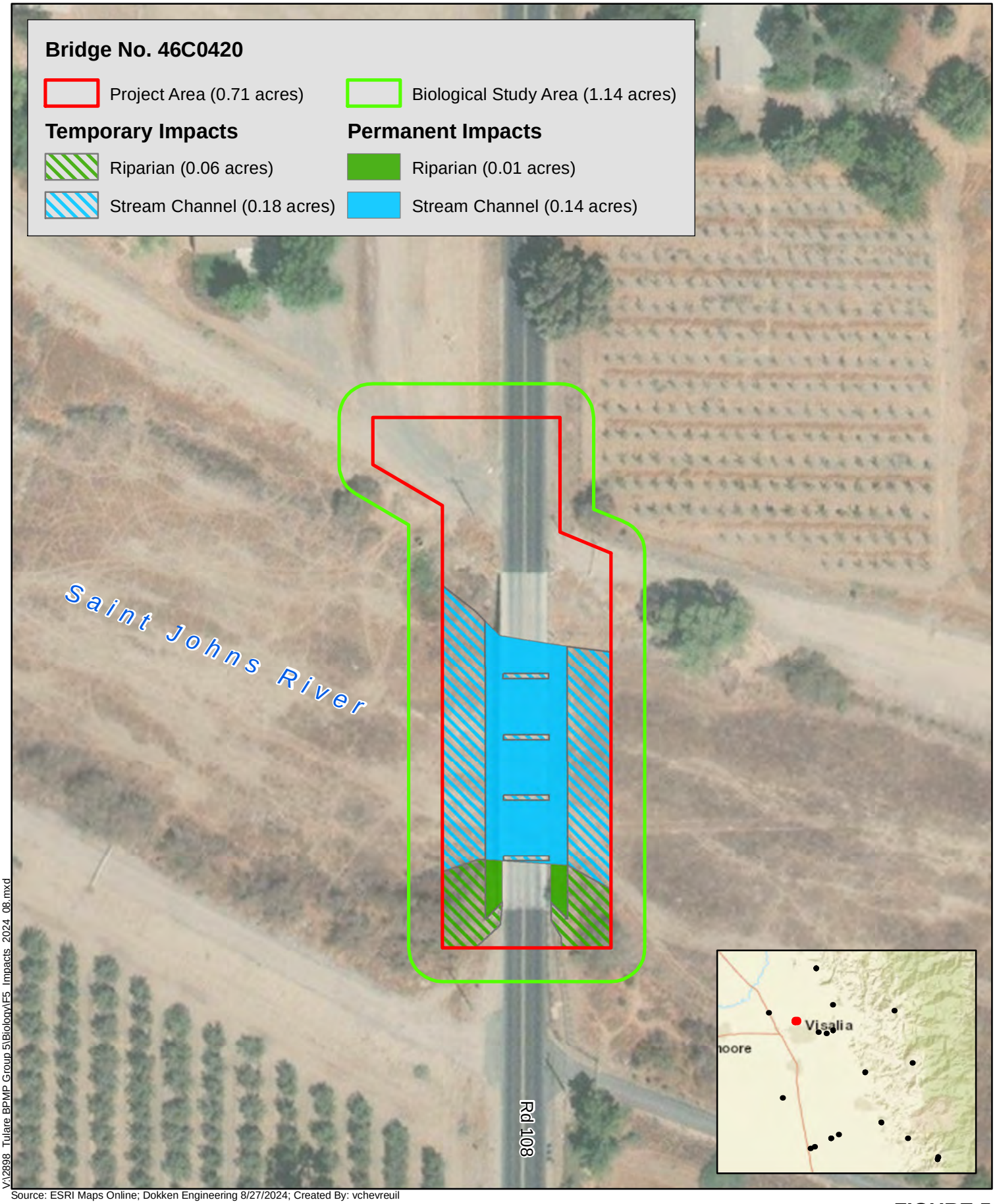


Source: ESRI Maps Online; Dokken Engineering 9/9/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 5
Project Impacts
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Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 5
Project Impacts
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
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Due to the proposed Project impacts to potentially suitable CTS upland habitat, which is located within designated Critical Habitat for the species, informal Section 7 consultation with USFWS was initiated on January 3, 2025. The Project *May Affect, Not Likely to Adversely Affect* CTS and associated CTS Critical Habitat. On April 15, 2025, USFWS agreed with the *Not Likely to Adversely Affect* determination by issuing a letter of concurrence. Given the minor scope of bridge maintenance activities, short construction duration and relatively small impact area, take of CTS is not anticipated, and therefore consultation under FGC Section 2081 would not be required. Project activities would not result in long-term impacts related to habitat suitability for CTS.

Given the minor scope of bridge maintenance activities and short construction duration, take of CTS is not anticipated. With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and species-specific measures **BIO-14** through **BIO-19**, potential impacts to CTS would be reduced to a less than significant level. Species-specific measures include pre-construction surveys, burrow mapping, weather restrictions, exclusion fencing, and daily clearance surveys.

Coast Horned Lizard

The coast horned lizard is a CDFW SSC. This species is historically found in California along the Pacific coast from the Baja California border west of the deserts and the Sierra Nevada, north to the Bay Area, and inland as far north as Shasta Reservoir. The range has now been severely fragmented due to development and agriculture. The species inhabits open areas of sandy soil and low-lying vegetation within grassland, coniferous forests, woodlands, and chaparral habitat communities. Individuals are often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently attracted to ant hills. Coast horned lizards are most active April through July, with breeding occurring April to May and hatchlings emerging August to September. This species is diurnal, displaying active periods during warm weather and retreating underground during extended periods of low temperatures or extreme heat.

Survey Results for Coast Horned Lizard

The following locations contain potentially suitable open and vegetated habitats that may support the species: bridge 46C0058, 46C0059, 46C0087, 46C0202, 46C0269, and 46C0309. The species has a low to moderate potential to occur at these sites due to the presence of potentially suitable habitat features. The species is presumed absent from the other Project locations due to the lack of suitable habitat features.

Project Impacts to Coast Horned Lizard

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and species-specific measure **BIO-20**, which includes a pre-construction survey, potential impacts to coast horned lizard would be reduced to a less than significant level.

Crotch's Bumble Bee

The Crotch bumble bee is a candidate for listing as endangered under CESA. This species is known to occupy grassland, shrubland, and chaparral habitats throughout central California, south to Baja California, and into Mexico. Most observations occur in southern California along coastal areas. Crotch bumble bees nest underground, overwintering in soft, disturbed soil or under leaf litter.

Survey Results for Crotch's Bumble Bee

Potentially suitable grassland habitat for the Crotch bumble bee is present at bridges 46C0309, 46C0087, 46C0204, 46C0205, and 46C0202. These areas are characterized by grasslands surrounded by open, undeveloped land that supports a diverse array of flowering plant species. Additionally, there are recent (2022 and 2024) research-grade iNaturalist occurrences of the species within the Sierra Nevada foothills in the vicinity of the above the referenced bridge locations. Due to the presence of potentially suitable habitat features, the species has a low to moderate potential to occur at these locations. No suitable habitat is present at any other Project location.

Project Impacts to Crotch's Bumble Bee

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, clearing/grubbing and access at the locations identified above. With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and species-specific measure **BIO-21**, which includes a pre-construction survey, potential impacts to Crotch bumble bee would be reduced to a less than significant level. Additionally, with implementation of the species-specific avoidance measures listed above, take of Crotch bumble bee is not anticipated and therefore consultation with CDFW under Section 2081 is not required.

Foothill Yellow-legged Frog–South Sierra DPS

In December of 2019 the CFG Commission made a listing decision under CESA regarding the foothill yellow-legged frog (FYLF). According to the FYLF status review, published by CDFW in September 2019, there are 5 distinct genetic clades of FYLF throughout California. Due to the genetic diversity, geographic isolation and varying threats within the FYLF populations, the listing of the species has been separated by clade. The southwest/south coast clade, west/central coast clade and the east/southern Sierra clade are listed as state endangered under CESA and the northeast/northern Sierra and the Feather River clade are listed as state threatened under CESA. The FYLF population with potential to occur within the BSA is part of the south Sierra clade listed as endangered under CESA.

The FYLF inhabits shallow streams and riffles with rocky substrate and open, sunny banks in a variety of habitats including chaparral and woodland forests, but the vegetation community is likely less important in determining FYLF occupancy.[15] FYLF habitat is characterized by partly shaded, shallow, perennial rivers and streams with a low gradient and rocky substrate that is at least cobble-sized for the species to utilized as basking habitat.[16][17] Tadpoles require water for at least three or four months to complete development. The breeding season typically occurs from late March through May and occurs from elevations near sea level to 6,700 ft.

Survey Results for Foothill Yellow-legged Frog – South Sierra DPS

Potentially suitable aquatic and upland habitat occurs at bridges 46C0204 and 46C0205. According to historic CNDDB occurrences, the species is presumed extirpated from these areas; however, there are recent research-grade iNaturalist occurrences near Johnsondale approximately 11 miles northeast of bridge 46C0204 and bridge 46C0205. However, Johnsondale is about 2,000 feet higher in elevation than the bridge locations and is not hydrologically connected to aquatic resources present within the BSA. Given the presence of potentially suitable habitat, FYLF has a low potential to occur at bridges 46C0204 and 46C0205. No suitable habitat is present at any other Project location.

Project Impacts to Foothill Yellow-legged Frog–South Sierra DPS

The Project will result in temporary and permanent impacts to potentially suitable FYLF aquatic and upland habitat (**Figure 5. Project Impacts**). Temporary impacts may consist of construction access for personnel and equipment, clearing/grubbing, and de-watering and/or installation of a temporary water diversion. The installation of downdrains at the bridge wingwalls at bridge 46C0204 and a cut-off wall at bridge 46C0205 would result in permanent impacts on potentially suitable upland habitat. Between both sites, a total of 0.02 acres of potentially suitable upland habitat would be permanently impacted by these activities (**Table 8**). At bridge 46C0204, the downdrain installation would also result in less than 0.01 acres of permanent aquatic impacts within Tyler Creek (**Table 8**). No permanent impacts on Deer Creek at bridge 46C0205 are expected to occur.

[15] California Department of Fish and Wildlife. 2019. A Status Review of the Foothill Yellow-Legged Frog (Rana boylii) in California.

[16] Zweifel, R. G. 1955. Ecology, distribution, and systematics of frogs of the Rana boylii group. Univ. of California Publ. Zool. 54: 207-292

[17] Hayes, M. P., and M. R. Jennings. 1988. Habitat correlates of distribution of the California redlegged frog (Rana aurora) and the foothill yellow-legged frog (Rana boylii): implications for management. Pages 144-158 in Szaro, R.C., et al., technical coordinators. Management of amphibians, reptiles, and small mammals in North America. USDA For. Serv., Gen. Tech. Rep. RM-166

Table 8. Foothill Yellow-Legged Frog Habitat Impacts[18]

Bridge Number	Impact Type	Area (acres)
46C0204	Temporary	0.15 acres
	Permanent	0.01 acres
46C0205	Temporary	0.09 acres
	Permanent	<0.01 acres
Total	**Temporary**	**0.24**
	Permanent	**0.01**

Due to the proposed Project impacts to potentially suitable FYLF aquatic and upland habitat informal Section 7 consultation with USFWS was initiated on January 3, 2025. The Project *May Affect, Not Likely to Adversely Affect* FYLF. On April 15, 2025, USFWS agreed with the *Not Likely to Adversely Affect* determination by issuing a letter of concurrence. Additionally, given the minor scope of bridge maintenance activities and short construction duration, take of FYLF is not anticipated, and therefore consultation under FGC Section 2081 is not required.

With the implementation of mitigation measures **BIO-1** through **BIO-6**, and species-specific measures **BIO-22** through **BIO-25**, potential impacts to FYLF would be reduced to a less than significant level.

Loggerhead Shrike

The loggerhead shrike is a medium-size carnivorous songbird. The species is a CDFW SSC. Historically, shrikes were found throughout most of California in a variety of open habitats with sparse shrubs or trees for perching, territorial advertisement, and nest construction. The species preys on a variety of small insects, amphibians, reptiles, small mammals and other songbirds. The species is unusual in that it will store larger prey by impaling it on sharp objects (i.e. cactus thorns or barbed wire) for later consumption. According to the North American Breeding Bird Survey, the species has declined on average by 2.9 percent per year between 1966 and 1993, which is a cumulative loss of more than 75 percent. Much of this decline has been attributed to the widespread use of pesticides and habitat loss as suitable open woodland and scrub habitats are converted to agricultural or urban areas.[19]

Survey Results for Loggerhead Shrike

Loggerhead shrikes are generalists that can occur in a variety of habitat types, including those present throughout the BSA's of the proposed bridge maintenance locations. There are also multiple recent eBird sightings within 1-mile of each Project location. Due to the presence of locally suitable habitat as well as the recent observations of the species in the vicinity of the Project, this species has a low to moderate potential to occur at all of the Project locations excluding bridge 46C0226, which lacks vegetative cover.

Project Impacts to Loggerhead Shrike

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and **BIO-8**, potential impacts to loggerhead shrike would be reduced to a less than significant level.

Northern California Legless Lizard

The Northern California legless lizard (*Anniella pulchra*) is considered a CDFW SSC. This species is primarily found in areas comprised of sandy or loose organic soils with plenty of leaf litter for them to burrow, including coastal dune, valley-foothill, chaparral, and coastal scrub habitat communities.[20] The species' range includes the San Joaquin River

[18] Dokken Engineering. NES. Table 9: Foothill Yellow-Legged Frog Habitat Impacts.
[19] Peterjohn, B. G., and J. R. Sauer. 1993. North American Breeding Bird Survey annual summary 1990-1991. Bird Populations 1:1-15.
[20] Zeiner. Op. Cit.

south through Santa Barbara County, with scattered populations along the southern Sierra Nevada and eastern Tehachapi Mountain ranges.[21] Individuals forage for small insects near the base of shrubs or other vegetation, and often seek refuge beneath surface objects such as rocks or branches.

Survey Results for Northern California Legless Lizard

The following bridge sites contain potentially suitable habitat for Northern California legless lizard: bridges 46C0058, 46C0059, 46C0087, 46C0202, 46C0269, and 46C0309. The species has a low to moderate potential to occur due to the presence of locally suitable habitat features, such as sandy soils and open grassland habitat. The species is presumed absent from the other Project locations due to the lack of suitable habitat features.

Project Impacts to Northern California Legless Lizard

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and species-specific measure **BIO-20**, which includes pre-construction surveys, potential impacts to Northern California legless lizard would be reduced to a less than significant level.

Northwestern Pond Turtle

The northwestern pond turtle (NWPT) is considered a CDFW SSC and is proposed threatened under FESA. The NWPT is prevalent all throughout California west of the Sierra-Cascade crest and certain desert regions. Individuals are subject to desiccation in hot or dry conditions, meaning this species is found around permanent and near-permanent water sources such as ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Individuals are omnivorous and feed on aquatic plants as well as invertebrates, frogs, and fishes. Predators include certain fishes, garter snakes, wading birds, and some mammals. The NWPT retreats from basking sites to underwater refuges at the sign of danger. This species is known to hibernate underwater beneath a muddy bottom in colder climates, or under moist vegetation/leaf litter and reproduce from March to August. Nests are generally found in flat areas with low vegetation and dry, hard soil.[22]

Survey Results for Northwestern Pond Turtle

Potentially suitable stream channel habitat for NWPT, including suitable basking and breeding habitat within or adjacent to bridge maintenance activities is present at the following locations: bridges 46C0087, 46C0204, and 46C0205. In addition, there are recent (2022 and 2023) research-grade iNaturalist observations of this species within the vicinity of bridges 46C0204 and 46C0205. Within Tulare County, recent NWPT occurrences are concentrated in the foothills and higher elevations. Due to the presence of locally suitable habitat features as well as the recent local occurrences, the species is presumed to have a low potential to occur at these bridge maintenance locations. The species is presumed absent from the remaining Project locations due to the absence of permanent, semi-permanent aquatic habitat, and/or suitable upland habitat that is necessary to support this species.

Project Impacts to Northwestern Pond Turtle

The Project will result in temporary and permanent impacts to potentially suitable NWPT aquatic and upland habitat (**Figure 5. Project Impacts**). **Table 9** below includes impacts to both riparian and stream channel habitat. Temporary impacts may consist of construction access for personnel and equipment, clearing/grubbing, and de-watering and/or installation of a temporary water diversion. Permanent impacts on potentially suitable upland habitat would result from the placement of partially grouted RSP along the channel at bridge 46C0087; the installation of downdrains at the bridge wingwalls at bridge 46C0204; and the installation of a cut-off wall at bridge 46C205. Permanent impacts on potentially suitable aquatic habitat would result from the installation of cut-off walls and partially grouted RSP at bridge 46C0087 and the installation of a downdrain at bridge 46C0204. No permanent

[21] Nafis. Op. Cit.
[22] Zeiner. Op. Cit.

impacts on Deer Creek at bridge 46C0205 are expected to occur. The total extent of expected permanent impacts on potentially suitable aquatic habitat is approximately 0.1 acres.

Table 9. Northwestern Pond Turtle Habitat Impacts[23]

Bridge Number	Impact Type	Area (acres)
46C0087	Temporary	0.20
	Permanent	0.12
46C0204	Temporary	0.15
	Permanent	0.01
46C0205	Temporary	0.09
	Permanent	0.01
Total	**Temporary**	**0.44**
	Permanent	**0.14**

Given that NWPT is proposed to be listed under the FESA, Section 7 consultation will be required with USFWS upon official listing of the species. Though no determination will be made for purposes of Section 7 consultation at this time, once officially listed under FESA, the determination for NWPT is proposed to be *May Affect, Not Likely to Adversely Affect* due to the short duration of construction at each bridge maintenance site.

Given the minor scope of bridge maintenance activities and short construction duration, take of NWPT is not anticipated. With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and species-specific measures **BIO-31**, which includes a pre-construction clearance survey, potential impacts to NWPT would be reduced to a less than significant level.

Pallid Bat

The pallid bat (*Antrozous pallidus*) is considered a CDFW SSC. The pallid bat is locally common to a variety of habitats throughout California, including grasslands, shrublands, and woodlands; however, the species prefers dry, open areas for foraging and roosting. Pallid bats are social and roost in groups of at least 20, which may include bats of other species. Colonies are usually found in rocky crevices, caves, and mines, but are also known to roost in hollow trees and on buildings.[24] Additionally, studies have concluded that colonies may use living or dead trees, specifically snags, for roosting. Pallid bats primarily feed on large-bodied insects and can forage up to 3 miles from their roosting site. Pallid bats are nocturnal and are highly susceptible to disturbance when roosting.[25]

Survey Results for Pallid Bat

Bridges 46C0202, 46C0204, and 46C0205 fall within suitable woodland habitat near open, rocky areas that may support roosting habitat for this species. Although the bridges lack crevices suitable for roosting, there is a low potential for this species to utilize adjacent trees as day roosts. Due to the lack of locally suitable habitat features, there is a low potential for the species to occur at these Project locations. The species is presumed absent at all other locations due to the lack of locally suitable habitat features.

Project Impacts to Pallid Bat

If pallid bats are roosting near the bridge locations during construction, temporary disturbances may include construction-related noise and presence/staging of equipment. However, given the short-term nature of these activities it is not anticipated that these would result in the abandonment of a bat maternity colony. The Project is not anticipated to result in direct impacts to potentially suitable roosting habitat for pallid bat maternity colonies given that tree removal will not be required to complete bridge maintenance activities. With the implementation

[23] Dokken Engineering. NES. Table 10: Western Pond Turtle Habitat Impacts.
[24] Ibid.
[25] Ibid.

of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and species-specific measure **BIO-26**, potential impacts to roosting bats would be reduced to a less than significant level.

San Joaquin Coachwhip

The San Joaquin coachwhip (*Masticophis flagellum ruddocki*) is considered a CDFW SSC. A subspecies to the widely occurring coachwhip (*Masticophis flagellum*), this species is endemic to California, ranging from Alameda County south along the South Coast Ranges and into the San Joaquin Valley. This snake occurs in open, dry, treeless areas with little to no cover, including valley grassland and saltbush scrub habitat communities. Individuals prefer and tolerate warmer temperatures, emerging from winter burrows between April and May. Their high speed allows them to run down fast-moving reptiles, as well as small mammals, birds, and amphibians. The San Joaquin coachwhip is threatened by the extensive habitat loss and fragmentation due to the conversion of much of its restricted range to agricultural use. In addition, these snakes are susceptible to vehicle strikes due their habit of basking on roads and eating roadkill.[26]

Survey Results for San Joaquin Coachwhip

Bridges 46C0058 and 46C0059 encompass open, dry grassland habitat and occur within the anticipated range of this species. Due to the presence of potentially suitable habitat features, the species has a low potential to occur at these locations. No suitable habitat is present at any other Project location.

Project Impacts to San Joaquin Coachwhip

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and species-specific measure **BIO-27**, which includes a pre-construction survey, potential impacts to San Joaquin coachwhip would be reduced to a less than significant level.

San Joaquin Kit Fox

The San Joaquin kit fox (SJKF) is a nonmigratory fox that is state threatened and federally listed as endangered. This species inhabits annual grasslands or other open areas with scattered vegetation and requires loose-textured soils for burrowing. SJKF construct their own dens, but may also modify burrows constructed by other animals, such as California ground squirrels (*Otospermophilus beecheyi*) and coyotes (*Canis latrans*). They also den in human-made structures, such as culverts and abandoned pipes. Pups are born in dens excavated in open, level areas with loose-textured soils. SJKF play important roles in their respective ecosystems as "architects of subterranean burrows", which in turn provide cover for many of the species. SJKF are vulnerable to many human activities such as hunting, use of rodenticides and other poisons, off-road vehicles, and trapping.

Survey Results for San Joaquin Kit Fox

Bridge 46C0309 contains potentially suitable SJKF habitat with open, level grassland communities with scattered vegetation. In addition, there are numerous historic (1975) CNDDB occurrences of this species located near the bridge site. The species is presumed absent from the other Project locations due to the lack of contiguous open grasslands with scattered shrubs that could support this species.

Project Impacts to San Joaquin Kit Fox

The Project will result in temporary impacts to grassland habitat within the known range of SJKF. Temporary impacts may include staging, grading, and access at Bridge 46C0309. No permanent impacts to upland areas are anticipated at this bridge site. Given the Project largely encompasses the existing roadway and immediately surrounding environment there is an extremely low likelihood of encountering a SJKF den or SJKF individual within 200 feet of the Project site during construction. Therefore, the Project is anticipated to have *No Effect* on SJKF and Section 7 consultation with USFWS is not required.

[26] Nafis. Op. Cit.

With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and species-specific measures **BIO-28** and **BIO-29**, including a pre-construction survey for active SJKF dens, potential impacts to SJKF would be reduced to a less than significant level.

Swainson's Hawk

The Swainson's hawk (SHWA) is state listed as threatened. SWHA migrates annually from wintering areas in South America to breeding locations in northwestern Canada, the western U.S., and Mexico. In California, SWHA nest throughout the Sacramento and San Joaquin Valley in large trees in riparian habitats and in isolated trees in or adjacent to agricultural fields. The breeding season extends from late March through late August, with peak activity from late May through July.[27] SWHA forage in large, open agricultural habitats, including alfalfa and hay fields. The breeding population in California has declined by an estimated 91% since 1900; this decline is attributed to the loss of riparian nesting habitats and the conversion of native grassland and woodland habitats to agriculture and urban development.[28]

Survey Results for Swainson's Hawk

There are numerous recent CNDDB occurrences of this species located throughout the San Joaquin Valley in the vicinity of the Project locations. Swainson's hawk potential of occurrence was determined based on presence of potentially suitable nesting habitat within, adjacent or nearby the bridge maintenance locations. Swainson's hawk has a low to moderate potential to occur at the following Project locations due to the presence of locally suitable habitat features: bridges 46C0036, 46C0108, 46C0309, 46C0318, 46C0403, 46C0408, 46C0087, 46C0106, 46C0269, and 46C0420. Additionally, Swainson's hawk was observed at bridges 46C0058 and 46C0059 during biological surveys. The species was observed landing in a large eucalyptus stand, approximately 500 feet southeast from these locations. The eucalyptus stand is in between the north-bound and south-bound lanes on State Route 99 and is within a highly disturbed setting.

The following locations, including bridges 46C0202, 46C0204, and 46C0205 fall within the Sierra Nevada foothills, outside the anticipated range of this species. In addition, bridge 46C0226, and 46C0330 lack large and/or mature trees that would be suitable for nesting. As such, SWHA are presumed absent from these Project locations.

Project Impacts to Swainson's Hawk

Tree removal is not proposed at any of the bridge locations, and therefore removal of potentially suitable SWHA nesting habitat is not anticipated. However, construction may result in minor temporary disturbance to SWHA that may be flying and/or foraging in the area. Short-term disturbances may include noise from construction and/or presence of personnel and equipment. With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, **BIO-8**, and species-specific measures **BIO-30**, (which includes establishment of a no-work buffer and biological monitoring for any active SWHA nests) take of SWHA would be avoided and consultation with CDFW under Section 2081 is not required. Therefore, potential impacts to SWHA would be reduced to a less than significant level with mitigation measures incorporated.

Western Spadefoot

The western spadefoot is proposed threatened under FESA and is a CDFW SSC. The species occurs primarily in grasslands habitats throughout the Central Valley and along the coast of southern California. Adults spend most of their lifecycle in underground burrows made by small mammals but may also create their own burrows. Rainfall is important in the formation and maintenance of shallow, temporary ponds that western spadefoot use for breeding

[27] England, A. S., M. J. Bechard, and C. S. Houston. 1997. Swainson's Hawk (Buteo swainsoni). In The Birds of North America, No. 265 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA, and The American Ornithologists' Union, Washington, D.C.

[28] California Department of Fish and Wildlife. 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California.

following heavy winter rains. The species may also utilize isolated ponding water in drying ephemeral stream channels or roadside ruts. During this season, females can lay over 500 eggs and resulting tadpoles may be heavily predated by wading birds.[29]

Survey Results for Western Spadefoot

Although isolated pockets of ponding water were not observed during biological surveys efforts, western spadefoot breeding habitat may change on a yearly basis depending on rainfall, changes in channel morphology, and rate of water evaporation. Therefore, ephemeral stream channel habitat, at the locations listed below, may provide potentially suitable breeding habitat for the species in some years.

Although the species has not been documented at any of the Project locations, based on the species most recent distribution within the Tulare Basin there is a low to moderate potential for species occurrence at the following locations: bridges 46C0058, 46C0059, 46C0106, 46C0108, 46C0269, 46C0309, 46C0318, 46C0330. There are multiple recent (2022–2023) research-grade iNaturalist occurrences of the species throughout the Tulare Basin within proximity to the sites listed above. Although none of these sites contain vernal pool habitat, the species has been documented breeding in roadside ruts and ponding areas within ephemeral stream channel habitat.

Project Impacts to Western Spadefoot

If ponding water is present at the Project sites during construction, Project activities could result in temporary impacts to potentially suitable western spadefoot breeding habitat. For stream channel impacts at these locations refer to **Figure 5. Project Impacts**. Temporary impacts to stream channel habitat at these locations may include de-watering or installation of a temporary water diversion, as well as in-channel access for construction equipment and personnel. Permanent impacts would result from installation of partially grouted RSP, channel lining reconstruction, and the installation of cut-off walls at the bridge sites.

Given that western spadefoot is proposed to be listed under the FESA, Section 7 consultation will be required with USFWS upon official listing of the species. Though no determination will be made for purposes of Section 7 consultation at this time, once officially listed under FESA, the determination for western spadefoot is proposed to be *May Affect, Not Likely to Adversely Affect* given the minor scope of bridge maintenance activities, short construction duration, and with implementation of species-specific mitigation measures listed below.

With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and species-specific measures **BIO-32 through BIO-35**, which include pre-construction clearance surveys, monitoring of de-watering and/or water diversion installations and weather restrictions, potential impacts to western spadefoot would be reduced to a less than significant level.

In summary, with the implementation of measures **BIO-1 through BIO-35**, impacts to special-status species will be reduced to a less than significant with mitigation incorporated.

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

Less Than Significant with Mitigation. As discussed above, there is USFWS-designated Critical Habitat for CTS overlaps with two locations in the BSA (bridge 46C0058 and bridge 46C0059). In addition, two sensitive natural communities are present within the BSA: stream channel and riparian habitat. With the exception of Deer Creek and Tyler Creek, all stream channel habitat within the BSA is considered a Water of the State and Water of the U.S. subject to permitting through FGC Section 1600, and Section 401 and 404 of the CWA. Lastly, 10 of the 17 bridge

[29] Zeiner. Op. Cit.

locations contain riparian habitat, which is a natural community of special concern under the jurisdiction of CDFW pursuant to FGC Section 1600 and may be subject to permitting under Section 401.

The following is a discussion on each sensitive natural community, potential impacts, and mitigation measures, that when incorporated, will reduce impacts to a less than significant level.

California Tiger Salamander Critical Habitat

Approximately 1.55 acres of the BSA of CTS critical habitat overlap with the BSA at bridges 46C0058 and 46C0059. Of this total, about 0.71 acres, consisting of ruderal vegetation and non-native grassland, offer potentially suitable upland burrowing and/or dispersal habitat.

Survey Results for California Tiger Salamander Critical Habitat

During biological surveys, small mammal burrows were identified in the adjacent grasslands, which could provide refugia for CTS. While potentially suitable breeding habitat is not present at the bridge locations themselves, it does occur within a 1-mile radius of the Project area.

Project Impacts to California Tiger Salamander Critical Habitat

The Project will result in approximately 0.14 acres of temporary impacts to potentially suitable CTS upland habitat due to equipment and personnel access at bridges 46C0058 and 46C0059. In addition, installation of RSP adjacent to the existing bridges will result in approximately 0.03 acres of permanent impacts to potentially suitable CTS upland habitat (**Figure 5. Project Impacts**). At these bridge locations RSP would be installed on top of the channel banks to prevent erosion. However, installation of RSP is not anticipated to severely degrade or decrease the quantity or quality of potentially suitable CTS upland habitat nor would it result in long-term impacts to CTS movement.

Due to the proposed Project impacts to potentially suitable CTS upland habitat, which is located within designated Critical Habitat for the species, informal Section 7 consultation with USFWS was initiated on January 3, 2025. The Project *May Affect, Not Likely to Adversely Affect* CTS and associated CTS Critical Habitat. On April 15, 2025, USFWS agreed with the *Not Likely to Adversely Affect* determination by issuing a letter of concurrence. Given the minor scope of bridge maintenance activities and short construction duration, take of CTS is not anticipated and; therefore, consultation under FGC Section 2081 is not required. Project activities would not result in long-term impacts related to habitat suitability for CTS.

With the implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-5**, and species-specific mitigation measures **BIO-14** through **BIO-19** which include pre-construction surveys, burrow mapping, weather restrictions, exclusion fencing, and daily clearance surveys, potential impacts to CTS would be reduced to a less than significant level.

Stream Channel Habitat

The 17 proposed bridge maintenance locations include ten different aquatic features throughout Tulare County (**Table 10. Jurisdictional Waters within the BSA**). Within the San Joaquin Valley, the stream channels that intersect the BSA primarily service adjacent agricultural communities; as such, these water ways have been channelized and intermittently flow for portions of the year. A notable exception is the Friant Kern Canal (bridge 46C0226), which is a perennial waterbody that flows year-round. Stream channels within the valley are highly disturbed due to adjacent agricultural development. Within the Sierra Nevada foothills, stream channels do not exhibit signs of human disturbance and include dense riparian corridors. Stream channel habitat comprises approximately 3.01 acres of the BSA.

Table 10. Jurisdictional Waters within the BSA[30]

Bridge Number	Aquatic Feature	CVFPB Jurisdiction	Water of the State[1]	Water of the U.S.[2]	Acres
46C0036	TID Canal/Crocker Cut	No	Yes	Yes	0.13 acres
46C0058	Cross Creek	Yes	Yes	Yes	0.28 acres
46C0059	Cross Creek	Yes	Yes	Yes	0.25 acres
46C0087	Deer Creek	No	Yes	No	0.18 acres
46C0106	Deer Creek	No	Yes	No	0.20 acres
46C0108	Deer Creek	No	Yes	No	0.09 acres
46C0202	Deer Creek	No	Yes	No	0.09 acres
46C0204	Tyler Creek	No	Yes	No	0.04 acres
46C0205	Deer Creek	No	Yes	No	0.07 acres
46C0226	Friant Kern Canal	No	Yes	Yes	0.30 acres
46C0269	Elk Bayou	Yes	Yes	Yes	0.33 acres
46C0309	Lewis Creek	No	Yes	Yes	0.04 acres
46C0318	Deer Creek	No	Yes	No	0.13 acres
46C0330	Cottonwood Creek	Yes	Yes	Yes	0.19 acres
46C0403	TID Canal/Crocker Cut	No	Yes	Yes	0.13 acres
46C0408	Mill Creek	No	Yes	Yes	0.08 acres
46C0420	Saint Johns River	Yes	Yes	Yes	0.48 acres
Total					**3.01 acres**

[1] Permits through CDFW and RWQCB.
[2] Permit coverage through USACE.

Survey Results for Stream Channel Habitat

Surveys of potential jurisdictional waters were confirmed using aerial imagery and field verification, and followed the guidelines provided in the USACE *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States.*[31]

Deer Creek

Deer Creek is an ephemeral channel system and occurs at six (6) of the proposed bridge maintenance locations. Deer Creek originates in the Sequoia National Forest in the southern portion of the County and terminates at the bank of Homeland Canal, located approximately 49 miles west, and just north of the town of Alpaugh. This water body is not considered a Water of the U.S. given the lack of a hydrologic connection to a traditional navigable water and/or a nexus to interstate commerce.

TID Canal/Crocker Cut

TID Canal/Crocker Cut occurs at bridges 46C0036 and 46C0403 and is a channelized ephemeral feature. TID Canal/Crocker Cut connects to Kaweah River approximately 0.61 river miles upstream of bridge 46C0403.TID Canal/Crocker Cut is considered a Water of the State and a Water of the U.S.

Cross Creek

Cross Creek occurs at bridges 46C0059 and Bridge 46C0059. Cross Creek is an ephemeral tributary of the St. John's River, which is a tributary of the Kaweah River. Cross Creek is considered a Water of the State and a Water of the U.S.

Tyler Creek

Tyler Creek occurs at bridge 46C0204. Tyler Creek originates in the Sierra Nevada foothills and is a tributary to Deer Creek. The confluence of Tyler Creek and Deer Creek is located approximately 0.45 miles downstream of bridge 46C0204. Tyler Creek is a Water of the State but is not a Water of the U.S. since it's feeds into Deer Creek, which terminates in the Central Valley and does not have a nexus to another Water of the U.S.

Friant Kern Canal

[30] Dokken Engineering. NES. Table 3: Jurisdictional Waters within the BSA.
[31] Livchar. Op. Cit.

The Friant Kern Canal occurs at bridge 46C0226. The Friant Kern Canal is approximately 150 miles long and was constructed by Bureau of Reclamation in 1945-1951. The main purpose of the concrete-lined canal is to supply and deliver water for irrigation purposes. The Friant Kern Canal contains water year-round and is therefore considered perennial. Friant Kern Canal is considered a Water of the State and a Water of the U.S.

Elk Bayou

The Elk Bayou occurs at bridge 46C0269. Elk Bayou is an ephemeral river system and a tributary to the Tule River. The Elk Bayou and Tule River confluence is approximately 2.93 miles downstream from #46C0269. The Elk Bayou is considered a Water of the State and a Water of the U.S.

Lewis Creek

Lewis Creek occurs at bridge 46C0309. Lewis Creek is an ephemeral channel originating in the Sierra Nevada foothills. At lower elevations in the Central Valley Lewis Creek intersects with the Friant Kern Canal and passes through a series of channelized canals and underground systems. Given the potential hydrologic connectivity to Friant Kern Canal, Lewis Creek is considered a Water of the State and a Water of the U.S.

Cottonwood Creek

Cottonwood Creek occurs at bridge 46C0330. Cottonwood Creek is a natural ephemeral channel originating in the Sierra Nevada foothills northeast of Auckland and becomes channelized in the Central Valley eventually connecting to Cross Creek approximately 13.3 miles downstream of bridge 46C0330. Cottonwood Creek is considered a Water of the State and a Water of the U.S.

Mill Creek

Mill Creek occurs at bridge 46C0408. Mill Creek is a downstream tributary of the Kaweah River, the confluence is located approximately 0.59 miles upstream of bridge #46C0408. Mill Creek is an ephemeral channelized feature passing through urban areas and eventually entering underground system. Mill Creek is considered a Water of the State and a Water of the U.S., given its connectivity to Kaweah River.

Saint Johns River

The Saint Johns River occurs at bridge 46C0420. Saint Johns River is an ephemeral system and primarily serves to irrigate farmland and flood the Tulare Lake Basin. The Saint Johns River is considered a Water of the State and a Water of the U.S.

Project Impacts to Stream Channel Habitat

Temporary impacts to stream channel habitat are anticipated at all locations as a result of construction access (for equipment and personnel) and may include installation of temporary de-watering system or diversion. Permanent impacts across all sites will primarily result from placement of RSP around the existing bridge piers and abutments. In areas subject to high erosion and flooding, larger footprints of RSP will be placed and occasionally span the entire channel width. At bridge 46C0309, concrete cut-off walls will be constructed along the existing bridge structures and will result in minor permanent fill to Lewis Creek.

The Project is anticipated to temporarily impact a cumulative 1.22 acres and permanently impact a cumulative 0.76 acres of stream channel habitat (**Table 11. Stream Channel Habitat Impacts**; **Figure 5. Project Impacts**).

Table 11. Stream Channel Habitat Impacts[32]

Bridge Number	Aquatic Feature	Impact Type	Area (acres)[1]
46C0036	TID Canal/Crocker Cut	Temporary	0.07 acres
		Permanent	0.01 acres
46C0058	Cross Creek	Temporary	0.07 acres
		Permanent	0.13 acres
46C0059	Cross Creek	Temporary	0.09 acres

[32] Dokken Engineering. NES. Table 7: Stream Channel Habitat Impacts.

Bridge Number	Aquatic Feature	Impact Type	Area (acres)[1]
		Permanent	0.10 acres
46C0087	Deer Creek	Temporary	0.06 acres
		Permanent	0.09 acres
46C0106	Deer Creek	Temporary	0.09 acres
		Permanent	0.02 acres
46C0108	Deer Creek	Temporary	0.05 acres
		Permanent	0.01 acres
46C0202	Deer Creek	Temporary	0.06 acres
		Permanent	--
46C0204	Tyler Creek	Temporary	0.03 acres
		Permanent	0.01 acres
46C0205	Deer Creek	Temporary	0.05 acres
		Permanent	--
46C0226	Friant Kern Canal	Temporary	0.11 acres
		Permanent	0.05 acres
46C0269	Elk Bayou	Temporary	0.09 acres
		Permanent	0.11 acres
46C0309	Lewis Creek	Temporary	0.02 acres
		Permanent	0.01 acres
46C0318	Deer Creek	Temporary	0.07 acres
		Permanent	0.01 acres
46C0330	Cottonwood Creek	Temporary	0.07 acres
		Permanent	0.07 acres
46C0403	Crocker Cut/TID Canal	Temporary	0.08 acres
		Permanent	0.01 acres
46C0408	Mill Creek	Temporary	0.03 acres
		Permanent	<0.01 acres
46C0420	Saint Johns River	Temporary	0.03 acres
		Permanent	0.01 acres
Total		**Temporary**	**1.22 acres**
		Permanent	**0.76 acres**

[1] Impact area rounded to the nearest 0.01 acres for each project location.
The cumulative total reflects the un-rounded total across all sites.

To reduce impacts to stream channel habitat, mitigation measures **BIO-1**, **BIO-3**, **BIO-4**, and **BIO-5** will be implemented during Project construction. The County will mitigate for direct impacts to stream channel habitat in coordination with permitting agencies (e.g., USACE, CDFW and/or RWQCB) (**BIO-6**). Impacts to stream channel habitat would be less than significant with mitigation incorporated.

Riparian Habitat

Riparian vegetation is a transitional habitat community that occurs along the margins of the stream channels present within the BSA. The understory of this vegetation community is largely comprised of willows and Himalayan blackberry. Within the San Joaquin Valley, overstory vegetation primarily consists of Fremont cottonwood, eucalyptus, and native oaks. At higher elevations, riparian habitat also includes trees such as western sycamore and white alder. Riparian vegetation comprises approximately 1.27 acres of the BSA.

Survey Results for Riparian Habitat

Riparian vegetation is present at ten of the bridge repair locations (see **Table 13** below). Within the Tulare Basin, riparian corridors are highly fragmented and primarily consist of sporadic stands of willows, Himalayan blackberry, and the occasional cottonwood tree. Although riparian habitat within the valley is not contiguous the corridors serve as important wildlife habitat for migration in an otherwise agriculturally developed area.

Bridge locations within the Sierra Nevada foothills (bridges 46C0202, 46C0204, and 46C0205) encompass dense riparian canopies that include a mosaic of oak, sycamore, and white alder trees that provide habitat for a variety of local wildlife species.

Project Impacts to Riparian Habitat

Temporary impacts to riparian vegetation will result from construction access including equipment and personnel, and permanent impacts will primarily result from the placement of RSP around the existing bridge piers and abutments. At bridge 46C0205, a cut-off wall will be constructed along the existing bridge structure and will result in minor permanent impacts to riparian habitat.

The Project is expected to temporarily impact a cumulative 0.54 acres and permanently impact a cumulative 0.06 acres of riparian habitat (**Table 12. Riparian Habitat Impacts**; **Figure 5. Project Impacts**). Tree removal is not proposed as a result of the Project at any of the bridge locations.

Table 12. Riparian Habitat Impacts[33]

Bridge Number	Impact Type	Area (acres)[1]
46C0036	Temporary	0.02 acres
	Permanent	--
46C0087	Temporary	0.14 acres
	Permanent	0.03 acres
46C0108	Temporary	0.05 acres
	Permanent	--
46C0202	Temporary	0.07 acres
	Permanent	--
46C0204	Temporary	0.12 acres
	Permanent	0.01 acres
46C0205	Temporary	0.04 acres
	Permanent	<0.01 acres
46C0309	Temporary	0.01 acres
	Permanent	--
46C0403	Temporary	--
	Permanent	--
46C0408	Temporary	0.02 acres
	Permanent	--
46C0420	Temporary	0.06 acres
	Permanent	0.01 acres
Total	**Temporary**	**0.54 acres**
	Permanent	**0.06 acres**

[1] Impact area rounded to the nearest 0.01 acres for each project location.
The cumulative total reflects the un-rounded total across all sites.

To reduce impacts to riparian vegetation, mitigation measures **BIO-1 through BIO-5** will be implemented during Project construction. The County will mitigate for permanent impacts to riparian habitat in coordination with permitting agencies (e.g., CDFW and/or RWQCB) (**BIO-6**).

c) Would the project 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?

[33] Dokken Engineering. NES. Table 8: Riparian Habitat Impacts.

No Impact. The jurisdictional delineation completed for the Project determined that there are no wetlands within the BSA and the Project would have no impact on state or federally protected wetlands. No impact will occur.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact with Mitigation. Work at each bridge location is expected to last from a few days to a few weeks and is not anticipated to significantly affect wildlife movement, established migratory corridors, or impede the use of native wildlife nursery sites.

Although temporary impacts to wildlife movement may occur due to temporary water diversions and construction-related disturbance, these effects will be minimized through implementation of BMPs and avoidance and minimization measures. These include pre-construction surveys and monitoring during in-water work, and all additional activities requiring significant ground disturbance for sensitive species, such as the western spadefoot, FYLF, CTS and NWPT. With implementation of **BIO-8**, **BIO-14** through **BIO-19**, **BIO-22** through **BIO-25** as well as **BIO-31** through **BIO-35**, the Project would not substantially interfere with the movement of any native wildlife species, would not fragment existing habitat, and would not impede the use of nursery sites. Therefore, impacts would be less than significant with mitigation incorporated.

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

Less Than Significant Impact. Through compliance with state and federal regulations protecting sensitive biological resources, including Waters of the U.S. and special-status species, the proposed Project would not conflict with any of the Tulare County General Plan policies or the Tulare County Municipal Code. The Project would not conflict with any local policies or ordinances protecting biological resources and therefore, a less than significant impact would occur.

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

No Impact. There are several project-specific Habitat Conservation Plans (HCP)s within Tulare County, including the Cross Valley Transmission Line HCP and the SR-99/Cartmill Avenue Interchange Low-Effect HCP. However, these plans are narrowly scoped and geographically constrained and don't include the proposed Project areas. The proposed Project does not fall within the boundaries of any other adopted HCP, Natural Community Conservation Plan (NCCP), or other approved conservation plans. The Project would not conflict with the provisions of any adopted HCP, NCCP, or other local, regional or state habitat conservation plan and therefore, no impact would occur.

MITIGATION MEASURES

The table below identifies which biological measures apply to each bridge. The following page contains a list of all biological measures.

Table 13. Project Biological Measures by Bridge

Bridge Location	Avoidance and Minimization Measures (BIO-XX)																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
46C0036		●	●	●	●	●	●	●	●																					●					
46C0058	●	●	●	●	●	●	●	●	●		●		●	●	●	●	●	●	●	●	●						●	●	●	●		●	●	●	●
46C0059	●	●	●	●	●	●	●	●	●		●		●	●	●	●	●	●	●	●	●						●	●	●	●		●	●	●	●
46C0087		●	●	●	●	●	●	●	●			●								●										●	●				
46C0106		●	●	●	●	●	●	●	●			●																				●	●	●	●
46C0108		●	●	●	●	●	●	●	●			●																		●					
46C0202		●	●	●	●		●	●	●											●					●				●					
46C0204	●	●	●	●	●	●	●	●														●	●	●	●	●					●				
46C0205	●	●	●	●	●	●	●	●														●	●	●	●	●					●				
46C0226		●	●	●	●	●	●	●	●																					●					
46C0269	●	●	●	●	●	●	●	●	●	●										●										●		●	●	●	●
46C0309	●	●	●	●	●	●	●	●												●								●	●	●		●	●	●	●
46C0318	●	●	●	●	●	●	●	●	●	●		●																		●		●	●	●	●
46C0330		●	●	●	●	●	●	●	●																										
46C0403		●	●	●	●	●	●	●	●																					●					
46C0408		●	●	●	●	●	●	●	●																										
46C0420		●	●	●	●	●	●	●	●																					●					

General

BIO-1: Every individual working on the Project must attend a biological awareness training session delivered by the Project Biologist. This training program will include information regarding the sensitive habitats and special-status species occurring or potentially occurring within the Project area, and the importance of avoiding impacts to these species and their habitat.

BIO-2: All vegetation removal will be minimized to the greatest extent feasible. When possible, vegetation removal will be accomplished with the use of hand tools. Trees and shrubs will be trimmed rather than removed unless absolutely necessary for Project activities. Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.

BIO-3: Prior to the start of construction activities, the Project limits within environmentally sensitive areas (stream channel, riparian habitat, special-status species habitat) will be marked with high visibility Environmentally Sensitive Area (ESA) fencing or staking to ensure construction will not further encroach into sensitive resources.

BIO-4: BMPs will be incorporated into Project construction to minimize impacts on the environment including erosion and the release of pollutants (e.g. oils, fuels):

- Exposed soils and material stockpiles would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities;
- All construction roadway areas would be properly protected to prevent excess erosion, sedimentation, and water pollution;
- Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants must remain outside of jurisdictional waters and adjacent riparian habitat;
- Equipment used in and around jurisdictional waters must be in good working order and free of dripping or leaking contaminants;
- Any necessary equipment washing must occur where the water cannot flow into water bodies;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life will be prevented from contaminating the soil or entering jurisdictional waters;
- All erosion control measures and storm water control measures would be properly maintained until the site has returned to a pre-construction state;
- All construction materials would be hauled off-site after completion of construction;
- A chemical spill kit must be kept onsite and available for use in the event of a spill;
- Upon completion of construction activities, any temporary barriers to surface water flow must be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

BIO-5: Following the completion of construction, all sensitive natural areas disturbed by Project activities would be re-graded as to decompact the soils and seeded with a California native hydroseed mix to allow the site to return to pre-construction conditions.

BIO-6: The County will mitigate for permanent impacts to stream channel and/or riparian habitat in coordination with permitting agencies (USACE, CDFW and/or RWQCB), as appropriate for location-specific impacts. The preferred mitigation method is payment of mitigation bank credits, payment to an in-lieu fee program, and/or enhancement/restoration of riparian habitat at an offsite location.

BIO-7: To minimize and avoid potential effects to local wildlife:

- All food-related trash must be disposed into closed containers and must be removed from the Project area daily. Construction personnel must not feed or otherwise attract wildlife to the Project area.
- The contractor must not apply rodenticide or herbicide within the Project area during construction.
- If any wildlife is encountered during the course of construction, said wildlife will be allowed to leave the construction area unharmed.

BIO-8: Prior to vegetation removal or initial ground disturbance during the nesting bird season (February 1–September 30) a pre-construction nesting bird survey must be conducted by a Project Biologist prior to the start of work. The nesting bird survey must include the Project area plus a 300-foot buffer. Within 2 weeks of the nesting bird survey, all vegetated areas that are designated for removal must be cleared by the contractor or a supplemental nesting bird survey is required.

A minimum 100-foot no-disturbance buffer will be established around any active nest of migratory birds and a minimum 300-foot no-disturbance buffer will be established around any nesting raptor species. The contractor must immediately stop work in the buffer area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the Project Biologist and in coordination with wildlife agencies) in the buffer area until a Project Biologist determines the young have fledged. A reduced buffer can be established if determined appropriate by the Project Biologist.

BIO-9: If work on the bridge structure will occur during the nesting bird seasons (February 1–September 30) a nesting bird exclusion plan will be developed and will be installed prior to the nesting season and/or prior to nests becoming active (once eggs are laid in the nest). The use of netting is prohibited due to the risk of entanglement. Exclusion devices will be maintained in good working order throughout construction.

Rare Plants

BIO-10: During the spring/summer blooming season prior to initial ground disturbance activities, focused botanical surveys will be conducted by the Project Biologist for the following species:

Species of Interest	Blooming Period
Brittlescale (*Atriplex depressa*)	April-October
Earlimart orach (*Atriplex cordulata var. erecticaulis*)	August-September
Heartscale (*Atriplex cordulata var. cordulata*)	April-October
Lesser saltscale (*Atriplex miniscula*)	May-October

A minimum of three surveys will be conducted following methodology of the CDFW (2018) *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. If individuals or populations of the above species are observed within the Project footprint during this survey, a 5-foot buffer around the rare plant population will be marked with high-visibility Environmentally Sensitive Area (ESA) fencing. If the population and/or specimen cannot be feasibly avoided during construction, the Project biologist will relocate individual(s) and/or collect seeds to relocate to ensure the continued existence of the local population.

American Badger

BIO-11: Prior to any ground disturbing activity, the Project Biologist will conduct pre-construction clearance survey for American Badger den sites within open, herbaceous habitat located within the Project footprint and an

approximate 100-foot buffer, as feasibly accessible. These surveys will be conducted no less than 14 days and no more than 30 days prior to the start of ground disturbing activities.

If an occupied maternity den (typically found February 15–July 1) is identified within the survey area the Project Biologist will establish an appropriate no-work buffer, determined based on location of the den and proposed activities. If non-maternity dens are found and cannot be avoided during construction activities, they will be monitored for badger activity. If the Project Biologist determines that dens may be occupied, passive den exclusion measures will be implemented for three to five days to discourage the use of these dens prior to initiating Project activities.

Bakersfield Legless Lizard

BIO-12: Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for Bakersfield legless lizard within the Project footprint. If a Bakersfield legless lizard is observed during construction, work will be halted within 50 feet of the individual and the lizard will be allowed to leave on its own volition or will be relocated outside of the Project area by the Project Biologist.

Burrowing Owl

BIO-13: Prior to any ground disturbing activity, the Project Biologist will conduct protocol-level nesting season surveys for burrowing owl within suitable habitat located in the Project footprint and/or extending 500 feet from the boundary of the Project footprint, where access is available. Protocol nesting season surveys will be conducted between April and July prior to construction in accordance with guidelines in the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFW 2012).

Occupied burrowing owl burrows that will be directly affected by ground disturbing activities will be relocated in accordance with CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). To the extent feasible, the Project Biologist will establish 600-foot no-work buffers around occupied burrowing owl burrows in the Project area during the nesting season (February 1–September 30). If the no-work buffer is not feasible and occupied burrows will be relocated during the nesting season, relocation will occur after the Project Biologist has determined that the juveniles from the occupied burrows are foraging independently and are capable of independent survival.

California Tiger Salamander–Central California DPS

BIO-14: The Project Biologist(s), approved by USFWS, will conduct a visual encounter pre-construction survey of the Project area for California tiger salamander (CTS) immediately prior to Project activities. The surveys will pay particular attention to detecting burrows and other crevices and cover sites that could be used as refugia by the species, that are within the direct impact area.

BIO-15: Prior to the start of work, and immediately following pre-construction surveys, temporary silt fencing (or other types of fencing materials that will not entangle the species), will be installed around the limits of the Project footprint to preclude construction equipment, vehicles, and personnel from encroaching on areas outside of these limits (i.e., ESAs such as aquatic features and undeveloped uplands), and to prevent CTS in outside areas from entering the work zones. Installation of this exclusion fencing will focus on where work areas abut suitable upland habitats. Fencing will include one-way escape funnels or ramps placed at regular intervals (every 5-10 feet) to allow any individuals that become trapped inside the fenced area to leave, but not re-enter the Project footprint. Fencing will measure 12 inches above ground and will be buried at least 6 inches below the ground to prevent individuals from attempting to burrow or move under the structure. The

exclusion fencing will be well maintained throughout the course of construction and will be removed following Project completion.

BIO-16: To avoid inadvertent entrapment of CTS during construction:

- Plastic mono-filament netting (erosion control matting) or similar material that could trap CTS or other wildlife must not be used. Acceptable substitutes include jute, coconut coir matting or tackified hydroseeding compounds.
- All excavated, steep-walled holes or trenches greater than 6 inches deep must be covered at the end of the day or contain at least one escape ramp made of earth fill or wooden planks. All holes must be inspected by the Project Biologist or on-site inspector at the beginning of each workday and before the holes and trenches are filled. Anything stored within the holes or trenches overnight must be inspected for CTS before being moved.
- All construction pipes, culverts, or similar structures that are stored on the construction site for one or more overnight periods will be capped or sealed with tape (or similar materials) or stored at least 3 ft. above ground level. They will be inspected thoroughly for CTS before being buried, capped, or otherwise used. If an individual is discovered during this inspection, the Project Biologist(s) will be notified immediately.

  If at any time a CTS is discovered within the project footprint, all project work will immediately cease and the Project Biologist(s) will contact USFWS and CDFW for next steps.

BIO-17: The Project Biologist(s) or on-site inspector will perform daily clearance sweeps under equipment, trucks, and other materials prior to commencement of work. In the event that a CTS is observed, the vehicles/equipment will not be moved until the individual has vacated the area of its own accord.

The Project Biologist(s) will be present on-site to monitor for the species during the installation, replacement, and removal of all exclusion fencing. Additionally, when onsite, the Project Biologist(s) will inspect the fencing for damage, to report any required remedial actions, and to clear the fenced area. Furthermore, this individual(s) will be present on-site during initial ground-disturbing and vegetation removal activities (i.e., clearing, grubbing, grading, excavating, filling, etc.).

BIO-18: No construction activities will be conducted in upland habitat areas where CTS may occur if: 1) it is raining, 2) there is a greater than 70 percent chance of rain based on the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service forecast on any given workday, or 3) a rain event greater than 0.25 inch has occurred within the past 48 hours.

Following a rain event, the Project Biologist(s) will conduct visual encounter surveys for the species in all active work areas (including access roads and staging areas) prior to the resumption of construction activities and the use of access routes and staging areas.

BIO-19: If a water body will be temporarily dewatered by pumping, pump intakes will be screened with wire mesh no larger than 5 millimeters. The intake should be placed within a perforated bucket or other method that reduces suction to prevent CTS from entering the pump system. Pumped water will be managed in a matter that does not degrade water quality and, the water will be pumped back prior to the end of the Project, will be released back into the water body in a manner that does not cause erosion.

Coast Horned Lizard/ Northern California Legless Lizard

BIO-20: Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for the coast horned lizard and the northern California legless lizard within the Project footprint. If either lizard is

observed during construction, work will be halted within 50 feet of the individual and the lizard will be allowed to leave on its own volition or will be relocated outside of the Project area by the Project Biologist.

Crotch's Bumble Bee

BIO-21: Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction reconnaissance visual encounter survey for Crotch bumble bee within the Project footprint. The survey will be conducted between April and August when the Crotch bumble bee is more likely to be encountered. The survey will be conducted in accordance with the Photograph Only Survey protocol outlined in the *Survey Protocols for the Rusty Patched Bumble Bee* (USFWS 2019). If a Crotch bumble beehive or colony is presumed present within the Project footprint and is unavoidable, work will halt and additional coordination with CDFW will occur to determine appropriate measures to avoid impacts to the species.

Foothill Yellow-legged Frog – South Sierra DPS

BIO-22: Prior to ground disturbing activities in areas of suitable FYLF habitat, the Project Biologist will inspect all areas where ground disturbing activity is anticipated. The Project Biologist will oversee all activities requiring significant ground disturbance and will have stop work authority.

BIO-23: Immediately prior to vegetation removal, the Project Biologist(s), approved by USFWS, will inspect all areas where ground disturbing activity is anticipated. The Project Biologist will oversee all vegetation clearing and grubbing and will have stop work authority. If mechanical vegetation removal is required, any low-growing vegetation will first be cleared by hand to provide the Project Biologist with a clear view of the ground surface prior to using mechanical equipment. Mechanical equipment will be staged and operated on previously disturbed surfaces to the greatest extent possible. If a foothill yellow-legged frog (FYLF) is spotted within an active work area the Project Biologist will immediately stop work activities. The individual will be allowed to leave the active work area on its own accord. If the individual does not leave the active work area, the Project Biologist will contact USFWS for further guidance.

All construction crew members will allow wildlife enough time to escape during any clearing and grubbing activities.

BIO-24: To avoid inadvertent entrapment of FYLF during construction:

- Non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that FYLF are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.
- All excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each workday or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within FYLF habitat will be inspected for FYLF prior to being moved.

BIO-25: Upon completion of construction activities, all barriers and exclusion fencing will be removed, with oversight from the Project Biologist.

Pallid Bat

BIO-26: If trees are planned for removal, trees will first be assessed by a Project Biologist familiar with the natural life history of pallid bat to determine if the trees designated for removal contain suitable roosting features. If any

of the trees required for removal contain suitable roosting habitat and removal is planned to occur during the maternity season (April through August), then a Project Biologist will survey the trees immediately prior to removal for the presence of bats within the trees. If trees are found to support bat maternity colonies, the trees must be protected in place until the end of the maternity season (August 31).

If bats are found occupying trees designated for removal outside of the maternity season (September-March) the tree(s) can be removed using a two-step process. The first step, conducted on the first day, will involve removal of all non-bat habitat trees and trimming of major branches of bat habitat trees. The objective of the first step in two-step tree removal is to alter the habitat such that it becomes unsuitable for bats without directly impacting individuals. The second step of tree removal will be conducted on the second day and will include close inspection of the tree by a Project Biologist and, if determined to be unoccupied, full removal of the tree.

San Joaquin Coachwhip

BIO-27: Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for San Joaquin coachwhip within the Project footprint. If a San Joaquin coachwhip is observed during construction, work will be halted within 50 feet of the individual and the snake will be allowed to leave on its own volition or will be relocated outside of the Project area by the Project Biologist.

San Joaquin Kit Fox

BIO-28: Within 30 days prior to the start of any ground disturbing activity, the Project Biologist will conduct a pre-construction clearance survey for the San Joaquin Kit Fox (SJKF) within the Project footprint. The surveys will be conducted in accordance with USFWS *San Joaquin Kit Fox Survey Protocol for the Northern Range* (USFWS 1999b) between May 1 and September 30 for the purpose of identifying potential SJKF dens. If any occupied or potential dens are found during pre-construction surveys, they will be flagged and a minimum 200-foot no-work buffer will be established around the den. If an active den is discovered within 200 feet of Project activities the Project Biologist will assume full-time monitoring and contact USFWS for further guidance.

If an active den cannot be fully avoided Project activities will not commence until further guidance is provided from USFWS, or the Project Biologist determines the den is no longer active.

BIO-29: The Project will implement USFWS *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS [1999] 2011) to minimize impacts on this species, including:

- Disturbance to all kit fox dens will be avoided to the extent feasible.
- Construction activities that occur within 200 feet of any occupied dens will cease within one-half hour after sunset and will not begin earlier than one-half hour before sunrise, to the extent feasible.
- All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that are stored within the Project footprint for one or more overnight periods will be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved.
- If a SJKF is detected within an active Project area during construction, work will halt and the Project Biologist will be contacted. Work will not recommence until the SJKF has left the area by its own volition and the Project Biologist has deemed it safe.

Swainson's Hawk

BIO-30: If an active Swainson's hawk nest is observed during the pre-construction nesting bird survey, a no-work buffer will be established around the active nest, to be determined by the Project Biologist based on the type of work being completed, anticipated noise levels and equipment, location of nest, and evaluation of

surrounding environment (e.g., urban vs. rural). After establishment of the no-work buffer Project activities may proceed at the discretion of the Project Biologist with full-time biological monitoring to ensure take avoidance. The Project Biologist will have stop work authority at any point if it is anticipated that continuation of Project activities will result in take of an active Swainson's hawk nest.

Western Pond Turtle

BIO-31: Prior to vegetation removal or in-water work, a Project Biologist must first inspect all areas where ground disturbing activity is anticipated. The Project Biologist will oversee all vegetation clearing and grubbing and will have stop work authority. If a western pond turtle is spotted within an active work area the Project Biologist will be contacted and work activities will immediately cease within 100 feet of the turtle. Work will not recommence until the turtle has left the Project site on its own volition.

Western Spadefoot

BIO-32: Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for western spadefoot within the Project footprint. If a western spadefoot is observed during construction, work will halt in the immediate vicinity and will not recommence until the individual(s) has left the Project site on its own volition.

BIO-33: No construction activities will be conducted in upland habitat areas where western spadefoot may occur if: 1) it is raining, 2) there is a greater than 70 percent chance of rain based on the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service forecast on any given workday, or 3) a rain event greater than 0.25 inch has occurred within the past 48 hours.

Following a rain event, the Project Biologist(s) will conduct visual encounter surveys for the species in all active work areas (including access roads and staging areas) prior to the resumption of construction activities and the use of access routes and staging areas.

BIO-34: To avoid inadvertent entrapment of western spadefoot during construction:

- Non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that western spadefoots are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.
- All excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each workday or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western spadefoot habitat will be inspected for western spadefoot prior to being moved.

BIO-35: If water is present within the channel and de-watering or installation of a temporary diversion system is required, the Project Biologist will survey the channel and/or ponding water within 48 hours prior to in-water work. Additionally, the Project Biologist will be present to monitor initial in-water work and will have stop work authority if any life stage of western spadefoot is observed within the impact area. If western spadefoots eggs, tadpoles or froglets are discovered within ponding areas of the direct impact area the Project Biologist will contact USFWS for additional guidance and in-water work will not proceed until the species are relocated or naturally metamorph.

V. CULTURAL RESOURCES

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

The following analysis is based on the information provided in the General Plan, Background Report, Tulare County General Plan RDEIR, the 2025 Historic Property Survey Report/Archaeological Survey Report/Finding of No Adverse Effect prepared for this Project, and the resources cited in this analysis.

REGULATORY SETTING

State

CEQA

CEQA provides statutory requirements for establishing the significance of historical resources in Public Resources Code (PRC) Section 21084.1. The CEQA Guidelines (Section 10564.5[c]) also require consideration of potential Project impacts to "unique" archaeological sites that do not qualify as historical resources. The statutory requirements for unique archaeological sites that do not qualify as historical resources are established in PRC Section 21083.2. These two PRC sections operate independently to ensure that significant potential effects on historical and archaeological resources are considered as part of a Project's environmental analysis. Historical resources, as defined in Section 15064.5 as defined in the CEQA regulations, include 1) cultural resources listed in or eligible for listing in the California Register of Historical Resources (California Register); 2) cultural resources included in a local register of historical resources; 3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in one of several historic themes important to California history and development.

Under CEQA, a Project may have a significant effect on the environment if the Project could result in a substantial adverse change in the significance of a historical resource, meaning the physical demolition, destruction, relocation, or alteration of the resource would be materially impaired. This would include any action that would demolish or adversely alter the physical characteristics of an historical resource that convey its historic significance and qualify it for inclusion in the California Register or in a local register or survey that meets the requirements of PRC Section 5020.1(l) and 5024.1(g). PRC Section 5024 also requires state agencies to identify and protect sate-owned resources that meet National Register of Historic Place (National Register) listing criteria. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with SHPO before altering, transferring, relocation, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

CEQA and the CEQA Guidelines also recommend provisions be made for the accidental discovery of archaeological sites, historical resources, or Native American human remains during construction (PRC Section 21083.2(i) CCR Section 15064.5[d and f]).

Local

Tulare County General Plan

The following Tulare County General Plan 2030 Update policies for this resource apply to this Project: ERM-6.1 *Evaluation of Cultural and Archaeological Resources;* ERM-6.3: *Alteration of Sites with Identified Cultural Resources*; ERM-6.4: *Mitigation;* and ERM-6.7 *Cooperation of Property Owners*.

ENVIRONMENTAL SETTING

Area of Potential Effects

The Project's Area of Potential Effects (APE) includes all proposed work areas that will be directly and indirectly impacted by the proposed Project activities, which consist of vegetation clearing/grubbing, grading, potential TCEs, staging areas, construction vehicle access, and all proposed bridge work. The APE is generally limited to the individual bridges and proposed activities but does include some staging areas and TCEs. The entire Project APE totals approximately 7.22 acres in size, with each bridge location consisting of approximately 0.5 acre or smaller (**Figure 6**). The vertical APE extends up to 10-feet below the current ground surface for specific activities such as riprap and wingwall work in areas immediately surrounding the proposed bridge, and as shallow as six (6) inches or less in association with proposed grading activity adjacent to the bridge locations. The proposed staging areas should have less than 6 inches of ground disturbance from the movement of heavy machinery.

Record Search

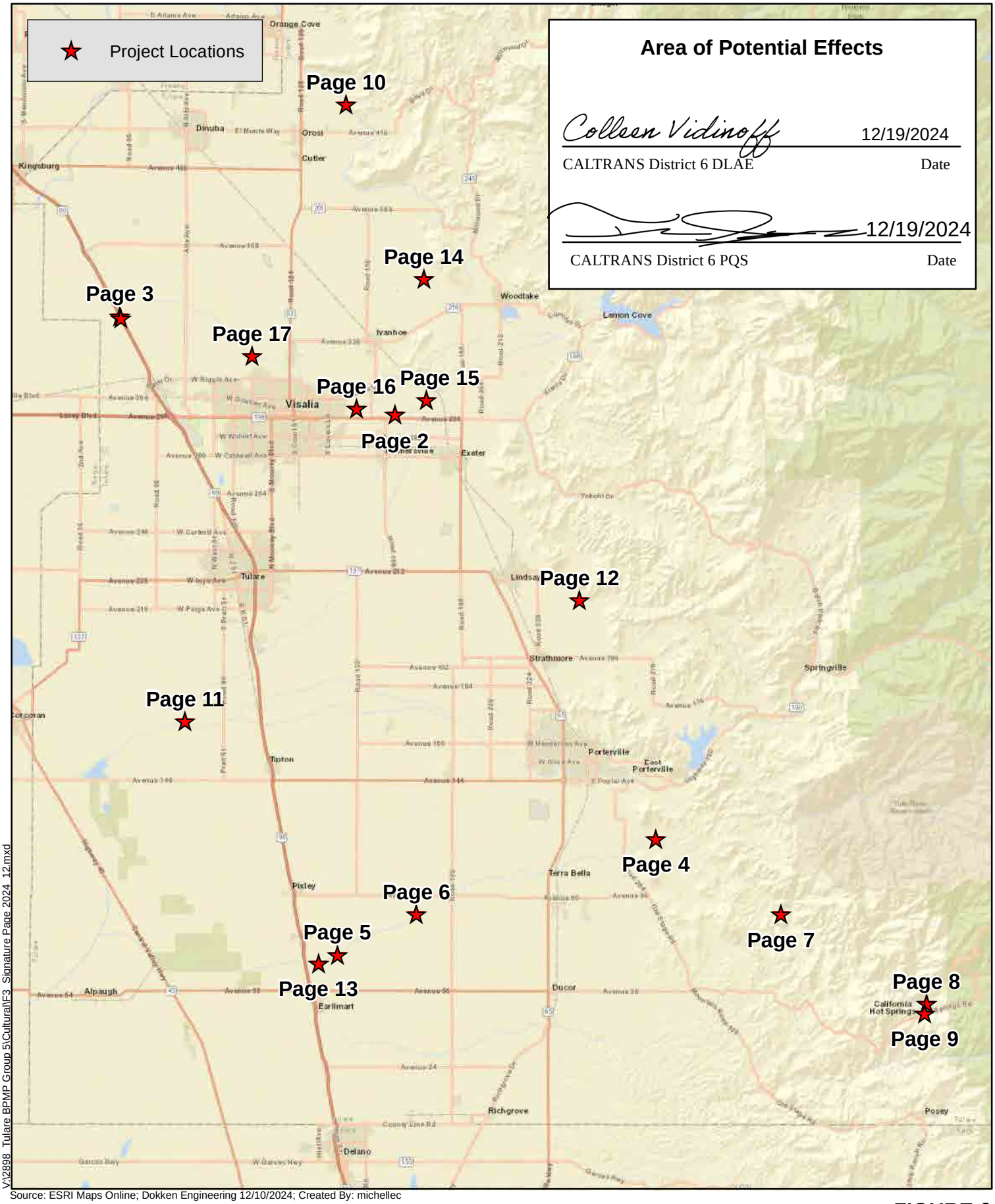
A record search for completed surveys and previously recorded resources within the APE and a 1-mile radius was requested from the Southern San Joaquin Valley Information Center (SSJVIC) on May 16, 2022. The search examined the Information Center Database records, Office of Historic Preservation (OHP) Determinations of Eligibility and OHP Historic Properties Directory, which includes reviews of the NRHP, the California Register of Historical Resources (CRHR), the California Inventory of Historic Resources, California State Points of Historical Interest, and California Historical Landmarks listings. The results of the SSJVIC search indicate five (5) cultural resources are within the APE: P-54-002179 (Even Ditch and Mill Creek Levee), P-54-004614 (Friant-Kern Canal), P-54-005291 (Mill Creek Bridge), P-54-005296 (Tulare Irrigation District infrastructure), and P-54-005457 (Deer Creek Ditch).

Native American Consultation

On May 20, 2024, initial consultation letters were mailed by the County to the Native American individuals identified by NAHC. The letters provided a summary of the Project and requested information, comments, or concerns the Native American community might have about the Project. For those individuals that did not reply to the letter, follow-up emails (or phone calls when no email was available) were sent on August 15, 2024 to those individuals with email contact. The following tribes were contacted:

- Big Sandy Rancheria of Western Mono Indians
- Dunlap Band of Mono Indians
- Kern Valley Indian Community
- North Fork Mono Tribe
- Santa Rosa Rancheria Tachi Yokut Tribe
- Tabatulabals of Kern Valley
- Tule River Indian Tribe
- Wuksachi Indian Tribe/Eshom Valley Band

To date (that is, at the time of release of this draft IS/MND), the County received responses from the Santa Rosa Rancheria Tachi Yokut Tribe and North Fork Mono Tribe. The Santa Rosa Rancheria Tachi Yokut Tribe deferred to the Tulare River Reservation due to location of the Project and the North Fork Mono Tribe stated that the tribe has no comment. No other responses were received.



Area of Potential Effects

Colleen Vidinoff 12/19/2024

CALTRANS District 6 DLAE Date

12/19/2024

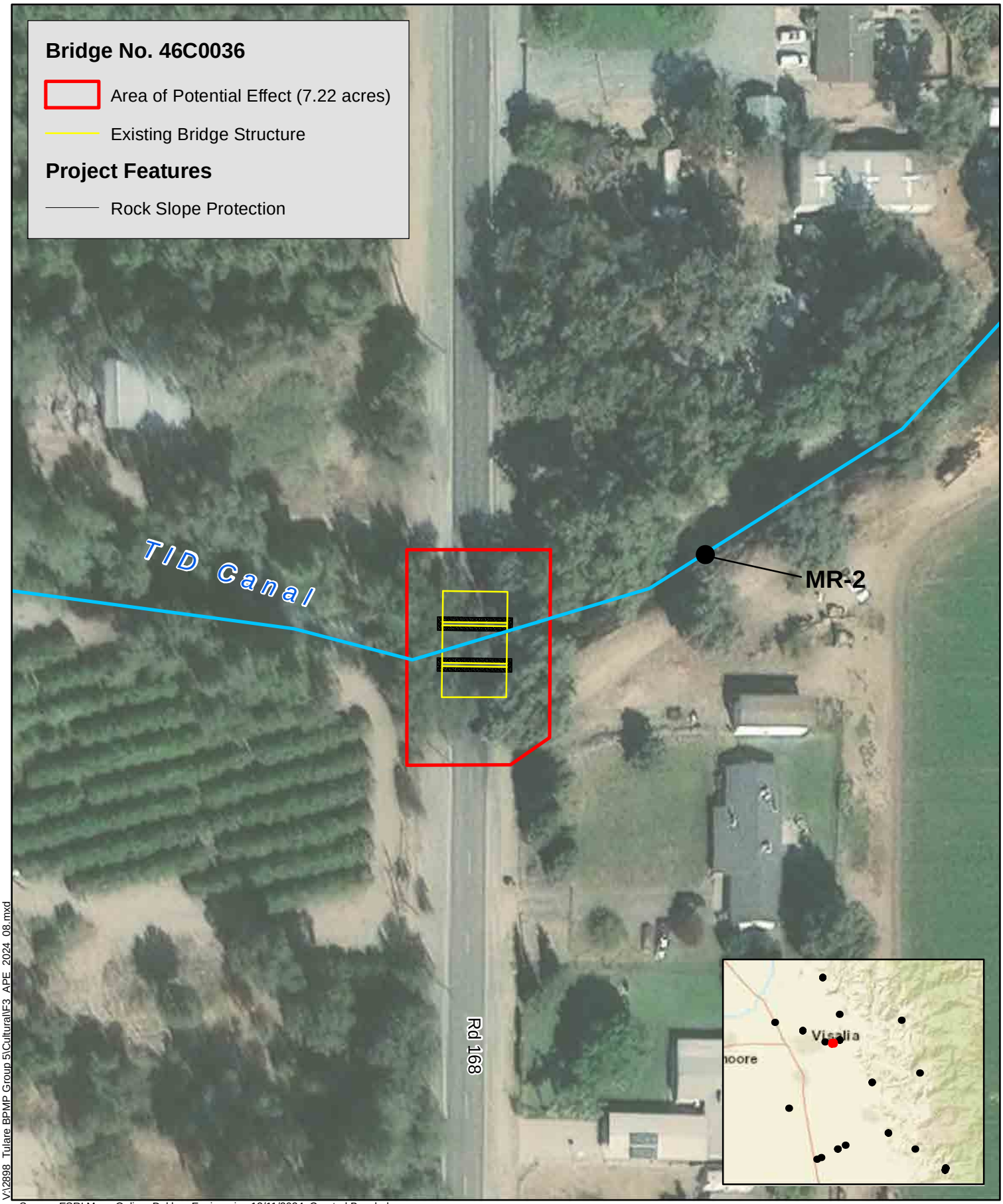
CALTRANS District 6 PQS Date

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Source: ESRI Maps Online; Dokken Engineering 12/10/2024; Created By: michellec

0 5 10 15 Miles

FIGURE 6
Area of Potential Effects
Page 1 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

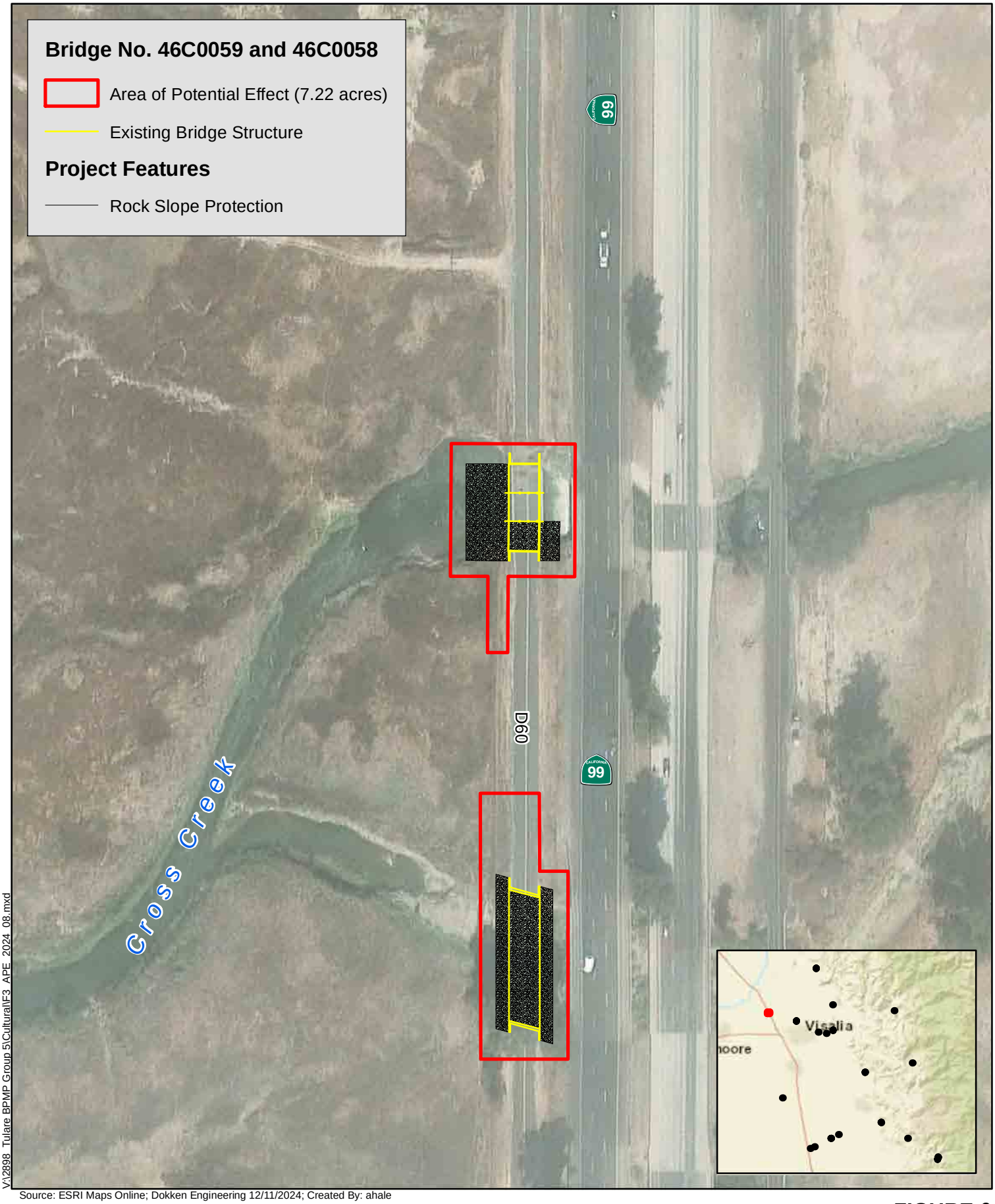


Source: ESRI Maps Online; Dokken Engineering 12/11/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 6
Area of Potential Effect
Page 2 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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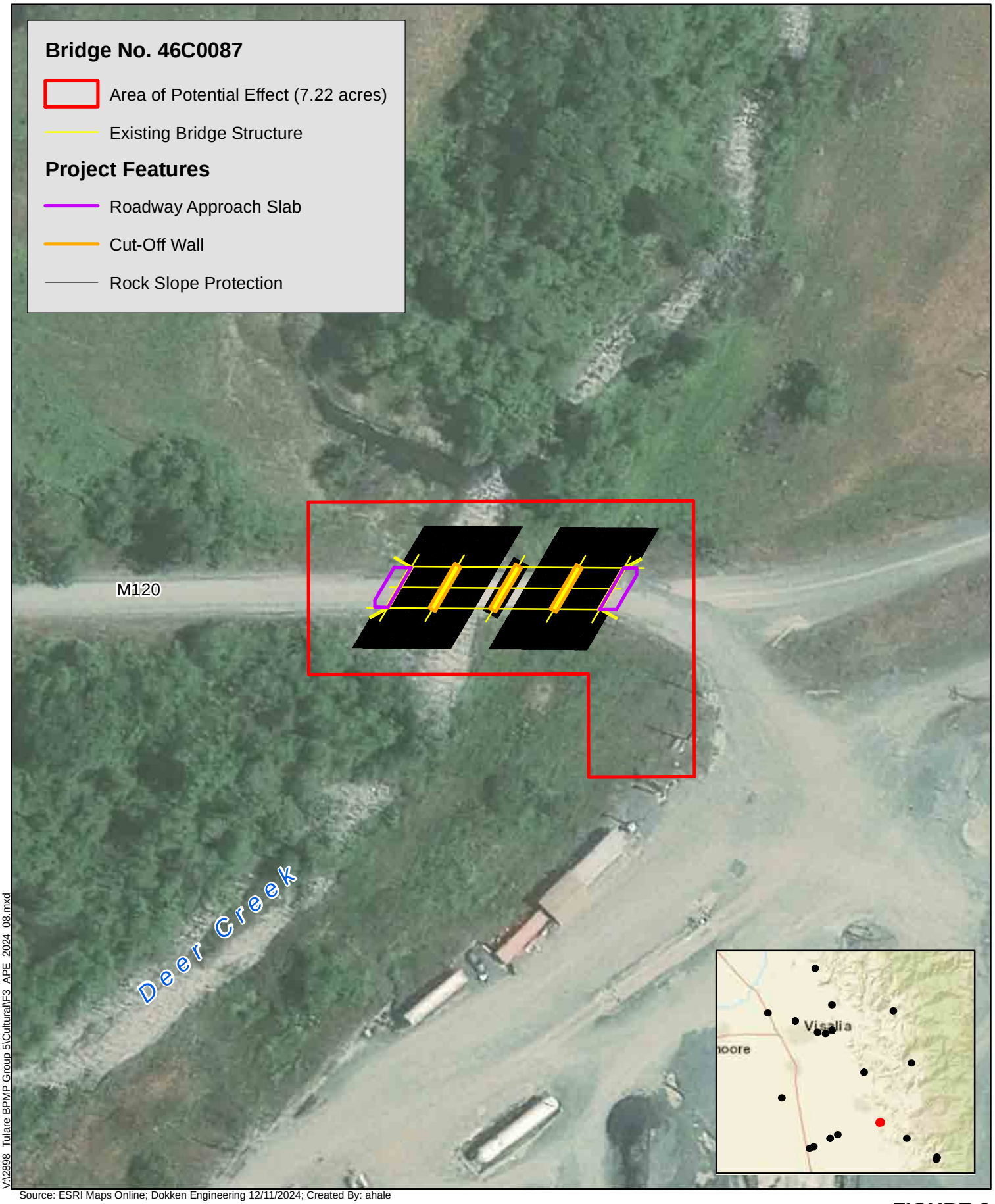
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1 inch = 125 feet

0 75 150 Feet

FIGURE 6
Area of Potential Effect

BPMPL-5946(169)
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Tulare County, California



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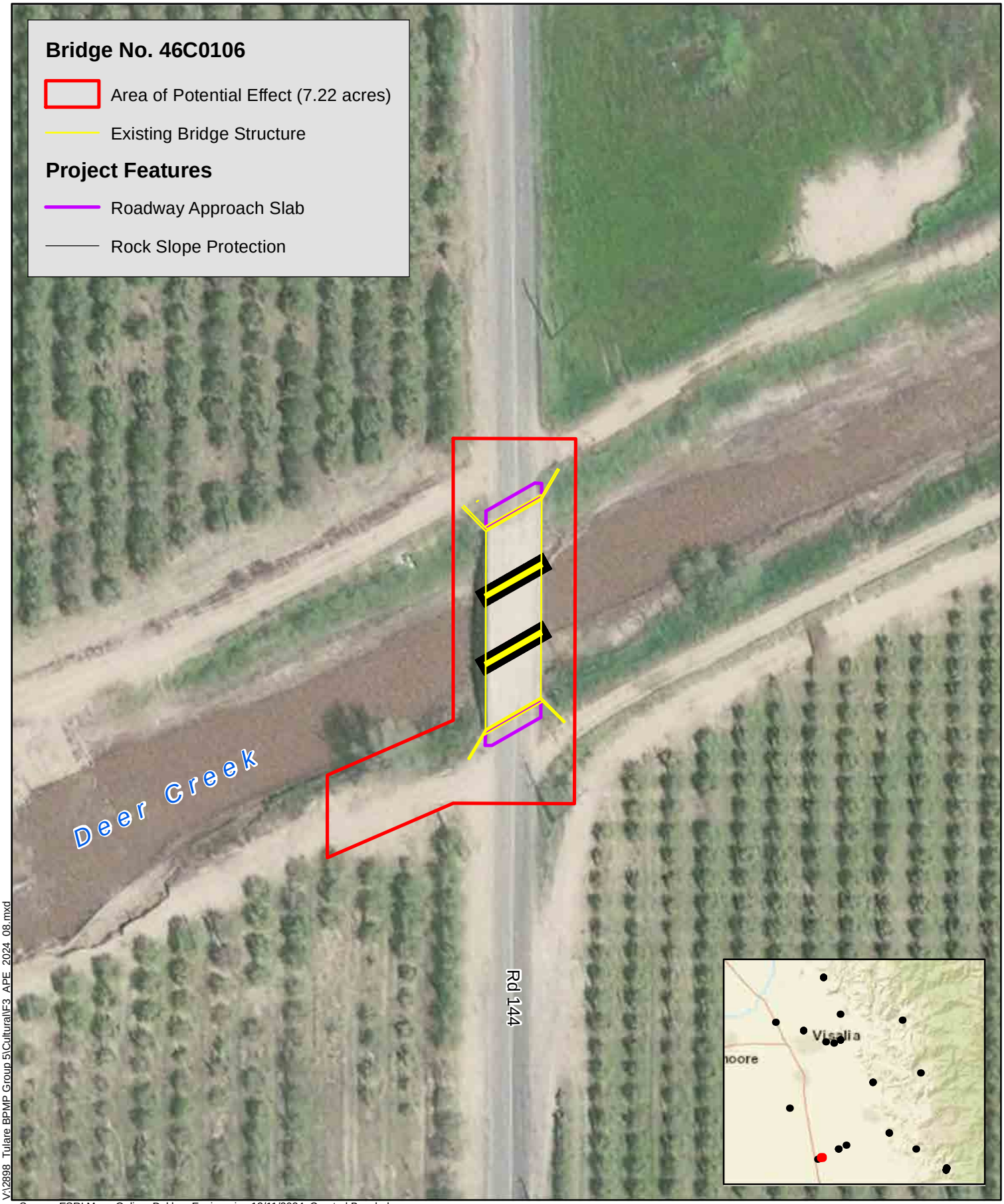
Source: ESRI Maps Online; Dokken Engineering 12/11/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 6
Area of Potential Effect

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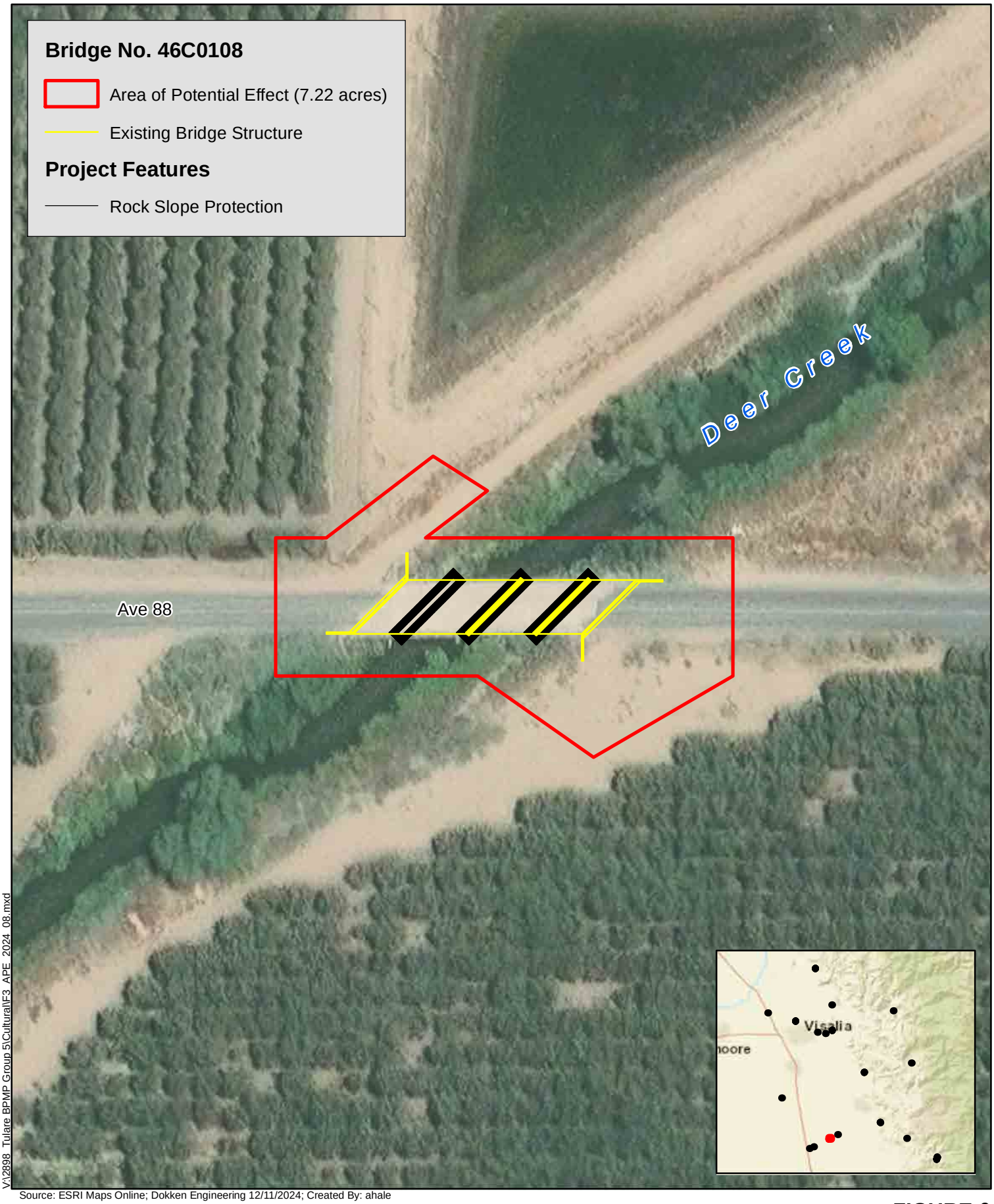
Source: ESRI Maps Online; Dokken Engineering 12/11/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 6
Area of Potential Effect

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Source: ESRI Maps Online; Dokken Engineering 12/11/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 6
Area of Potential Effect
Page 6 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
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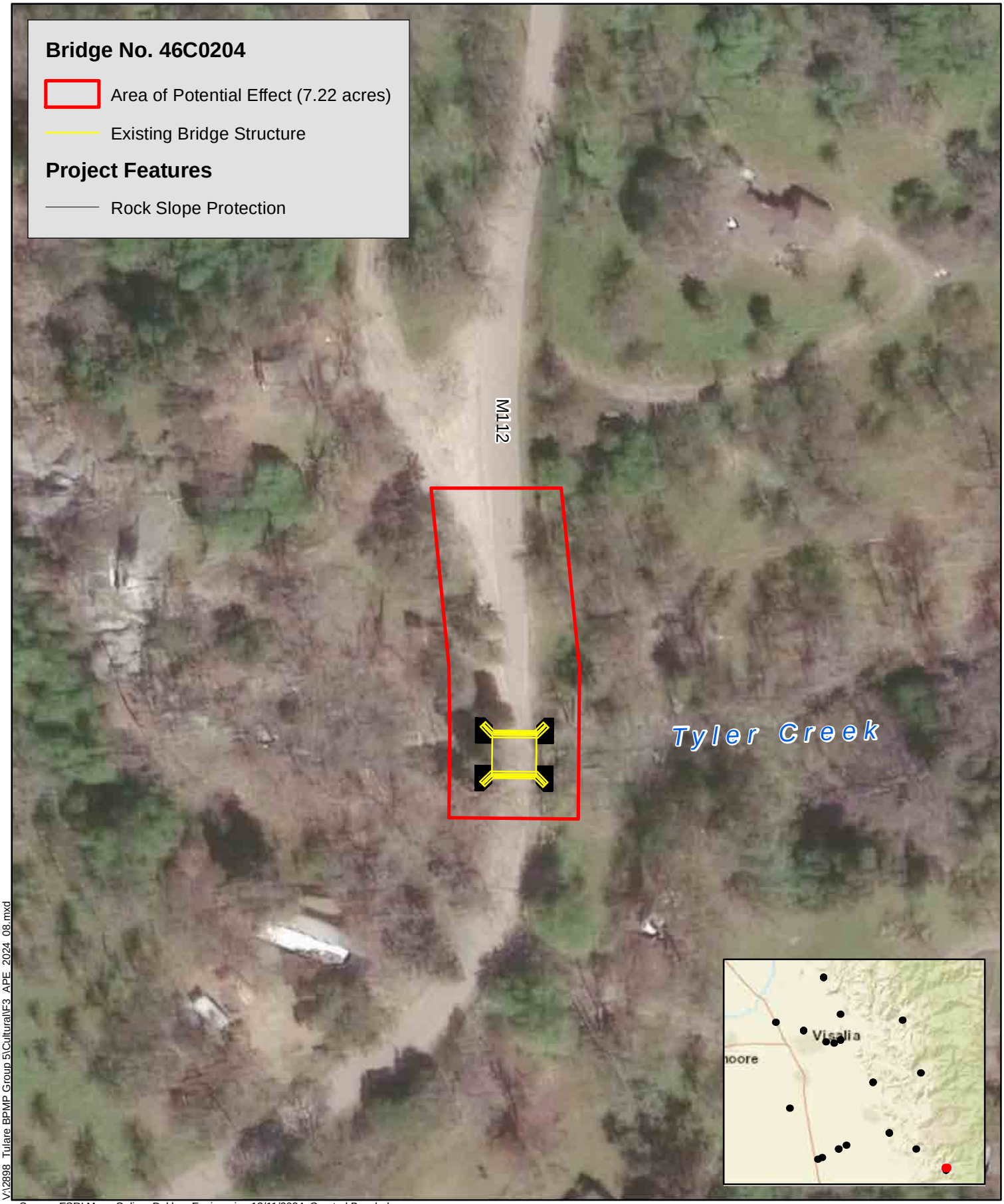
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1 inch = 75 feet

0 75 150 Feet

FIGURE 6
Area of Potential Effect

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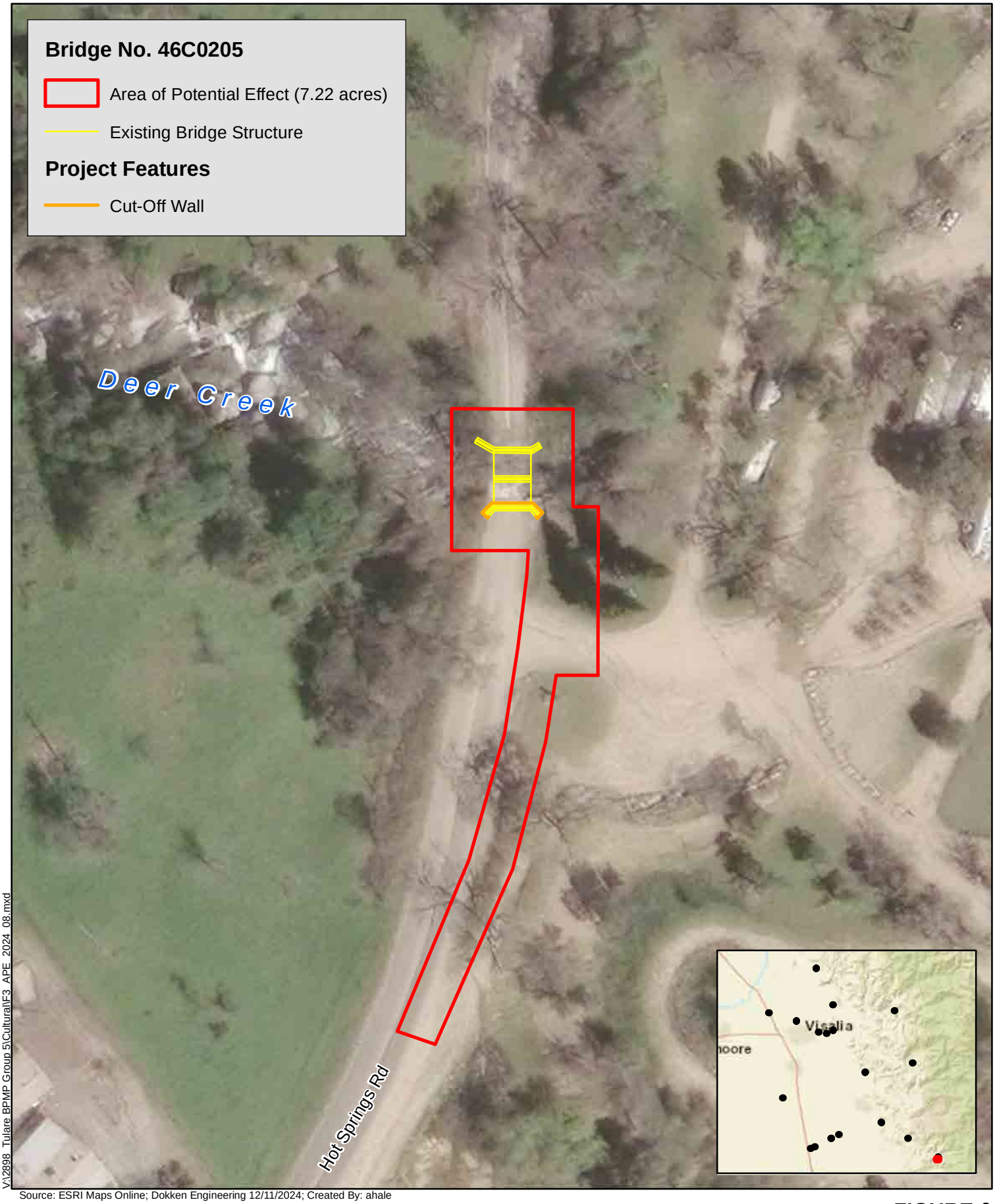
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1 inch = 75 feet

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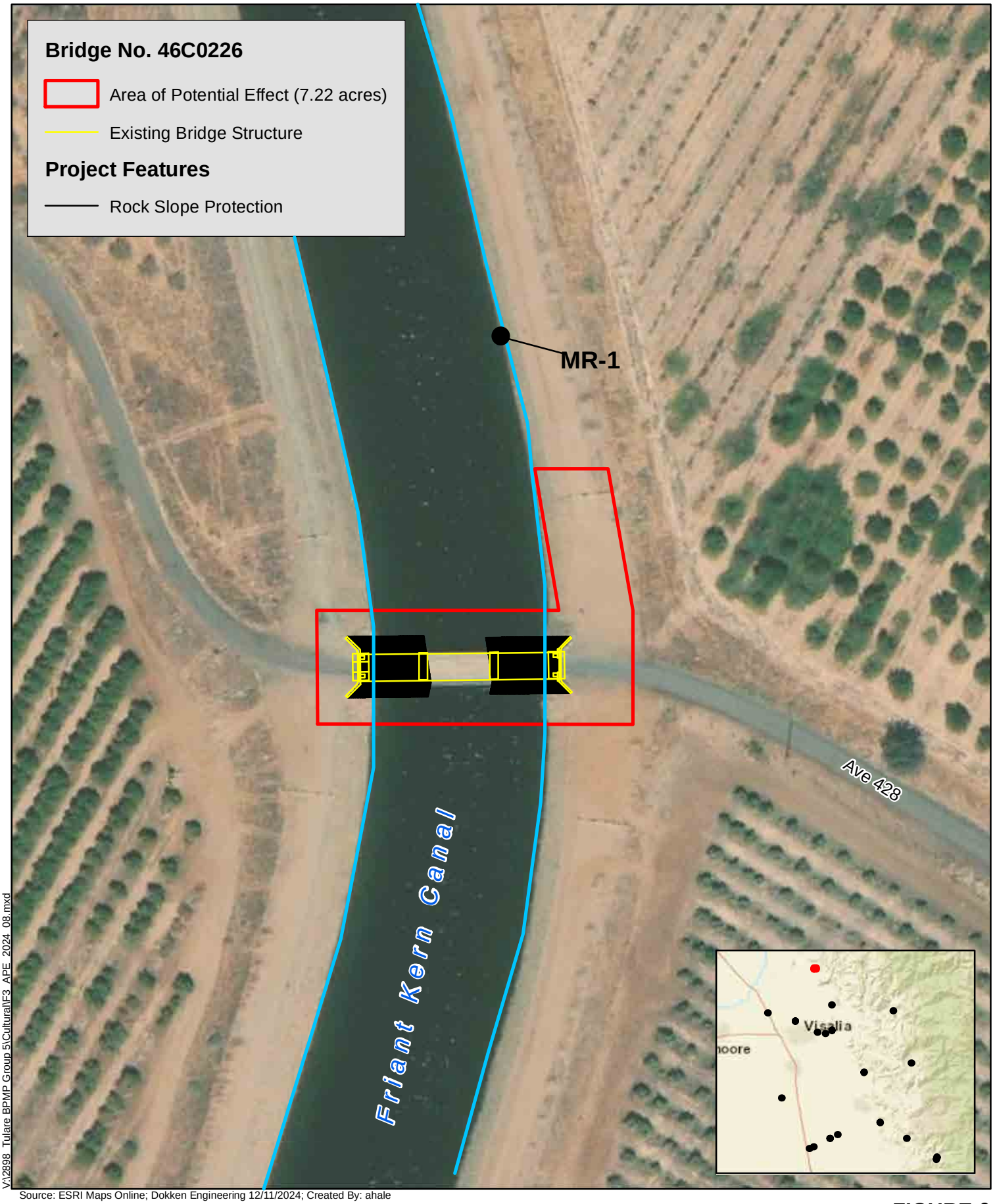
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1 inch = 75 feet

0 75 150 Feet

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Area of Potential Effect

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Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 12/11/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 6
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Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 12/11/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 6
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1 inch = 75 feet

0 75 150 Feet

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Area of Potential Effect

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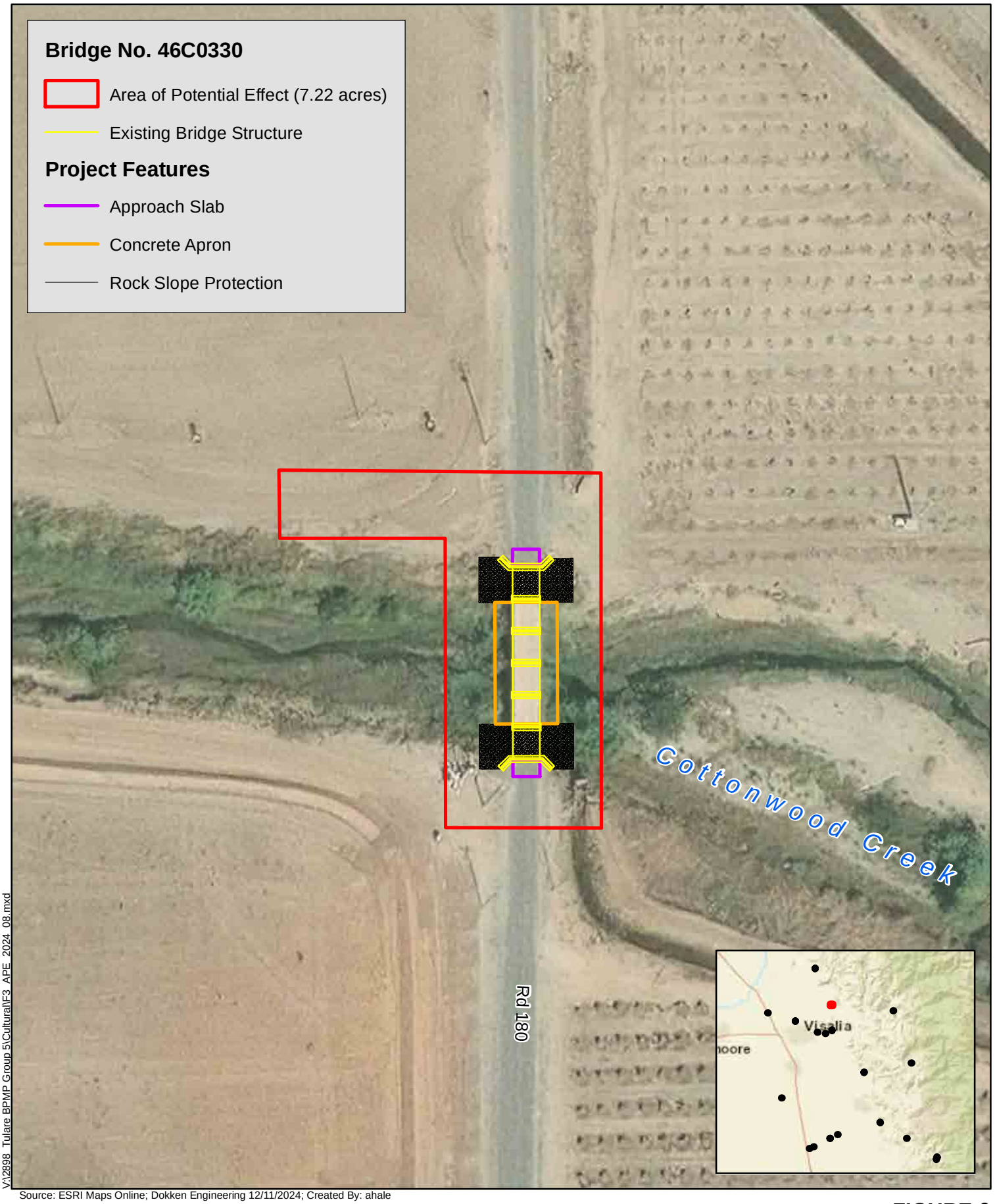
Source: ESRI Maps Online; Dokken Engineering 12/11/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 6
Area of Potential Effect

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Source: ESRI Maps Online; Dokken Engineering 12/11/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 6
Area of Potential Effect

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Source: ESRI Maps Online; Dokken Engineering 12/11/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

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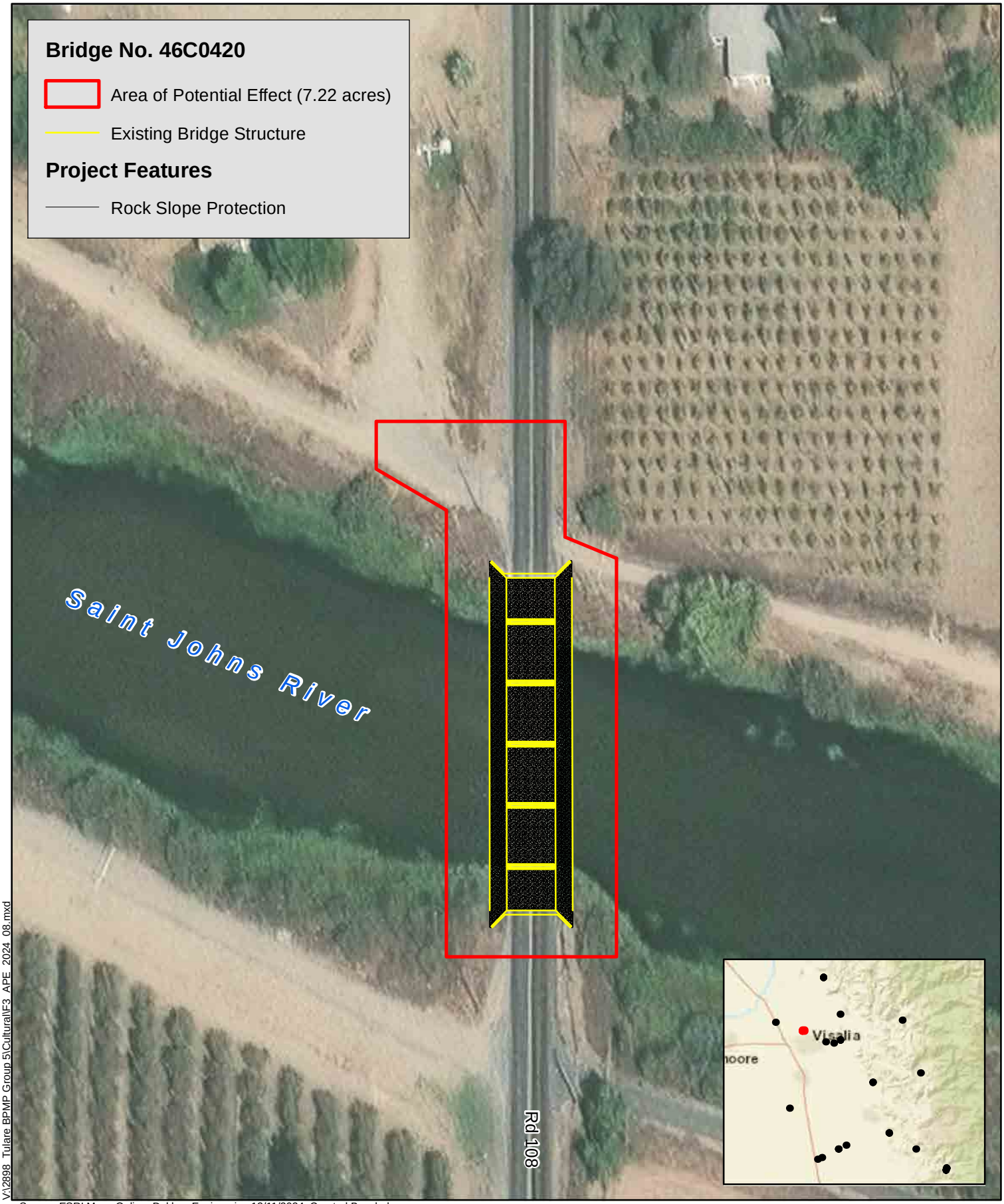
Source: ESRI Maps Online; Dokken Engineering 12/11/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 6
Area of Potential Effect

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Tulare County, California



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1 inch = 75 feet

0 75 150 Feet

FIGURE 6
Area of Potential Effect

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

Cultural Survey

An archaeological field survey was conducted on June 6 and 7, 2022, by Dokken archaeologists Michelle Campbell, M.A., and Namat Hosseinion, M.A. for the purposes of identifying and recording archaeological resources. The surface survey was conducted via controlled transects spaced at no greater than five (5) meter (16.5 foot) intervals within and/or along the entire APE, with special attention to all observed surface exposures and cut banks, which were inspected for the presence of archaeological deposits, including prehistoric and historic artifacts, archaeological features and/or anthropogenic soils. Evidence of potential subsurface features including depressions, rock alignments, change in vegetation, and change in vegetation growth height were also considered. All field conditions and observances were documented in the field notes and photographs. The archaeological field survey established that the APE locations have been subjected to extensive surface disturbance and modification as a result of construction and maintenance of the bridge and roadway as well as by adjacent agricultural practices. Ground surface visibility was very good along roadway shoulders, and within dirt access roadways. No Indigenous or historic-era cultural resources were observed within the APE as a result of the archaeological field survey.

PROJECT IMPACT ANALYSIS

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less Than Significant Impact. Five (5) cultural resources are within the APE: P-54-002179 (Even Ditch and Mill Creek Levee), P-54-004614 (Friant-Kern Canal), P-54-005291 (Mill Creek Bridge), P-54-005296 (Tulare Irrigation District infrastructure), and P-54-005457 (Deer Creek Ditch). However, the following were previously determined not eligible for inclusion in the NRHP and are therefore not considered historical resources under CEQA.

- P-54-002179 (Even Ditch and Mill Creek Levee)
- P-54-005457 (Deer Creek Ditch)
- P-54-005291 (Mill Creek Bridge)

The remaining two resources are considered historical resources under CEQA and are discussed below:

TID Canal

The TID Canal (P-54-005296) is crossed by Bridge 46C0036 (carrying Road 168), one of the bridges included in the Project. The TID Canal is a historic resource as defined under CEQA §15064.5 due to its with Tulare County irrigation and agriculture with a period of significance of 1877, the year of its construction (CRHR Criterion 1). Proposed Project activities for Bridge 46C0036 consist of the following: clear debris and rubble from the canal, grout exposed bridge piles, and place grout bags in front of the piers. These activities are minor additions to the bridge that will modestly augment existing bridge components and would not adversely affect the integrity of the canal. The minor nature of the work at this location would not alter any of the characteristics of the TID Canal that qualify the property for inclusion in the CRHR, nor diminish the overall integrity of materials, design, workmanship, setting, location, association, and feeling.

Friant-Kern Canal

The Friant-Kern Canal is crossed by Bridge 46C0226 (carrying Avenue 428), one of the bridges included in the Project. The bridge is at canal milepost 49.23. The Friant-Kern Canal (P-54-004614) was determined eligible for the NRHP in 2019 by Reclamation based on a report prepared by JRP, a finding that received California SHPO concurrence in 2020. As such, it is considered a historic property under NHPA. Since the Friant-Kern Canal is considered a historic property under NHPA, it is assumed that it is also a historic resource as defined under CEQA §15064.5. Proposed Project activities for Bridge 46C0226 include the following: application of methacrylate bridge deck treatment, resetting bearings on Abutment 4, removing asphalt concrete surfacing from sliding steel plate joint on the deck, minor channel grading, and the installation of rock slope protection at the abutments and abutment wingwalls. Of these, only the minor channel grading and installation of rock slope protection have the potential to adversely affect

the Friant-Kern Canal. The channel grading and installation of rock slope protection are both minor and small-scale activities that would not result in the destruction, damage, or alteration to the Friant-Kern Canal that would significantly diminish any characteristic which qualifies the property for inclusion in the CRHR.

In conclusion, the proposed Project would make minor additions to Bridges 46C0036 and 46C0226 which would not result in the destruction, damage, or alteration of the physical structure, or significantly diminish any characteristics which qualify the TID and Friant-Kern Canals for inclusion in the CRHR. A less than significant impact would occur.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant Impact with Mitigation. In an effort to identify archaeological resources that might be affected by the Project, an archaeological field survey, background research, and consultation with individuals and organizations were conducted. The archaeological field investigations did not identify any Indigenous or historic-era archaeological resources but did identify the five previously recorded built environment resources (discussed above). A review of the geologic formations and consideration of Project locations within active channels indicate that the APE locations have a low potential for intact archaeological resources; however, with any project, there is always the possibility that unknown cultural resources may be encountered during construction. With the implementation of mitigation measure **CR-1** potential impacts from the Project would be less than significant with mitigation incorporated.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact with Mitigation. With any project that involves ground disturbance, there is always the possibility that unmarked burials may be unearthed during construction. This impact is considered potentially significant. Implementation of mitigation measure **CR-2** would reduce this to a less than significant impact with mitigation incorporated.

MITIGATION MEASURES

CR-1: If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find. Additional archaeological survey would be needed if Project limits are extended beyond the present survey limits.

CR-2: Section 7050.5 of the California Health and Safety Code protect Native American burials, skeletal remains and grave goods, regardless of age and provide method and means for the appropriate handling of such remains.

If an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, the following performance standards shall be met prior to implementing or continuing actions such as construction, which may result in damage to or destruction of human remains. In accordance with the California Health and Safety Code (HSC), if human remains are encountered during ground-disturbing activities, the City shall immediately halt potentially damaging excavation in the area of the remains and notify the Sacramento County Coroner and a professional archaeologist to determine the nature of the remains. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (HSC Section 7050.5[b]).

If the human remains are of historic age and are determined to be not of Native American origin, the City will follow the provisions of the HSC Section 7000 (et seq.) regarding the disinterment and removal of non-Native American human remains.

If the Coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (HSC Section 7050[c]). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. The responsibilities of the City for acting upon notification of a discovery of Native American human remains are identified in California PRC Section 5097.9 et seq.

VI. ENERGY

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

The following analysis is based on the information provided in the General Plan, Background Report, General Plan RDEIR, and the resources cited in this analysis.

REGULATORY SETTING

Local

Tulare County General Plan

The following Tulare County General Plan policies for this resource apply to this Project: ERM-4.1 *Energy Conservation and Efficiency Measures*; and ERM-4.3 *Local and State Programs*.

PROJECT IMPACT ANALYSIS

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. The Project does not include any features that would result in energy consumption during its operational phase. However, during construction, the Project, would consume diesel and gasoline through operation of heavy-duty construction equipment, material deliveries, and debris hauling. Fuel consumption was calculated by inputting emissions results from the Cal-CET model. Fuel consumption was then converted into British thermal units (BTU) to express energy consumption using BTU conversion rates provided by the U.S. Energy Information Administration.[34] The estimated annual fuel/energy consumption needed to construct the proposed Project is displayed in **Table 14**, below.

Table 14. Annual Fuel and Energy Consumption

Bridge Number	Annual Fuel Consumption			
	Diesel		Gasoline	
	Gallons	BTUs	Gallons	BTUs
46C0036	264	36,268,584	56	6,731,984
46C0058	622	85,450,982	194	23,321,516
46C0059	852	117,048,612	269	32,337,566
46C0087	577	79,268,837	267	32,097,138
46C0106	119	16,348,339	58	6,972,412
46C0108	69	9,479,289	43	5,169,202
46C0202	65	8,929,765	22	2,644,708
46C0204	51	7,006,431	29	3,486,206
46C0205	26	3,571,906	8	961,712
46C0226	128	17,584,768	72	8,655,408

[34] U.S. Energy Information Administration. https://www.eia.gov/energyexplained/units-and-calculators/. Accessed June 2025.

Bridge Number	Annual Fuel Consumption			
	Diesel		Gasoline	
	Gallons	BTUs	Gallons	BTUs
46C0269	293	40,252,633	171	20,556,594
46C0309	49	6,731,669	16	1,923,424
46C0318	84	11,540,004	55	6,611,770
46C0330	260	35,719,060	120	14,425,680
46C0403	96	13,188,576	60	7,212,840
46C0408	146	20,057,626	32	3,846,848
46C0420	1,054	144,799,574	269	32,337,566
Total	**4,755**	**653,246,655**	**1,741**	**209,292,574**

As indicated in **Table 14**, construction of the Project would result in the short-term consumption of 4,755 gallons from diesel-powered equipment and 1,741 gallons from gasoline-powered equipment. This represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Moreover, construction-related energy consumption would be temporary and not a permanent new source of energy demand. Demand for fuel would have no noticeable effect on peak or baseline demands for fuel consumption, which is in the billions of gallons annually for the state.[35]

Consumption of those oil-based energy products necessary for the Project would be used efficiently and in accordance with the County's General Plan and all applicable local, state, and federal laws. Appropriate construction equipment would be used to minimize wasteful or inefficient actions, and construction energy consumption would not cause a significant reduction in available supplies. Therefore, the impact would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The Project would not conflict with or obstruct any state of local plan for renewable energy or energy efficiency. No impact would occur.

[35] California Energy Commission. https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/diesel-fuel-data-facts-and-statistics#:~:text=According%20to%20the%20California%20Department,including%20offroad%20diesel)%20was%20sold. Accessed June 2025.

VII. GEOLOGY/SOILS

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
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 No. 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?	☐	☒	☐	☐

The following analysis is based on the information provided in the General Plan, Background Report, General Plan RDEIR, and the resources cited in this analysis:

REGULATORY SETTING

State

Alquist-Priolo Earthquake Fault Zoning Act

"The Alquist- Priolo Earthquake Fault Zoning Act (formerly the Alquist- Priolo Special Studies Zone Act), signed into law December 1972, requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazards associated with fault rupture and to prohibit the location of most structures for human occupancy across these traces."

State Water Resources Control Board and Regional Water Quality Control Board

Typically, General Construction Storm Water NPDES permits are issued by the RWQCB for grading and earth-moving activities. The General Permit is required for construction activities that disturb one or more acres. The General Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which specifies practices that include prevention of all construction pollutants from contacting stormwater with the intent of keeping all products of erosion form moving off site into receiving waters. The NPDES permits are issued for a five-year term. NPDES general permits require adherence to the Best Management Practices (BMPs) including:

- Site Planning Consideration- such as preservation of existing vegetation.
- Vegetation Stabilization- through methods such as seeding and planting.
- Physical Stabilization- through use of dust control and stabilization measures.
- Diversion of Runoff – by utilizing earth dikes and temporary drains and swales.
- Velocity Reduction – through measures such as slope roughening/terracing.
- Sediment Trapping/Filtering – through use of silt fences, straw bale and sand bag filters, and sediment traps and basins.

Local

Tulare County General Plan

The following Tulare County General Plan policies for this resource apply to this Project: HS-5.1 *Development Compliance with Federal, State, and Local Regulations*; HS-5.2 *Development in Floodplain Zones;* and HS-5.9: *Floodplain Development Restrictions*.

Five County Seismic Safety Element (FCSSE)

The FCSSE report represents a cooperative effort between the governmental entities within Fresno, Kings, Madera, Mariposa and Tulare Counties to develop an adoptable Seismic Safety Element as required by State law. Part I, the Technical Report, is designed to be used when necessary to provide background for the Summary document. Part II, the Summary Report, establishes the framework and rationale for evaluation of seismic risks and hazards in the region. Part II of the Seismic Safety Element, the Policy Report, has been prepared as a "model" report designed to address seismic hazards as delineated in the Technical Report. The intent has been to develop a planning tool for use by county and city governments in implementing their seismic safety elements. The planning process utilized to develop the Element was developed through the efforts of Technical and Policy Committees, composed of both staff and elected representatives from Cities, Counties, and Special Districts or Areawide Planning Organizations in cooperation with the consulting firms of Envicom Corporation and Quinton-Redgate.[36]

PROJECT IMPACT ANALYSIS

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides?

i) ***Fault Rupture:*** **No Impact.** No substantial faults are known to occupy Tulare County.[37] According to the FCSSE, there are three faults (San Andreas Fault, Owens Valley Fault Group, and the Clovis Fault) that are principal sources of potential seismic activity. None of the bridge sites are located within the vicinity of either of these faults. Additionally, the proposed maintenance activities would not cause a surface rupture, as most activities would be done on or close to ground level. No impact will occur.

[36] Five County Seismic Safety Element, Fresno, Kings, Madera, & Tulare Counties. 1974. Prepared by Envicom Corporation.

[37] California Department of Conservation. Earthquake Zones of Required Investigation. https://maps.conservation.ca.gov/cgs/informationwarehouse/eqzapp/

ii) ***Ground Shaking:*** **No Impact.** According to the FCSSE, 12 bridge sites are located in seismic zone V1, which includes most of the San Joaquin Valley, and 5 bridge sites are located in seismic zone S1, which includes the eastern half of the Sierra Nevada Mountains. Seismic zones V1 and S1 were determined to have a low risk for ground shaking. Additionally, the Project would implement maintenance activities to repair, restore, and strengthen the structural elements of 17 bridges considered to be in generally good condition. No impact will occur.

iii) ***Ground Failure and Liquefaction:*** **No Impact.** According to the FCSSE, the 12 bridge sites that are located in seismic zone V1 and 5 bridge sites located in seismic zone S1 have a low risk for liquefaction. Additionally, the Project would implement maintenance activities to repair, restore, and strengthen the structural elements of 17 bridges that already adhere to Caltrans' seismic criteria. No impact will occur.

iv) ***Landslides:*** **Less Than Significant Impact.** According to the FCSSE, the 12 bridge sites that are located in seismic zone V1 have a low risk for landslides. Alternatively, the 5 bridge sites located in seismic zone S1 have a moderate to high potential. Although there are 5 bridge sites that are located in a zone with moderate to high potential of landslides, by performing maintenance activities (described in the Project Description), the Project would improve rather than exacerbate the risk of exposure to substantial adverse effects, including risk of loss, injury, or death, involving landslides. A less than significant impact would occur.

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

Less Than Significant Impact with Mitigation. The proposed maintenance activities would disturb land and result in vegetation removal, installation of RSP, debris and obstruction removal, and other ground disturbing activities. These activities could expose soils to erosion processes. However, standard BMP's (**WQ-1** and **BIO-4**) would be implemented during Project activities to minimize erosion. Impacts would be less than significant with mitigation incorporated.

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

No Impact. According to the FCSSE, the 12 bridge sites located in seismic zone V1 have a minimal potential for landslides, low to moderate potential for subsidence, and low potential for liquefaction. Alternatively, the 5 bridge sites located in seismic zone S1 have a moderate to high potential for landslides, minimal potential for subsidence, and low potential for liquefaction. The proposed maintenance activities would not involve the construction of buildings or structures. Therefore, there is no potential for on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. No impact will occur.

d) Would the project 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 soils contain significant amounts of clay particles that have the ability to give up water (shrink) or take on water (swell). When these soils swell, the change in volume can exert significant pressures on loads that are placed on them, and can result in structural distress and/or damage. The only bridge site located on soils with high clay content is bridge #46C0226. The soil composition of each bridge site is shown in **Table 15**, below.

Table 15. Soil Types at Each Bridge Location[38]

Bridge Number	Sandy Loam	Clay	Rocky Outcrop Complex	Saline-Sodic Complex	Xero-fluevents	Riverwash	Water	Other
46C0036	100%	--	--	--	--	--	--	--
46C0058	--	--	--	--	--	--	--	100%
46C0059	--	--	--	--	--	--	--	100%
46C0087	--	--	25%	--	--	75%	--	--
46C0106	--	--	--	--	--	98%	--	2%
46C0108	13%	--	--	--	--	81%	--	6%
46C0202	--	--	100%	--	--	--	--	--
46C0204	--	--	100%	--	--	--	--	--
46C0205	100%	--	--	--	--	--	--	--
46C0226	--	59%	--	--	--	--	41%	--
46C0269	--	--	--	100%	--	--	--	--
46C0309	--	--	--	--	--	--	--	100%
46C0318	--	--	--	31%	--	69%	--	--
46C0330	100%	--	--	--	--	--	--	--
46C0403	100%	--	--	--	--	--	--	--
46C0408	100%	--	--	--	--	--	--	--
46C0420	33%	--	--	--	--	67%	--	--

Although bridge 46C0226 is located on soil with high clay content, the Project would improve safety and operations on each facility rather than exacerbate the risk associated with expansive soils. Therefore, impacts related to expansive soils would be less than significant.

e) Would the project 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?

No Impact. The proposed Project does not include the use of septic tanks or alternative wastewater disposal systems. The Project would connect to the existing sewer infrastructure within the Project area. No Impact would occur.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant with Mitigation. According to the Tulare County General Plan Background Report, 12 paleontological resources have been recorded in Tulare County, generally within the valley.[39] The bridge sites have been highly disturbed by construction and continued maintenance of the bridges and associated roadways as well as by adjacent agricultural and irrigation infrastructure in many locations. Although excavation would be required to perform some of the preventative maintenance activities, it is unlikely to directly or indirectly destroy a unique paleontological resource or geologic feature. Implementation of **CR-1** will ensure that impacts will be less than significant with mitigation incorporated.

MITIGATION MEASURES

See Item IV. Biological Resources for **BIO-4**, Item X. Hydrology and Water Quality for **WQ-1**, and Item V. Cultural Resources for **CR-1**.

[38] Dokken Engineering. NES. Table 2: Soil Types within the BSA.

[39] Tulare County. General Plan Background Report. https://generalplan.co.tulare.ca.us/. Accessed June 2025.

VIII. GREENHOUSE GAS EMISSIONS

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

The following analysis is based on the information provided in the Tulare County General Plan, Background Report, General Plan RDEIR, and the resources cited in this analysis.

REGULATORY SETTING

Federal

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years.

The US EPA Mandatory Reporting Rule (40 CFR Part 98), which became effective December 29, 2009, requires that all facilities that emit more than 25,000 metric tons CO_2-equivalent per year beginning in 2010, report their emissions on an annual basis. On May 13, 2010, the USEPA issued a final rule that established an approach to addressing GHG emissions from stationary sources under the CAA permitting programs. The final rule set thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities.

In addition, the Supreme Court decision in Massachusetts v. EPA (Supreme Court Case 05-1120) found that the US EPA has the authority to list GHGs as pollutants and to regulate emissions of GHGs under the CAA. On April 17, 2009, the US EPA found that CO_2, CH_4, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride may contribute to air pollution and may endanger public health and welfare. This finding may result in the US EPA regulating GHG emissions; however, to date the US EPA has not proposed regulations based on this finding.

State

In 2002, with the passage of AB 1493, California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions; these regulations applied to automobiles and light trucks beginning with the 2009 model year.

California has taken action to reduce GHG emissions. In June 2005, Governor Schwarzenegger signed Executive Order S-3- 05 to address climate change and GHG emissions in California. This Order sets the following goals for statewide GHG emissions:

- Reduce to 2000 levels by 2010
- Reduce to 1990 levels by 2020
- Reduce to 80 percent below 1990 levels by 2050

In 2006, California passed AB 32, the California Global Warming Solutions Act of 2006. The Act requires CARB to design and implement emission limits, regulations, and other feasible cost-effective measures to reduce statewide GHG emissions to 1990 levels by 2014. SB 97 was signed into law in August 2007. The Senate Bill required the Office of Planning and Research (OPR) [now name Office of Land Use and Climate Innovation (LCI)] to prepare, develop, and transmit to the Resource Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions by July 1, 2009. On April 13, 2009, the OPR submitted to the Secretary for Natural Resources its recommended amendments to the State CEQA Guidelines for addressing GHG emissions. On July 3, 2009, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting the amendments. Following a 55-day public comment period and 2 public hearings, and in response to comments, the Natural Resources Agency proposed revisions to the text of the proposed Guidelines amendments. The Natural Resources Agency transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. On February 16, 2010, the Office of Administrative Law approved the amendments, and filed them with the Secretary of State for inclusion in the CCR. The Amendments became effective on March 18, 2010.

The AB 32 Scoping Plan contains the main strategies California will use to reduce GHG emissions that cause climate change. The scoping plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms (such as a cap-and-trade system), and an AB 32 cost of implementation fee regulation to fund the program. The first regulation adopted by the CARB pursuant to AB 32 was the regulation requiring mandatory reporting of GHG emissions. The regulation requires large industrial sources emitting more than 25,000 metric tons of CO_2 per year to report and verify their GHG emissions from combustion of both fossil fuels and biomass-derived fuels. The California Cap and Trade program is being developed and the CARB must adopt regulations by January 1, 2011. Also, Governor Schwarzenegger directed the CARB, pursuant to Executive Order S-21-09, to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020.

Local

Tulare County General Plan

The following Tulare County General Plan policies for this resource apply to this Project: AQ-3.4 *Landscape*; AQ-3.5 *Alternative Energy Design*; and ERM-4.1 *Energy Conservation and Efficiency Measures.*

Tulare County Climate Action Plan

The Tulare County Climate Action Plan (CAP) serves as a guiding document for Tulare County actions to reduce GHG emissions and adapt to the potential effects of climate change. The CAP is an implementation measure of the 2030 General Plan Update. The General Plan provides the supporting framework for development in the County to produce fewer greenhouse gas emissions during Plan buildout. The CAP builds on the General Plan's framework with more specific actions that will be applied to achieve emission reduction targets consistent with California legislation.

PROJECT IMPACT ANALYSIS

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

b) Would the project conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. The Project will result in direct GHG emissions from construction-related operations and from on-road vehicles thereafter. The Project is not intended to increase traffic volumes; it would only perform preventative maintenance on existing facilities considered to be in good condition. As the Project is not adding additional capacity and is a safety-related project, the Project is consistent with the Tulare County General Plan and CAP. As such, Project-related GHG emissions will not have a significant impact on the environment, nor will the

Project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. The Project will result in a less than significant impact.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
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 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?	☐	☐	☒	☐

The following analysis is based on the information provided in the Tulare County General Plan, Background Report, General Plan RDEIR, 2025 Hazardous Waste Initial Site Assessment (ISA) (**Attachment C**), and the resources cited in this analysis.

REGULATORY SETTING

Federal

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA). The purpose of CERCLA, often referred to as "Superfund," is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, EO 12088, Federal Compliance with Pollution Control Standards, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

State

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires clean-up of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction

Local

Tulare County General Plan

The following Tulare County General Plan policies for this resource apply to this Project: HS-1.2: *Development Constraints;* HS-1.9: *Emergency Access*; HS-4.4 *Contamination Prevention;* HS-4.5: *Increase Public Awareness*; HS-6.1 *New Building Fire Hazards;*HS-6.5 Fire Risk Recommendations; HS-6.7 Water Supply System; PFS-2.3 *Well Testing;* PFS-7.1: *Fire Protection*; PFS-7.2 *Fire Protection Standards;* and PFS-7.5 Fire Staffing and Response Time Standards.

ENVIRONMENTAL SETTING

On March 2025, a Hazardous Waste Initial Site Assessment (ISA) was prepared by Dokken Engineering. The Hazardous Waste ISA analyzed whether construction of the proposed Project could be affected by any recorded or visible hazardous waste problems and recommended any additional work or testing that may be needed. As part of the assessment, regulatory records searches, file reviews, historical database reviews, and site reconnaissance were conducted. Environmental Data Resources, Inc. searched federal, state, and local environmental databases for Recognized Environmental Condition (REC) listings pertaining to each bridge site and properties/facilities near each bridge site. On March 18, 2024, a site reconnaissance was performed at each bridge location.

The following REC's have potential to be present on a bridge or within the Project areas:[40]

- Asbestos containing material (ACM)- the structural elements of a bridge, including concrete, was potentially formed with ACM if it was constructed before 1989. Project activities at the following bridge sites would

[40] Dokken Engineering. Initial Site Assessment. Table 1-Summary Table.

disturb over 34 cubic feet, thus an asbestos inspection/survey is required:[41] 46C0036, 46C0059, 46C0087, 46C0106, 46C0108, 46C0202, 46C0204, 46C0226, 46C0269, 46C0318, 46C0330, 46C0403, and 46C0408.

- Aerially-deposited lead (ADL) – there is potential for lead in exposed soil from historical vehicle emissions since leaded gasoline was used through the 1970's. The shoulders of the roadway at the following bridge sites may contain ADL: 46C0058, 46C0059, 46C0087, 46C0106, 46C0202, 46C0204, 46C0205, 46C0226, 46C0269, 46C0309, 46C0330, 46C0408, and 46C0420.
- Lead based paint (LBP) – yellow pavement striping and paint along the roadway and bridge may contain potential lead and heavy metals. The following bridge locations have the potential to contain LBP: 46C0036, 46C0106, 46C0108, 46C0204, 46C0269, 46C0318, 46C0403, and 46C0420.
- Treated wood waste (TWW) – Project activities at the following bridge location have the potential to disturb TWW during construction: 46C0269.
- Polychlorinated biphenyl (PCB) – The Project area for the following bridge locations may contain PCB's due to presence of utility pole-mounted transformers along the roadway: 46C0106 and 46C0330.

PROJECT IMPACT ANALYSIS

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

Less Than Significant Impact with Mitigation. The purpose of the Project is to perform preventative maintenance activities at 17 bridge locations. This does not increase the risk of hazard to the public or environment through the routine transport, use, or disposal of hazardous materials. Large trucks carrying hazardous materials may currently use these bridges, and this pattern of use is not expected to change as a result of the Project. Therefore, the preventative maintenance work is not anticipated to create new or increased risks related to hazardous materials transport. The Project would also not include permanent use or source of hazardous materials.

According to the ISA, five potential RECs (ACM, ADL, LBP, TWW, and PCB's) were identified at select bridge locations (see Environmental Setting section above for more information). Thus, there is potential for the Project to dispose of hazardous materials during construction. The following sections discuss the presence of known or suspected hazardous materials identified at select bridge locations.

ADL

ADL is commonly associated with transportation construction due to emissions from vehicles powered by lead gasoline. Due to low classification of the roadways present, it is assumed that ADL is present in unregulated earth materials within the planned construction area at the following bridge sites: 46C0058, 46C0059, 46C0087, 46C0106, 46C0202, 46C0204, 46C0205, 46C0226, 46C0269, 46C0309, 46C0330, 46C0408, and 46C0420. With implementation of **HAZ-1**, impacts associated with ADL would be reduced to a less than significant level.

ACM

Project activities at the following bridge sites would disturb over 34 cubic feet, thus an asbestos inspection/survey is required at the following bridge sites: 46C0036[42], 46C0059[43], 46C0087, 46C0106, 46C0108, 46C0202, 46C0204, 46C0226, 46C0269, 46C0318[44], 46C0330[45], 46C0403, and 46C0408.

[41] San Joaquin Valley Air Pollution Control District. https://ww2.valleyair.org/NESHAP-renovation. Accessed June 2025.
[42] Concrete debris within TID Canal was tested for ACM as well
[43] Concrete debris within Cross Creek was tested for ACM as well
[44] Concrete debris within Deer Creek was tested for ACM as well
[45] Concrete debris within Cottonwood Creek was tested for ACM as well

In June 2025, Geocon prepared an Asbestos and Lead Containing Paint Survey Report. Suspect ACM at the 13 bridge sites were grouped into homogenous areas with representative samples randomly collected for each. Seventy-seven (77) bulk asbestos samples representing thirty-five (35) suspect materials were collected. Asbestos was not detected in any of the collected samples of suspect materials. Although asbestos was not detected, **HAZ-2** would be implemented in accordance with National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements.

LBP

The ISA concluded that there is a potential for LBP to be present on the following bridge structures: 46C0036[46], 46C0106, 46C0108, 46C0204, 46C0269, 46C0318, 46C0403, and 46C0420.

In June 2025, Geocon prepared an Asbestos and Lead Containing Paint Survey Report. Seven (7) bulk paint samples from suspect LBP (yellow traffic striping and white paint on concrete debris) that were observed at the bridge sites listed above were collected.

For solid waste containing lead, the waste is classified as California hazardous when: 1) the representative total lead concentration equals or exceeds the respective Total Threshold Limit Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg); or 2) the representative soluble lead concentration equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) of 5 milligrams per liter (mg/l) based on the standard Waste Extraction Test (WET). Lead-containing waste is classified as RCRA hazardous, or Federal hazardous, when the representative soluble lead concentration equals or exceeds the Federal regulatory level of 5 mg/l based on the Toxicity Characteristic Leaching Procedure (TCLP). As shown by **Table 16**, all samples collected are not classified as hazardous.

Table 16. Analytical Laboratory Test Results for LBP

Bridge Number	Results
46C0036	Total lead was reported in a sample representing intact white paint applied to concrete debris at a concentration of 4.3 mg/kg.
46C0106	Total lead was reported in a sample representing intact yellow traffic striping applied to the bridge deck at a concentration of 15 mg/kg.
46C0108	Total lead was reported in a sample representing intact yellow traffic striping applied to the bridge deck at a concentration of 6.8 mg/kg.
46C0204	Intact red paint on structural steel was not sampled as it is not needed or beneficial.
46C0269	Total lead was reported in a sample representing approximately 60 square feet of deteriorated yellow traffic striping applied to the bridge deck at a concentration of 4.8 mg/kg.
46C0318	Total lead was reported in a sample representing approximately 80 square feet of deteriorated yellow traffic striping applied to the bridge deck at a concentration of 3.2 mg/kg.
46C0403	Total lead was reported at a concentration of 770 mg/kg in a sample representing intact yellow traffic striping applied to the bridge deck. Soluble (WET) lead was reported at a concentration of 4.3 mg/l and soluble (TCLP) lead was reported at a concentration of 0.48 mg/l.
46C0420	Total lead was reported in a sample representing intact yellow traffic striping applied to the bridge deck at a concentration of 7.3 mg/kg.

Intact yellow traffic striping on the bridge deck/ approaches and white paint on concrete debris represented by samples collected during the survey would not be considered a California or Federal hazardous waste based on lead content if stripped, blasted, or otherwise separated from the substrate. However, it is recommended that all paints at the sites listed above be treated as lead containing for purpose of determining the applicability of the California Occupational Safety and Health Administration (Cal/OSHA) lead standard during maintenance, renovation, and demolition activities. As such, with implementation of measure **HAZ-3** and **HAZ-4**, hazardous waste impacts related to LBP would be reduced to a less than significant level.

[46] White paint on concrete debris within TID Canal was tested for LBP as well

TWW

Project activities at bridge 46C0269 would include replacing the bridge rail, which contains chemically treated wood posts. With implementation of **HAZ-5**, impacts related to TWW would be reduced to a less than significant level.

PCB

Bridge locations 46C0106 and 46C0330 contain pad-mounted transformers within their Project limits. Pad-mounted transformers have the potential to contain fluids that contain PCBs. Evidence of a release was not observed in the vicinity of the electrical equipment during the site reconnaissance; therefore further evaluation is unwarranted at this time. However, if leaking transformers are identified during construction, the utility owner should be contacted to test for PCBs or other hazardous substances, service, replace and/or relocate the equipment (**HAZ-6**).

With implementation of measures **HAZ-1** through **HAZ-6**, impacts related to the Build Alternative would be less than significant with mitigation incorporated.

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

Less Than Significant Impact With Mitigation Incorporated. The Project would involve the use of heavy equipment for grading, hauling, and handling materials during construction. Use of this equipment may require the use of fuels and other common materials that have hazardous properties (e.g., fuels are flammable). These materials would be used and stored in accordance with all federal, state, and local applicable laws and regulations, and, if used properly, would not pose a hazard to people, animals, or plants. All refueling of construction vehicles and equipment would occur within the designated staging area for the Project, and away from any aquatic features. Mitigation measure **BIO-4** would reduce any potential impacts to a less than significant level from temporary construction equipment and activities.

Additionally, with any project that involves excavation, there is a possibility of encountering unknown hazardous contamination during construction. With implementation of **HAZ-7**, impacts would be reduced to a less than significant level.

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

No Impact. No schools are located within one-quarter mile of any bridge sites. Thus, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school. There would be no impact.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. A review of EDR, GeoTracker and EnviroStor databases indicated that there are no active hazardous waste cleanup sites, facilities, or other sites located within the Project area of any bridge sites. Therefore, the Project would not create a significant hazard to the public or environment and no impact would result from Project implementation.

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 the project area?

No Impact. According to the Tulare County Comprehensive Airport Land Use Plan, there are seven airports located within Tulare County. The table below lists each airport and the nearest bridge site. As shown in **Table 17** below, all bridge sites are located outside of an airport influence area. Additionally, noise generated from construction work would be temporary; therefore, the Project would not expose people residing or working in the Project area to any safety hazards or excessive noise levels. No impact will occur.

Table 17. Nearest Airport Locations

Airport	Nearest Bridge/ Distance from Airport
Eckert Field Airport	46C0309/ 2.5 miles
Exeter Airport	46C0036/ 6.5 miles
Mefford Field Airport	46C0269/ 5 miles
Pixley Airport	46C0318/ 3.5 miles
Porterville Municipal Airport	46C0087/ 5.5 miles
Sequoia Field Airport	46C0420/ 4.5 miles
Visalia Municipal Airport	46C0420/ 6 miles
Woodlake Airport	46C0330/ 4.5 miles

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

Less Than Significant. During construction, road closures and detours will take place at select bridge sites; however, the anticipated duration of the road closures will be approximately 4–6 hours depending upon access needs of residents and available detour options. Operation of the Project would not impair or physically interfere with an adopted emergency response or evacuation plan. Due to the temporary nature of road closures related to the Project, impacts would be less than significant.

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

Less Than Significant. Although there are a few bridge sites that are located within High and Very High Fire Hazard Severity Zones, the Project does not include new structures or expanded access into wildland areas. The Project involves performing short-term preventative maintenance activities at existing bridge structures and would not increase long-term wildfire risk. During construction, the proposed Project would not require construction crews to traverse wildlands and would not require the use of ignition sources, except for operation of the construction vehicles. Additionally, the use and staging of equipment would follow standard construction safety protocols to prevent fire or sparks that could cause fire during construction. Therefore, impacts would be less than significant.

MITIGATION MEASURES

See Item IV. Biological Resources for **BIO-4**.

HAZ-1: Section 7-1.02K(6)(j)(iii) "Unregulated Earth Material Containing Lead" of the 2023 Caltrans SSP, or the latest version of this special provision at the time of construction, will be included in the plan specifications to be implemented by the contractor. A lead compliance plan will be prepared by the contactor and may address soil, paint, markings, etc.

HAZ-2: At least 10 working days prior to the commencement of abatement work, notification submissions shall be submitted to the SJVUAPCD in accordance with NESHAP requirements.

HAZ-3: All paints at the project site be treated as lead-containing for purpose of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. In accordance with Title 8, CCR, §1532.1(p), written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain lead-related work. Compliance and training requirements regarding construction activities where workers may be exposed to lead are presented in Title 8, CCR, §1532.1, subsections (e) and (l), respectively. The removal, transportation, placement, handling, and disposal of LBP must result in no visible dust.

HAZ-4: Yellow and white thermoplastic striping paint observed within the project limits generally has the potential to contain lead or chromium. Section 14-11.12 "REMOVAL OF YELLOW TRAFFIC STRIPE AND PAVEMENT MARKING WITH HAZARDOUS WASTE RESIDUE" of the 2023 Caltrans Standard Specifications, or the latest version of this specification at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure any hazardous waste from yellow thermoplastic pavement markings from the roadway are properly disposed of. Section 14-11.13 "DISTURBANCE OF EXISTING PAINT SYSTEMS ON BRIDGES" of the 2023 Caltrans Standard Specifications, or the latest version of this specification at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure any hazardous waste from yellow thermoplastic pavement markings from the bridge are properly disposed of.

HAZ-5: Any chemically treated wood must be treated as TWW and disposed of as hazardous waste. For the TWW, the DTSC regulations §66261.9.5 provide alternative management standards for TWW. Caltrans 2023 SSP for TWW, SSP 14-11.14, is based on DTSCs Alternative Management Standards regulations. This SSP directs the Contractor to follow the AMS including providing training to all personnel that may come in contact with TWW. This training must include, at a minimum, safe handling, sorting and segregating, storage, labeling (including date), and proper disposal methods.

HAZ-6: Any leaking transformers observed during the course of the project should be considered a potential PCB hazard. Should leaks from electrical transformers (that will either remain within the construction limits or will require removal and/or relocation) be encountered during construction, the transformer fluid should be sampled and analyzed by qualified personnel for detectable levels of PCB's. Should PCBs be detected, the transformer should be removed and disposed of in accordance with Title 22, Division 4.5 of the California Code of Regulations and any other appropriate regulatory agency. Any stained soil encountered below electrical transformers with detectable levels of PCB's should also be handled and disposed of in accordance with Title 22, Division 4.5 of the California Code of Regulations and any other appropriate regulatory agency. Section 14-11.15 DISPOSAL OF ELECTRICAL EQUPIMENT REQUIRING SPECIAL HANDLING of the 2023 Caltrans Standard Specifications, or the latest version of this specification at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure electrical transformers are properly handled and disposed of.

HAZ-7: As is the case for any Project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during Project construction. Contaminated soils can be encountered at any depth of excavation. If soils contaminated by hazardous waste are discovered during construction, proper hazardous waste handling and emergency procedures under 40 CFR § 262 and Division 4.5 of Title 22 CA Code of Regs shall be followed. The specific methods and protocol for determining if a soil is contaminated are contained in Appendix D – Caltrans Hazardous Procedures for Construction.

X. HYDROLOGY AND WATER QUALITY

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater 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 offsite?	☐	☐	☒	☐
	iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
	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 water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

The following analysis is based on the information provided in the Tulare County General Plan, Background Report, General Plan RDEIR, 2024 Water Quality Assessment Report (**Attachment D**), and the resources cited in this analysis.

REGULATORY SETTING

Federal

Clean Water Act

The CWA is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires states to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the National Pollutant Discharge Elimination System (NPDES) permit process was established to regulate these discharges.

State

The Porter-Cologne Water Quality Control Act

"The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected,
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water
- quality within reason, and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in
- the State from degradation.

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions."[47]

State Water Resources Control Board

The SWRCB, located in Sacramento, CA, is the agency with jurisdiction over water quality issues in the State of California. The SWRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the California Water Code) which establishes the legal framework for water quality control activities by the SWRCB. The intent of the Porter-Cologne Act is to regulate factors which may affect the quality of waters of the State to attain the highest quality which is reasonable, considering a full range of demands and values. Much of the implementation of the SWRCB's responsibilities is delegated to its nine Regional Boards. The Project site is located within the Central Valley Region.

Regional Water Quality Board

Central Valley Regional Water Quality Control Board (RWQCB) administers the NPDES storm water-permitting program in the Central Valley region. Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The General Construction Permit requires preparation and implementation of a SWPPP. The plan will include specifications for Best Management Practices (BMPs) that will be implemented during proposed Project construction to control degradation of surface water by preventing the potential erosion of sediments or discharge of pollutants from the construction area. The General Construction Permit program was established by the RWQCB for the specific purpose of reducing impacts to surface waters that may occur due to construction activities. BMPs have been established by the RWQCB in the California Storm Water Best Management Practice Handbook (2003), and are recognized as effectively reducing degradation of surface waters to an acceptable level. Additionally, the SWPPP will describe measures to prevent or control runoff degradation after construction is complete, and identify a plan to inspect and maintain these facilities or project elements.

Local

Tulare County General Plan

The following Tulare County General Plan policies for this resource apply to this Project: WR-1.2: *Groundwater Monitoring*; WR-1.4: *Conversion of Agricultural Water Resources*; WR-2.1 *Protect Water Quality*; WR-2.2 *National Pollutant Discharge Elimination System (NPDES) Enforcement*; WR-2.3 *Best Management Practices (BMPs)*; WR-2.4 *Construction Site Sediment Control*; WR-2.8: *Point Source Control;* WR-2.9 *Private Wells*; WR-3.3 *Adequate Water*

[47] California Water Boards. State Laws Porter-Cologne Act. Accessed June 2025 at: https://www.waterboards.ca.gov/water_issues/programs/nps/encyclopedia/0a_laws_policy.html

Availability; WR-3.5: *Use of Native and Drought Tolerant Landscaping*; WR-3.10: *Diversion of Surface Water*; HS-5.1 *Development Compliance with Federal, State, and Local Regulations*; HS-5.2 *Development in Floodplain Zones;* PFS-4.2 *Site Improvements*; and PFS-4.7: *NPDES Enforcement*.

PROJECT IMPACT ANALYSIS

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less Than Significant Impact with Mitigation. The Project would follow the Construction General Permit 2022-0057-DWQ, as stated in measure **WQ-1**. The permit will address clearing, grading, grubbing, and disturbances to the ground, such as stockpiling, or excavation. This permit will also require that a SWPPP be prepared and implemented throughout construction with the intent of keeping all products of erosion from moving off-site into receiving waters. The SWPPP includes BMPs to prevent construction pollutants from entering storm water runoff. In addition, mitigation measures **BIO-2** through **BIO-5** would be implemented to avoid and minimize effects to water quality. With implementation of **WQ-1** and **BIO-2** through **BIO-5**, Project impacts will be less than significant with mitigation incorporated.

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

No Impact. No groundwater wells would be drilled as a part of the proposed bridge preventative maintenance activities. The Project would not deplete groundwater supplies or interfere substantially with groundwater recharge that would result in a net deficit in aquifer volume or lowering of the local groundwater table level. Therefore, the Project would result in no impact.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on-or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows?

i) ***Erosion and Siltation:*** **Less Than Significant Impact with Mitigation.** The proposed Project would not substantially alter the overall existing drainage patterns since existing storm drain facilities would be utilized at each bridge site. Post-development site conditions would not change applicable regulatory mechanisms with regard to erosion or siltation.

In addition, the Project would comply with **WQ-1** and **BIO-2** through **BIO-5**, which would minimize impacts to water quality during construction, including erosion and/or siltation on-or off-site. Therefore, the proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in substantial erosion or siltation on- or off-site. Impacts would be less than significant with mitigation incorporated.

ii) ***Runoff and Flooding:*** **Less Than Significant Impact.** The proposed Project would implement preventative maintenance measures and would not replace or widen the existing bridges. However, a concrete apron will be installed at bridge #46C0330. This activity would increase impervious surface by approximately 0.06 acres, which would contribute to a slight increase in storm water runoff. Activities at the remaining bridge locations would not increase impervious surfaces. Since there will only be a minor increase in

impervious surfaces, the Project would not substantially change the rate or volume of surface runoff in a manner which would result in flooding on or offsite. Impacts would be less than significant.

iii) ***Drainage Systems and Polluted Runoff:*** **Less Than Significant Impact.** As stated previously, the proposed Project would implement preventative maintenance measures and would not replace or widen the existing bridges. However, a concrete apron will be installed at bridge #46C0330. This would increase impervious surface by approximately 0.06 acres, contributing to a slight increase in storm water runoff. Activities at the remaining bridge locations would not increase impervious surfaces. Since the increase in impervious surfaces would be minor, the proposed Project would not create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant.

iv) ***Impede or Redirect Flood Flows:*** **Less Than Significant Impact. Table 18** lists the FEMA flood zones that occur at each bridge site. Although there are 11 bridge sites that are within Zone A (a special flood hazard area), the proposed Project would not result in any permanent changes to the topography that would cause impediment or redirection of flood flows. Impacts would be less than significant.

Table 18. FEMA Flood Zones

Bridge Number	Water Body	FEMA Flood Zone[48]
46C0036	TID Canal	Zone X
46C0058	Cross Creek	Zone A
46C0059	Cross Creek	Zone A
46C0087	Deer Creek	Zone A
46C0106	Deer Creek	Zone A
46C0108	Deer Creek	Zone A
46C0202	Deer Creek	Zone A
46C0204	Tyler Creek	Zone X
46C0205	Deer Creek	Zone X
46C0226	Friant-Kern Canal	Zone X
46C0269	Elk Bayou	Zone A
46C0309	Lewis Creek	Zone A
46C0318	Deer Creek	Zone A
46C0330	Cottonwood Creek	Zone A
46C0403	Crocker Cut	Zone X
46C0408	Mill Creek	Zone X
46C0420	Saint John's River	Zone A

d) If in a flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

No Impact. As discussed above, although there are 11 bridges sites mapped within Zone A (a special flood hazard area), the Project would not result in a permanent change that would exacerbate flood risk. Therefore, there would not be any new significant impact related to risk of pollutant release during a flood. Tsunamis are usually caused by displacement of the ocean flood causing large waves and are typically generated by seismic activity. The closest bridge site (#46C0106) to the Pacific Ocean is approximately 97 miles inland. Therefore, there is no potential risk from a tsunami inundating any bridge site included in the Project. Lastly, a seiche is a standing wave in an enclosed or partly enclosed body of water. Seiches are normally caused by earthquake activity, and can affect harbors, bays, lakes, rivers, and canals. The proposed preventative maintenance activities would not create any land use change that would exacerbate risks related to pollutant release as a result of a seiche at any waterbody. No Impacts related to the release of pollutants due to floods, tsunamis, or seiches would occur.

[48] Dokken Engineering, Initial Site Assessment. Table 2.4.

e) Would the project conflict with or obstruct implementation of water quality control plan or sustainable groundwater management plan?

No Impact. The Project would obtain the appropriate permits from the RWQCB; therefore, the Project would not conflict with or obstruct the implementation of the Water Quality Control Plan (Basin Plan) for the California RWQCB Central Valley Region. Furthermore, the Project would not have any effects to groundwater. There would be no impact on any applicable water quality control plan or sustainable groundwater management plan. No impact would occur.

MITIGATION MEASURES

See Item IV. Biological Resources for **BIO-2** through **BIO-5**.

WQ-1: The construction contractor will adhere to the SWRCB Order No. 2022-0057-DWQCAS000002. This is required for short-term construction-related water quality impacts. As part of this Permit requirement, a SWPPP or Water Pollution Control Plan (if ground disturbance is less than 1 acre) will be prepared prior to construction consistent with the requirements of the RWQCB. This SWPPP/Water Pollution Control Plan will incorporate all applicable BMPs to ensure that adequate measures are taken during construction to minimize impacts to water quality.

XI. LAND USE AND PLANNING

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

The following analysis is based on the information provided in the General Plan, Background Report, General Plan RDEIR, and the resources cited in this analysis.

REGULATORY SETTING

Federal
None are applicable to the Project.

State
None are applicable to the Project.

Local
Tulare County General Plan
The following Tulare County General Plan policies for this resource apply to this Project: LU-1.6: *Permitting Procedures and Regulations;* LU-1.7: *Roadway Access*; PF-1.1: *Maintain Urban Edges;* PF-1.5: *Planning Areas;* and PF-2.9: *Zoning in Communities*.

PROJECT IMPACT ANALYSIS

a) Would the project physically divide an established community?

No Impact. All preventative maintenance activities would be implemented within existing channels and bridges. Construction activities would not physically disrupt or divide an established community. No impact will occur.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Project would not conflict with any applicable land use plan, policy, or regulation, including the Tulare County General Plan. No impact will occur due to conflicts with any land use policy.

XII. MINERAL RESOURCES

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

The following analysis is based on the information provided in the General Plan, Background Report, General Plan RDEIR, and the resources cited in this analysis.

REGULATORY SETTING

Federal

None are applicable to the Project.

State

California Surface Mining and Reclamation Act of 1975

Enacted by the State Legislature in 1975, the Surface Mining and Reclamation Act (SMARA), PRC Section 2710 et seq., insures a continuing supply of mineral resources for the State. The act also creates surface mining and reclamation policy to assure that:

- Production and conservation of minerals is encouraged;
- Environmental effects are prevented or minimized;
- Consideration is given to recreational activities, watersheds, wildlife, range and forage, and aesthetic enjoyment;
- Mined lands are reclaimed to a useable condition once mining is completed; and
- Hazards to public safety both now and in the future are eliminated.

Areas in the State (city or county) that do not have their own regulations for mining and reclamation activities rely on the Department of Conservation, Division of Mines and Geology, Office of Mine Reclamation to enforce this law. SMARA contains provisions for the inventory of mineral lands in the State of California. The State Geologist, in accordance with the State Board's Guidelines for Classification and Designation of Mineral Lands, must classify Mineral Resource Zones (MRZ) as designated below:

- MRZ-1: Areas where available geologic information indicates that there is minimal likelihood of significant resources.
- MRZ-2: Areas underlain by mineral deposits where geologic data indicate that significant mineral deposits are located or likely to be located.
- MRZ-3: Areas where mineral deposits are found but the significance of the deposits cannot be evaluated without further exploration.
- MRZ-4: Areas where there is not enough information to assess the zone. These are areas that have unknown mineral resource significance.

SMARA only covers mining activities that impact or disturb the surface of the land. Deep mining (tunnel) or petroleum and gas, production is not covered by SMARA.

Local
None are applicable to the Project.

PROJECT LEVEL ANALYSIS

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

No Impact. According to the Tulare County Background Report, the most important minerals extracted in Tulare County are sand, gravel, crushed rock, and natural gas. Bridge 46C0087 is located adjacent to a quarry operation that produces crushed rock. However, since the Project would involve performing preventative maintenance activities, the Project would not change existing land use or result in loss of available known mineral resources or resources zones. No impact will occur.

b) Would the project 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. As mentioned above, Bridge 46C0087 is located adjacent to a quarry operation that produces crushed rock. However, since the Project would involve performing maintenance activities at various bridge sites, the Project would not change existing land use or result in the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other long use plan. No impact will occur.

XIII. NOISE

Would the project result in:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
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 ground-borne vibration or ground-borne 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?	☐	☐	☐	☒

The following analysis is based on the information provided in the Tulare County General Plan, Background Report, General Plan RDEIR, and the resources cited in this analysis.

REGULATORY SETTING

Federal

Title 23, Part 772 of the Code of Federal Regulations (CFR)

23 CFR 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and Federal-aid highway projects. Under 23 CFR 772.7, projects are categorized as Type I, Type II, or Type III projects.

- FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment of the highway. The following projects are also considered to be Type I projects:
    - The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a high-occupancy vehicle lane, high-occupancy toll lane, bus lane, or truck climbing lane,
    - The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane,
    - The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange,
    - Restriping existing pavement for the purpose of adding a through traffic lane or an auxiliary lane,
    - The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot, or toll plaza.

If a project is determined to be a Type I project under this definition, the entire project area as defined in the environmental document is a Type I project.

A Type II project is a noise barrier retrofit project that involves no changes to highway capacity or alignment. A Type III project is a project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis. The proposed Project is considered as a Type III project.

State

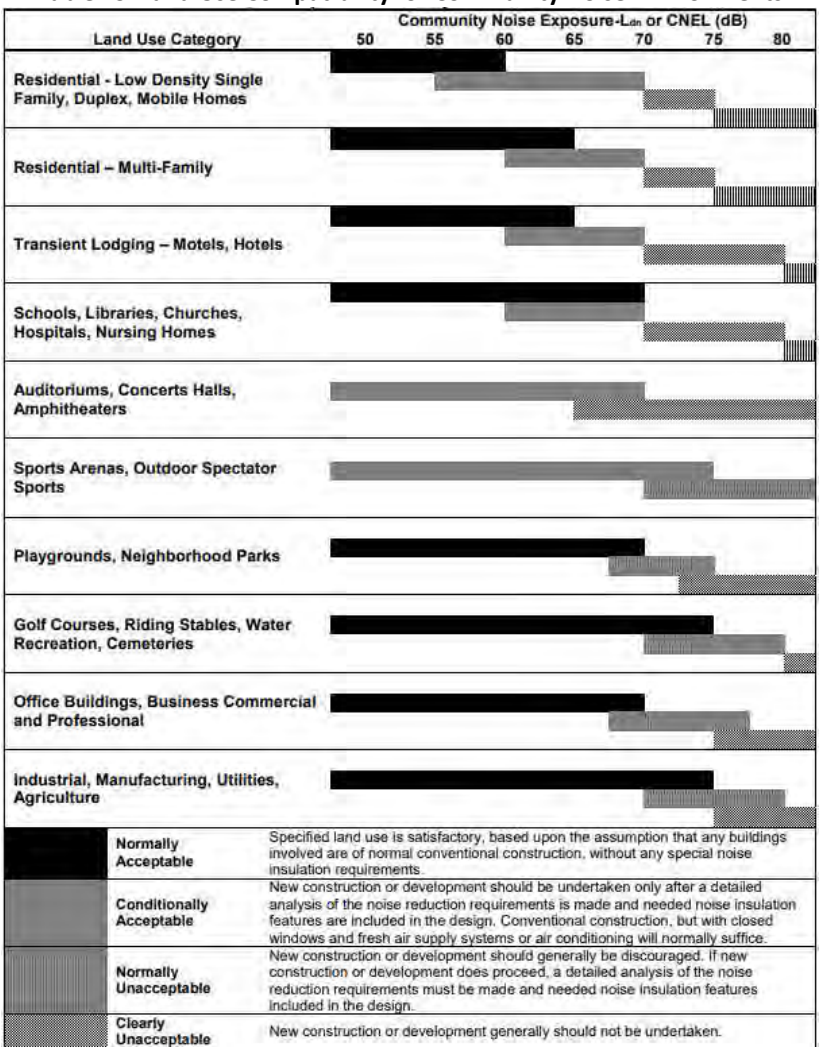
CEQA

CEQA requires analysis and mitigation of potential environmental impacts, including noise, from proposed projects. While CEQA does not establish specific noise thresholds, it requires lead agencies to evaluate whether a project would result in a substantial temporary or permanent increase in ambient noise levels in the vicinity.

Local

Analytical noise modeling techniques, in conjunction with actual field noise level measurements, were used to develop generalized Ldn or Community Noise Equivalent Level (CNEL) contours for traffic noise sources within Tulare County for existing conditions. Traffic data representing annual average daily traffic volumes, truck mix, and the day/night distribution of traffic for existing conditions (1986) and future were obtained from the Tulare County Public Works Department and used in the Tulare County Noise Element. The Tulare County General Plan Health & Safety Element (2012) includes noise and land use compatibility standards for various land uses. These are shown in **Table 19.**[49]

Table 19. Land Use Compatibility for Community Noise Environments



[49] Tulare County General Plan 2030 Update. Goals and Policies Report, Page 10-62.

Tulare County General Plan

The following Tulare County General Plan policies for this resource apply to this Project: HS-8.11 *Peak Noise Generators*; HS-8.18 *Construction Noise*; and HS-8.19 *Construction Noise Control*.

PROJECT IMPACT ANALYSIS

a) Would the project generate 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. Construction noise typically occurs intermittently and varies depending upon the nature or phase (e.g., land clearing, grading and excavation) of construction. Noise generated by construction equipment, including concrete mixers, excavators, and jackhammers, can reach high levels. Typical noise levels for individual pieces of construction equipment are summarized in **Table 19**. Although there are residences within ¼ mile of seven (7) bridge sites (Bridge 46C0036, 46C0204, 46C0309, 46C0330, 46C0403, 46C0408, and 46C0420), this noise increase would be of short duration and would occur during daytime hours, from 7 am to 7 pm, per HS-8.18. Operation of the Project would not result in a permanent increase in ambient noise levels. Due to noise production being temporary, the Project would result in less than significant impact related to ambient noise levels.

Table 20. Typical Maximum Construction Equipment Noise Levels[50]

Type of Equipment	Typical Noise Level (dBA) 50 feet from Source
Concrete Mixer	85
Compressor	80
Excavator	88
Front End Loader	80
Generator	81
Jackhammer	85
Truck	88

b) Would the project generate excessive ground-borne vibration or ground-borne noise levels?

Less Than Significant. The proposed routine maintenance activities would only require use of small construction equipment (such as excavators, backhoes, front-end loaders, and forklifts) that would not generate excessive ground-borne vibration or noise levels. All potential noise effects to the environment would be temporary. Therefore, construction-related noise would result in a less than significant impact.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. According to the Tulare County Comprehensive Airport Land Use Plan, there are seven airports located within Tulare County. The table below lists each airport and the nearest bridge site. As shown in **Table 17** in Item IX. Hazards and Hazardous Materials, all bridge sites are located outside of an airport influence area. Additionally, noise generated from construction work would be temporary; therefore, the Project would not expose people residing or working in the Project area to excessive noise levels. There will be no impact related to excessive noise exposure for people residing or working in the Project area.

[50] FHWA. 2006. https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf. Accessed July 2025.

XIV. POPULATION AND HOUSING

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

The following analysis is based on the information provided in the General Plan, Background Report, General Plan RDEIR, and the resources cited in this analysis.

REGULATORY SETTING

Federal
None are applicable to the Project.

State
None are applicable to the Project.

Local
There are no Tulare County General Plan policies for this resource that apply to this Project.

PROJECT IMPACT ANALYSIS

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed maintenance activities would not affect population and housing as the Project would not involve construction of additional houses, businesses, public roadways, or infrastructure such as wastewater treatment facilities. **No impact** will occur.

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

No Impact. The proposed maintenance activities would be implemented on existing channels and bridge structures, and would not directly or indirectly induce population growth, displace housing, or necessitate construction of replacement housing. **No impact** will occur.

XV. PUBLIC SERVICES

		Significant Impact	Less Than Significant Impact With Mitigation	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?	☐	☐	☒	☐

The following analysis is based on the information provided in the General Plan, Background Report, General Plan RDEIR, and the resources cited in this analysis.

REGULATORY SETTING

Federal
None are applicable to the Project.

State
None are applicable to the Project.

Local
Tulare County General Plan
The following Tulare County General Plan policies for this resource apply to this Project: LU-1.10 *Roadway Access*; PFS-7.5 *Fire Staffing and Response Time Standards*; and PFS-7.9 *Sheriff Response Time*.

PROJECT 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 public services?

i) ***Fire Protection:***
ii) ***Police Protection:***
iii) ***Schools:***
iv) ***Parks:***
v) ***Other Public Facilities:***

Less Than Significant Impact. The Project would not result in the need for new public services beyond what was anticipated in the County General Plan. The Project does not propose new housing or commercial development requiring additional school facilities, police, and/or fire services. The proposed Project aims to improve safety and operations on each facility.

During construction, road closures and detours will take place at select bridge sites; however, the anticipated duration of the road closures will be approximately 4–6 hours depending upon access needs of residents and available detour options. The County will coordinate with emergency services such as the Tulare County Sherriff, Fire Department, and California Highway Patrol (CHP) on construction start and durations prior to construction. Thus, construction of the Project would not impair or interfere with acceptable service ratios, response times or other performance objectives for any public services. Impacts would be less than significant.

XVI. RECREATION

Would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
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?	☐	☐	☐	☒

The following analysis is based on the information provided in the Tulare County General Plan, Background Report, General Plan RDEIR, and the resources cited in this analysis.

REGULATORY SETTING

Federal
None are applicable to the Project.

State
None are applicable to the Project.

Local
Tulare County General Plan
The following Tulare County General Plan policy for this resource apply to this Project: ERM-5.15: *Open Space Preservation*.

PROJECT IMAPCT ANALYSIS

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

No Impact. The proposed Project would not affect recreational facilities in the County as construction would only affect existing drainage channels and bridge structures. The activities would not increase the use of existing neighborhood and regional parks or other recreational facilities. No impact will occur.

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?

No Impact. The purpose of the Project is to extend the service life of 17 bridges within the County considered to be in generally good condition and does not include the creation of recreational facilities or require the construction or expansion of recreational facilities. No impact would occur.

XVII. TRANSPORTATION

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

The following analysis is based on the information provided in the Tulare County General Plan, Background Report, General Plan RDEIR, Tulare County SB 743 Guidelines, and the resources cited in this analysis.

REGULATORY SETTING

Federal
None are applicable to the Project.

State
None are applicable to the Project.

Local
Tulare County General Plan
The following Tulare County General Plan policies for this resource apply to this Project: TC-1.3: *Regional Coordination*; LU-1.10 *Roadway Access*; LU-4.4 *Travel Oriented Tourist Commercial Uses*.

Tulare County SB 743 Guidelines[51]
SB 743 was passed by the legislature and signed into law in the fall of 2013. This legislation led to a change in the way that transportation impacts will be measured under CEQA. Starting on July 1, 2020, automobile delay and level of service (LOS) may no longer be used as the performance measure to determine the transportation impacts of land development projects under CEQA and the new performance measure will be vehicle miles traveled (VMT). Although statewide guidance for the implementation of SB 743 has been written by the Governor's OPR, CEQA allows lead agencies (including Tulare County) the latitude to determine their own methodologies and significance thresholds for CEQA technical studies. The SB 743 Guidelines are based on the statewide guidance provided by OPR, but they include clarifications and details tailored for and specific to local conditions in Tulare County.

As stated in page 21 of these Guidelines, certain types of transportation projects are presumed to have a less than significant impact on transportation. A list of these projects is shown below.

- Maintenance

[51] Tulare County. SB 743 Guidelines. September 2025.

- Safety
- Operational Improvements
- Transit
- Reductions in Roadway Capacity
- Pedestrian and Bicycle Facilities

PROJECT IMPACT ANALYSIS

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

Less Than Significant Impact. During construction, road closures and detours will take place at select bridge sites; however, the anticipated duration of the road closures will be approximately 4–6 hours depending upon access needs of residents and available detour options. The County will coordinate with emergency services such as the Tulare County Sherriff, Fire Department, and CHP on construction start and durations prior to construction. Thus, construction of the Project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system.

As the Project would implement preventive maintenance activities on existing bridge structures and would not result in additional travel lanes, there would be no permanent changes to the existing circulation system including transit, roadway, bicycle, and pedestrian facilities. The post-Project condition would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. A less than significant impact would occur.

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

Less Than Significant Impact. CEQA Guidelines section 15064.3 describes specific considerations for evaluating a project's transportation impacts. Generally, VMT is the most appropriate measure of transportation impacts. For the purposes of this section, "VMT" refers to the amount and distance of automobile travel attributable to a project. Subdivision (b) defines the criteria for analyzing transportation impacts. However, as the Project would implement preventive maintenance activities on existing bridge structures and would not result in additional travel lanes, the Project will have no change on VMT. Per section 15064.3 (b)(2), projects that have no impact on VMT are presumed to cause a less than significant transportation impact. Furthermore, the Project qualifies under the "Maintenance" screening criteria identified in Tulare County's SB 743 Guidelines, which presume a less than significant impact on transportation. Since there will be no changes in the roadway and the Project fits under the "Maintenance" criteria in Tulare County's SB 743 Guidelines, the Project would be consistent with CEQA Guidelines section 15064.3 subdivision (b) and a less than significant impact would occur.

c) Would the project substantially increase hazards due to a geometric design feature or incompatible uses?

No Impact. The design features associated with the proposed Project would not increase hazards, considering the preventative maintenance activities will not result in the development of new roadways. No impact will occur.

d) Would the project result in inadequate emergency access?

Less Than Significant Impact. The Project would not change the existing roadway geometry and would not change emergency access during or after Project completion. During construction, temporary road closures may result in minor increase in congestion but would not be expected to substantially limit emergency access as either a single lane will remain open, or detour routes will be available for emergency use. The County will coordinate with

emergency services such as the Tulare County Sherriff, Fire Department, and CHP on construction start and durations prior to construction. Due to the temporary nature of lane closures related to the Project, impacts would be less than significant.

XVIII. TRIBAL CULTURAL RESOURCES

		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
Would the Project 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:					
a)	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)?	☐	☒	☐	☐
b)	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, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☒	☐	☐

The following analysis is based on the information provided in the Tulare County General Plan, Background Report, General Plan RDEIR, the 2025 Historic Property Survey Report/Archaeological Survey Report prepared for this Project, and the resources cited in this analysis.

REGULATORY SETTING

State

Effective July 1, 2015, CEQA was revised to include early consultation with California Native American tribes and consideration of tribal cultural resources (TCRs). These changes were enacted through AB 52. By including TCRs early in the CEQA process, AB 52 intends to ensure that local and Tribal governments, public agencies, and Project proponents would have information available, early in the Project planning process, to identify and address potential adverse impacts to TCRs. CEQA now establishes that a "project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment" (PRC § 21084.2).

To help determine whether a project may have such an adverse effect, the PRC requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. The consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project (PRC § 21080.3.1). Consultation must consist of the lead agency providing formal notification, in writing, to the tribes that have requested notification or proposed projects within their traditionally and culturally affiliated area. AB 52 stipulates that the NAHC shall assist the lead agency in identifying the California Native American tribes that are traditionally and culturally affiliated within the project area. If the tribe wishes to engage in consultation on the project, the tribe must respond to the lead agency within 30 days of receipt of the formal notification. Once the lead agency receives the tribe's request to consult, the lead agency must then begin the consultation process within 30 days. If a lead agency determines that a project may cause a substantial adverse change to TCRs, the lead agency must consider measures to mitigate that impact. Consultation concludes when either: 1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a TCR, or 2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC § 21080.3.2). Under existing law, environmental documents must not include information about the locations of an archaeological site or sacred lands or any other

information that is exempt from public disclosure pursuant to the Public Records act. TCRs are also exempt from disclosure. The term "tribal cultural resource" refers to either of the following:

Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources
- Included in a local register of historical resources as defined in subdivision (k) of California PRC Section 5020.1
- A resource determined by a California lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of the PRC Section 5024.1.

Local

Tulare County General Plan

The following Tulare County General Plan policies for this resource apply to this Project: ERM-6.1 *Evaluation of Cultural and Archaeological Resources;* ERM-6.4: *Mitigation*; ERM-6.8 *Solicit Input from Local Native Americans;* ERM-6.9: *Confidentiality of Archaeological Sites*; and ERM-6.10: *Grading Cultural Resources Sites*.

NATIVE AMERICAN CONSULTATION

On January 25, 2024, to request was sent to the NAHC requesting a review of the Sacred Lands File (SLF) for any Native American cultural resources that might be affected by the Project (**Appendix B**). The NAHC responded on February 6, 2024, that their search returned positive within the Springville USGS 7.5-minute quadrangle and associated with the Tule River Indian Tribe.

On May 20, 2024, initial consultation letters were mailed by the County to the Native American individuals identified by NAHC. The letters provided a summary of the Project and requested information, comments, or concerns the Native American community might have about the Project. For those individuals that did not reply to the letter, follow-up emails (or phone calls when no email was available) were sent on August 15, 2024 to those individuals with email contact. The following individuals were contacted:

- ***Big Sandy Rancheria of Western Mono Indians***
  - *Elizabeth Kipp*, Chairperson. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.
  - *Joel Marvin*, Vice Chairperson. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.
  - *Tom Zizzo*, Tribal Administrator. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.
- ***Dunlap Band of Mono Indians***
  - *Benjamin Charley*, Chairperson. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.
  - *Dirk Charley*, Tribal Secretary. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.
- ***Kern Valley Indian Community***
  - *Brandy Kendricks*, Tribal Member Monitor. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.
  - *Robert Robinson*, Chairperson. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.
- ***North Fork Mono Tribe***

- *Ron Goode*, Chairperson. No response to initial letter. A response was received on August 15, 2024 and Mr. Goode stated that the Tribe has no comment on the Project.
- *Anna Phipps*, Tribal Secretary. No response to initial letter. See response for Chairperson Goode above.
- *Jesse Valdez*, Council Member/Archaeological Director. No response to initial letter. See response for Chairperson Goode above.

- ***Santa Rosa Rancheria Tachi Yokut Tribe***
  - *Nichole Escalon*, THPO. No response to initial letter. A follow-up email occurred on August 15, 2024 and Mr. Escalon responded the same day stating that the Tribe would defer to the Tule River Indian Tribe of the Tule River Reservation due to the location of the project.
  - *Samantha McCarty*, Cultural Specialist II. No response to initial letter. A follow-up email occurred on August 15, 2024. See response from Mr. Escalon above.
  - *Shana Powers*, THPO (at the time of first letter). No response to initial letter. A follow-up email occurred on August 15, 2024. See response from Mr. Escalon above.
- ***Tubatulabals of Kern Valley***
  - *Robert Gomez*, Chairperson. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.
- ***Tule River Indian Tribe***
  - *Joey Garfield*, Tribal Archaeologist. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.
  - *Neil Peyron*, Chairperson. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.
  - *Kerri Vera*, Environmental Department. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.
- ***Wuksachi Indian Tribe/Eshom Valley Band***
  - *Kenneth Woodrow*, Chairperson. No response to initial letter. A follow-up email occurred on August 15, 2024. No response to date.

PROJECT IMPACT ANALYSIS

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources?

Less Than Significant with Mitigation Incorporated. No tribal cultural resources (TCR) were identified during identification and consultation efforts conducted for the Project. As such, the Project is not anticipated to cause a substantial adverse change in the significance of a TCR listed or eligible for listing in the California Register of Historical Resources, or in a local register of historic resources as defined in Public Resources Code section 5020.1(k). No impacts are anticipated for the Project related to TCRs; however, with any Project requiring ground disturbance, there is always the possibility that unmarked TCRs may be unearthed during construction. This impact would be considered potentially significant. Implementation of mitigation measures **CR-1** and **CR-2** would reduce this impact to a less-than significant level.

b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency to be significant or have significance to a Native American Tribe?

Less Than Significant with Mitigation Incorporated. The Project is not anticipated to cause a substantial adverse change to a TCR pursuant to criteria set forth in subdivision (c) of Public Resources Cod Section 5024.1. The bridge sites have been highly disturbed by construction and with the continued maintenance of the bridges and associated

roadways as well as by adjacent agricultural and irrigation infrastructure in many locations. Due to this, the potential for a buried TCR to be present is considered low. While no impacts to TCRs are anticipated for the Project, with any Project requiring ground disturbance, there is always the possibility that unmarked cultural resources may be unearthed during construction. This impact would be considered potentially significant. Implementation of mitigation measures **CR-1** and **CR-2** would reduce this impact to a less-than significant level.

MITIGATION MEASURES

See Item V. Cultural Resources for CR-1 and CR-1.

XIX. UTILITIES AND SERVICE SYSTEMS

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

The following analysis is based on the information provided in the Tulare County General Plan, Background Report, General Plan RDEIR, Tulare County Housing Element Action Program 9, Tulare County SB 522 Drought and Water Shortage Risk analysis and Response Plan, and the resources cited in this analysis.

REGULATORY SETTING

Federal

Resource Conservation and Recovery Act [52]

RCRA is our nation's primary law governing the disposal of solid and hazardous waste. RCRA was signed into law on October 21, 1976 to address the increasing problems the nation faced from our growing volume of municipal and industrial waste. RCRA was an amendment to the Solid Waste Disposal Act of 1965, which was the first statute that specifically focused on improving solid waste disposal methods.

Since 1976, RCRA has been amended and strengthened by Congress including in November 1984 with the passage of the federal Hazardous and Solid Waste Amendments (HSWA). Among other mandates, these amendments to RCRA required phasing out land disposal of hazardous waste, corrective action for releases and waste minimization. Waste minimization refers to the use of source reduction and/or environmentally sound recycling methods prior to treating or disposing of hazardous wastes.

[52] United States Environmental Protection Agency. History of the Resource Conservation and Recovery Act (RCRA). https://www.epa.gov/rcra/history-resource-conservation-and-recovery-act-rcra

RCRA has been amended on two occasions since HSWA:

- Federal Facility Compliance Act of 1992—strengthened enforcement of RCRA at federal facilities.
- Land Disposal Program Flexibility Act of 1996—provided regulatory flexibility for land disposal of certain wastes.

State

CalRecycle

CalRecycle governs solid waste regulations on the state level, delegating local permitting, enforcement, and inspection responsibilities to Local Enforcement Agencies. Regulations authored by CalRecycle (Title 14) were integrated with related regulations adopted by the SWRCB pertaining to landfills (Title 23, Chapter 15) to form CCR Title 27.

Local

Tulare County General Plan

The following Tulare County General Plan policies for this resource apply to this Project: PFS-4.7: *NPDES Enforcement*; and PFS-5.8: *Hazardous Waste Disposal Capabilities.*

PROJECT IMPACT ANALYSIS

a) Would the project 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?

No Impact. The Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. Bridges 46C0036 and 46C0226 both cross over irrigation canals (TID Canal and Friant-Kern Canal, respectively). Construction at both locations will occur when water is not present to ensure irrigation activities are not disrupted. Additionally, relocation of storm water drainage, electric power, natural gas, or telecommunications facilities is not anticipated. No impact will occur.

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

No Impact. The Project would not increase water supply demand. Bridges 46C0036 and 46C0226 both cross over irrigation canals (TID Canal and Friant-Kern Canal, respectively). Construction at both locations will occur when water is not present to ensure irrigation activities are not disrupted. No impact will occur.

c) Would the project 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 not involve the construction of any wastewater-generating uses. Additionally, the Project would not increase population in the Project vicinity, and there would be no additional wastewater flows as a result of the Project. No impact will occur.

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less Than Significant. Solid waste is not expected to be generated through use and operations of the proposed Project. Solid waste may be generated during construction, such as clearing debris within the channel of a few select bridge sites (see **Table 2** for more information); however, the amount will not substantially impact landfill capacities.

This would not affect landfill capacity because the amounts would not be substantial and would occur for a short period of time during the 12-month construction period. A less than significant impact would occur.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The Project would comply with statues and regulations related to solid waste. No impact would occur under this threshold.

XX. WILDFIRES

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:		Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

The following analysis is based on the information provided in the Tulare County General Plan, Background Report, General Plan RDEIR, Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP), and the resources cited in this analysis.

REGULATORY SETTING

Federal

None that apply to the proposed Project.

State

Senate Bill 1241

SB 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the "CEQA Checklist" for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects "near" these very high fire hazard severity zones.

CAL FIRE - Tulare Unit Strategic Fire Plan

As summarized in the 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP), "The Plan is a local road map to create and maintain defensible landscapes in order to protect vital assets. It seeks to reduce firefighting cost and property loss, increase public and firefighter safety, minimize wildfire risk to communities and contribute to ecosystem health. The Plan identifies pre-suppression projects including opportunities for reducing structural ignitability, and the identification of potential fuel reduction projects and techniques for minimizing those risks. The central goals that are critical to reducing and preventing the impacts of fire revolve around both suppression efforts and fire prevention efforts. The MJLHMP fire hazard analysis and fire related mitigation measures will be provided to Cal Fire to support the Tulare Unit Strategic Fire Plan."[53]

[53] Tulare MJLHMP. Page 15.

Cal Fire publishes Fire Hazard Severity Zone Maps for all regions in California. The fire hazard measurement used as the basis for these maps includes the speed at which a wildfire moves, the amount of heat the fire produces, and most importantly, the burning fire brands that the fire sends ahead of the flaming front. Lead agencies and project proponents can review the Cal Fire maps to determine whether a given project site will be subject to the new CEQA wildfire impacts analysis.

Local

None that apply to the proposed Project.

ENVIRONMENTAL SETTING

Table 21 below shows each bridge site and whether it is located within a LRA or SRA and its designated fire hazard severity zone.[54]

Table 21. Fire Hazard Severity Zones

Bridge Number	LRA or SRA	Zone/ Designation?
46C0036	LRA	non wildland/non- urban[1]
46C0058	LRA	Moderate
46C0059	LRA	Moderate
46C0087	SRA	Moderate
46C0106	LRA	non wildland/non- urban[1]
46C0108	LRA	non wildland/non- urban[1]
46C0202	SRA	High
46C0204	SRA	Very High
46C0205	SRA	High
46C0226	LRA	non wildland/non- urban[1]
46C0269	LRA	non wildland/non- urban[1]
46C0309	LRA	non wildland/non- urban[1]
46C0318	LRA	non wildland/non- urban[1]
46C0330	LRA	non wildland/non- urban[1]
46C0403	LRA	non wildland/non- urban[1]
46C0408	LRA	non wildland/non- urban[1]
46C0420	LRA	non wildland/non- urban[1]
[1.] "Non-wildland/non urban," designations are considered to have relatively low wildfire risk because little wild vegetation is present.		

PROJECT IMPACT ANALYSIS

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. As shown in **Table 21**, the only bridge site located within an SRA and a very high fire severity zone is bridge 46C0204. As such, this question only applies to bridge 46C0204.

Preventative maintenance activities at bridge 46C0204 would not change emergency access during or after completion. During construction at bridge 46C0204, temporary road closures may result in minor increase in congestion but would not be expected to substantially limit emergency access as a single lane will remain open and will be available for emergency use. Due to the temporary nature of lane closures related to the Project, impacts would be less than significant.

[54] CAL FIRE. Fire Hazard Severity Zone Viewer. Website: https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/. Accessed June 2025.

b) Would the project, 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?

Less Than Significant Impact. As shown in **Table 21**, the only bridge site located within an SRA and a very high fire severity zone is bridge 46C0204. As such, this question only applies to bridge 46C0204.

Preventative maintenance activities at bridge 46C0204 would not require the use of ignition sources, except for operation of the construction vehicles. Construction and operation of the proposed Project would not create a greater wildland fire risk. During construction, the use and staging of equipment would follow standard construction safety protocols to prevent fire or sparks that could cause fire.

The Project will not exacerbate wildfire risks and would have no effect to slope, prevailing winds, or other factors which would expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; therefore, impacts would be less than significant.

c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. As shown in **Table 21**, the only bridge site located within an SRA and a very high fire severity zone is bridge 46C0204. As such, this question only applies to bridge 46C0204. Preventative maintenance activities at bridge 46C0204 would not require installation of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. No new structures would be constructed. No impact will occur.

d) Would the project 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 shown in **Table 21**, the only bridge site located within an SRA and a very high fire severity zone is bridge 46C0204. As such, this question only applies to bridge 46C0204.

Preventative maintenance activities at bridge 46C0204 would not expose people or structures within the County to risks such as flooding or landslides, as these activities would aim to extend the service life of bridge 46C0204. See Item X. Hydrology and Water Quality and Item VII. Geology/Soils for more information. No impact will occur.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

		Significant Impact	Less Than Significant Impact With Mitigation	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 species, 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 considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

The following analysis is based on the information provided in the assessment of Environmental Factors Potentially Affected Checklist Items I. through XX.

As noted in the previous Checklist Items, there are 75 Tulare County General Plan policies that apply to this Project.

PROJECT IMPACT ANALYSIS

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 species, or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant with Mitigation. The analysis contained in Item IV. Biological Resources concludes that this resource has the potential to be impacted by the Project. The potential for impacts to biological resources from construction of the proposed Project will be mitigated to less than significant impact with incorporation of Mitigation Measures as contained in Item IV. Biological Resources. Accordingly, the proposed Project will involve no potential for significant impacts due to degradation of the quality of the environment, substantial reductions in the habitat of a fish or wildlife species, causing a fish or wildlife population to drop below self-sustaining levels, threatening to eliminate a plant or animal community, reduction in the number or restriction of the range of a rare or endangered plant or animal.

The analyses contained in Item V. Cultural Resources and XVIII. Tribal Cultural Resources conclude the Project has potential to impact historical and/or cultural resources. The potential for impacts to historical and cultural (including TCR's) from construction of the proposed Project will be mitigated to less than significant impact with incorporation of Mitigation Measures as contained in Items V Cultural Resources and XVIII Tribal Cultural Resources. Accordingly, the proposed Project will involve no potential for significant impacts due to elimination of important examples of the major periods of California history or prehistory.

This Project will have a less than significant impact with mitigation incorporated for Biological Resources, for Cultural, and TCR's.

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

Less Than Significant Impact. The proposed Project involves performing preventative maintenance activities on 17 existing bridges throughout Tulare County. The Project would not induce population growth or facilitate new development, or result in significant environmental effects when considered individually. As such, operation of the Project would not contribute to cumulative environmental effects when considered in conjunction with other past, present, or reasonably foreseeable future projects in the region.

The majority of the potential impacts resulting from the Project will be short-term, temporary, and intermittent occurring during Project construction-related activities. Although the Project would perform maintenance activities at 17 locations throughout Tulare County, given the minor scope of bridge maintenance activities and short construction duration, construction-related impacts to the resources analyzed in this document are not likely to act cumulatively with any other projects in a manner that would result in significant impacts.

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

Less Than Significant with Mitigation. The Project would not cause significant adverse effects to human beings, either directly or indirectly with mitigation incorporated. Potential impacts have been identified related to Biological Resources (Item IV), Cultural Resources (Item V), Geology/Soils (Item VII), Hazards and Hazardous Materials (Item IX), Hydrology and Water Quality (Item X), and Tribal Cultural Resources (Item XVIII). Mitigation measures have been identified related to individual resource-specific impacts. Mitigation measures would reduce the level of all Project-related impacts to less than significant levels. Therefore, impacts are considered less than significant with mitigation incorporated.

MITIGATION MEASURES

See Item IV. Biological Resources for **BIO-1** through **BIO-35**, Item V. Cultural Resources for **CR-1** and **CR-2**, Item IX. Hazards and Hazardous Materials for **HAZ-1** through **HAZ-7**, Item X. Hydrology and Water Quality for **WQ-1**.

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ATTACHMENT "A"

Emissions Calculations

PROJECT: BPMP Group 5 - 46C0036 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**1.196**	**1.122**	**7.282**	**7.469**	**1.344**	**0.632**	**1773**	**0.047**	**0.080**	**0.053**	**0.037**	**0.85**	**66**	**14**	**6.130**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**1.916**	**1.795**	**13.205**	**12.356**	**1.745**	**1.015**	**2871**	**0.079**	**0.120**	**0.076**	**0.055**	**1.37**	**109**	**21**	**9.004**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.002**	**0.002**	**0.015**	**0.015**	**0.003**	**0.001**	**4**	**0.000**	**0.000**	**0.000**	**0.000**	**3**	**264**	**56**	**24.520**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.001	0.001	0.000	0.000	1	0.000	0.000	0.000	0.000	1	76	56	24.520
Off-Road	0.002	0.002	0.014	0.013	0.001	0.001	2	0.000	0.000	0.000	-	2	188	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.002	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.002**	**0.002**	**0.015**	**0.015**	**0.003**	**0.001**	**4**	**0.000**	**0.000**	**0.000**	**0.000**	**3**	**264**	**56**	**24.520**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	1.196	1.122	7.282	7.469	1.344	0.632	1773	0.047
Project Maximum*	**1.916**	**1.795**	**13.205**	**12.356**	**1.745**	**1.015**	**2871**	**0.079**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.001	0.001	0.001	0.000	0	0.000	0.000	0.000	0.000	0	30	10	4.531
Base/Subbase/Imported Borrow	0.002	0.002	0.013	0.012	0.002	0.001	3	0.000	0.000	0.000	0.000	3	217	41	18.008
Structure Concrete	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.001	0.001	0.000	0.000	0	0.000	0.000	0.000	0.000	0	17	5	1.981
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.002**	**0.002**	**0.015**	**0.015**	**0.003**	**0.001**	**4**	**0.000**	**0.000**	**0.000**	**0.000**	**3**	**264**	**56**	**24.520**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.584	0.553	1.682	2.935	1.745	0.338	876	0.018
	1.916	1.795	13.205	12.356	1.732	1.015	2871	0.079
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.369	0.346	1.036	2.231	0.166	0.162	475	0.011
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	1.916	1.795	13.205	12.356	1.745	1.015	2871	0.079

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.002	0.002	0.015	0.015	0.003	0.001	4	0.000	0.000	0.000	0.000	3	264	56	24.520
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.002	0.002	0.015	0.015	0.003	0.001	4	0.000	0.000	0.000	0.000	3	264	56	24.520
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.002	0.002	0.015	0.015	0.003	0.001	4	0.000	0.000	0.000	0.000	3	264	56	24.520

	Average Daily Emissions and Consumption by Year (lbs/day; m							
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	1.196	1.122	7.282	7.469	1.344	0.632	1773	0.047
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr							
	1.196	1.122	7.282	7.469	1.344	0.632	1773	0.047

PROJECT: BPMP Group 5 - 46C0058 **DATE:** 07/09/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**2.631**	**2.482**	**7.449**	**14.443**	**1.786**	**1.065**	**3561**	**0.079**	**0.200**	**0.172**	**0.093**	**1.74**	**124**	**39**	**16.269**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**3.386**	**3.207**	**9.752**	**17.008**	**3.024**	**1.253**	**5056**	**0.104**	**0.314**	**0.191**	**0.130**	**2.45**	**176**	**57**	**26.022**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.007**	**0.006**	**0.019**	**0.036**	**0.004**	**0.003**	**9**	**0.000**	**0.001**	**0.000**	**0.000**	**9**	**622**	**194**	**81.344**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.004	0.005	0.000	0.000	5	0.000	0.000	0.000	0.000	5	248	194	81.344
Off-Road	0.006	0.006	0.015	0.031	0.002	0.002	4	0.000	0.000	0.000	-	4	375	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.002	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.007**	**0.006**	**0.019**	**0.036**	**0.004**	**0.003**	**9**	**0.000**	**0.001**	**0.000**	**0.000**	**9**	**622**	**194**	**81.344**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
2.631	2.482	7.449	14.443	1.786	1.065	3561	0.079
Project Maximum*	**3.386**	**3.207**	**9.752**	**17.008**	**3.024**	**1.253**	**5056**	**0.104**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.003	0.003	0.010	0.017	0.003	0.001	5	0.000	0.000	0.000	0.000	5	352	114	52.044
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.003	0.003	0.009	0.019	0.001	0.001	4	0.000	0.000	0.000	0.000	4	271	80	29.300
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.007**	**0.006**	**0.019**	**0.036**	**0.004**	**0.003**	**9**	**0.000**	**0.001**	**0.000**	**0.000**	**9**	**622**	**194**	**81.344**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	3.386	3.207	9.752	17.008	3.024	1.253	5056	0.104
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	2.127	1.998	5.913	12.733	0.960	0.940	2564	0.062
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	3.386	3.207	9.752	17.008	3.024	1.253	5056	0.104

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.007	0.006	0.019	0.036	0.004	0.003	9	0.000	0.001	0.000	0.000	9	622	194	81.344
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.007	0.006	0.019	0.036	0.004	0.003	9	0.000	0.001	0.000	0.000	9	622	194	81.344
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.007	0.006	0.019	0.036	0.004	0.003	9	0.000	0.001	0.000	0.000	9	622	194	81.344

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2.631	2.482	7.449	14.443	1.786	1.065	3561	0.079
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
2.631	2.482	7.449	14.443	1.786	1.065	3561	0.079

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	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**3.274**	**3.092**	**9.432**	**16.924**	**1.652**	**1.161**	**4075**	**0.094**	**0.213**	**0.203**	**0.106**	**1.99**	**142**	**45**	**17.267**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**7.352**	**6.959**	**21.826**	**34.150**	**2.564**	**2.044**	**7913**	**0.197**	**0.353**	**0.414**	**0.204**	**3.86**	**274**	**89**	**28.546**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.010**	**0.009**	**0.028**	**0.051**	**0.005**	**0.003**	**12**	**0.000**	**0.001**	**0.001**	**0.000**	**12**	**852**	**269**	**103.602**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.005	0.006	0.000	0.000	6	0.000	0.001	0.000	0.000	6	310	269	103.602
Off-Road	0.009	0.009	0.023	0.045	0.003	0.003	6	0.000	0.000	0.001	-	6	543	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.002	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.010**	**0.009**	**0.028**	**0.051**	**0.005**	**0.003**	**12**	**0.000**	**0.001**	**0.001**	**0.000**	**12**	**852**	**269**	**103.602**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	3.274	3.092	9.432	16.924	1.652	1.161	4075	0.094
Project Maximum*	**7.352**	**6.959**	**21.826**	**34.150**	**2.564**	**2.044**	**7913**	**0.197**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.003	0.003	0.009	0.016	0.003	0.001	5	0.000	0.000	0.000	0.000	5	327	106	48.117
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.004	0.003	0.011	0.017	0.001	0.001	4	0.000	0.000	0.000	0.000	4	274	89	28.546
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.003	0.003	0.008	0.018	0.001	0.001	4	0.000	0.000	0.000	0.000	4	251	74	26.940
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.010**	**0.009**	**0.028**	**0.051**	**0.005**	**0.003**	**12**	**0.000**	**0.001**	**0.001**	**0.000**	**12**	**852**	**269**	**103.602**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	3.164	2.997	9.103	15.868	2.564	1.145	4697	0.097
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	7.352	6.959	21.826	34.150	2.089	2.044	7913	0.197
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	1.987	1.867	5.520	11.887	0.898	0.878	2380	0.058
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	7.352	6.959	21.826	34.150	2.564	2.044	7913	0.197

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.010	0.009	0.028	0.051	0.005	0.003	12	0.000	0.001	0.001	0.000	12	852	269	103.602
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.010	0.009	0.028	0.051	0.005	0.003	12	0.000	0.001	0.001	0.000	12	852	269	103.602
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.010	0.009	0.028	0.051	0.005	0.003	12	0.000	0.001	0.001	0.000	12	852	269	103.602

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
3.274	3.092	9.432	16.924	1.652	1.161	4075	0.094
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
3.274	3.092	9.432	16.924	1.652	1.161	4075	0.094

PROJECT: BPMP Group 5 - 46C0087 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.732**	**0.688**	**2.937**	**4.177**	**0.708**	**0.302**	**1299**	**0.025**	**0.077**	**0.039**	**0.044**	**0.64**	**41**	**19**	**6.459**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**1.492**	**1.398**	**10.280**	**9.618**	**3.861**	**1.041**	**2234**	**0.061**	**0.106**	**0.059**	**0.067**	**1.07**	**85**	**29**	**9.264**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.005**	**0.005**	**0.021**	**0.029**	**0.005**	**0.002**	**9**	**0.000**	**0.001**	**0.000**	**0.000**	**9**	**577**	**267**	**90.426**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.006	0.005	0.000	0.000	6	0.000	0.001	0.000	0.000	6	263	267	90.426
Off-Road	0.005	0.004	0.015	0.024	0.002	0.002	4	0.000	0.000	0.000	-	3	314	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.003	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.005**	**0.005**	**0.021**	**0.029**	**0.005**	**0.002**	**9**	**0.000**	**0.001**	**0.000**	**0.000**	**9**	**577**	**267**	**90.426**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.732	0.688	2.937	4.177	0.708	0.302	1299	0.025
Project Maximum*	**1.492**	**1.398**	**10.280**	**9.618**	**3.861**	**1.041**	**2234**	**0.061**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.001	0.001	0.002	0.003	0.002	0.000	1	0.000	0.000	0.000	0.000	1	72	24	10.923
Base/Subbase/Imported Borrow	0.001	0.001	0.005	0.005	0.002	0.001	1	0.000	0.000	0.000	0.000	1	85	16	7.005
Structure Concrete	0.002	0.002	0.006	0.010	0.001	0.001	2	0.000	0.000	0.000	0.000	2	159	52	16.916
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Traffic Signalization/Signage/Striping/Painting	0.002	0.001	0.007	0.011	0.001	0.001	5	0.000	0.000	0.000	0.000	5	261	175	55.582
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.005**	**0.005**	**0.021**	**0.029**	**0.005**	**0.002**	**9**	**0.000**	**0.001**	**0.000**	**0.000**	**9**	**577**	**267**	**90.426**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.455	0.431	1.316	2.300	1.184	0.246	695	0.014
	1.492	1.398	10.280	9.618	3.861	1.041	2234	0.061
	1.055	0.999	3.137	4.914	0.300	0.293	1150	0.028
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.529	0.490	2.391	3.717	0.217	0.213	1544	0.023
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	1.492	1.398	10.280	9.618	3.861	1.041	2234	0.061

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.005	0.005	0.021	0.029	0.005	0.002	9	0.000	0.001	0.000	0.000	9	577	267	90.426
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.005**	**0.005**	**0.021**	**0.029**	**0.005**	**0.002**	**9**	**0.000**	**0.001**	**0.000**	**0.000**	**9**	**577**	**267**	**90.426**
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	**0.005**	**0.005**	**0.021**	**0.029**	**0.005**	**0.002**	**9**	**0.000**	**0.001**	**0.000**	**0.000**	**9**	**577**	**267**	**90.426**

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.732	**0.688**	**2.937**	**4.177**	**0.708**	**0.302**	**1299**	**0.025**
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
0.732	**0.688**	**2.937**	**4.177**	**0.708**	**0.302**	**1299**	**0.025**

PROJECT: BPMP Group 5 - 46C0106 **DATE:** 07/09/25

Summary of Project Emissions and Consumption	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.224**	**0.211**	**0.766**	**1.213**	**0.385**	**0.103**	**381**	**0.007**	**0.023**	**0.012**	**0.013**	**0.19**	**12**	**5**	**1.939**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.325**	**0.308**	**0.966**	**1.513**	**1.605**	**0.200**	**485**	**0.009**	**0.034**	**0.018**	**0.021**	**0.24**	**14**	**9**	**2.931**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.001**	**0.001**	**0.004**	**0.006**	**0.002**	**0.001**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**119**	**58**	**19.390**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.001	0.001	0.000	0.000	1	0.000	0.000	0.000	0.000	1	56	58	19.390
Off-Road	0.001	0.001	0.003	0.005	0.000	0.000	1	0.000	0.000	0.000	-	1	63	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.002	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.001**	**0.001**	**0.004**	**0.006**	**0.002**	**0.001**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**119**	**58**	**19.390**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.224	0.211	0.766	1.213	0.385	0.103	381	0.007
Project Maximum*	**0.325**	**0.309**	**0.966**	**1.513**	**1.605**	**0.200**	**485**	**0.009**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.000	0.001	0.002	0.000	0	0.000	0.000	0.000	0.000	0	16	5	2.563
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.001	0.001	0.002	0.003	0.000	0.000	1	0.000	0.000	0.000	0.000	1	49	16	5.101
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.001	0.002	0.000	0.000	1	0.000	0.000	0.000	0.000	1	55	37	11.726
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.001**	**0.001**	**0.004**	**0.006**	**0.002**	**0.001**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**119**	**58**	**19.390**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.142	0.134	0.415	0.730	1.605	0.200	232	0.004
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.325	**0.308**	**0.966**	**1.513**	0.092	0.090	352	**0.009**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.164	0.152	0.742	1.156	0.067	0.066	**485**	0.007
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	0.325	0.308	0.966	1.513	1.605	0.200	485	0.009

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.001	0.001	0.004	0.006	0.002	0.001	2	0.000	0.000	0.000	0.000	2	119	58	19.390
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.001	0.001	0.004	0.006	0.002	0.001	2	0.000	0.000	0.000	0.000	2	119	58	19.390
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.001	0.001	0.004	0.006	0.002	0.001	2	0.000	0.000	0.000	0.000	2	119	58	19.390

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.224	0.211	0.766	1.213	0.385	0.103	381	0.007
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
0.224	0.211	0.766	1.213	0.385	0.103	381	0.007

PROJECT: BPMP Group 5 - 46C0108 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.112**	**0.104**	**0.470**	**0.754**	**0.532**	**0.093**	**298**	**0.005**	**0.020**	**0.007**	**0.013**	**0.15**	**9**	**5**	**1.769**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.120**	**0.111**	**0.543**	**0.845**	**3.933**	**0.423**	**351**	**0.005**	**0.024**	**0.007**	**0.015**	**0.17**	**10**	**7**	**2.106**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.000**	**0.000**	**0.002**	**0.003**	**0.002**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**69**	**43**	**14.150**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.001	0.001	0.000	0.000	1	0.000	0.000	0.000	0.000	1	41	43	14.150
Off-Road	0.000	0.000	0.001	0.002	0.000	0.000	0	0.000	0.000	0.000	-	0	28	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.002	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.000**	**0.000**	**0.002**	**0.003**	**0.002**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**69**	**43**	**14.150**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.112	0.104	0.470	0.754	0.532	0.093	298	0.005
Project Maximum*	**0.120**	**0.111**	**0.543**	**0.845**	**3.933**	**0.423**	**351**	**0.005**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.000	0.000	0.002	0.000	0	0.000	0.000	0.000	0.000	0	6	2	1.126
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	3	1	0.390
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.002	0.003	0.000	0.000	1	0.000	0.000	0.000	0.000	1	59	40	12.634
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.000**	**0.000**	**0.002**	**0.003**	**0.002**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**69**	**43**	**14.150**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.106	0.100	0.316	0.561	3.933	0.423	192	0.003
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.066	0.062	0.186	0.400	0.029	0.029	89	0.002
	0.120	0.111	0.543	0.845	0.049	0.048	351	0.005
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	0.120	0.111	0.543	0.845	3.933	0.423	351	0.005

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.000	0.000	0.002	0.003	0.002	0.000	1	0.000	0.000	0.000	0.000	1	69	43	14.150
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.000**	**0.000**	**0.002**	**0.003**	**0.002**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**69**	**43**	**14.150**
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	**0.000**	**0.000**	**0.002**	**0.003**	**0.002**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**69**	**43**	**14.150**

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.112	**0.104**	**0.470**	**0.754**	**0.532**	**0.093**	**298**	**0.005**
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
0.112	**0.104**	**0.470**	**0.754**	**0.532**	**0.093**	**298**	**0.005**

PROJECT: BPMP Group 5 - 46C0202 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.263**	**0.249**	**0.779**	**1.251**	**0.467**	**0.114**	**316**	**0.007**	**0.016**	**0.014**	**0.008**	**0.15**	**11**	**4**	**1.318**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.409**	**0.387**	**1.217**	**1.907**	**1.226**	**0.172**	**450**	**0.011**	**0.021**	**0.023**	**0.012**	**0.22**	**16**	**5**	**1.681**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.001**	**0.001**	**0.002**	**0.004**	**0.001**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**65**	**22**	**7.907**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	23	22	7.907
Off-Road	0.001	0.001	0.002	0.003	0.000	0.000	0	0.000	0.000	0.000	-	0	42	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.001	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.001**	**0.001**	**0.002**	**0.004**	**0.001**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**65**	**22**	**7.907**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.263	0.249	0.779	1.251	0.467	0.114	316	0.007
Project Maximum*	**0.409**	**0.387**	**1.217**	**1.907**	**1.226**	**0.172**	**450**	**0.011**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.001	0.001	0.001	0.000	0	0.000	0.000	0.000	0.000	0	19	6	2.863
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.001	0.001	0.002	0.003	0.000	0.000	1	0.000	0.000	0.000	0.000	1	47	15	5.044
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.001**	**0.001**	**0.002**	**0.004**	**0.001**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**65**	**22**	**7.907**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.176	0.167	0.511	0.893	1.226	0.172	272	0.005
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.409	0.387	1.217	1.907	0.116	0.114	450	0.011
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	0.409	0.387	1.217	1.907	1.226	0.172	450	0.011

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.001	0.001	0.002	0.004	0.001	0.000	1	0.000	0.000	0.000	0.000	1	65	22	7.907
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.001	0.001	0.002	0.004	0.001	0.000	1	0.000	0.000	0.000	0.000	1	65	22	7.907
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.001	0.001	0.002	0.004	0.001	0.000	1	0.000	0.000	0.000	0.000	1	65	22	7.907

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.263	0.249	0.779	1.251	0.467	0.114	316	0.007
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
0.263	0.249	0.779	1.251	0.467	0.114	316	0.007

PROJECT: BPMP Group 5 - 46C0204 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.185**	**0.172**	**0.709**	**1.179**	**0.852**	**0.149**	**429**	**0.007**	**0.029**	**0.011**	**0.017**	**0.21**	**13**	**7**	**2.457**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.217**	**0.201**	**0.979**	**1.522**	**3.179**	**0.370**	**632**	**0.009**	**0.043**	**0.013**	**0.027**	**0.31**	**18**	**12**	**3.791**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.000**	**0.000**	**0.001**	**0.002**	**0.002**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**51**	**29**	**9.829**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.001	0.001	0.000	0.000	1	0.000	0.000	0.000	0.000	1	29	29	9.829
Off-Road	0.000	0.000	0.001	0.002	0.000	0.000	0	0.000	0.000	0.000	-	0	23	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.002	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.000**	**0.000**	**0.001**	**0.002**	**0.002**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**51**	**29**	**9.829**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.185	0.172	0.709	1.179	0.852	0.149	429	0.007
Project Maximum*	**0.217**	**0.201**	**0.979**	**1.522**	**3.179**	**0.370**	**632**	**0.009**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.000	0.000	0.002	0.000	0	0.000	0.000	0.000	0.000	0	10	3	1.475
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	6	2	0.772
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.001	0.002	0.000	0.000	1	0.000	0.000	0.000	0.000	1	36	24	7.582
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.000**	**0.000**	**0.001**	**0.002**	**0.002**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**51**	**29**	**9.829**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.186	0.177	0.538	0.940	3.179	0.370	283	0.006
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.119	0.112	0.338	0.730	0.053	0.052	168	0.004
	0.217	0.201	0.979	1.522	0.089	0.087	632	0.009
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	0.217	0.201	0.979	1.522	3.179	0.370	632	0.009

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.000	0.000	0.001	0.002	0.002	0.000	1	0.000	0.000	0.000	0.000	1	51	29	9.829
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.000	0.000	0.001	0.002	0.002	0.000	1	0.000	0.000	0.000	0.000	1	51	29	9.829
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.000	0.000	0.001	0.002	0.002	0.000	1	0.000	0.000	0.000	0.000	1	51	29	9.829

	Average Daily Emissions and Consumption by Year (lbs/day; m							
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2027	0.185	0.172	0.709	1.179	0.852	0.149	429	0.007
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr							
Summary	0.185	0.172	0.709	1.179	0.852	0.149	429	0.007

PROJECT: BPMP Group 5 - 46C0205 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.201**	**0.191**	**0.593**	**0.961**	**1.879**	**0.240**	**246**	**0.006**	**0.013**	**0.011**	**0.006**	**0.12**	**9**	**3**	**1.049**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.422**	**0.399**	**1.254**	**1.964**	**5.518**	**0.603**	**460**	**0.011**	**0.021**	**0.024**	**0.012**	**0.22**	**16**	**5**	**1.692**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.000**	**0.000**	**0.001**	**0.001**	**0.003**	**0.000**	**0**	**0.000**	**0.000**	**0.000**	**0.000**	**0**	**26**	**8**	**3.147**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	9	8	3.147
Off-Road	0.000	0.000	0.001	0.001	0.000	0.000	0	0.000	0.000	0.000	-	0	16	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.003	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.000**	**0.000**	**0.001**	**0.001**	**0.003**	**0.000**	**0**	**0.000**	**0.000**	**0.000**	**0.000**	**0**	**26**	**8**	**3.147**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.201	0.191	0.593	0.961	1.879	0.240	246	0.006
Project Maximum*	**0.422**	**0.399**	**1.254**	**1.964**	**5.518**	**0.603**	**460**	**0.011**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.000	0.000	0.003	0.000	0	0.000	0.000	0.000	0.000	0	10	3	1.456
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.000	0.000	0.001	0.001	0.000	0.000	0	0.000	0.000	0.000	0.000	0	16	5	1.692
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.000**	**0.000**	**0.001**	**0.001**	**0.003**	**0.000**	**0**	**0.000**	**0.000**	**0.000**	**0.000**	**0**	**26**	**8**	**3.147**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.182	0.172	0.526	0.919	5.518	0.603	278	0.006
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.422	0.399	1.254	1.964	0.120	0.117	460	0.011
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	0.422	0.399	1.254	1.964	5.518	0.603	460	0.011

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.000	0.000	0.001	0.001	0.003	0.000	0	0.000	0.000	0.000	0.000	0	26	8	3.147
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.000**	**0.000**	**0.001**	**0.001**	**0.003**	**0.000**	**0**	**0.000**	**0.000**	**0.000**	**0.000**	**0**	**26**	**8**	**3.147**
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	**0.000**	**0.000**	**0.001**	**0.001**	**0.003**	**0.000**	**0**	**0.000**	**0.000**	**0.000**	**0.000**	**0**	**26**	**8**	**3.147**

Summary by Year	Average Daily Emissions and Consumption by Year (lbs/day; m							
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2027	0.201	0.191	0.593	0.961	1.879	0.240	246	0.006
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Total								
	Average Emissions and Consumption per Day (lbs/day; metr							
Summary	**0.201**	**0.191**	**0.593**	**0.961**	**1.879**	**0.240**	**246**	**0.006**

PROJECT: BPMP Group 5 - 46C00226 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.308**	**0.288**	**1.177**	**1.941**	**0.638**	**0.168**	**714**	**0.012**	**0.048**	**0.018**	**0.028**	**0.35**	**21**	**12**	**4.106**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.352**	**0.326**	**1.594**	**2.484**	**1.656**	**0.250**	**1040**	**0.015**	**0.072**	**0.021**	**0.045**	**0.52**	**29**	**20**	**6.286**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.001**	**0.001**	**0.004**	**0.006**	**0.002**	**0.001**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**128**	**72**	**24.638**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.002	0.001	0.000	0.000	1	0.000	0.000	0.000	0.000	2	72	72	24.638
Off-Road	0.001	0.001	0.002	0.004	0.000	0.000	1	0.000	0.000	0.000	-	1	56	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.002	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.001**	**0.001**	**0.004**	**0.006**	**0.002**	**0.001**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**128**	**72**	**24.638**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
0.308	0.288	1.177	1.941	0.638	0.168	714	0.012
Project Maximum*	**0.352**	**0.326**	**1.594**	**2.484**	**1.656**	**0.250**	**1040**	**0.015**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.001	0.002	0.002	0.000	0	0.000	0.000	0.000	0.000	0	31	10	4.613
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.001	0.000	0.000	0	0.000	0.000	0.000	0.000	0	9	3	1.167
Traffic Signalization/Signage/Striping/Painting	0.001	0.000	0.002	0.004	0.000	0.000	2	0.000	0.000	0.000	0.000	2	88	59	18.857
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.001**	**0.001**	**0.004**	**0.006**	**0.002**	**0.001**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**128**	**72**	**24.638**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.301	0.285	0.867	1.512	1.656	0.250	449	0.009
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.192	0.180	0.543	1.171	0.086	0.084	262	0.006
	0.352	0.326	1.594	2.484	0.144	0.141	1040	0.015
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	0.352	0.326	1.594	2.484	1.656	0.250	1040	0.015

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.001	0.001	0.004	0.006	0.002	0.001	2	0.000	0.000	0.000	0.000	2	128	72	24.638
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.001	0.001	0.004	0.006	0.002	0.001	2	0.000	0.000	0.000	0.000	2	128	72	24.638
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.001	0.001	0.004	0.006	0.002	0.001	2	0.000	0.000	0.000	0.000	2	128	72	24.638

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.308	0.288	1.177	1.941	0.638	0.168	714	0.012
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
0.308	0.288	1.177	1.941	0.638	0.168	714	0.012

PROJECT: BPMP Group 5 - 46C0269 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.462**	**0.431**	**1.812**	**2.981**	**0.529**	**0.214**	**1100**	**0.018**	**0.073**	**0.028**	**0.044**	**0.54**	**33**	**19**	**6.317**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.532**	**0.494**	**2.406**	**3.738**	**1.705**	**0.299**	**1550**	**0.023**	**0.106**	**0.032**	**0.067**	**0.77**	**44**	**29**	**9.277**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.002**	**0.002**	**0.008**	**0.013**	**0.002**	**0.001**	**5**	**0.000**	**0.000**	**0.000**	**0.000**	**5**	**293**	**171**	**56.857**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.004	0.003	0.000	0.000	3	0.000	0.000	0.000	0.000	4	164	171	56.857
Off-Road	0.002	0.002	0.004	0.010	0.001	0.001	1	0.000	0.000	0.000	-	1	128	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.002	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.002**	**0.002**	**0.008**	**0.013**	**0.002**	**0.001**	**5**	**0.000**	**0.000**	**0.000**	**0.000**	**5**	**293**	**171**	**56.857**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.462	0.431	1.812	2.981	0.529	0.214	1100	0.018
Project Maximum*	**0.532**	**0.494**	**2.406**	**3.738**	**1.705**	**0.299**	**1550**	**0.023**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.001	0.002	0.002	0.000	1	0.000	0.000	0.000	0.000	1	48	16	7.312
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.001	0.002	0.000	0.000	0	0.000	0.000	0.000	0.000	0	26	8	3.162
Traffic Signalization/Signage/Striping/Painting	0.001	0.001	0.006	0.009	0.001	0.001	4	0.000	0.000	0.000	0.000	4	218	146	46.383
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.002**	**0.002**	**0.008**	**0.013**	**0.002**	**0.001**	**5**	**0.000**	**0.000**	**0.000**	**0.000**	**5**	**293**	**171**	**56.857**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.459	0.434	1.326	2.316	1.705	0.299	699	0.014
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.290	0.272	0.814	1.754	0.130	0.127	376	0.009
	0.532	0.494	2.406	3.738	0.218	0.214	1550	0.023
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	0.532	0.494	2.406	3.738	1.705	0.299	1550	0.023

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.002	0.002	0.008	0.013	0.002	0.001	5	0.000	0.000	0.000	0.000	5	293	171	56.857
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.002	0.002	0.008	0.013	0.002	0.001	5	0.000	0.000	0.000	0.000	5	293	171	56.857
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.002	0.002	0.008	0.013	0.002	0.001	5	0.000	0.000	0.000	0.000	5	293	171	56.857

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.462	0.431	1.812	2.981	0.529	0.214	1100	0.018
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
0.462	0.431	1.812	2.981	0.529	0.214	1100	0.018

PROJECT: BPMP Group 5 - 46C0309 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.283**	**0.268**	**0.836**	**1.356**	**0.668**	**0.140**	**352**	**0.008**	**0.019**	**0.015**	**0.010**	**0.17**	**12**	**4**	**1.539**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.395**	**0.374**	**1.178**	**1.848**	**1.224**	**0.170**	**440**	**0.011**	**0.021**	**0.022**	**0.012**	**0.21**	**15**	**5**	**1.671**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.001**	**0.001**	**0.002**	**0.003**	**0.001**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**49**	**16**	**6.154**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	18	16	6.154
Off-Road	0.001	0.001	0.001	0.002	0.000	0.000	0	0.000	0.000	0.000	-	0	30	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.001	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.001**	**0.001**	**0.002**	**0.003**	**0.001**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**49**	**16**	**6.154**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
On-Road	0.283	0.268	0.836	1.356	0.668	0.140	352	0.008
Project Maximum*	**0.395**	**0.374**	**1.178**	**1.848**	**1.224**	**0.170**	**440**	**0.011**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.000	0.001	0.001	0.000	0	0.000	0.000	0.000	0.000	0	18	6	2.812
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.000	0.000	0.001	0.002	0.000	0.000	0	0.000	0.000	0.000	0.000	0	30	10	3.342
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.001**	**0.001**	**0.002**	**0.003**	**0.001**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**49**	**16**	**6.154**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.171	0.161	0.495	0.865	1.224	0.170	265	0.005
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.395	0.374	1.178	1.848	0.112	0.110	440	0.011
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	0.395	0.374	1.178	1.848	1.224	0.170	440	0.011

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.001	0.001	0.002	0.003	0.001	0.000	1	0.000	0.000	0.000	0.000	1	49	16	6.154
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.001	0.001	0.002	0.003	0.001	0.000	1	0.000	0.000	0.000	0.000	1	49	16	6.154
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.001	0.001	0.002	0.003	0.001	0.000	1	0.000	0.000	0.000	0.000	1	49	16	6.154

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.283	0.268	0.836	1.356	0.668	0.140	352	0.008
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
0.283	0.268	0.836	1.356	0.668	0.140	352	0.008

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	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.081**	**0.075**	**0.364**	**0.579**	**0.033**	**0.032**	**247**	**0.003**	**0.018**	**0.005**	**0.011**	**0.12**	**7**	**5**	**1.536**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.084**	**0.078**	**0.384**	**0.605**	**0.034**	**0.034**	**263**	**0.004**	**0.019**	**0.005**	**0.012**	**0.13**	**7**	**5**	**1.641**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.000**	**0.000**	**0.002**	**0.003**	**0.000**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**84**	**55**	**18.432**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.001	0.001	0.000	0.000	1	0.000	0.000	0.000	0.000	1	54	55	18.432
Off-Road	0.000	0.000	0.001	0.002	0.000	0.000	0	0.000	0.000	0.000	-	0	30	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.000	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.000**	**0.000**	**0.002**	**0.003**	**0.000**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**84**	**55**	**18.432**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.081	0.075	0.364	0.579	0.033	0.032	247	0.003
Project Maximum*	**0.084**	**0.078**	**0.384**	**0.605**	**0.034**	**0.034**	**263**	**0.004**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	2	1	0.376
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.002	0.003	0.000	0.000	1	0.000	0.000	0.000	0.000	1	82	54	18.056
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.000**	**0.000**	**0.002**	**0.003**	**0.000**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**84**	**55**	**18.432**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.046	**0.043**	**0.134**	**0.288**	**0.020**	**0.020**	**73**	**0.001**
	0.084	0.078	0.384	0.605	0.034	0.034	263	0.004
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	0.084	0.078	0.384	0.605	0.034	0.034	263	0.004

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	**0.000**	**0.000**	**0.002**	**0.003**	**0.000**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**84**	**55**	18.432
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.000**	**0.000**	**0.002**	**0.003**	**0.000**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**84**	**55**	**18.432**
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	**0.000**	**0.000**	**0.002**	**0.003**	**0.000**	**0.000**	**1**	**0.000**	**0.000**	**0.000**	**0.000**	**1**	**84**	**55**	**18.432**

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.081	**0.075**	**0.364**	**0.579**	**0.033**	**0.032**	247	**0.003**
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
0.081	**0.075**	**0.364**	**0.579**	**0.033**	**0.032**	**247**	**0.003**

PROJECT: BPMP Group 5 - 46C0330 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.420**	**0.396**	**1.638**	**2.307**	**0.593**	**0.189**	**680**	**0.014**	**0.039**	**0.023**	**0.021**	**0.33**	**23**	**9**	**3.204**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.711**	**0.673**	**2.140**	**3.319**	**1.137**	**0.236**	**1047**	**0.019**	**0.072**	**0.040**	**0.045**	**0.52**	**29**	**20**	**6.301**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.003**	**0.003**	**0.011**	**0.016**	**0.004**	**0.001**	**5**	**0.000**	**0.000**	**0.000**	**0.000**	**5**	**317**	**122**	**44.852**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.003	0.003	0.000	0.000	3	0.000	0.000	0.000	0.000	3	134	122	44.852
Off-Road	0.003	0.003	0.009	0.014	0.001	0.001	2	0.000	0.000	0.000	-	2	183	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.003	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.003**	**0.003**	**0.011**	**0.016**	**0.004**	**0.001**	**5**	**0.000**	**0.000**	**0.000**	**0.000**	**5**	**317**	**122**	**44.852**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.420	0.396	1.638	2.307	0.593	0.189	680	0.014
Project Maximum*	**0.711**	**0.673**	**2.140**	**3.319**	**1.137**	**0.236**	**1047**	**0.019**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.001	0.001	0.004	0.005	0.002	0.000	1	0.000	0.000	0.000	0.000	1	90	18	8.988
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.001	0.002	0.002	0.000	1	0.000	0.000	0.000	0.000	1	47	15	6.973
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.001	0.001	0.003	0.005	0.000	0.000	1	0.000	0.000	0.000	0.000	1	81	27	8.818
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.001	0.000	0.000	0	0.000	0.000	0.000	0.000	0	9	3	1.169
Traffic Signalization/Signage/Striping/Painting	0.001	0.000	0.002	0.004	0.000	0.000	2	0.000	0.000	0.000	0.000	2	88	59	18.904
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.003**	**0.003**	**0.011**	**0.016**	**0.004**	**0.001**	**5**	**0.000**	**0.000**	**0.000**	**0.000**	**5**	**317**	**122**	**44.852**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.392	0.370	2.140	2.257	0.940	0.236	599	0.015
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.305	0.289	0.879	1.531	1.137	0.199	454	0.009
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.711	0.673	2.117	3.319	0.202	0.198	784	0.019
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.194	0.182	0.550	1.186	0.087	0.085	264	0.006
	0.356	0.330	1.612	2.509	0.146	0.143	1047	0.015
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	0.711	0.673	2.140	3.319	1.137	0.236	1047	0.019

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.003	0.003	0.011	0.016	0.004	0.001	5	0.000	0.000	0.000	0.000	5	317	122	44.852
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.003	0.003	0.011	0.016	0.004	0.001	5	0.000	0.000	0.000	0.000	5	317	122	44.852
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.003	0.003	0.011	0.016	0.004	0.001	5	0.000	0.000	0.000	0.000	5	317	122	44.852

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.420	0.396	1.638	2.307	0.593	0.189	680	0.014
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
0.420	0.396	1.638	2.307	0.593	0.189	680	0.014

PROJECT: BPMP Group 5 - 46C0403 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.082**	**0.076**	**0.350**	**0.558**	**0.198**	**0.047**	**238**	**0.003**	**0.017**	**0.005**	**0.011**	**0.12**	**7**	**4**	**1.486**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.151**	**0.142**	**0.454**	**0.719**	**2.360**	**0.254**	**253**	**0.004**	**0.019**	**0.008**	**0.012**	**0.13**	**7**	**5**	**1.616**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.001**	**0.001**	**0.002**	**0.004**	**0.001**	**0.000**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**96**	**60**	**20.806**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.001	0.001	0.000	0.000	1	0.000	0.000	0.000	0.000	1	62	60	20.806
Off-Road	0.000	0.000	0.001	0.003	0.000	0.000	0	0.000	0.000	0.000	-	0	34	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.001	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.001**	**0.001**	**0.002**	**0.004**	**0.001**	**0.000**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**96**	**60**	**20.806**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.082	0.076	0.350	0.558	0.198	0.047	238	0.003
Project Maximum*	**0.151**	**0.142**	**0.454**	**0.719**	**2.360**	**0.254**	**253**	**0.004**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.000	0.000	0.001	0.000	0	0.000	0.000	0.000	0.000	0	4	1	0.615
Base/Subbase/Imported Borrow	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structure Concrete	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	6	2	0.800
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.002	0.003	0.000	0.000	2	0.000	0.000	0.000	0.000	2	86	56	19.391
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.001**	**0.001**	**0.002**	**0.004**	**0.001**	**0.000**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**96**	**60**	**20.806**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.065	0.062	0.191	0.337	2.360	0.254	110	0.002
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.151	0.142	0.454	0.719	0.043	0.042	185	0.004
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.077	0.071	0.355	0.563	0.031	0.030	253	0.003
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	0.151	0.142	0.454	0.719	2.360	0.254	253	0.004

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.001	0.001	0.002	0.004	0.001	0.000	2	0.000	0.000	0.000	0.000	2	96	60	20.806
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.001	0.001	0.002	0.004	0.001	0.000	2	0.000	0.000	0.000	0.000	2	96	60	20.806
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.001	0.001	0.002	0.004	0.001	0.000	2	0.000	0.000	0.000	0.000	2	96	60	20.806

	Average Daily Emissions and Consumption by Year (lbs/day; m
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.082	0.076	0.350	0.558	0.198	0.047	238	0.003
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr
0.082	0.076	0.350	0.558	0.198	0.047	238	0.003

PROJECT: BPMP Group 5 - 46C0408 **DATE:** 07/08/25

Summary of Project Emissions and Consumption															
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**0.656**	**0.616**	**3.996**	**4.106**	**1.089**	**0.382**	**984**	**0.026**	**0.045**	**0.029**	**0.021**	**0.47**	**37**	**8**	**3.466**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**1.050**	**0.984**	**7.238**	**6.776**	**1.662**	**0.591**	**1578**	**0.043**	**0.067**	**0.042**	**0.030**	**0.75**	**60**	**11**	**4.981**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.001**	**0.001**	**0.008**	**0.008**	**0.002**	**0.001**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**146**	**32**	**13.865**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
On-Road	0.000	0.000	0.001	0.001	0.000	0.000	1	0.000	0.000	0.000	0.000	1	43	32	13.865
Off-Road	0.001	0.001	0.007	0.007	0.001	0.001	1	0.000	0.000	0.000	-	1	103	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.002	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.001**	**0.001**	**0.008**	**0.008**	**0.002**	**0.001**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**146**	**32**	**13.865**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.656	0.616	3.996	4.106	1.089	0.382	984	0.026
Project Maximum*	**1.050**	**0.984**	**7.238**	**6.776**	**1.662**	**0.591**	**1578**	**0.043**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	**TOG**	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**BC**	**HFC**	**CO_2e**	**Diesel Fuel**	**Gasoline Fuel**	**Electricity**
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.000	0.000	0.000	0.001	0.001	0.000	0	0.000	0.000	0.000	0.000	0	18	6	2.729
Base/Subbase/Imported Borrow	0.001	0.001	0.007	0.007	0.001	0.001	2	0.000	0.000	0.000	0.000	2	119	23	9.961
Structure Concrete	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.000	0.000	0.000	0.001	0.000	0.000	0	0.000	0.000	0.000	0.000	0	9	3	1.175
Traffic Signalization/Signage/Striping/Painting	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.001**	**0.001**	**0.008**	**0.008**	**0.002**	**0.001**	**2**	**0.000**	**0.000**	**0.000**	**0.000**	**2**	**146**	**32**	**13.865**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**CO2**	**CH4**
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.322	0.305	0.936	1.640	1.662	0.256	508	0.010
	1.050	0.984	7.238	6.776	1.302	0.591	1578	0.043
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.203	0.190	0.572	1.234	0.091	0.089	271	0.006
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	1.050	0.984	7.238	6.776	1.662	0.591	1578	0.043

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.001	0.001	0.008	0.008	0.002	0.001	2	0.000	0.000	0.000	0.000	2	146	32	13.865
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	0.001	0.001	0.008	0.008	0.002	0.001	2	0.000	0.000	0.000	0.000	2	146	32	13.865
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.001	0.001	0.008	0.008	0.002	0.001	2	0.000	0.000	0.000	0.000	2	146	32	13.865

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.656	0.616	3.996	4.106	1.089	0.382	984	0.026
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
0.656	0.616	3.996	4.106	1.089	0.382	984	0.026

PROJECT: BPMP Group 5 - 46C0420 **DATE:** 07/08/25

	Summary of Project Emissions and Consumption														
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**2.062**	**1.934**	**12.339**	**12.971**	**2.004**	**1.052**	**3236**	**0.081**	**0.154**	**0.093**	**0.075**	**1.56**	**117**	**30**	**12.096**
Maximum Daily Average (lbs/day; metric tons CO_2e/day; gal fuel/day; kWh electricity/day)	**3.471**	**3.252**	**23.919**	**22.364**	**2.895**	**1.814**	**5178**	**0.143**	**0.215**	**0.138**	**0.098**	**2.47**	**196**	**37**	**16.103**
Annual Average (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)	**0.009**	**0.009**	**0.056**	**0.058**	**0.009**	**0.005**	**15**	**0.000**	**0.001**	**0.000**	**0.000**	**14**	**1,054**	**269**	**108.863**

Summary by Source	Project Total Emissions and Consumption (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Source	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
On-Road	0.000	0.000	0.005	0.006	0.000	0.000	6	0.000	0.001	0.000	0.000	6	333	269	108.863
Off-Road	0.009	0.008	0.050	0.052	0.004	0.004	8	0.000	0.000	0.000	-	8	722	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.005	0.000	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**0.009**	**0.009**	**0.056**	**0.058**	**0.009**	**0.005**	**15**	**0.000**	**0.001**	**0.000**	**0.000**	**14**	**1,054**	**269**	**108.863**

	Project Average Daily Emissions and Consumption (lbs/day; m							
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
	2.062	1.934	12.339	12.971	2.004	1.052	3236	0.081
Project Maximum*	**3.471**	**3.252**	**23.919**	**22.364**	**2.895**	**1.814**	**5178**	**0.143**

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations ove
detail). Contributions to the project maximum average daily value by operation are indicated by red font.

Summary by Operation	Total Emissions and Consumption by Operation (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Project Phases	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
Land Clearing/Grubbing	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Roadway Excavation & Removal	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Structural Excavation & Removal	0.001	0.001	0.003	0.005	0.003	0.001	2	0.000	0.000	0.000	0.000	2	111	36	16.511
Base/Subbase/Imported Borrow	0.007	0.007	0.048	0.045	0.006	0.004	10	0.000	0.000	0.000	0.000	10	785	147	64.413
Structure Concrete	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Drainage/Environment/Landscaping	0.001	0.001	0.002	0.004	0.000	0.000	1	0.000	0.000	0.000	0.000	1	58	17	6.449
Traffic Signalization/Signage/Striping/Painting	0.001	0.001	0.003	0.004	0.000	0.000	2	0.000	0.000	0.000	0.000	2	101	68	21.491
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
Total	**0.009**	**0.009**	**0.056**	**0.058**	**0.009**	**0.005**	**15**	**0.000**	**0.001**	**0.000**	**0.000**	**14**	**1,054**	**269**	**108.863**

	Average Daily Emissions and Consumption by Operation (lbs/day;							
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	1.058	1.002	3.051	5.325	2.675	0.564	1593	0.032
	3.471	3.252	23.919	22.364	2.895	1.814	5178	0.143
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	0.665	0.625	1.856	3.997	0.300	0.294	820	0.019
	1.230	1.141	5.561	8.642	0.504	0.495	3587	0.053
	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operations	3.471	3.252	23.919	22.364	2.895	1.814	5178	0.143

Summary by Year	Total Emissions and Consumption by Year (tons; metric tons CO_2e; gal fuel; kWh electricity)														
Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO_2e	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2019	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2020	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2021	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2022	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2023	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2024	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2025	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2026	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2027	0.009	0.009	0.056	0.058	0.009	0.005	15	0.000	0.001	0.000	0.000	14	1.054	269	108.863
2028	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2029	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2030	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2031	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2032	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2033	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2034	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2035	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2036	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2037	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2038	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2039	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2040	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2041	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2042	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2043	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2044	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2045	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2046	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2047	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2048	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2049	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	-	-	-
2050	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0			
Total	0.009	0.009	0.056	0.058	0.009	0.005	15	0.000	0.001	0.000	0.000	14	1.054	269	108.863
	Average Emissions and Consumption per Year (tons/year; metric tons CO_2e/year; gal fuel/year; kWh electricity/year)														
Summary	0.009	0.009	0.056	0.058	0.009	0.005	15	0.000	0.001	0.000	0.000	14	1.054	269	108.863

	Average Daily Emissions and Consumption by Year (lbs/day; m							
TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
2.062	1.934	12.339	12.971	2.004	1.052	3236	0.081
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
	Average Emissions and Consumption per Day (lbs/day; metr						
2.062	1.934	12.339	12.971	2.004	1.052	3236	0.081

ATTACHMENT "B"

Natural Environment Study

Bridge Preventive Maintenance Program Group 5 **NES**



Natural Environment Study

Discussion of Biological Resources, Aquatic Resources, Impacts, and Mitigation

Tulare County, California

District 6

BPMPL-5946(169)

November 2024

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

Discussion of Biological Resources, Aquatic Resources, Impacts, and Mitigation

Tulare County, California

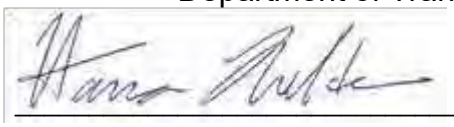
District 6

BPMPL-5946(169)

November 2024

STATE OF CALIFORNIA

Department of Transportation

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Acronyms List

ACE	Areas of Conservation Emphasis
BPMP	Bridge Preventative Maintenance Program
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	Tulare County Public Works Department
CTS	California tiger salamander
CVFPB	Central Valley Flood Protection Board
CWA	Clean Water Act
DPS	Distinct Population Segment
EO	Executive Order
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
FGC	Fish and Game Code
FYLF	Foothill yellow-legged frog
HBP	Highway Bridge Program
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service

OHWM	Ordinary high-water mark
Project	Bridge Preventative Maintenance Program Group 5
ROW	Right of Way
RSP	Rock slope protection
RWQCB	Regional Water Quality Control Board
SJKF	San Joaquin kit fox
SSC	Species of Special Concern
SWHA	Swainson's hawk
SWRCB	State Water Resources Control Board
TID	Tulare Irrigation District
TMDL	Total Maximum Daily Load
TCE	Temporary Construction Easement
U.S.	United States
USACE	U.S. Army Corps of Engineers
USFS	United Sates Forest Service
USFWS	U.S. Fish and Wildlife Service
WoS	Waters of the State
WoU	Waters of the U.S.
WPT	Western pond turtle

Summary

Tulare County (County), in cooperation with the California Department of Transportation (Caltrans), proposes to perform maintenance on seventeen bridges as part of the Tulare County Bridge Preventative Maintenance Program (BPMP) – Group 5 Project (Project). The purpose of the Project is to extend the service life of seventeen bridges in Tulare County that are currently in generally good condition. Preventative maintenance is required to enhance safety and operational efficiency at each facility.

This Natural Environment Study (NES) provides a review and evaluation of the potential impacts to threatened, endangered, listed, or special-status species and protected habitat resources as a result of the proposed Project. Field surveys were conducted within the Biological Study Area (BSA) which encompasses the Project area at each bridge location. This included all areas required for construction, along with an approximate 20-foot buffer to assess adjacent sensitive habitat features.

During biological survey efforts, six land cover types were observed within the BSA, including oak woodland, riparian, nonnative grassland, ruderal vegetation, agriculture and roadway/barren. In addition, all proposed bridge maintenance locations include stream channel habitat, largely in the form of ephemeral systems.

Under Section 404 and Section 401 of the Clean Water Act (CWA), certain surface waters are regulated by the United States (U.S.) Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (RWQCB). The California Department of Fish and Wildlife (CDFW) also claims jurisdiction over the bed, bank and channel of waters and associated riparian vegetation.

Ten jurisdictional stream channels are present within the BSA: including Deer Creek, TID Canal/Crocker Cut, Cross Creek, Tyler Creek, Friant Kern Canal, Elk Bayou, Lewis Creek, Cottonwood Creek, Mill Creek and Saint Johns River, totaling approximately 3.01 acres. The Project would result in impacts to these jurisdictional water bodies including a net total of approximately 1.22 acres of temporary impacts to allow for construction access, and permanent net impacts of 0.76 acres as a result of the permanent fill, such as rock slope protection (RSP).

For the purposes of this analysis, “special-status species” includes any species that has been afforded special recognition by federal, state or local resources agencies (e.g., U.S. Fish and Wildlife Service [USFWS], CDFW, etc.), and/or resource conservation organizations (e.g., California Native Plant Society [CNPS]).

Literature research, habitat assessments, and biological surveys determined that the BSA was potentially suitable for the following special-status species: brittlescale (*Atriplex depressa*), earlimart orach (*Atriplex cordulata var. erecticaulis*), heartscale (*Atriplex cordulata var. cordulata*), and lesser saltscale (*Atriplex minuscula*), California tiger salamander – central California Distinct Population Segment (DPS) (*Ambystoma californiense pop. 1;* CTS), foothill yellow-legged frog–south Sierra DPS (*Rana boylii pop. 5;* FYLF), western spadefoot (*Spea hammondii*), Bakersfield legless lizard (*Anniella grinnelli*), coast horned lizard (*Phrynosoma blainvillii*), Northern California legless lizard (*Anniella pulchra*), western pond turtle (*Actinemys marmorata*, WPT), San Joaquin coachwhip (*Masticophis flagellum ruddocki*), burrowing owl (*Athene cunicularia*), loggerhead

shrike (*Lanius ludovicianus*), Swainson's hawk (*Buteo swainsoni,* SWHA), Crotch's bumble bee (*Bombus crotchii*), American badger (*Taxidea taxus*), Pallid bat (*Antrozous pallidus*), and San Joaquin kit fox (*Vulpes macrotis mutica;* SJKF).

The Project is not anticipated to have take of any state-listed species with the inclusion of appropriate avoidance and minimization measures, and therefore coordination with CDFW under Section 2081 Incidental Take Permit is not anticipated. However, Section 7 consultation with USFWS will be required for the following federally listed species: CTS, FYLF, WPT and western spadefoot.

The following permits will be obtained for the proposed Project prior to construction: Section 404 Nationwide Permit 3 from USACE, Section 401 Water Quality Certification from RWQCB, National Pollutant Discharge Elimination System (NPDES) Permit from RWQCB, and Section 1602 Streambed Alteration Agreement from the CDFW. In addition, locations #46C0058, #46C0059, #46C0269, #46C0330, and #46C0420 occur within Regulated Streams and/or Designated Floodways that are regulated by the Central Valley Flood Protection Board (CVFPB). A CVFPB encroachment permit will be required to complete Project activities at these locations.

The Project is federally funded through the Highway Bridge Program (HBP), as such it requires compliance with both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The lead agency for the CEQA compliance is the County, and the lead agency for the NEPA compliance is Caltrans.

Chapter 1: Introduction

Tulare County (County), in cooperation with the California Department of Transportation (Caltrans), proposes to perform maintenance on seventeen bridges as part of the Tulare County Bridge Preventative Maintenance Program– Group 5 Project. Caltrans is the lead agency pursuant to the National Environmental Policy Act (NEPA) and the County is the lead agency pursuant to the California Environmental Quality Act (CEQA). The Project area includes bridge locations throughout western Tulare County (Figure 1. Project Vicinity; Figure 2. Project Location).

Project History

Project Purpose and Need

Purpose

The purpose of the Project is to extend the service lives of seventeen bridges within the County that are considered to be in generally good condition.

Need

Preventative maintenance activities are needed to provide improved safety and operations on each facility.

Project Description

The County, in cooperation with the Caltrans, proposes to perform maintenance on seventeen bridges throughout various locations within the County (Figure 1. Project Vicinity and Figure 2. Project Location). A summary of the seventeen bridges, including bridge number and location, that are included in Group 5 of the County BPMP is listed in the table below.

The County is responsible for the maintenance of 359 bridges within the boundaries of Tulare County. In 2015, the County developed a BPMP, that includes five category groups of maintenance activities, with the following objectives: maintain the existing bridge inventory in a structurally safe and serviceable condition; correct minor structural defects; repair deficiencies early in a bridge's life prior to encountering major, more costly rehabilitation, reconstruction, or replacement; and extend the service life of existing bridges. Group 5 includes scour countermeasures (streambed degradation or localized scour), which is often the highest priority, and the repair, restoration, and strengthening of structural elements.

The purpose of the Project is to extend the service life of seventeen bridges within the County that are considered to be in generally good condition. Preventative maintenance activities are needed to provide improved safety and operations on each facility.

The proposed Project would implement preventive maintenance measures primarily consisting of scour protection repairs and other miscellaneous work including but not limited to deck treatment, spall repair, structural connection repairs, joint repairs, bridge bearing repairs, and overlay (asphalt concrete) removal. Erosion control will be placed

where necessary and disturbed areas will be revegetated. A summary of specific work items per bridge is included in Table 1 below:

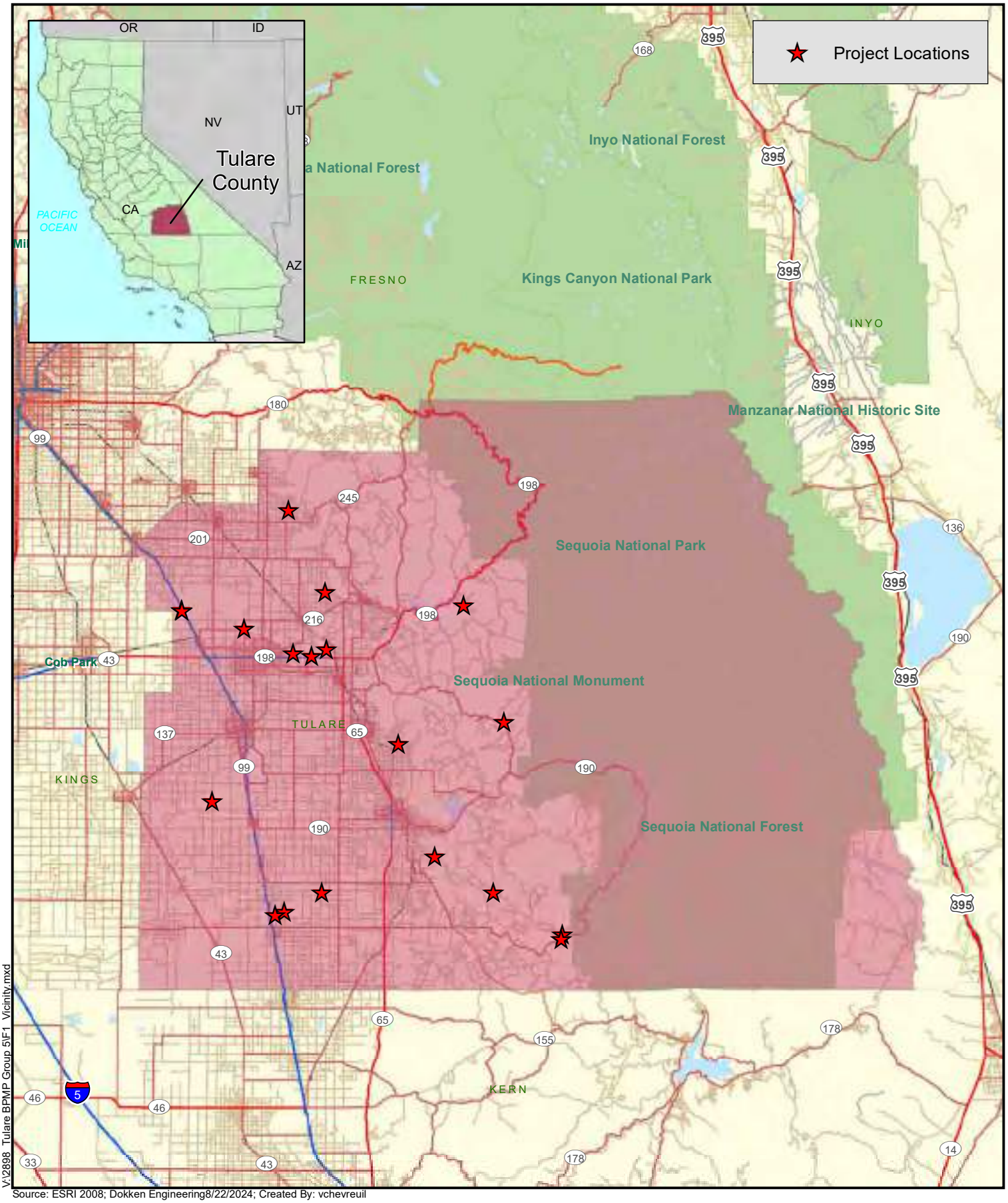
Table 1: Proposed Bridge Maintenance Locations

Bridge Number	Facility Carried/ Intersection	Location	Work Description
#46C0036	Road 168 / Tulare Irrigation District (TID) Canal	0.1 miles North of State Route198	• Clear debris/rubble in TID Canal • Grout exposed piles and place grout bags in front of piers • Repair damaged rail along left side of the bridge
#46C0058	D60 / Cross Creek	2.05 miles South of Avenue 352	• Partially grouted RSP along the whole creek width
#46C0059	D60 / Cross Creek	1.95 miles South of Avenue 352	• Clear debris/rubble in Cross Creek • Drop structure downstream of bridge • Grout exposed piles at abutments • Partially grouted riprap along full length of channel • Extend abutment walls to protect abutment fill material • Reconstruct upstream banks in front of each abutment
#46C0087	M120 / Deer Creek	0.5 miles East of Road 272	• Grout exposed pier piles and place cut-off walls at piers • Partially grouted riprap at abutments and piers • Methacrylate deck treatment
#46C0106	Road 144 / Deer Creek	0.1 miles South of Avenue 72	• Grout exposed pier piles and place partially grouted riprap around piers • Methacrylate deck treatment
#46C0108	Avenue 88 / Deer Creek	0.2 miles East of Road 176	• Place partially grouted riprap around piers • Methacrylate deck treatment
#46C0202	M112 / Deer Creek	5.86 miles Southeast of M120	• Replace left rotated wingwall • Add cut-off walls to both abutment footings
#46C0204	M112 / Tyler Creek	0.3 miles North of M56	• Place downdrains around wingwalls • Repaint areas where the paint system is damaged or no longer effective
#46C0205	SR56 (Hot Springs Rd.) / Deer Creek	16.4 miles East of M109	• Cut-off wall at abutment 1 • Replace bridge rail posts • Remove rust from the exposed rebar and patch spalls along left edge of the deck
#46C0226	Avenue 428 / Friant Kern Canal	0.4 miles East of Road 144	• Methacrylate deck treatment • Reset bearings at abutment 4 • Remove asphalt-concrete from sliding steel plate joint to allow for joint movement

Bridge Number	Facility Carried/ Intersection	Location	Work Description
#46C0269	Road 80 / Elk Bayou	1.1 miles North of Avenue 160	• Remove asphalt concrete surfacing (and re-stripe deck) • Place RSP at piers and abutments • Repair bridge rail
#46C0309	Avenue 220 / Lewis Creek	0.25 miles East of Road 244	• Grout and place cut-off walls at abutments
#46C0318	Road 136 / Deer Creek	0.6 miles South of Avenue 78	• Place partially grouted riprap at piers
#46C0330	Road 180 / Cottonwood Creek	0.4 miles North of Avenue 352	• Reconstruct (or place new) concrete channel lining
#46C0403	Avenue 304 / Crocker Cut	0.2 miles East of Road 180	• Clean any exposed rebar and patch the rock pockets throughout the structure • Remove asphalt concrete at both approaches and along bridge
#46C0408	Road 152 / Mill Creek	0.4 miles North of State Route 198	• Place partially grouted riprap at piers
#46C0420	Road 108 / Saint Johns River	0.75 miles South of Avenue 328	• Grout exposed piles • Place partially grouted riprap along full channel width • Methacrylate deck treatment • Repair/Replace the torn bridge rail at the left side of spans 5 and 6

Temporary road closures and detours will take place at select bridge sites. The anticipated duration of the road closures will be approximately 4-6 hours depending upon access needs of residents and available detour options. Temporary construction easements (TCEs) will likely be needed on a limited basis to accommodate the construction of the proposed preventative maintenance activities. Partial and full right-of-way (ROW) takes are not anticipated. Construction at all bridge locations is expected to be completed in approximately 12 months.

The lead agency for the CEQA compliance is the County, and the lead agency for the NEPA compliance is Caltrans.



Source: ESRI 2008; Dokken Engineering8/22/2024; Created By: vchevreuil

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0 10 20 30 40 Miles

FIGURE 1
Project Vicinity

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



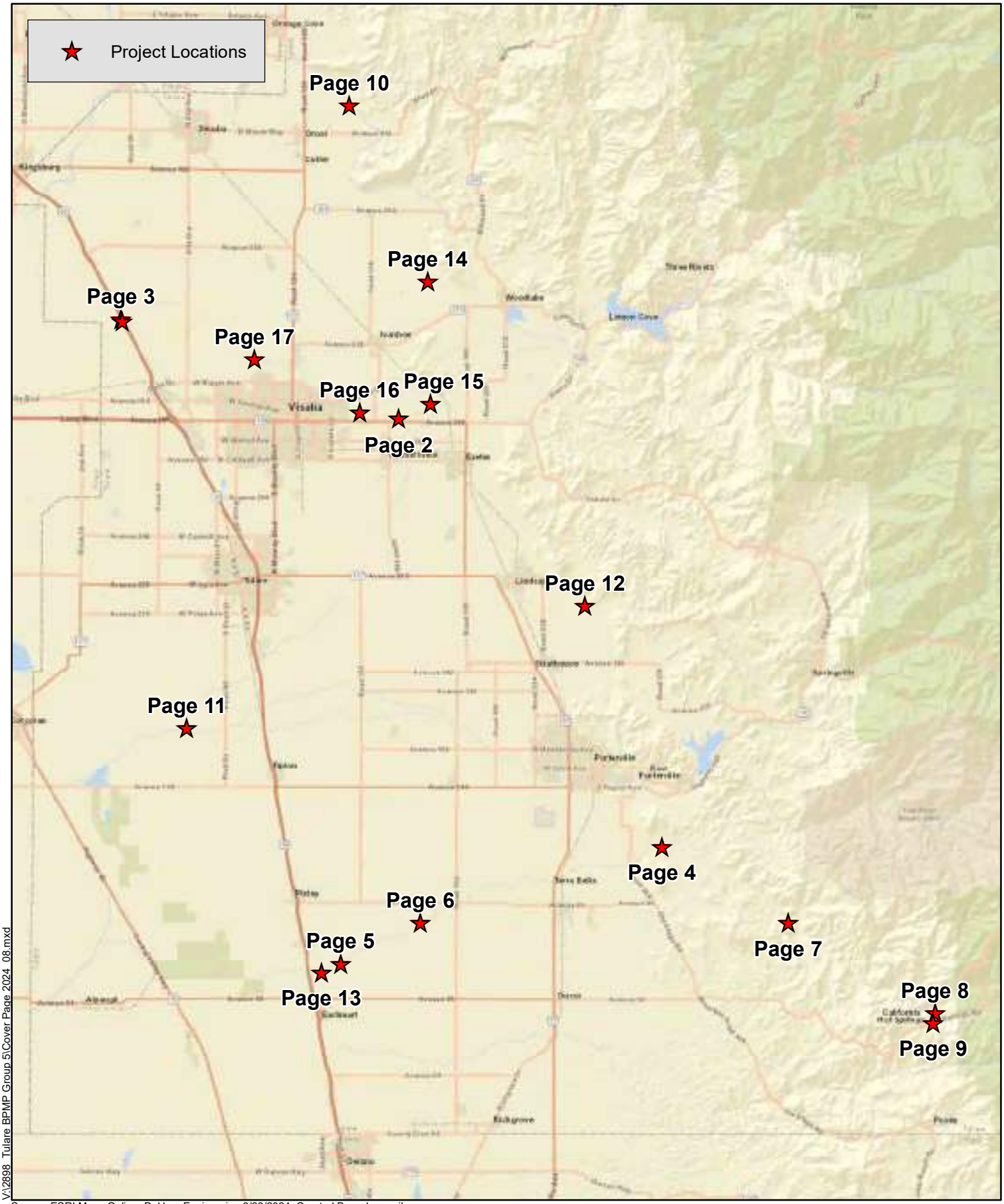
V:\2898 Tulare BPMP Group 5\F2 Location.mxd

Source: ESRI World Street Maps Online; Dokken Engineering 8/22/2024; Created By: vchevreuil

0 5 10 15 20 Miles

FIGURE 2
Project Location

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 8/23/2024; Created By: vchevreuil

0 5 10 15 Miles

FIGURE 3
Project Features
Page 1 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



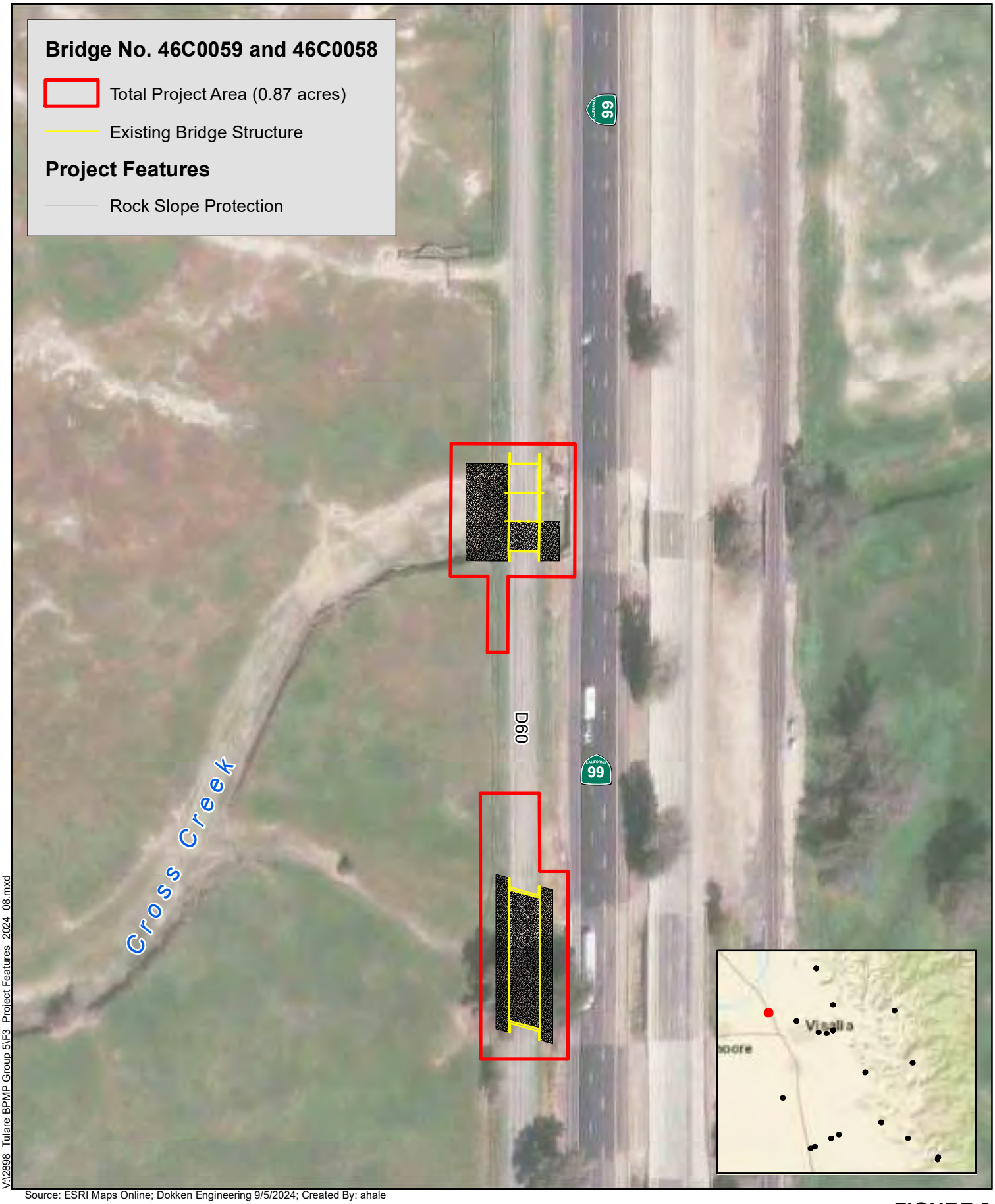
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 2 of 17

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 125 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 3 of 17

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 5 of 17

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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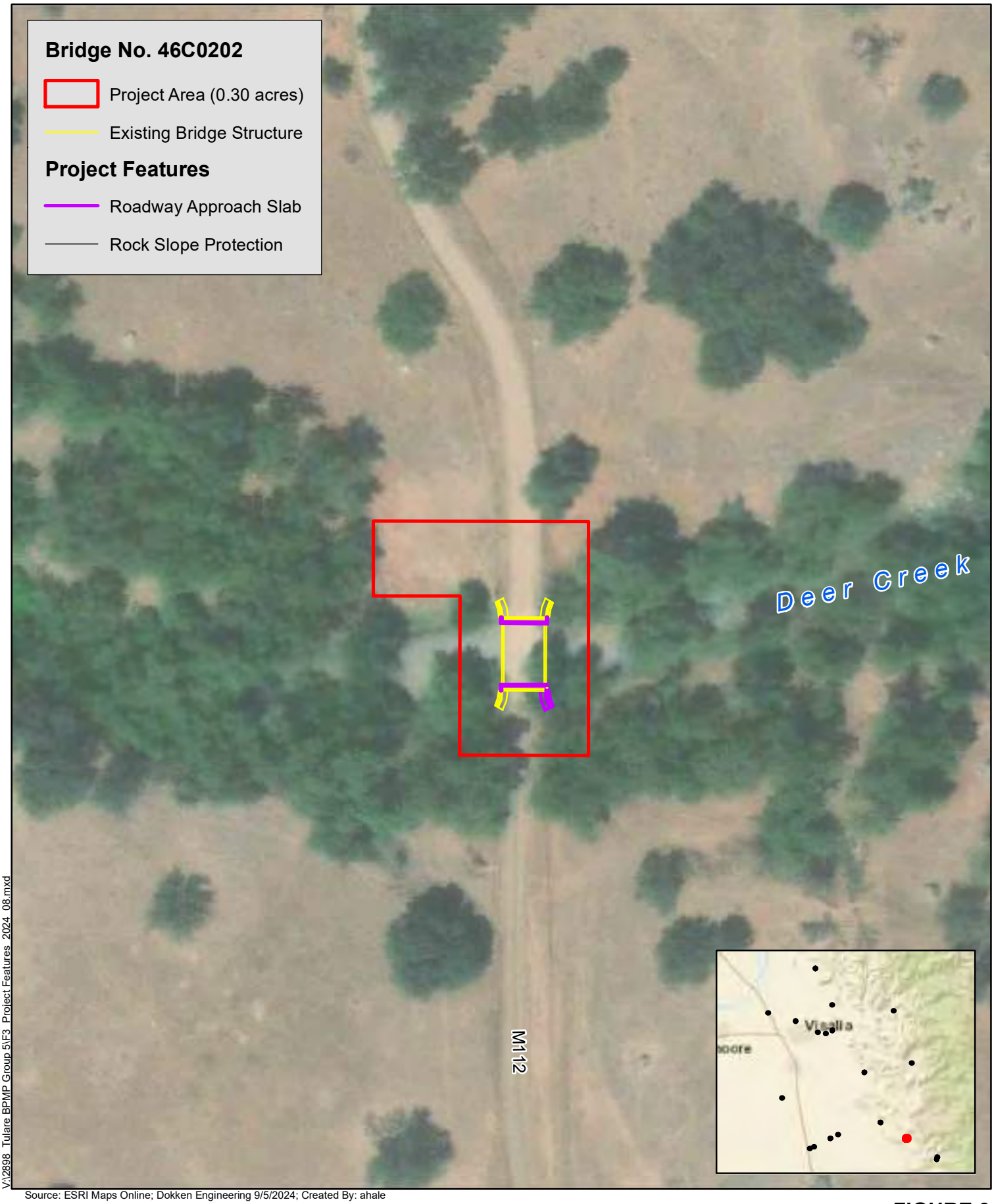
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 6 of 17

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 7 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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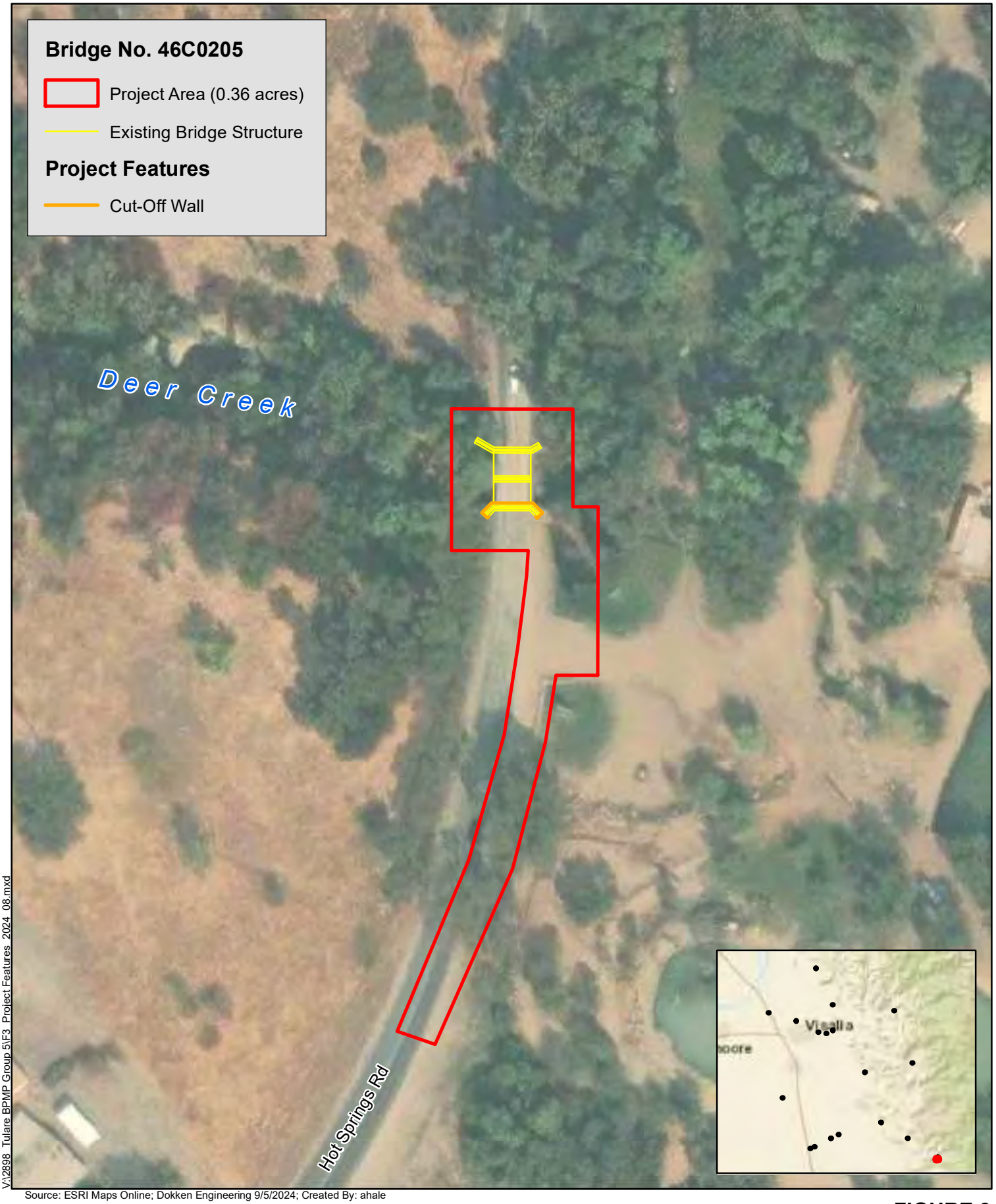
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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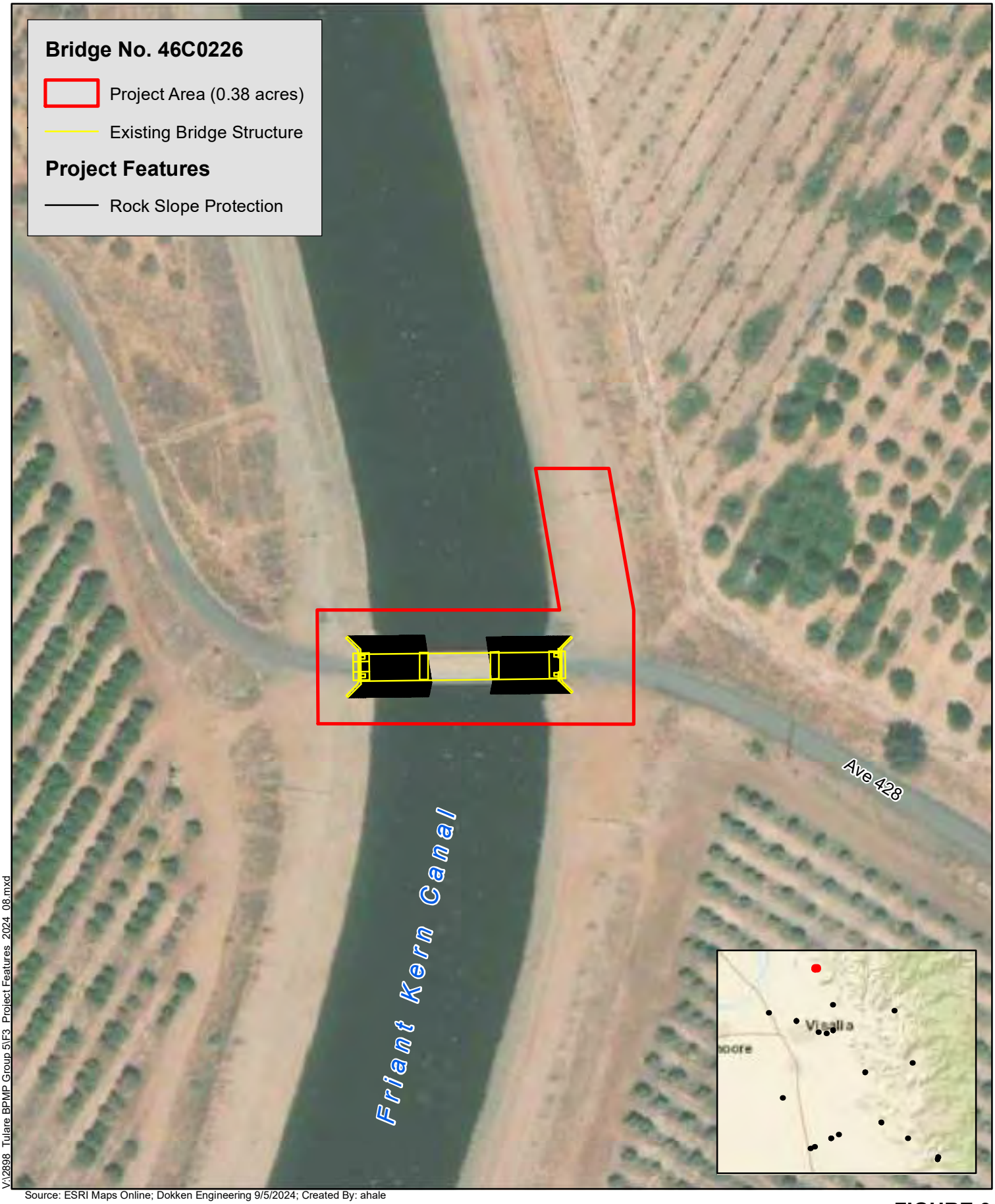
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1 inch = 75 feet

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FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



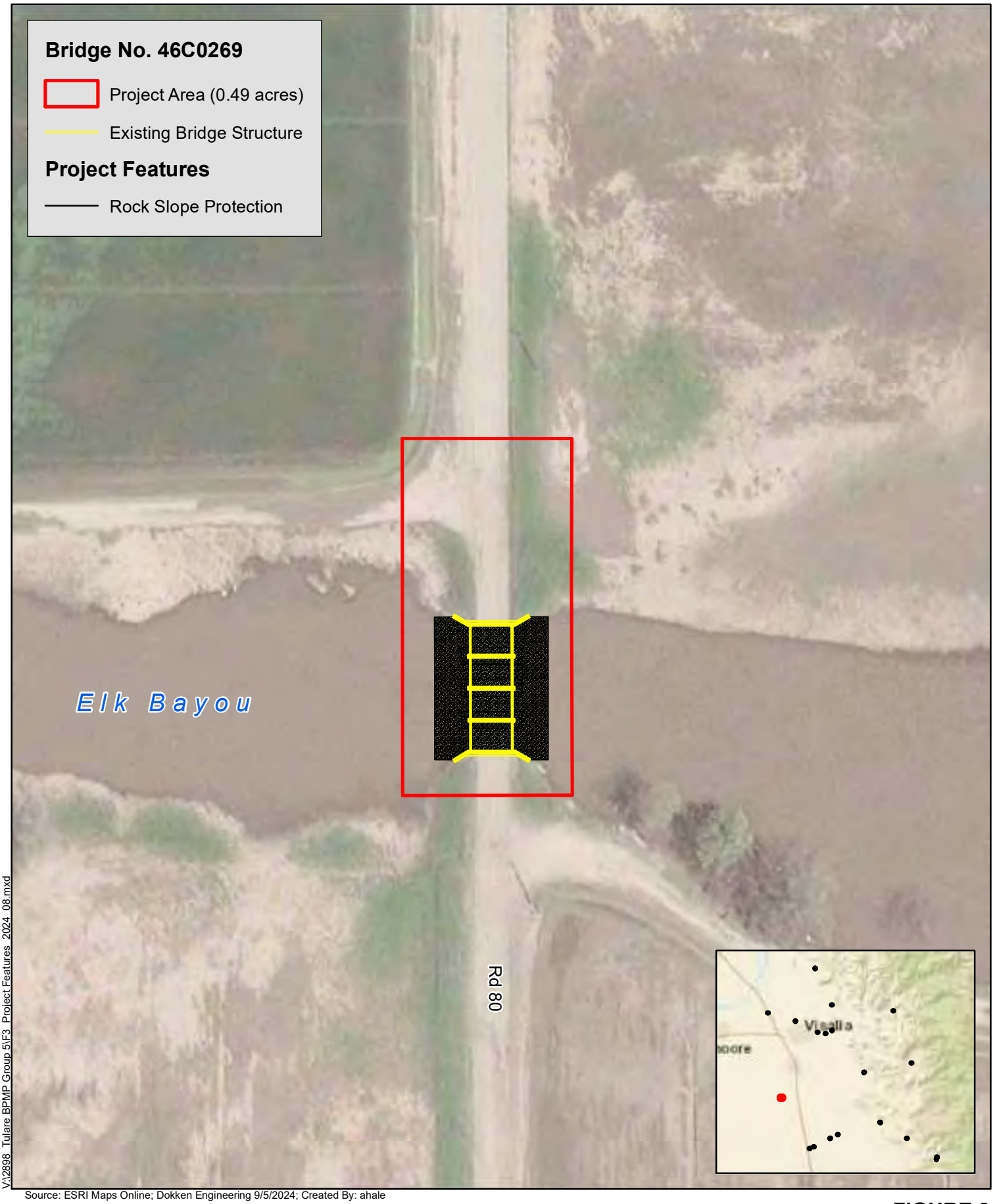
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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 10 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 12 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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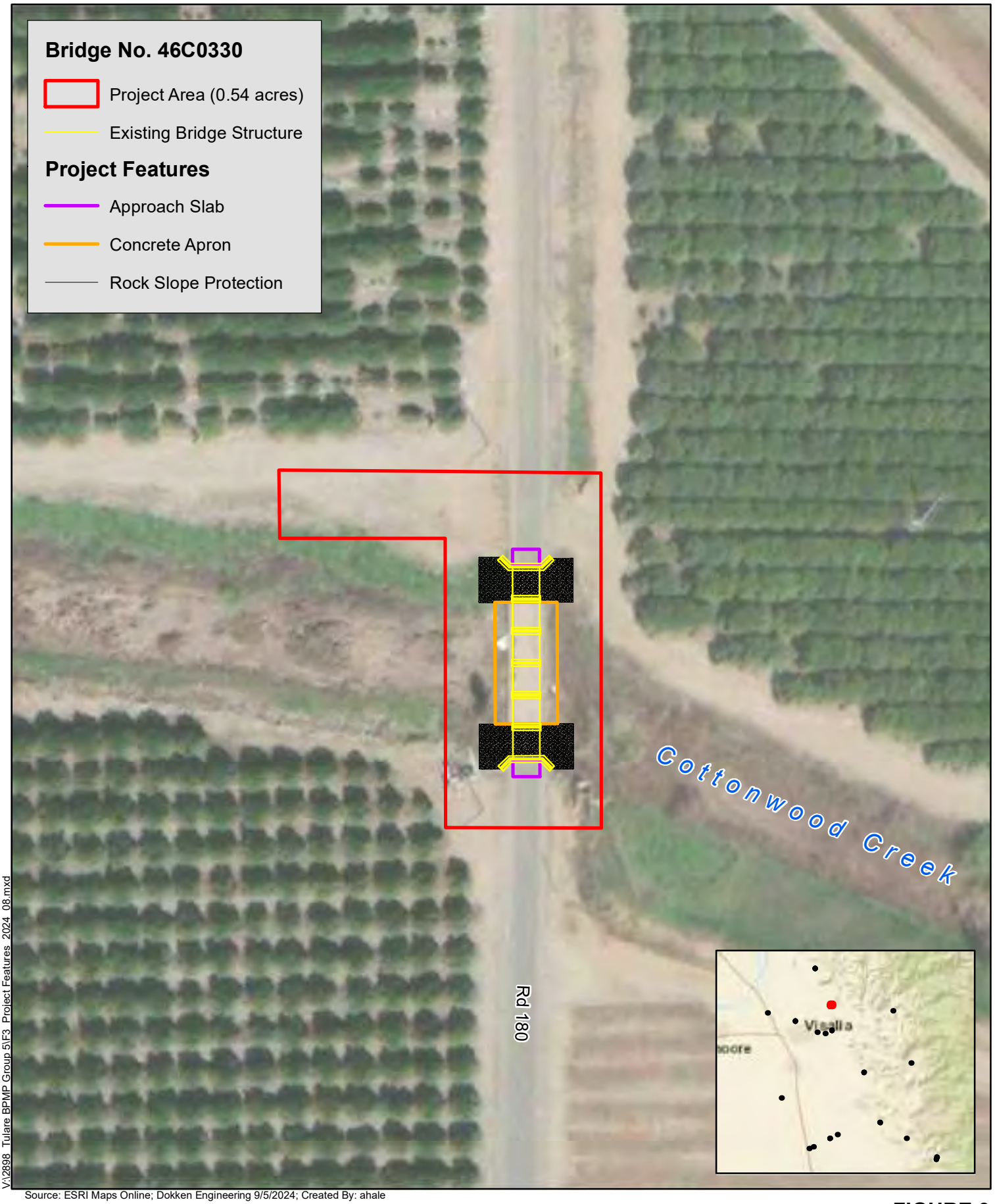
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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



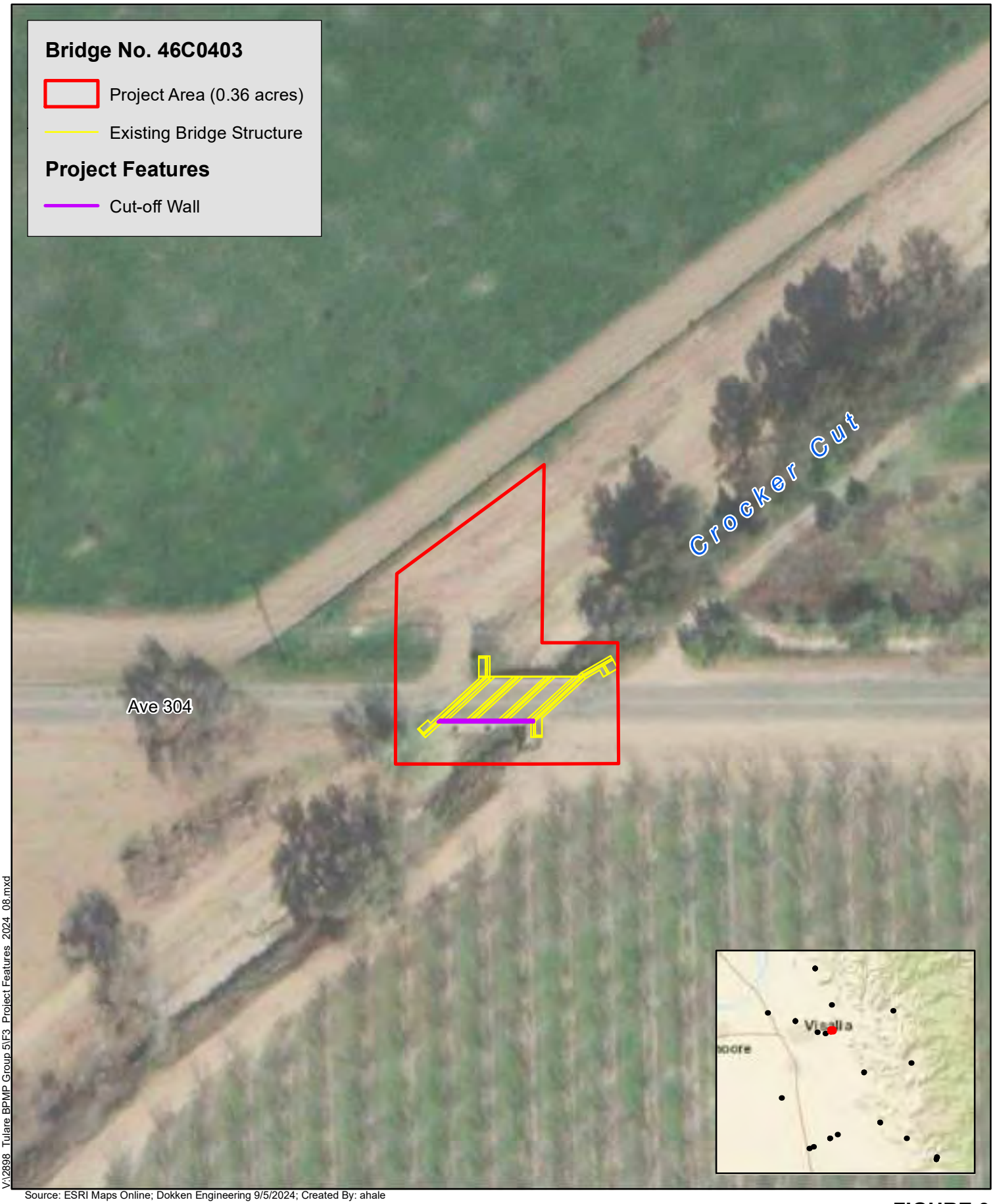
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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 14 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



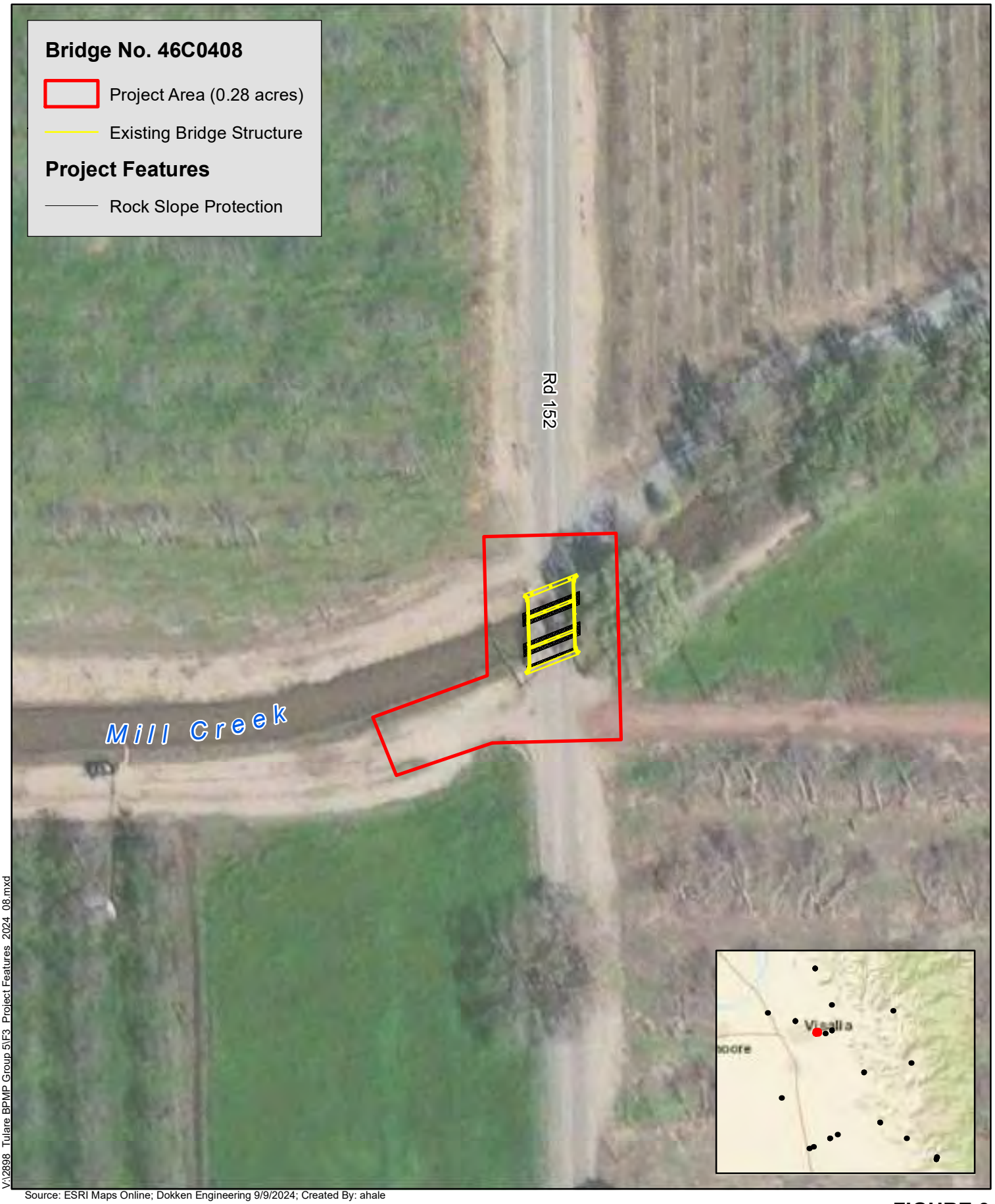
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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 15 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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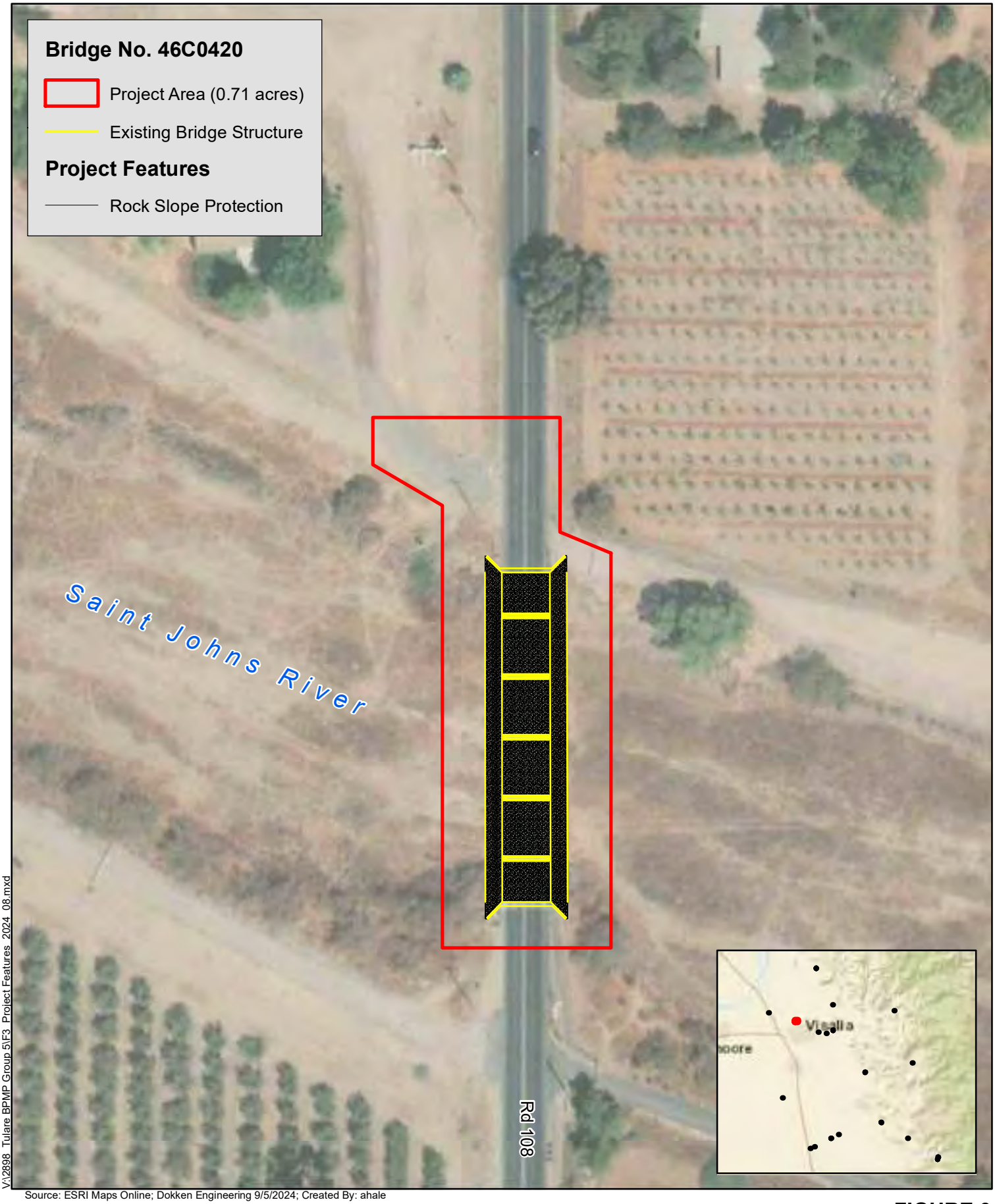
Source: ESRI Maps Online; Dokken Engineering 9/9/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



V:\2898 Tulare BPMP Group 5\F3 Project Features 2024 08.mxd

Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 17 of 17

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

Chapter 2 – Study Methods

Prior to field surveys, online research was conducted to identify special status species and sensitive habitats that may be impacted by the proposed Project. The Project area was defined as the area necessary for Project activities at each of the seventeen bridge locations, including space for staging and access. The BSA was defined around the Project area at each bridge location, encompassing all areas necessary for construction with an approximate 20-foot buffer to evaluate adjacent sensitive habitat features (Figure 3. Project Features). A general biological survey to observe and document the existing biological conditions of each BSA was conducted at each Project location between April 11 and April 15, 2022.

Regulatory Requirements

This section describes the Federal, State, and local plans, policies, and laws that are relevant to biological resources within the BSA. Applicable Federal permits and approvals that would be required before construction of the proposed Project are provided in Chapter 5.

Federal Regulations

National Environmental Policy Act

The NEPA provides an interdisciplinary framework for environmental planning by federal agencies and contains action-forcing procedures to ensure that federal agency decisions take environmental factors into account. NEPA is applicable when a federal agency proposes an action, grants a permit, or agrees to fund or otherwise authorize any other entity to undertake an action that could possibly affect environmental resources. Caltrans is the designated NEPA lead agency for this Project acting under delegation from the Federal Highways Administration.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 (16 U.S.C. section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to Section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. These species and resources have been identified by USFWS or National Marine Fisheries Service (NMFS).

Clean Water Act

The CWA was enacted as an amendment to the Federal Water Pollutant Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to Waters of the U.S. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The CWA empowers the U.S. Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations and includes programs addressing both point-source and non-point-source pollution. Point-source pollution originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Non-point-source pollution originates over a broader area and includes urban contaminants in storm water runoff and sediment loading from upstream areas. The CWA operates on the

principle that all discharges into the nation's waters are unlawful unless they are specifically authorized by a permit; permit review is the CWA's primary regulatory tool.

Section 401

The RWQCB has jurisdiction under Section 401 of the CWA and regulates any activity which may result in a discharge to surface waters. Typically, the areas subject to jurisdiction of the RWQCB coincide with waters of the U.S. including any wetlands. The RWQCB also asserts authority over "waters of the State" under WDRs pursuant to the Porter-Cologne Water Quality Control Act. The proposed Project is located within the Jurisdiction of the Central Valley RWQCB and would require WDRs from the Central Valley RWQCB.

Section 402

The California State Water Resources Control Board (SWRCB) regulates construction projects that involve ground disturbance of 1 acre or greater. These projects must obtain coverage under the SWRCB General Permit for Storm Water Discharges Associated with Construction Activity (General Construction Permit). Operators of regulated construction sites are required to develop a Stormwater Pollution Prevention Plan; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the General Construction Permit.

Section 404

The USACE regulates discharges of dredged or fill material into waters of the U.S. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations).

Migratory Bird Treaty Act

Executive Order (EO) 13186 (signed January 10, 2001) directs each Federal agency taking actions that could adversely affect migratory bird populations to work with USFWS to develop a Memorandum of Understanding that will promote the conservation of migratory bird populations. Protocols developed under the Memorandum of Understanding will include the following agency responsibilities:

- avoid and minimize, to the maximum extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- restore and enhance habitat of migratory birds, as practicable; and
- prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist Federal agencies in their efforts to comply with the Migratory Bird Treaty Act (MBTA) (50 Code of Federal Regulations (CFR) 10 and 21) and does not

constitute any legal authorization to take migratory birds. Take is defined under the MBTA as “the action of or attempt to pursue, hunt, shoot, capture, collect, or kill” (50 CFR 10.12) and includes intentional take (i.e., take that is the purpose of the activity in question).

Executive Order 13112 – Invasive Species

EO 13112 (signed February 3, 1999) directs all federal agencies to prevent and control introductions of invasive species in a cost-effective and environmentally sound manner. The EO and directives from the Federal Highway Administration require consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

State Regulations

California Environmental Quality Act

The CEQA was created to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and to work to reduce these negative environmental impacts. The County is the CEQA lead agency for this Project.

California Endangered Species Act

The California Fish and Game Code (FGC) Section 2050, henceforth referred to as California Endangered Species Act (CESA), requires CDFW to establish a list of endangered and threatened species (Section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (Sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing).

CESA also requires CDFW to comply with CEQA (Pub. Resources Code Section 21000 et seq.) when evaluating incidental take permit applications (California FGC Section 2081(b) and California Code Regulations, Title 14, section 783.0 et seq.), and the potential impacts the project or activity for which the application was submitted may have on the environment. CDFW’s CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity (California Code Regulations, Title 14, Section 783.5(d)(3)). CDFW cannot issue an incidental take permit if issuance would jeopardize the continued existence of the species (California FGC Section 2081(c); California Code Regulations, Title 14, Section 783.4(b)).

Section 1602: Streambed Alteration Agreement

Under California FGC 1602, public agencies are required to notify CDFW before undertaking any project that will divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occurs during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resources. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

Section 3503 and 3503.5: Bird and Raptors

California FGC Section 3503 prohibits the destruction of bird nests and Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests. Shrubs are present in and adjacent to the study area and could contain nesting sites.

Section 3513: Migratory Birds

California FGC Section 3513 prohibits the take or possession of any migratory non-game bird as designated in the MBTA or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. The act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., such as groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by WDRs and may be required even when the discharge is already permitted or exempt under the CWA.

The RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired, and the standards cannot be met through point source or non-source point controls (NPDES permits or Waste Discharge Requirements), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs) which specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

Studies Required

Literature Search

Prior to field work, literature research was conducted through the USFWS Species List (Appendix A: USFWS Species List), the CDFW California Natural Diversity Database (CNDDB) (Appendix B: CNDDB Species List), the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants (Appendix C: CNPS Species List), and the Natural Resource Conservation Service (NRCS) Soil Report (Appendix D. NRCS Soil Report) to identify habitats and special-status species having the potential to occur within the BSA. An overview of the regional species of concern for the Project can be found in Table 6 of this document (see Chapter 3). For a comprehensive discussion of the species generated from online database searches, including specific characteristics, habitat requirements, and the potential for occurrence of each species, refer to Appendix E. Special Status Species Potential Table.

The Project is located outside of NMFS jurisdictional boundaries and impacts to NMFS species, critical habitat, and/or essential fish habitat are not anticipated.

Field Reviews and Survey Methods

Prior to field surveys, the BSA was defined as the proposed Project area including potential staging areas with an approximate 20-foot buffer. Habitat assessments and analysis of historic occurrences were conducted to determine the potential for special-status species to occur within the BSA.

Biological surveys included walking meandering transects, where feasible through the BSA, observing vegetation communities, compiling notes on observed flora and fauna, assessing the potential for existing habitat to support sensitive plants and wildlife, and classifying habitat communities. All plant and wildlife observations were recorded and are discussed in Chapter 3 (Appendix F. Species Observed Lists).

Personnel and Survey Dates

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022, by Dokken Engineering biologists Hanna Sheldon and Clare Favro to document existing biological resources, delineate potential jurisdictional waters, and survey for sensitive and protected species and/or their habitats. Hanna Sheldon and Clare Favro are knowledgeable in plant identification, wildlife observation, and aquatic resource delineation. The lead surveying biologist, Hanna Sheldon, has a Master of Science in Animal Science from California Polytechnic State University, San Luis Obispo, and 7 years of experience with biological resources, including botanical surveys, wetland delineations, and wildlife habitat assessments. Clare Favro has a Bachelor of Science in Biology from California Polytechnic State University, San Luis Obispo and 2 years of experience in biological resources and surveys. The surveys consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area.

In addition, Dokken Engineering biologists delineated the ordinary high-water mark (OHWM) of jurisdictional aquatic resources present within the BSA in accordance with the *Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States* (Lichvar 2008).

Agency Coordination and Professional Contacts

United States Fish and Wildlife Service

On November 21, 2023, a shapefile of the Project area was utilized to obtain an official species list from USFWS *Information for Planning and Consultation* (IPaC) of Federal endangered and threatened species that could occur in the vicinity of the Project. An updated species list was obtained on September 9, 2024 (Appendix A. USFWS Species List, USFWS 2024).

California Department of Fish and Wildlife

On November 21, 2023, a CNDDB multiple quadrangle search of special status species that may occur within the vicinity of each of the Project locations was obtained. An updated species list was obtained on September 9, 2024 (Appendix B. CNDDB Species List, CDFW 2024).

The CNDDB search was conducted using the following USGS 7.5' quadrangles:

- California Hot Springs (3511886)
- Dennison Peak (3611837)
- Exeter (3611932)
- Fountain Springs (3511888)
- Gibbon Peak (3511887)
- Ivanhoe (3611942)
- Kaweah (3611848)
- Lindsay (3611921)
- Monson (3611943)
- Pixley (3511983)
- Posey (3511876)
- Sausalito School (3511982)
- Springville (3611827)
- Success Dam (3611818)
- Taylor Weir (3611914)
- Traver (3611944)
- Visalia (3611933)

California Native Plant Society

On November 21, 2023, a list of species that could occur within each of the Project locations was obtained from CNPS. The search was conducted using the USGS 7.5' quadrangles identified above. An updated species list was obtained on September 9, 2024 (Appendix C. CNPS Species List, CNPS 2024).

Limitations That May Influence Results

Sensitive wildlife species with the potential to occur in the BSA may be cryptic (difficult to detect) or transient, migratory species. The population size and locations of sensitive species may fluctuate through time. Because of this, the data collected for this NES represents a "snapshot" in time and may not reflect actual future conditions.

The interpretation of field data must be conservative and consider the uncertainties and limitations imposed by the environment. However, no limitations have been identified that would substantially change or influence the findings of the biological survey. All surveys were conducted during appropriate weather and temperature conditions.

Chapter 3 – Results: Environmental Setting

The Project encompasses seventeen bridges located throughout the San Joaquin Valley and adjacent Sierra Nevada foothills in Tulare County, California. Tulare County receives an average of 21.84 inches of precipitation annually. The average annual high temperature for the region is 66°F and the average annual low temperature is 40°F (NCEI 2023). The Project locations fall within the San Joaquin Valley and Sierra Nevada Jepson ecoregions (Hickman 1993) and the Great Valley and Sierra Nevada Foothills U.S. Forest Service (USFS) ecological sections (USFS 2007).

Description of the Existing Physical and Biological Conditions

Tulare County spans the San Joaquin Valley and the neighboring Sierra Nevada mountains, encompassing a diverse array of geographic features and habitat communities. Within the valley, the region is dominated by agricultural land use and includes urban population centers such as Visalia, Tulare, and Porterville. Upon entering the foothills, land use transitions to primarily open space with sporadic rural residential communities. The Sequoia National Park comprises the eastern extent of the County and is characterized by its unique geological processes, flora, and fauna. The following sections discuss ecological conditions of the region and biological resources present within the Project BSA.

Study Area

The BSA is defined as the area necessary for bridge maintenance activities at each of the seventeen Project locations, including space for staging and access, plus an approximate 20-foot buffer to capture adjacent sensitive habitat resources (Figure 4. Vegetation Communities). The cumulative Project BSA encompasses approximately 12.91 acres. The area of the BSA for each bridge is identified in Table 4. Land Cover within the BSA.

Land use within the vicinity of the proposed bridge maintenance locations primarily consists of agriculture within the San Joaquin Valley and rural land in the Sierra Nevada foothills. Notable exceptions include Bridge #46C0058, Bridge #46C0059, Bridge #46C0202, and Bridge #46C0309, which span stream channels located within undeveloped open space land. Within the BSA, the majority of the land outside of County ROW is privately owned and unincorporated (Tulare County 2012).

Physical Conditions

The Projects are located throughout the Tulare Basin and the adjacent Sierra Nevada foothills in Tulare County. The Tulare Basin consists of a low-lying plain with very little relief that has been largely converted into agriculture. To the east, grasslands and mixed oak woodlands comprise the gentle, western-facing slopes of the Sierra Nevada mountain range. The foothills drain by a series of streams and rivers into the San Joaquin Valley, some of which drain northwest into the Sacramento-San Joaquin River Delta and eventually the Pacific Ocean. Major rivers within the Tulare Basin region include the Tule River, Kaweah River, Kings River, White River, and Kern River, which are frequently diverted for agricultural uses throughout the valley.

The elevation of the Project locations ranges from 229 feet to 2,681 feet above sea level. Thirteen of the proposed bridge maintenance locations occur in the San Joaquin Valley, below 600 feet in elevation. The remaining three locations occur at slightly higher elevations in the southern portions of the Sierra Nevada foothills. The soil composition of the bridge maintenance locations is summarized in the table below (Appendix D. NRCS Soil Report).

Table 2: Soil Types within the BSA

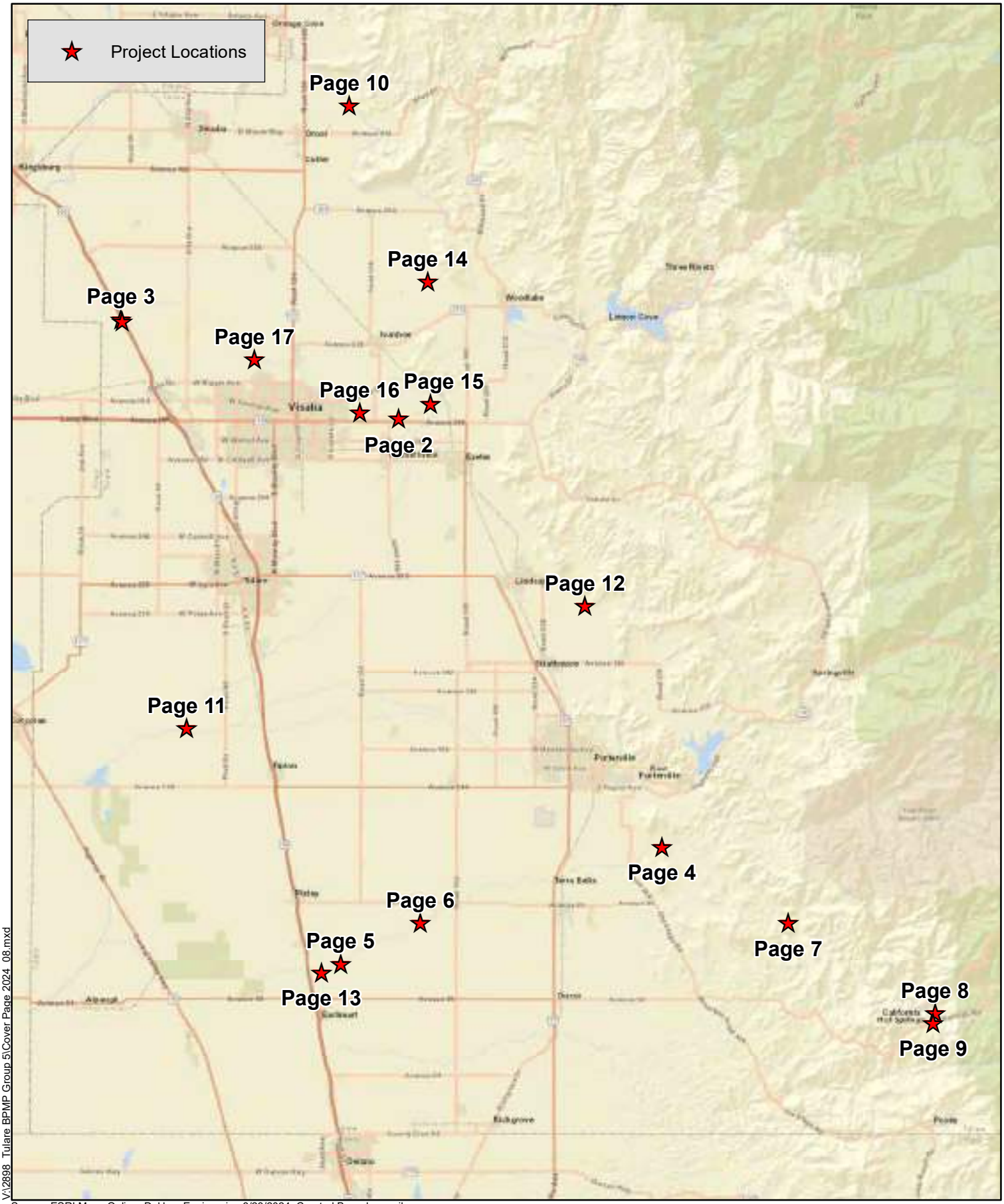
Bridge Number	Sandy Loam	Clay	Rocky Outcrop Complex	Saline-Sodic Complex	Xero-fluevents	Riverwash	Water	Other
#46C0036	100%	--	--	--	--	--	--	--
#46C0058	--	--	--	--	--	--	--	100%
#46C0059	--	--	--	--	--	--	--	100%
#46C0087	--	--	25%	--	--	75%	--	--
#46C0106	--	--	--	--	--	98%	--	2%
#46C0108	13%	--	--	--	--	81%	--	6%
#46C0202	--	--	100%	--	--	--	--	--
#46C0204	--	--	100%	--	--	--	--	--
#46C0205	100%	--	--	--	--	--	--	--
#46C0226	--	59%	--	--	--	--	41%	--
#46C0269	--	--	--	100%	--	--	--	--
#46C0309	--	--	--	--	--	--	--	100%
#46C0318	--	--	--	31%	--	69%	--	--
#46C0330	100%	--	--	--	--	--	--	--
#46C0403	100%	--	--	--	--	--	--	--
#46C0408	100%	--	--	--	--	--	--	--
#46C0420	33%	--	--	--	--	67%	--	--

Biological Conditions

Land cover types within the BSA include oak woodland, riparian, nonnative grassland, ruderal vegetation, agriculture and roadway/barren. In addition, the proposed bridge maintenance locations encompass a variety of perennial and intermittent stream channels that provide aquatic habitat within the BSA (Figure 4. Vegetation Communities; Appendix G. Representative Photographs). Plant and wildlife species observed within the BSA during the April 2022 biological survey efforts were used to define habitat types based on composition, abundance, and cover (Appendix F. Species Observed Lists).

Riparian –

Riparian vegetation is a transitional habitat community that occurs along the margins of the stream channels present within the BSA. The understory of this vegetation community is largely comprised of willows (*Salix sp.*) and Himalayan blackberry (*Rubus armeniacus*). Within the San Joaquin Valley, overstory vegetation primarily consists of Fremont cottonwood (*Populus fremontii*), eucalyptus (*Eucalyptus sp.*), and native oaks (*Quercus sp.*). At higher elevations, riparian habitat also includes trees such as western sycamore (*Platanus racemosa*) and white alder (*Alnus rhombifolia*). Riparian vegetation comprises approximately 1.27 acres of the BSA (Figure 4. Vegetation Communities).

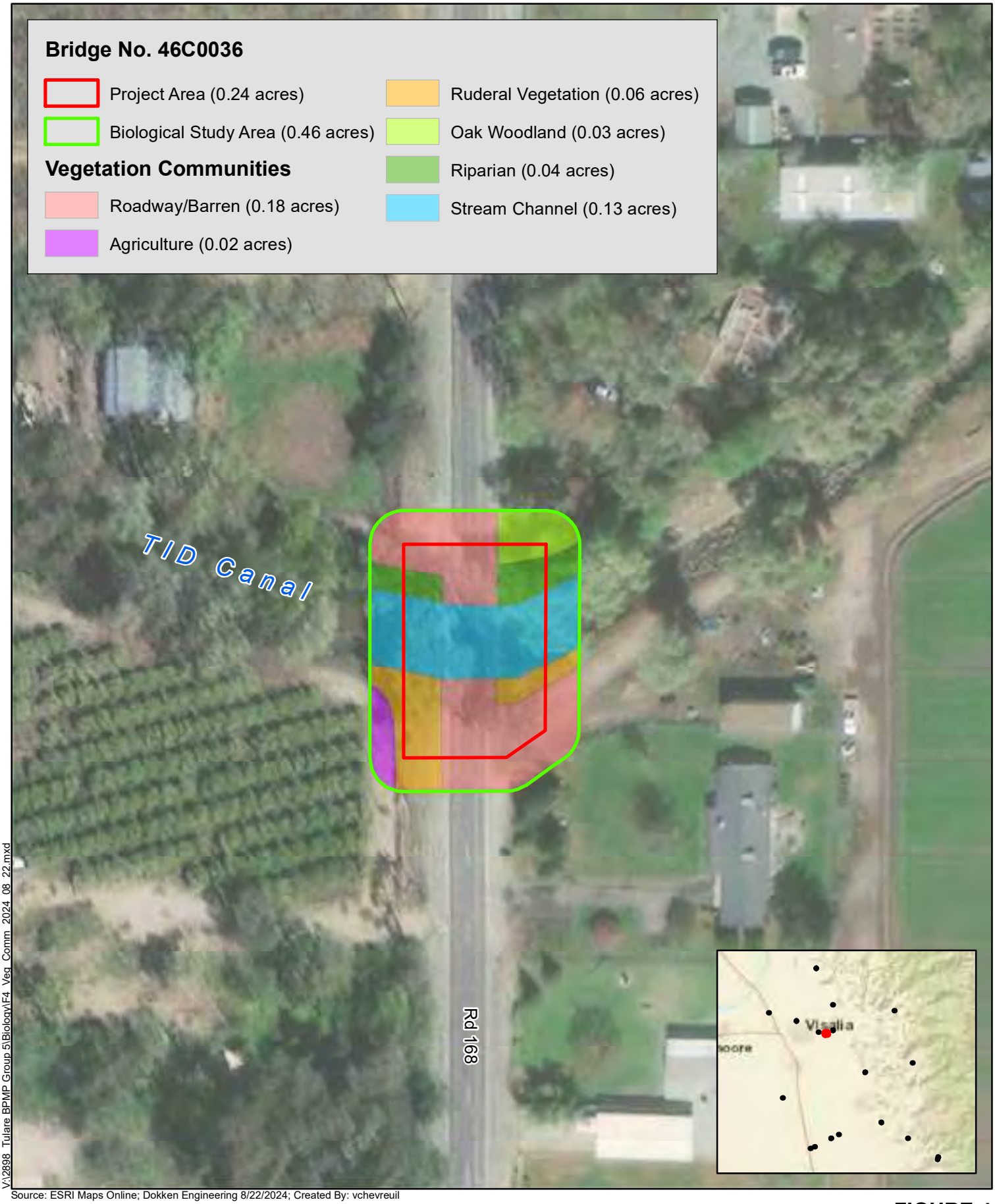


Source: ESRI Maps Online; Dokken Engineering 8/23/2024; Created By: vchevreuil

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0 5 10 15 Miles

FIGURE 4
Vegetation Communities
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



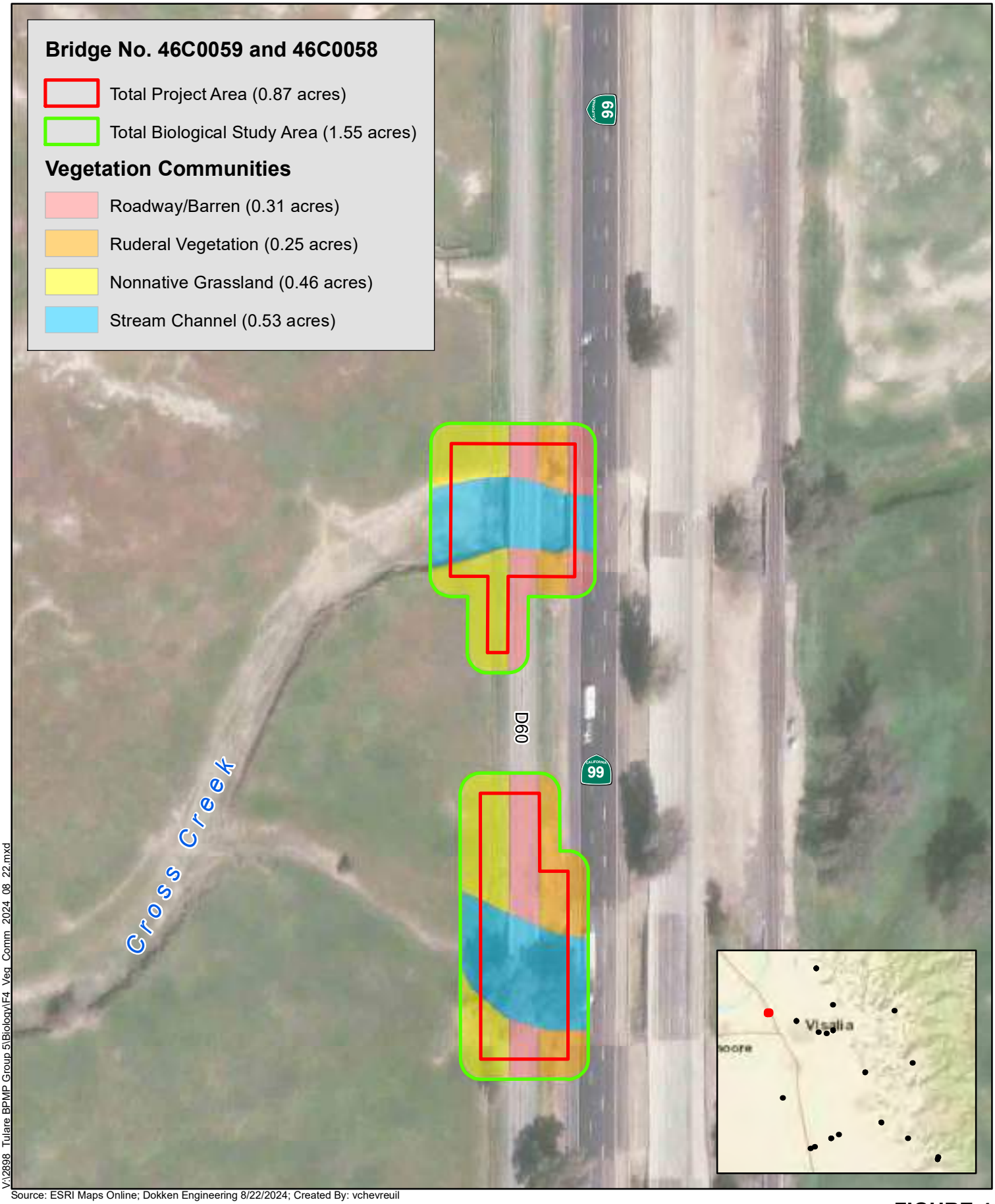
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Source: ESRI Maps Online; Dokken Engineering 8/22/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 4
Vegetation Communities
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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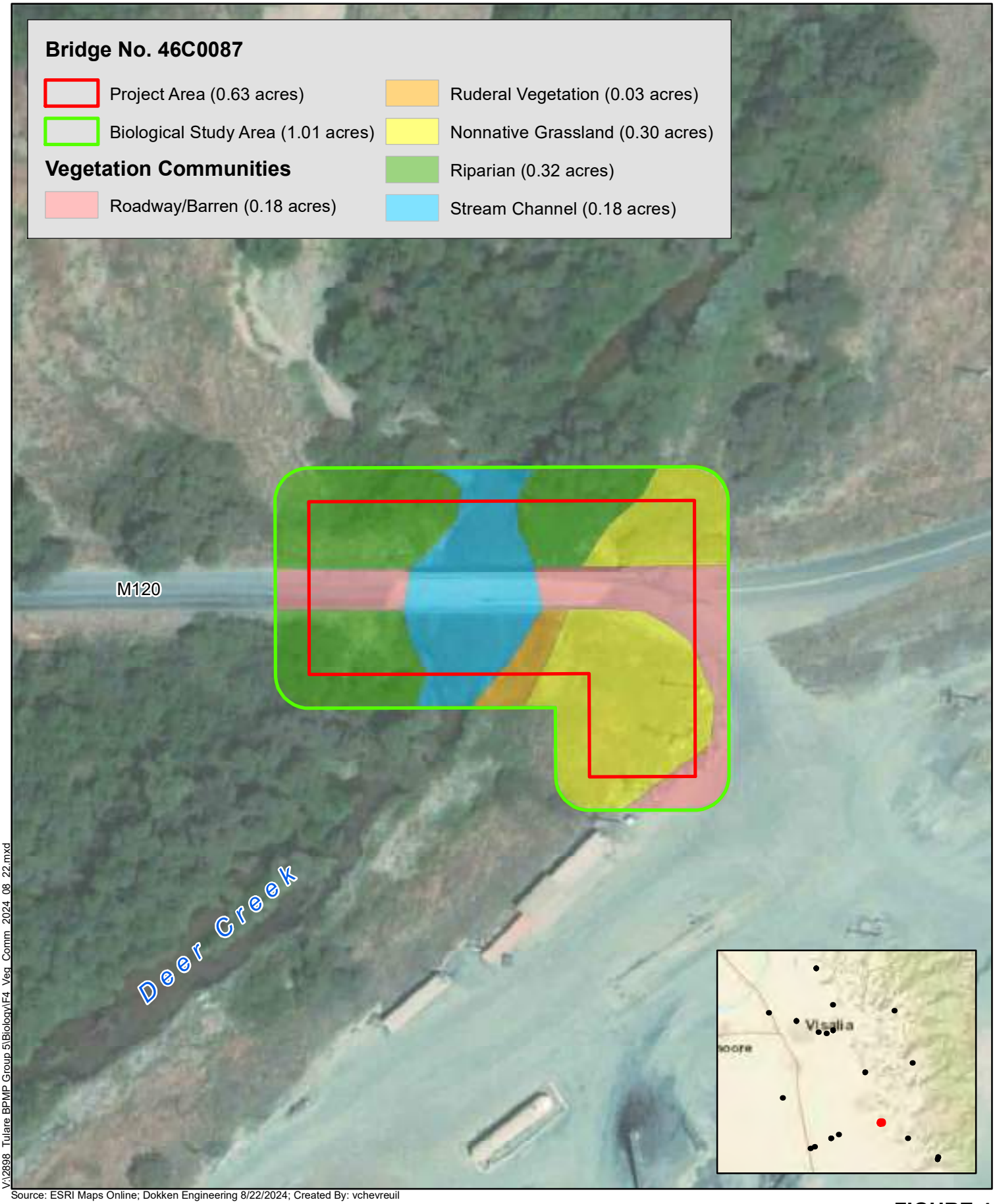
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1 inch = 125 feet

0 125 250 375 Feet

FIGURE 4
Vegetation Communities

BPMPL-5946(169)
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Tulare County, California



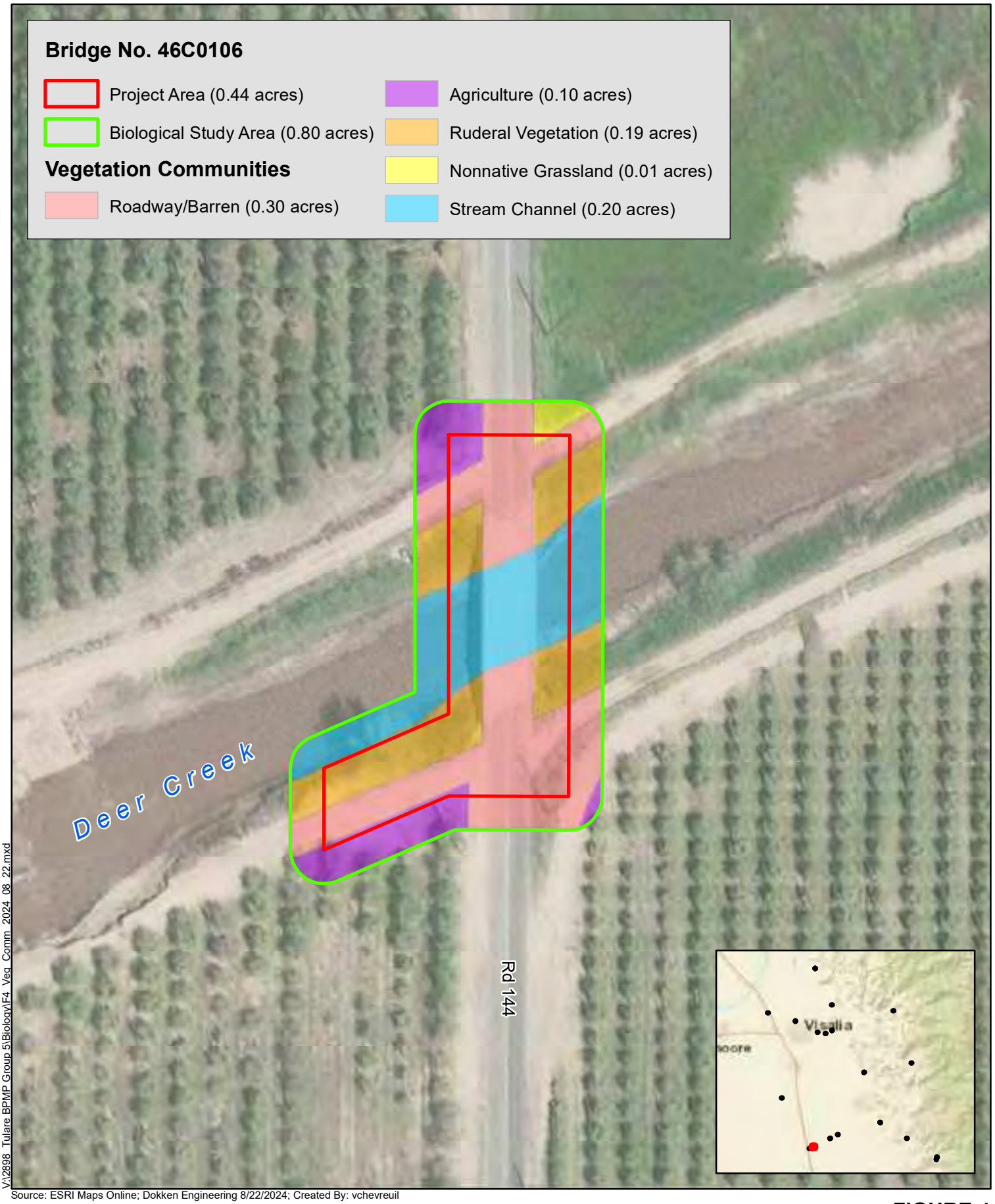
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Source: ESRI Maps Online; Dokken Engineering 8/22/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 4
Vegetation Communities
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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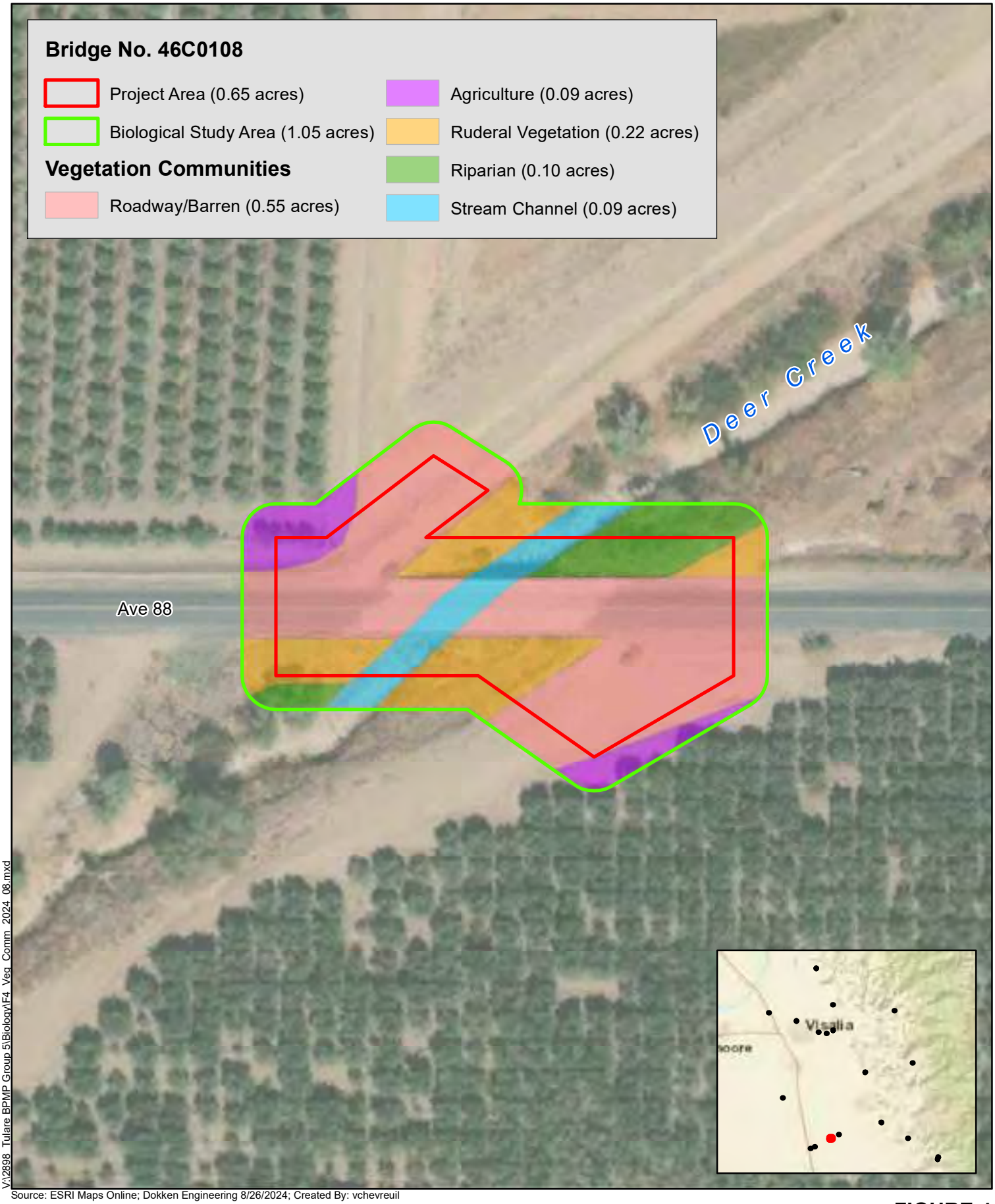
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1 inch = 75 feet

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FIGURE 4
Vegetation Communities
Page 5 of 17

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



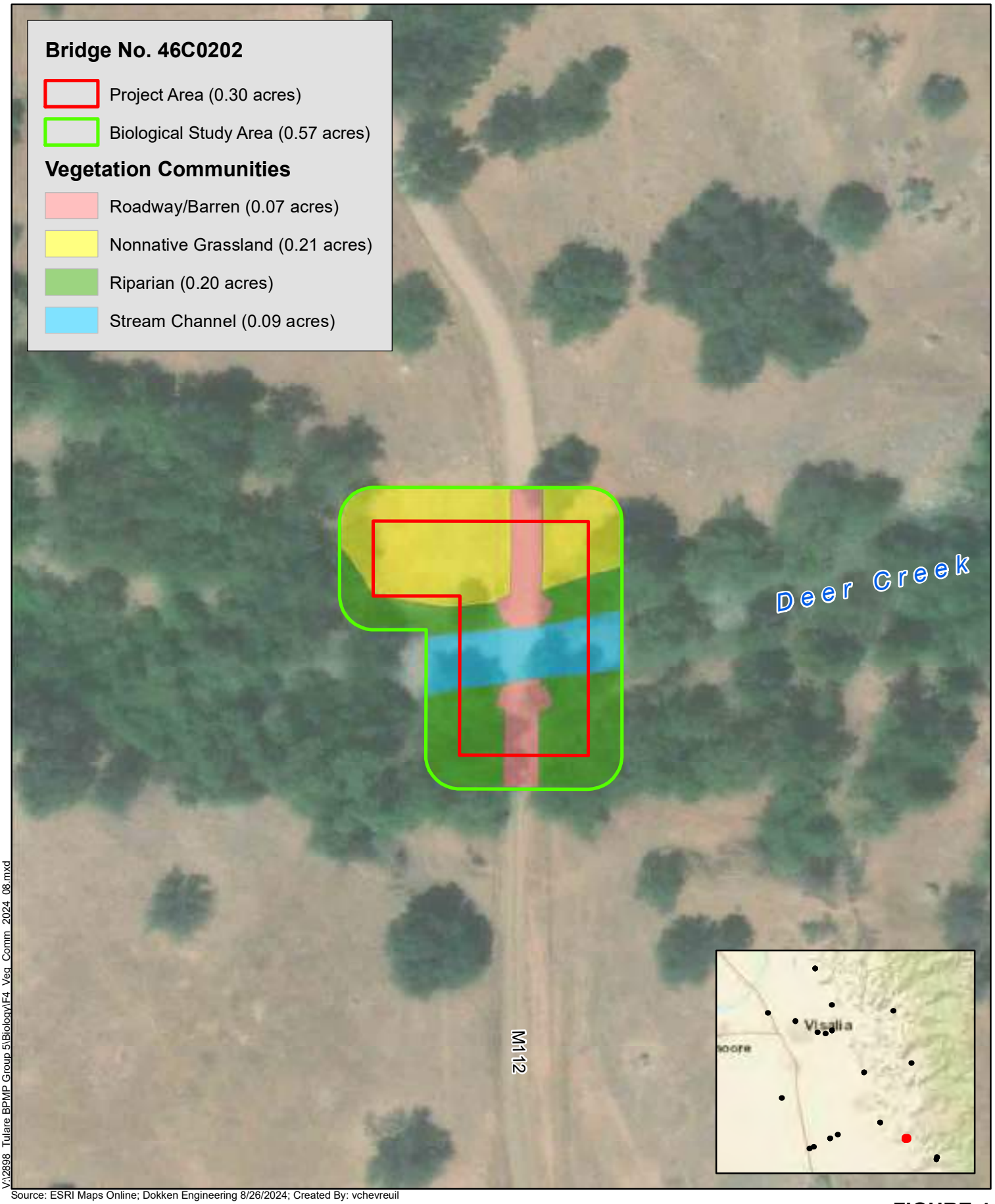
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Source: ESRI Maps Online; Dokken Engineering 8/26/2024; Created By: vchevreuil

1 inch = 75 feet

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FIGURE 4
Vegetation Communities
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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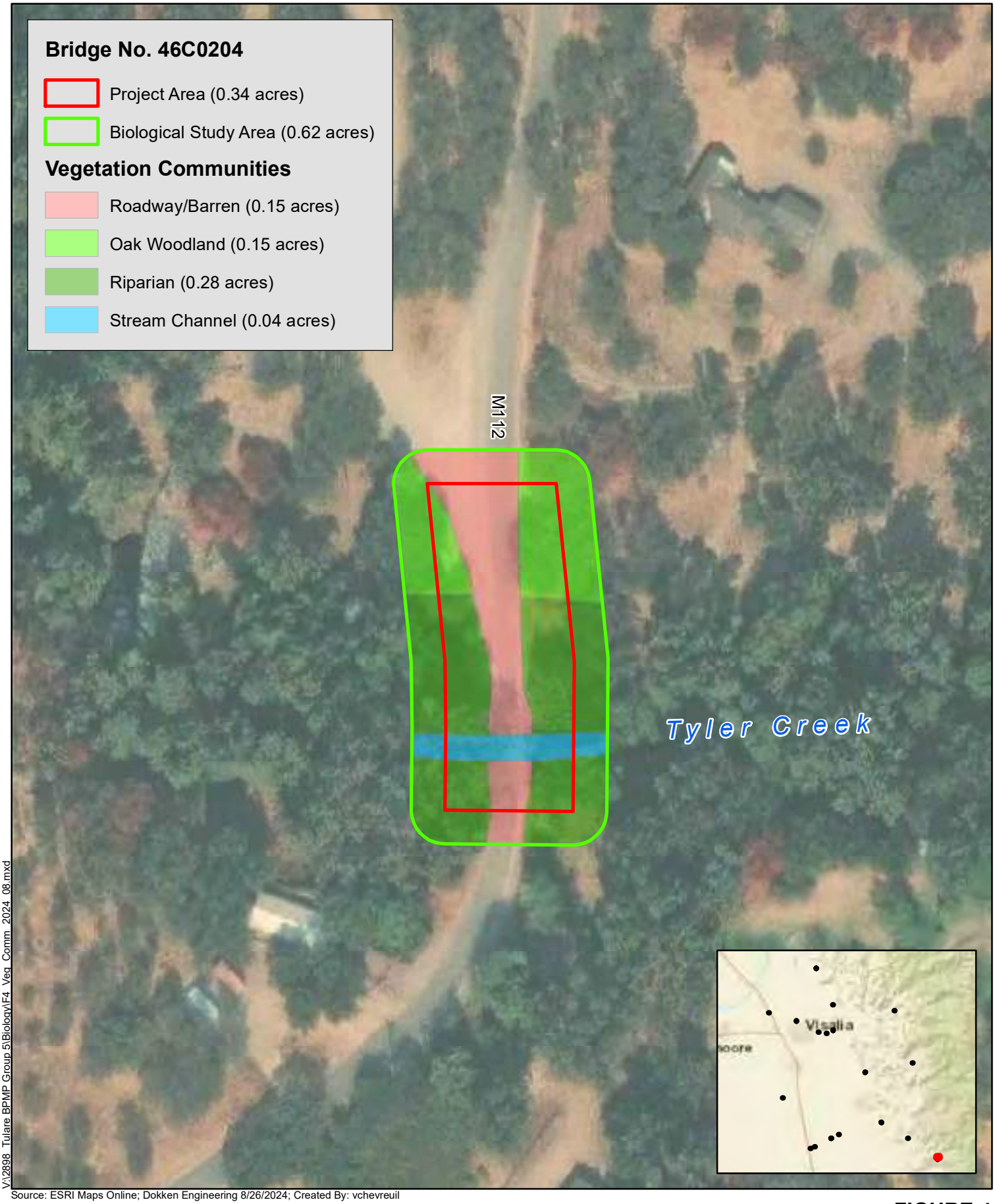
Source: ESRI Maps Online; Dokken Engineering 8/26/2024; Created By: vchevreuil

1 inch = 75 feet

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FIGURE 4
Vegetation Communities

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Tulare County, California



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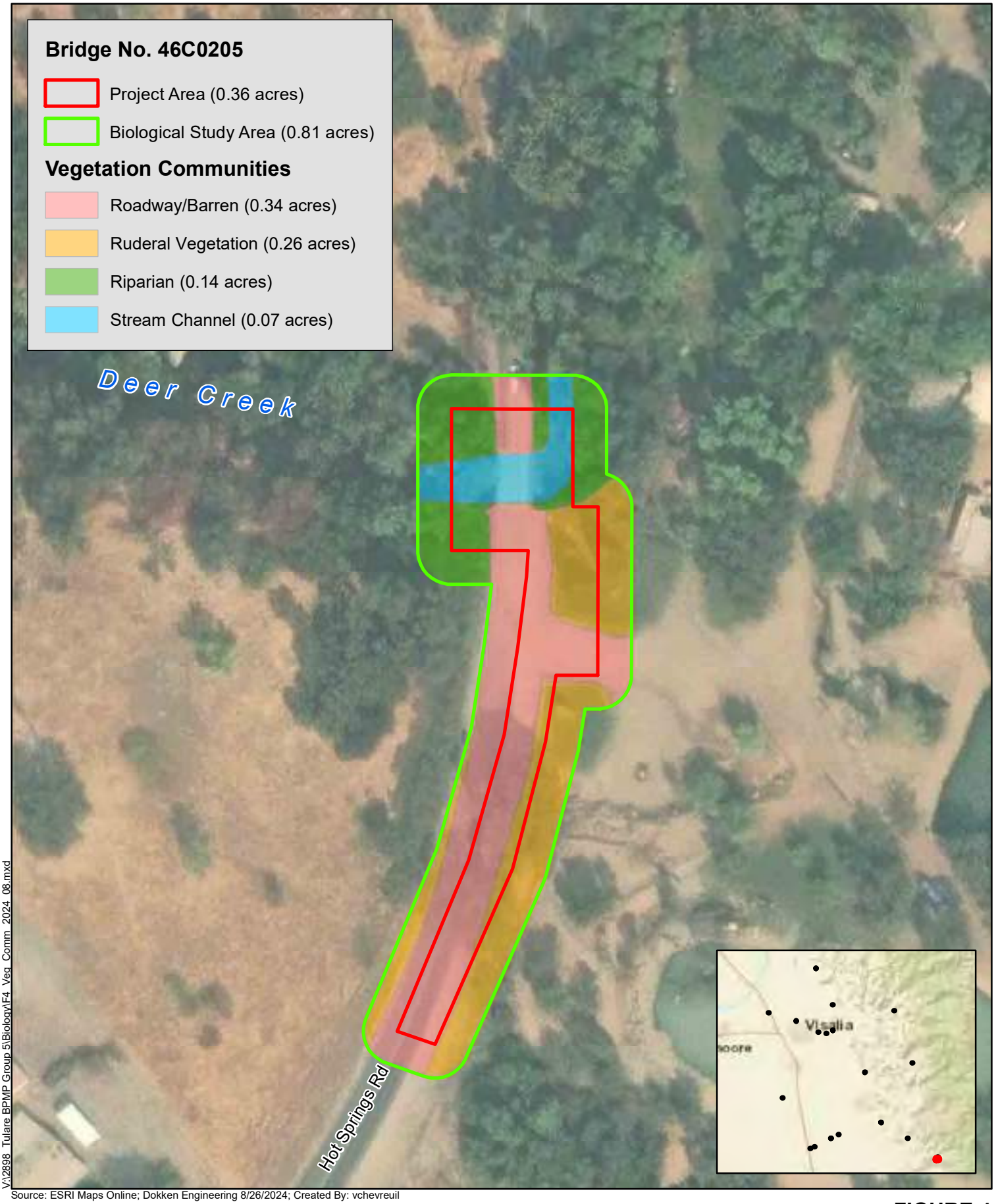
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1 inch = 75 feet

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FIGURE 4
Vegetation Communities

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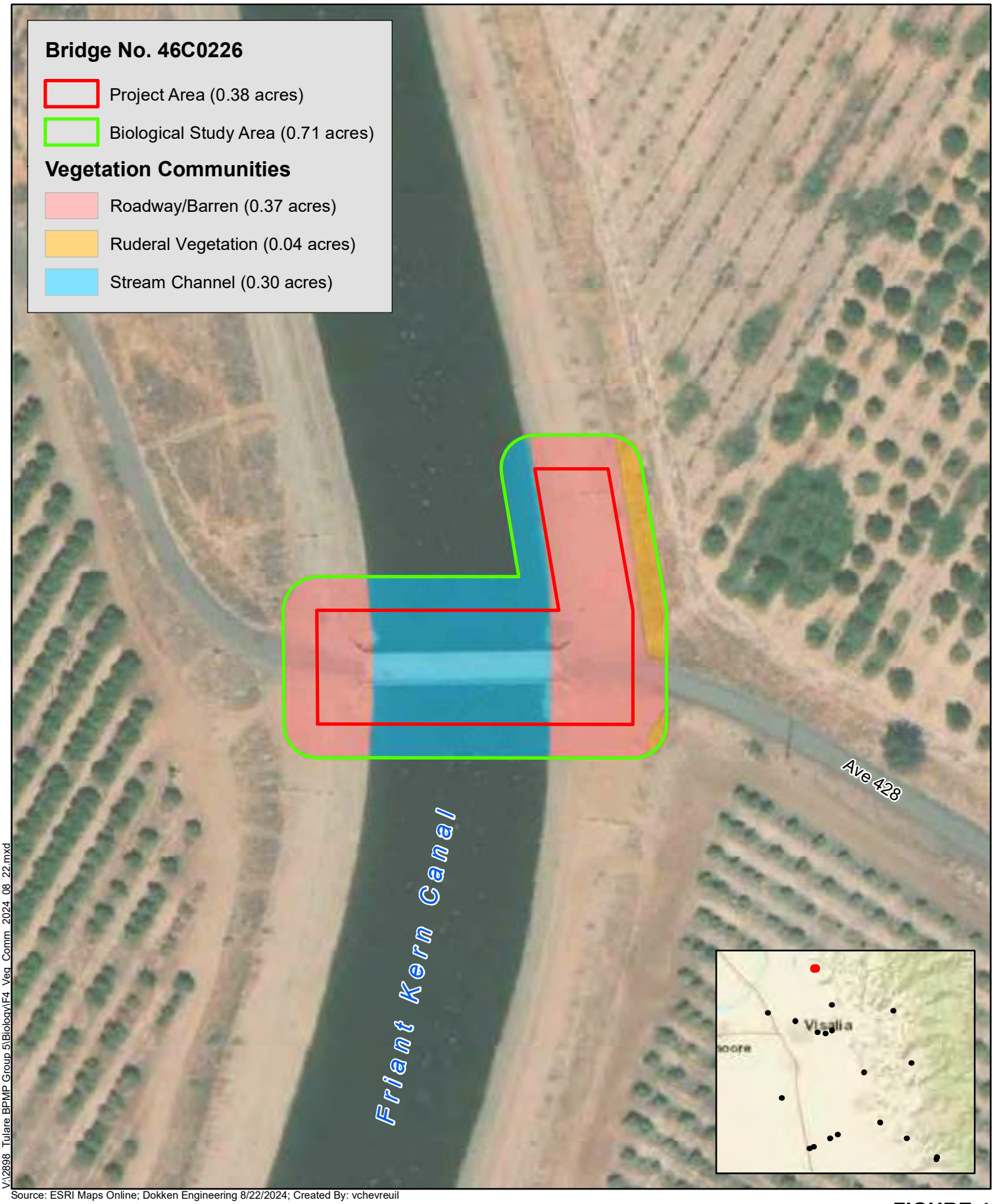
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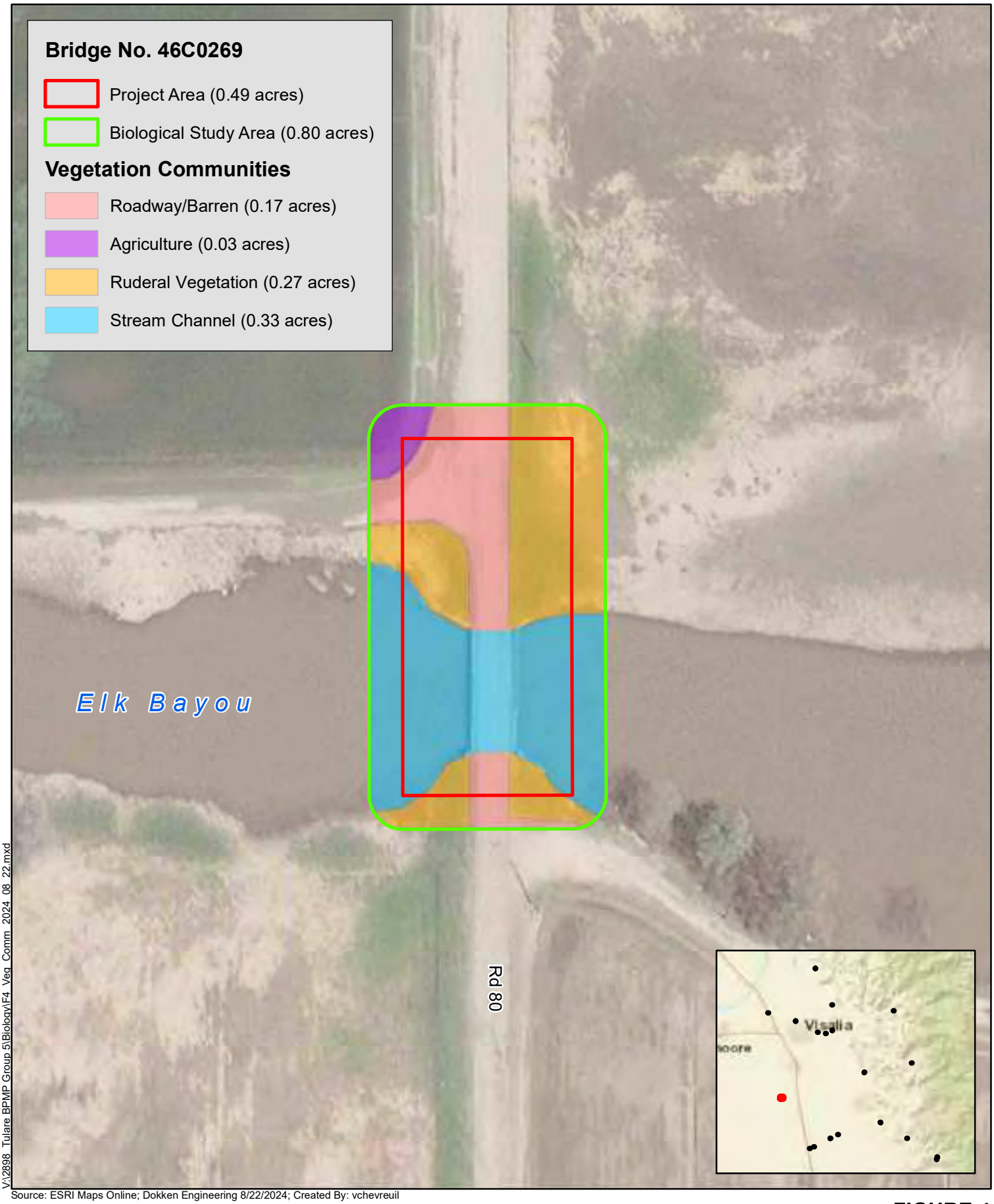
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1 inch = 75 feet

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FIGURE 4
Vegetation Communities

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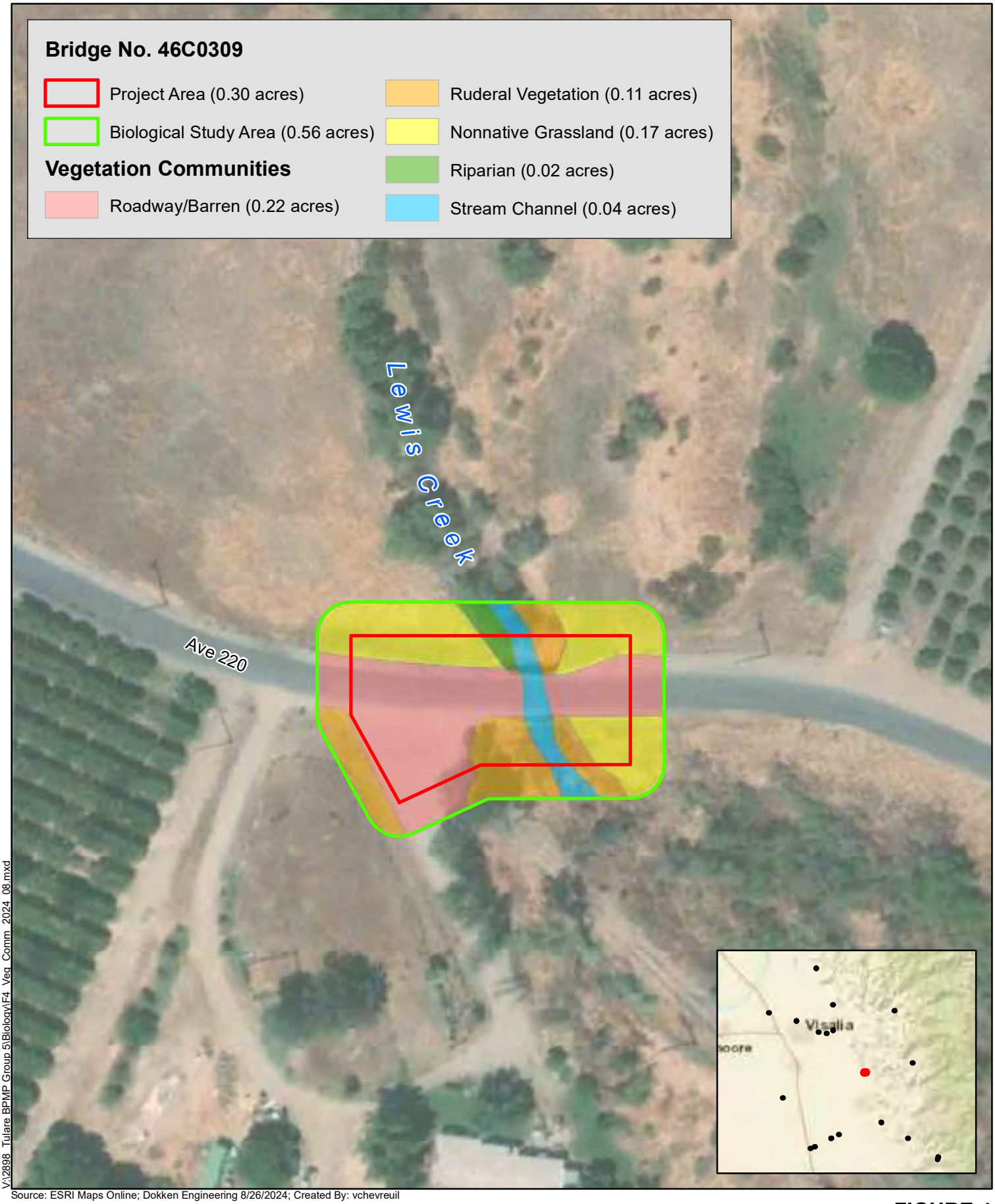
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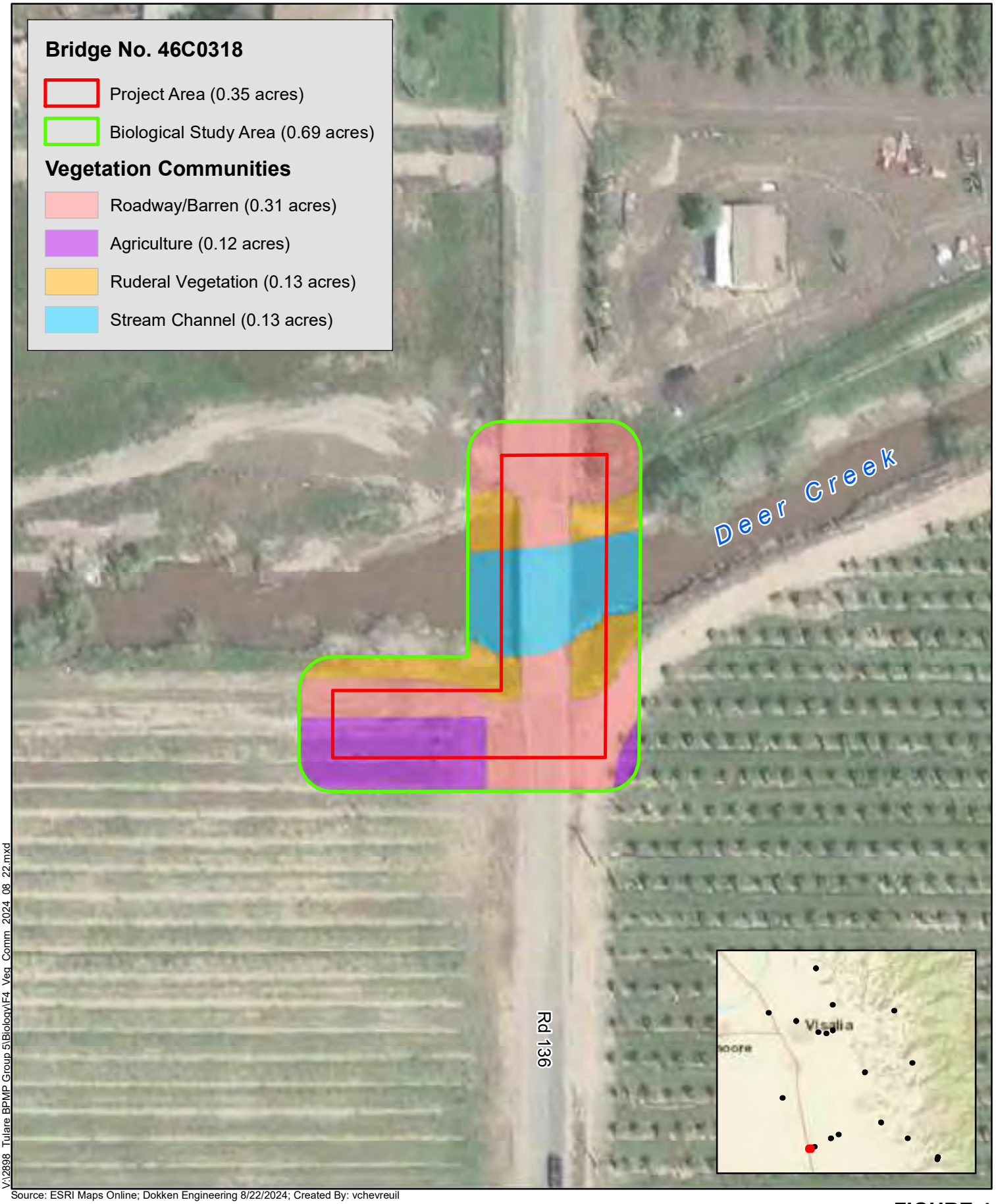
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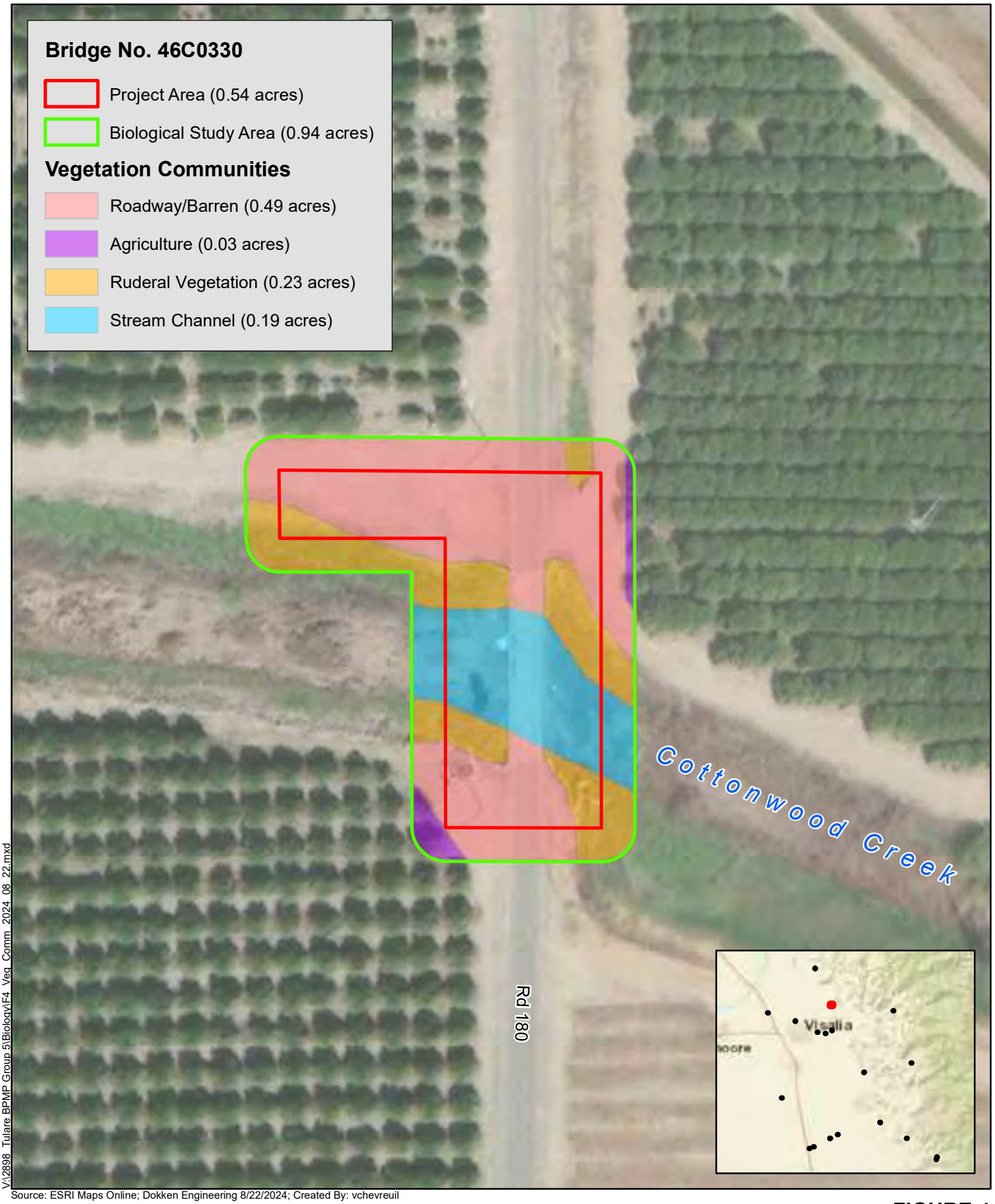
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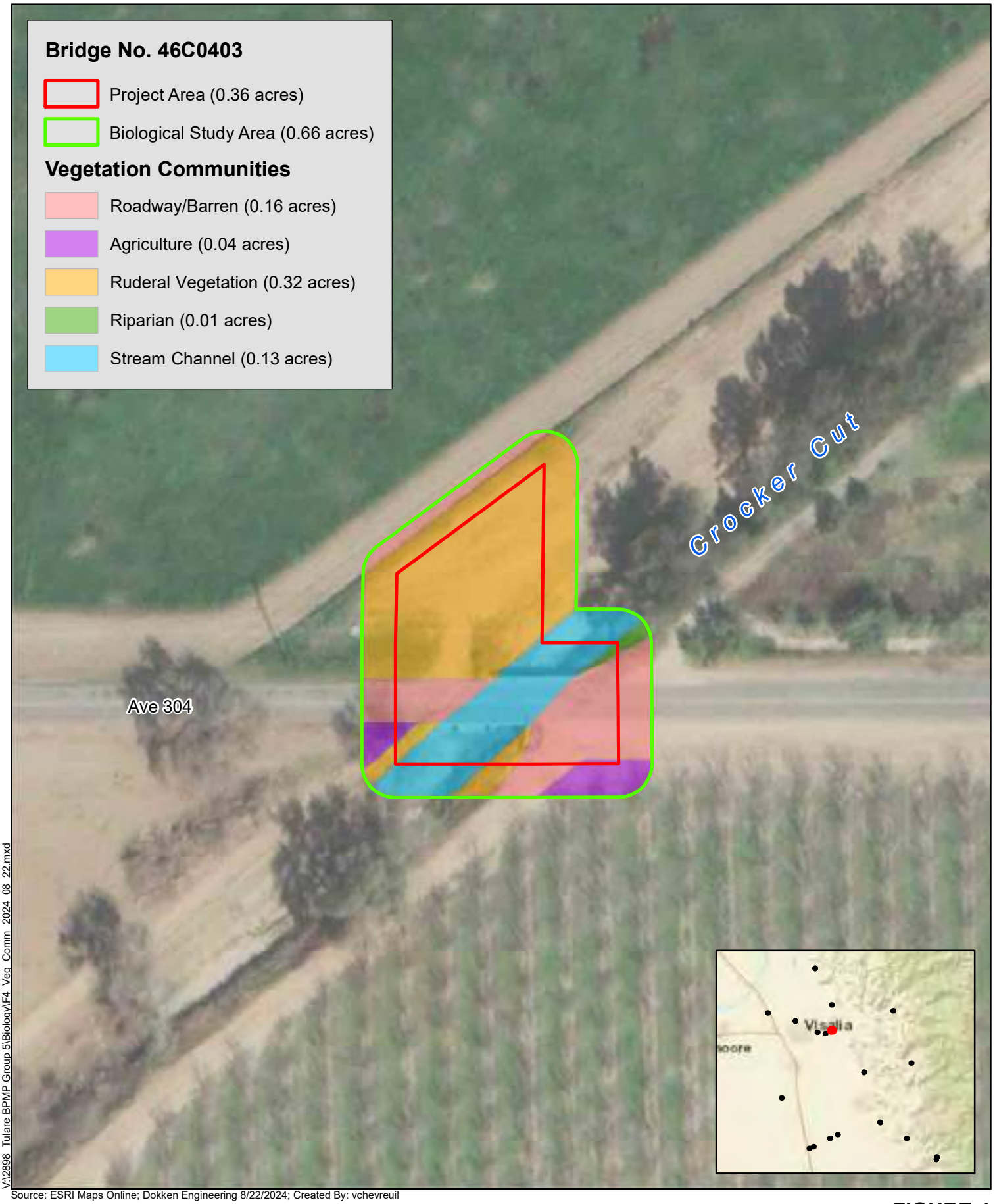
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Source: ESRI Maps Online; Dokken Engineering 8/22/2024; Created By: vchevreuil

1 inch = 75 feet

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FIGURE 4
Vegetation Communities
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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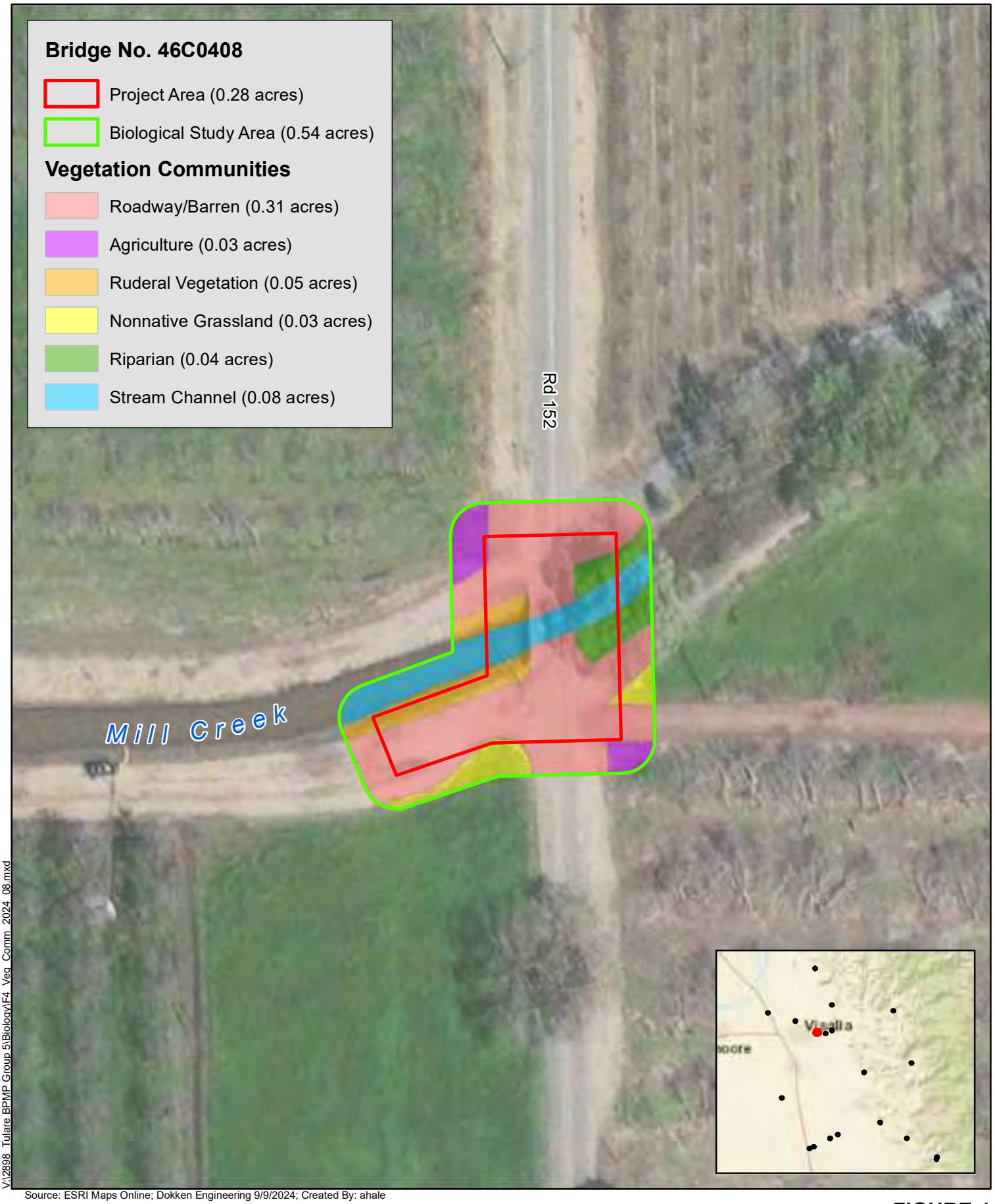
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1 inch = 75 feet

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FIGURE 4
Vegetation Communities

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Tulare County, California



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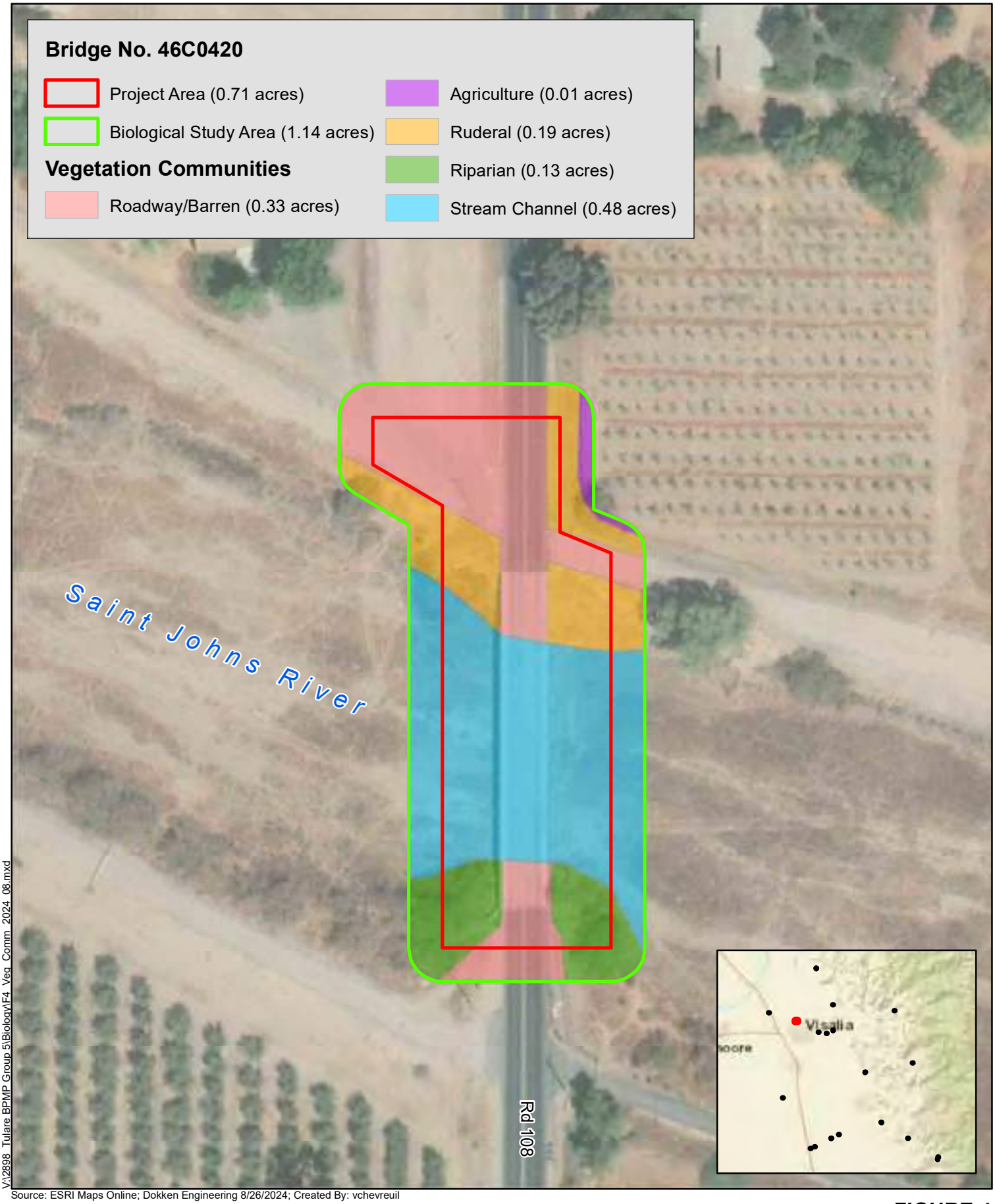
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1 inch = 75 feet

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FIGURE 4
Vegetation Communities

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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1 inch = 75 feet

0 75 150 Feet

FIGURE 4
Vegetation Communities

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

Stream Channel –

The seventeen proposed bridge maintenance locations include ten different aquatic features throughout Tulare County (Table 3. Jurisdictional Waters within the BSA). Within the San Joaquin Valley, the stream channels that intersect the BSA primarily service adjacent agricultural communities; as such, these water ways have been channelized and intermittently flow for portions of the year. A notable exception is the Friant Kern Canal (Bridge #46C0226), which is a perennial waterbody that flows year-round. Stream channels within the valley are highly disturbed due to adjacent agricultural development. Within the Sierra Nevada foothills, stream channels do not exhibit signs of human disturbance and include dense riparian corridors. Stream channel habitat comprises approximately 3.01 acres of the BSA (Figure 4. Vegetation Communities).

Table 3: Jurisdictional Waters within the BSA

Bridge Number	Aquatic Feature	CVFPB Jurisdiction	Water of the State[1]	Waters of the U.S.[2]	Acres
#46C0036	TID Canal/Crocker Cut	No	Yes	Yes	0.13 acres
#46C0058	Cross Creek	Yes	Yes	Yes	0.28 acres
#46C0059	Cross Creek	Yes	Yes	Yes	0.25 acres
#46C0087	Deer Creek	No	Yes	No	0.18 acres
#46C0106	Deer Creek	No	Yes	No	0.20 acres
#46C0108	Deer Creek	No	Yes	No	0.09 acres
#46C0202	Deer Creek	No	Yes	No	0.09 acres
#46C0204	Tyler Creek	No	Yes	No	0.04 acres
#46C0205	Deer Creek	No	Yes	No	0.07 acres
#46C0226	Friant Kern Canal	No	Yes	Yes	0.30 acres
#46C0269	Elk Bayou	Yes	Yes	Yes	0.33 acres
#46C0309	Lewis Creek	No	Yes	Yes	0.04 acres
#46C0318	Deer Creek	No	Yes	No	0.13 acres
#46C0330	Cottonwood Creek	Yes	Yes	Yes	0.19 acres
#46C0403	TID Canal/Crocker Cut	No	Yes	Yes	0.13 acres
#46C0408	Mill Creek	No	Yes	Yes	0.08 acres
#46C0420	Saint Johns River	Yes	Yes	Yes	0.48 acres
		Total			**3.01 acres**

[1] Permits through CDFW and RWQCB.

[2] Permit coverage through USACE.

Oak Woodland –

Oak woodland habitat occurs adjacent to Bridge #46C0036 and Bridge #46C0204. This vegetation community primarily consists of valley oak (*Quercus lobata*), interior live oak (*Quercus wislizeni*), and blue oak (*Quercus douglasii*) trees and comprises the habitat upland of the riparian corridors at these locations. Oak woodland habitat comprises approximately 0.17 acres of the BSA (Figure 4. Vegetation Communities).

Nonnative Grassland –

Within the BSA, non-native grassland typically occurs within the undeveloped parcels that border the proposed bridge maintenance locations. Common plant species within this

habitat include non-native grasses such wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), and foxtail brome (*Bromus madritensis*). This vegetation community is most prominently featured at bridge maintenance locations situated within open space areas, including Bridge #46C0058, Bridge #46C0059, Bridge #46C0202, and Bridge #46C0309. Non-native grassland comprises approximately 1.18 acres of the BSA (Figure 4. Vegetation Communities).

Ruderal Vegetation –

Ruderal vegetation typically consists of non-native pioneer species that dominate highly disturbed areas. Within the BSA, ruderal vegetation occurs within transitional areas such as roadway margins, adjacent to agricultural fields, and along the banks of stream channels that are regularly disturbed. Vegetation within this community is comprised of non-native and invasive species such as wild radish (*Raphanus sativus*), red-stemmed filaree (*Erodium cicutarium*), bull thistle (*Cirsium vulgare*), field mustard (*Brassica rapa*), and a variety of other non-native grasses. Ruderal vegetation comprises approximately 2.37 acres of the BSA (Figure 4. Vegetation Communities).

Roadway/Barren –

Within the BSA, developed land cover primarily consists of the paved, barren roadways and shoulders that approach the proposed bridge maintenance locations. For the bridges located within the San Joaquin Valley, dirt access roads that service local agricultural facilities are categorized as barren land cover within the BSA. Roadway/barren land comprises approximately 4.45 acres of the BSA (Figure 4. Vegetation Communities).

Agriculture –

Agricultural lands within the BSA consist of orchards that occur within the vicinity of the proposed bridge maintenance projects. Orchards typically consist of monospecific tree stands or crop fields that are regularly maintained via irrigation, pest control, and/or harvesting activities. Agricultural lands comprise approximately 0.46 acres of the BSA (Figure 4. Vegetation Communities).

Wildlife

Wildlife observed within the BSA includes native local bird species such as mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), turkey vulture (*Cathartes aura*), black phoebe (*Sayornis nigricans*), red-tailed hawk (*Buteo jamaicensis*), and California scrub-jay (*Aphelocoma californica*), among others. In addition, during biological survey efforts several of the bridge locations exhibited evidence of cliff swallow (*Petrochelidon pyrrhonota*) nesting.

Other species observed include California ground squirrel (*Otospermophilus beecheyi*) at many of the locations in the San Joaquin Valley, and California newt (*Taricha torosa*) near Tyler Creek at Bridge #46C0204. For a complete list of the species identified at each Project location, refer to Appendix F. Species Observed Lists.

Table 4: Land Cover within the BSA

Bridge Number	Land Cover Type	Area (acres)[1]
#46C0036	Roadway/Barren	0.18 acres
	Agriculture	0.02 acres
	Ruderal Vegetation	0.06 acres
	Oak Woodland	0.03 acres
	Riparian	0.04 acres
	Stream Channel	0.13 acres
	BSA	**0.46 acres**
#46C0058	Roadway/Barren	0.14 acres
	Ruderal Vegetation	0.18 acres
	Non-native Grassland	0.23 acres
	Stream Channel	0.28 acres
	BSA	**0.82 acres**
#46C0059	Roadway/Barren	0.17 acres
	Ruderal Vegetation	0.07 acres
	Non-native Grassland	0.23 acres
	Stream Channel	0.25 acres
	BSA	**0.73 acres**
#46C0087	Roadway/Barren	0.18 acres
	Ruderal Vegetation	0.03 acres
	Non-native Grassland	0.30 acres
	Riparian	0.32 acres
	Stream Channel	0.18 acres
	BSA	**1.01 acres**
#46C0106	Roadway/Barren	0.30 acres
	Agriculture	0.10 acres
	Ruderal Vegetation	0.19 acres
	Non-native Grassland	0.01 acres
	Stream Channel	0.20 acres
	BSA	**0.80 acres**
#46C0108	Roadway/Barren	0.55 acres
	Agriculture	0.09 acres
	Ruderal Vegetation	0.22 acres
	Riparian	0.10 acres
	Stream Channel	0.09 acres
	BSA	**1.05 acres**
#46C0202	Roadway/Barren	0.07 acres
	Non-native Grassland	0.21 acres
	Riparian	0.20 acres
	Stream Channel	0.09 acres
	BSA	**0.57 acres**
#46C0204	Roadway/Barren	0.15 acres
	Oak Woodland	0.15 acres
	Riparian	0.28 acres
	Stream Channel	0.04 acres
	BSA	**0.62 acres**
#46C0205	Roadway/Barren	0.34 acres
	Ruderal Vegetation	0.26 acres
	Riparian	0.14 acres
	Stream Channel	0.07 acres
	BSA	**0.81 acres**
#46C0226	Roadway/Barren	0.37 acres
	Ruderal Vegetation	0.04 acres
	Stream Channel	0.30 acres
	BSA	**0.71 acres**

Bridge Number	Land Cover Type	Area (acres)[1]
#46C0269	Roadway/Barren	0.17 acres
	Agriculture	0.03 acres
	Ruderal Vegetation	0.27 acres
	Stream Channel	0.33 acres
	BSA	**0.80 acres**
#46C0309	Roadway/Barren	0.22 acres
	Ruderal Vegetation	0.11 acres
	Non-native Grassland	0.17 acres
	Riparian	0.02 acres
	Stream Channel	0.04 acres
	BSA	**0.56 acres**
#46C0318	Roadway/Barren	0.31 acres
	Agriculture	0.12 acres
	Ruderal Vegetation	0.13 acres
	Stream Channel	0.13 acres
	BSA	**0.69 acres**
#46C0330	Roadway/Barren	0.49 acres
	Agriculture	0.03 acres
	Ruderal Vegetation	0.23 acres
	Stream Channel	0.19 acres
	BSA	**0.94 acres**
#46C0403	Roadway/Barren	0.16 acres
	Agriculture	0.04 acres
	Ruderal Vegetation	0.32 acres
	Riparian	0.01 acres
	Stream Channel	0.13 acres
	BSA	**0.66 acres**
#46C0408	Roadway/Barren	0.31 acres
	Agriculture	0.03 acres
	Ruderal Vegetation	0.05 acres
	Non-native Grassland	0.03 acres
	Riparian	0.04 acres
	Stream Channel	0.08 acres
	BSA	**0.54 acres**
#46C0420	Roadway/Barren	0.33 acres
	Agriculture	0.01 acres
	Ruderal Vegetation	0.19 acres
	Riparian	0.13 acres
	Stream Channel	0.48 acres
	BSA	**1.14 acres**
Total	Roadway/Barren	4.45 acres
	Agriculture	0.46 acres
	Ruderal Vegetation	2.37 acres
	Non-native Grassland	1.18 acres
	Oak Woodland	0.17 acres
	Riparian	1.27 acres
	Stream Channel	3.01 acres
	BSA	**12.91 acres**

[1] Impact area rounded to the nearest 0.01 acres for each project location. The cumulative total reflects the un-rounded total across all sites.

Habitat Connectivity

The implementation of maintenance activities on existing bridges will not permanently fragment any existing natural habitats and therefore will not impact any existing habitat connectivity networks.

The CDFW Biogeographic Information & Observation System (CDFW 2024a) was reviewed to determine if the BSA is located within an Essential Connectivity Area. The Areas of Conservation Emphasis (ACE) ranking of each Project location was evaluated and is outlined in the table below.

Table 5: Terrestrial Connectivity Rankings

ACE Rank	Description	Project Locations
1 – Limited Connectivity Opportunity	Areas where land use may limit options for providing connectivity (e.g., agriculture, urban) or no connectivity importance has been identified in models.	#46C0058 #46C0309 #46C0059 #46C0330 #46C0202 #46C0403 #46C0204* #46C0408 #46C0205 #46C0420 #46C0269
2 – Large Natural Habitat Areas	Large blocks of natural habitat (>2000 acres) where connectivity is generally intact.	N/A
3 – Connections with Implementation Flexibility	Areas that have been identified as having connectivity importance, but have not been identified as channelized areas, species corridors, or habitat linkages at this time.	#46C0106 #46C0108 #46C0204* #46C0318
4 – Conservation Planning Linkages	Habitat connectivity linkages that represent the best connections between core natural areas to maintain habitat connectivity.	#46C0087 #46C0226
5 – Irreplaceable and Essential Corridors	Channelized areas that may represent the last available connection(s) for wildlife to move between two areas, making them high priority for conservation.	N/A

* Project Location #46C0204 falls between two ACE polygons

Regional Species and Habitats and Natural Communities of Concern

Plant and animal species have special status if they have been listed as such by Federal or State agencies or by one or more special interest groups, such as CNPS. Prior to the field survey, literature searches were conducted using USFWS IPaC, CDFW CNDDB, CNPS, and NMFS databases to identify regionally sensitive species with potential to occur within the BSA. Table 6. Special Status Species with Potential to Occur in the Project Vicinity provides a summary of the list of regional special status species returned by the database searches and the potential for occurrence at each site. Overall, five plant species and 16 wildlife species returned by database searches were identified as having potential to occur within the Project's BSA. For a comprehensive discussion of habitat requirements and rationale for occurrence for each species, refer to Appendix E. Special Status Species Potential Table.

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Table 6: Special Status Species with Potential to Occur in the Project Vicinity

For more information regarding the potential for occurrence and rationale for the following species, refer to Chapter 4 and Appendix E. Special Status Species Potential Table.

Common Name	Species Name	Status		Bridge Location (46C0-XXX)																
				036	058	059	087	106	108	202	204	205	226	269	309	318	330	403	408	420
California tiger salamander – central California DPS	*Ambystoma californiense pop. 1*	Fed: State: CDFW:	T T WL		●	●														
Foothill yellow-legged frog – south Sierra DPS	*Rana boylii pop. 5*	Fed: State: CDFW:	E E --								●	●								
Southern mountain yellow-legged frog	*Rana muscosa*	Fed: State: CDFW:	E E WL																	
Northern leopard frog	*Lithobates pipiens*	Fed: State: CDFW:	-- -- SSC																	
Western spadefoot	*Spea hammondii*	Fed: State: CDFW:	-- -- SSC		●	●		●	●					●	●	●	●			
Bakersfield legless lizard	*Anniella grinnelli*	Fed: State: CDFW:	-- -- SSC				●	●	●							●				
Blunt-nosed leopard lizard	*Gambelia sila*	Fed: State: CDFW:	E E FP																	
California legless lizard	*Anniella spp.*	Fed: State: CDFW:	-- -- SSC																	
Coast horned lizard	*Phrynosoma blainvillii*	Fed: State: CDFW:	-- -- SSC		●	●	●			●				●	●					
Northern California legless lizard	*Anniella pulchra*	Fed: State: CDFW:	-- -- SSC		●	●	●			●				●	●					

Common Name	Species Name	Status		Bridge Location (46C0-XXX)															
				036	058	059	087	106	108	202	204	205	226	269	309	318	330	403	408	420
Western pond turtle	*Actinemys marmorata*	Fed: State: CDFW:	PT -- SSC				●				●	●								
San Joaquin coachwhip	*Masticophis flagellum ruddocki*	Fed: State: CDFW:	-- -- SSC		●	●														
Bald eagle	*Haliaeetus leucocephalus*	Fed: State: CDFW:	D E FP																	
Black swift	*Cypseloides niger*	Fed: State: CDFW:	-- -- SSC																	
Burrowing owl	*Athene cunicularia*	Fed: State: CDFW:	-- -- SSC		●	●														
California condor	*Gymnogyps californianus*	Fed: State: CDFW:	E E FP																	
California spotted owl	*Strix occidentalis occidentalis*	Fed: State: CDFW:	PT -- --																	
Loggerhead shrike	*Lanius ludovicianus*	Fed: State: CDFW:	-- -- SSC	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●
Mountain plover	*Charadrius montanus*	Fed: State: CDFW:	-- -- SSC																	
Swainson's hawk	*Buteo swainsoni*	Fed: State: CDFW:	-- T --	●	●	●	●	●	●					●	●	●		●	●	●
Tricolored blackbird	*Agelaius tricolor*	Fed: State: CDFW:	-- T SSC																	
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Fed: State: CDFW:	T E --																	
Conservancy fairy shrimp	*Branchinecta conservatio*	Fed: State: CDFW:	E -- --																	

Common Name	Species Name	Status		Bridge Location (46C0-XXX)																
				036	058	059	087	106	108	202	204	205	226	269	309	318	330	403	408	420
Crotch bumble bee	*Bombus crotchii*	Fed: State: CDFW:	-- CE --		●	●														
Monarch butterfly	*Danaus plexippus*	Fed: State: CDFW:	C -- --																	
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Fed: State: CDFW:	T -- --																	
Vernal pool fairy shrimp	*Branchinecta lynchi*	Fed: State: CDFW:	T -- --																	
Vernal pool tadpole shrimp	*Lepidurus packardi*	Fed: State: CDFW:	E -- --																	
American badger	*Taxidea taxus*	Fed: State: CDFW:	-- -- SSC		●	●														
Buena Vista Lake ornate shrew	*Sorex ornatus relictus*	Fed: State: CDFW:	E -- --																	
Fisher – southern Sierra Nevada ESU	*Pekania pennanti pop.2*	Fed: State: CDFW:	E T SSC																	
Fresno kangaroo rat	*Dipodomys nitratoides exillis*	Fed: State: CDFW:	E -- --																	
Pallid bat	*Antrozous pallidus*	Fed: State: CDFW:	-- -- SSC							●	●	●								
San Joaquin kit fox	*Vulpes macrotis mutica*	Fed: State: CDFW:	E T --												●					
Tipton kangaroo rat	*Dipodomys nitratoides nitratoides*	Fed: State: CDFW:	E E --																	
Townsend's big-eared bat	*Corynorhinus townsendii*	Fed: State: CDFW:	-- -- SSC																	

Common Name	Species Name	Status		Bridge Location (46C0-XXX)															
				036	058	059	087	106	108	202	204	205	226	269	309	318	330	403	408	420
Tulare grasshopper mouse	*Onychomys torridus tularensis*	Fed: State: CDFW:	-- -- SSC																	
Western mastiff bat	*Eumops perotis californicus*	Fed: State: CDFW:	-- -- SSC																	
Wolverine	*Gulo gulo*	Fed: State: CDFW:	PT T FP																	
Abrams' onion	*Allium abramsii*	Fed: State: CNPS:	-- -- 1B.2																	
Alkali mariposa-lily	*Calochortus striatus*	Fed: State: CNPS:	- - 1B.2																	
Alkali-sink goldfields	*Lasthenia chrysantha*	Fed: State: CNPS:	-- -- 1B.1																	
Berry's morning-glory	*Calystegia malacophylla var. berryi*	Fed: State: CNPS:	-- -- 3.3																	
Brittlescale	*Atriplex depressa*	Fed: State: CNPS:	-- -- 1B.2											●		●				
Calico monkeyflower	*Diplacus pictus*	Fed: State: CNPS:	-- -- 1B.2																	
California alkali grass	*Puccinellia simplex*	Fed: State: CNPS:	-- -- 1B.2																	
California jewelflower	*Caulanthus californicus*	Fed: State: CNPS:	E E 1B.1																	
California satintail	*Imperata brevifolia*	Fed: State: CNPS:	-- -- 2B.1																	
Chaparral ragwort	*Senecio aphanactis*	Fed: State: CNPS:	-- -- 2B.2																	

Common Name	Species Name	Status		Bridge Location (46C0-XXX)															
				036	058	059	087	106	108	202	204	205	226	269	309	318	330	403	408	420
Coulter's goldfields	*Lasthenia glabrata ssp. coulteri*	Fed: State: CNPS:	-- -- 1B.1																	
Delicate bluecup	*Githopsis tenella*	Fed: State: CNPS:	-- -- 1B.3																	
Earlimart orach	*Atriplex cordulata var. erecticaulis*	Fed: State: CNPS:	-- -- 1B.2											●		●				
Greenhorn fritillary	*Fritillaria brandegeei*	Fed: State: CNPS:	-- -- 1B.3																	
Grey-leaved violet	*Viola pinetorum ssp. Grisea*	Fed: State: CNPS:	-- -- 1B.2																	
Heartscale	*Atriplex cordulata var. cordulata*	Fed: State: CNPS:	-- -- 1B.2											●		●				
Hoover's spurge	*Euphorbia hooveri*	Fed: State: CNPS:	T -- 1B.2																	
Kaweah brodiaea	*Brodiaea insignis*	Fed: State: CNPS:	-- E 1B.2																	
Kaweah monkeyflower	*Erythranthe norrisii*	Fed: State: CNPS:	-- -- 1B.3																	
Keck's checkerbloom	*Sidalcea keckii*	Fed: State: CNPS:	E -- 1B.1																	
Kern mallow	*Eremalche parryi ssp. Kernensis*	Fed: State: CNPS:	E -- 1B.2																	
Lesser saltscale	*Atriplex minuscula*	Fed: State: CNPS:	-- -- 1B.1											●		●				
Little mousetail	*Myosurus minimus* ssp. *apus*	Fed: State: CNPS:	-- -- 3.1																	

Common Name	Species Name	Status		Bridge Location (46C0-XXX)															
				036	058	059	087	106	108	202	204	205	226	269	309	318	330	403	408	420
Lost Hills crownscale	*Atriplex coronate var. vallicola*	Fed: State: CNPS:	-- -- 1B.2																	
Madera leptosiphon	*Leptosiphon serrulatus*	Fed: State: CNPS:	-- -- 1B.2																	
Mouse buckwheat	*Eriogonum nudum var. murinum*	Fed: State: CNPS:	-- -- 1B.2																	
Munz's iris	*Iris munzii*	Fed: State: CNPS:	-- -- 1B.3																	
Piute Mountains navarretia	*Navarretia setiloba*	Fed: State: CNPS:	-- -- 1B.1																	
Recurved larkspur	*Delphinium recurvatum*	Fed: State: CNPS:	-- -- 1B.2																	
Rose-flowered larkspur	*Delphinium purpussi*	Fed: State: CNPS:	-- -- 1B.3																	
San Joaquin adobe sunburst	*Pseudobahia peirsonii*	Fed: State: CNPS:	T E 1B.1																	
San Joaquin Valley Orcutt grass	*Orcuttia inaequalis*	Fed: State: CNPS:	T E 1B.1																	
San Joaquin woollythreads	*Monolopia congdonii*	Fed: State: CNPS:	E -- 1B.2																	
Sanford's arrowhead	*Sagittaria sanfordii*	Fed: State: CNPS:	-- -- 1B.2																	
Shining navarretia	*Navarretia nigelliformis ssp. Radians*	Fed: State: CNPS:	-- -- 1B.2																	
Spiny-sepaled button-celery	*Eryngium spinosepalum*	Fed: State: CNPS:	-- -- 1B.2																	

Common Name	Species Name	Status		Bridge Location (46C0-XXX)															
				036	058	059	087	106	108	202	204	205	226	269	309	318	330	403	408	420
Springville clarkia	*Clarkia springvillensis*	Fed: State: CNPS:	T E 1B.2																	
Striped adobe-lily	*Fritillaria striata*	Fed: State: CNPS:	-- T 1B.1																	
Subtle orach	*Atriplex subtilis*	Fed: State: CNPS:	-- -- 1B.2																	
Vernal barley	*Hordeum intercedens*	Fed: State: CNPS:	-- -- 3.2																	
Vernal pool smallscale	*Atriplex persistens*	Fed: State: CNPS:	-- -- 1B.2																	
Winter's sunflower	*Helianthus winteri*	Fed: State: CNPS:	-- -- 1B.2																	

Federal Designations (Fed): (FESA, USFWS) **E:** Federally listed, endangered **T:** Federally listed, threatened **PE:** Proposed Federally listed, endangered **PT:** Proposed Federally listed, threatened **DL**: Federally listed, delisted	**State Designations (CA):** (CESA, CDFW) **E:** State-listed, endangered **T:** State-listed, threatened
Other Designations CDFW_SSC: CDFW Species of Special Concern CDFW_FP: CDFW Fully Protected **California Native Plant Society (CNPS) Designations*:*** ***Note: according to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions.*** **1A:** Plants presumed extinct in California. **1B:** Plants rare and endangered in California and throughout their range. **2:** Plants rare, threatened, or endangered in California but more common elsewhere in their range. **3:** Plants about which need more information; a review list. **Plants 1B, 2, and 4 extension meanings:** **_.1** Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat) **_.2** Fairly endangered in California (20-80% occurrences threatened) **_.3** Not very endangered in California (<20% of occurrences threatened or no current threats known)	
Source: (CDFW 2024), (CNPS 2024), (Calflora 2024), (Jepson 2024), (USFWS 2024).	

Chapter 4 – Results: Biological Resources, Discussion of Impacts, and Mitigation

Habitats and Natural Communities of Special Concern

Habitats are considered to be of special concern based on (1) Federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status plants or animals occurring on site. The natural communities identified within the Project area include riparian habitat and stream channel habitat. With the exception of Deer Creek and Tyler Creek, all stream channel habitat within the BSA is considered a waters of the State (WoS) and waters of the U.S. (WoU) subject to permitting through FGC Section 1600, and Section 401 and 404 of the CWA. Additionally, ten of the seventeen locations contain riparian habitat, which is a natural community of special concern under the jurisdiction of CDFW pursuant to FGC Section 1600 and may be subject to permitting under Section 401.

Discussion of Stream Channel Habitat

Surveys of potential jurisdictional waters were confirmed using aerial imagery and field verification, and followed the guidelines provided in the USACE *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States* (Lichvar 2008). The seventeen proposed bridge maintenance locations span ten distinct jurisdictional water features throughout the BSA (Table 3. Jurisdictional Waters within the BSA). These stream channels primarily consist of controlled drainages or channelized features that collect and convey runoff from the Sierra Nevada foothills, servicing agricultural communities as they pass through the Tulare Basin and into the Sacramento-San Joaquin River Delta. Most of these features within the Tulare Basin are ephemeral drainages, exhibiting flow in direct response to rain events or controlled releases. A notable exception is the Friant Kern Canal (Bridge #46C0226), which is a perennial waterbody that flows year-round.

Due to the highly disturbed nature of these sites, the channels primarily support ruderal vegetation and/or fragmented riparian corridors; however, the bridge locations within the Sierra Nevada foothills (Bridge #46C0202, Bridge #46C0204, and Bridge #46C0205) are more naturalized and include dense riparian canopies.

Survey Results

Deer Creek

Deer Creek is an ephemeral channel system and occurs at six of the proposed bridge maintenance locations. Deer Creek originates in the Sequoia National Forest in the southern portion of the County and terminates at the bank of Homeland Canal, located approximately 49 miles west, and just north of the town of Alpaugh. This water body is not considered a WoU given the lack of a hydrologic connection to a traditional navigable water and/or a nexus to interstate commerce.

TID Canal/Crocker Cut

TID Canal/Crocker Cut occurs at Bridge #46C0036 and Bridge #46C0403 and is a channelized ephemeral feature. TID Canal/Crocker Cut connects to Kaweah River approximately 0.61 river miles upstream of Bridge #46C0403.TID Canal/Crocker Cut is a WoS and a WoU.

Cross Creek

Cross Creek occurs at Bridge #46C0059 and Bridge #46C0059. Cross Creek is an ephemeral tributary of the St. John's River, which is a tributary of the Kaweah River. Cross Creek is a WoS and a WoU.

Tyler Creek

Tyler Creek occurs at Bridge #46C0204. Tyler Creek originates in the Sierra Nevada foothills and is a tributary to Deer Creek. The confluence of Tyler Creek and Deer Creek is located approximately 0.45 miles downstream of Bridge #46C0204. Tyler Creek is a WoS but is not a WoU since it's feeds into Deer Creek, which terminates in the Central Valley and does not have a nexus to another WoU.

Friant Kern Canal

The Friant Kern Canal occurs at Bridge #46C0226. The Friant Kern Canal is approximately 150 miles long and was constructed by Bureau of Reclamation in 1945-1951. The main purpose of the concrete-lined canal is to supply and deliver water for irrigation purposes. The Friant Kern Canal contains water year-round and is therefore considered perennial. Friant Kern Canal is a WoS and a WoU.

Elk Bayou

The Elk Bayou occurs at Bridge #46C0269. Elk Bayou is an ephemeral river system and a tributary to the Tule River. The Elk Bayou and Tule River confluence is approximately 2.93 miles downstream from #46C0269. The Elk Bayou is a WoS and a WoU.

Lewis Creek

Lewis Creek occurs at Bridge #46C0309. Lewis Creek is an ephemeral channel originating in the Sierra Nevada foothills. At lower elevations in the Central Valley Lewis Creek intersects with the Friant Kern Canal and passes through a series of channelized canals and underground systems. Given the potential hydrologic connectivity to Friant Kern Canal, Lewis Creek is a WoS and a WoU.

Cottonwood Creek

Cottonwood Creek occurs at Bridge #46C0330. Cottonwood Creek is a natural ephemeral channel originating in the Sierra Nevada foothills northeast of Auckland and becomes channelized in the Central Valley eventually connecting to Cross Creek approximately 13.3 miles downstream of Bridge #46C0330.

Mill Creek

Mill Creek occurs at Bridge #46C0408. Mill Creek is a downstream tributary of the Kaweah River, the confluence is located approximately 0.59 miles upstream of Bridge #46C0408. Mill Creek is

an ephemeral channelized feature passing through urban areas and eventually entering underground system. Mill Creek is a WoS and a WoU, given its connectivity to Kaweah River.

Saint Johns River

The Saint Johns River occurs at Bridge #46C0420. Saint Johns River is an ephemeral system and primarily serves to irrigate farmland and flood the Tulare Lake Basin. The Saint Johns River is a WoS and a WoU.

Project Impacts

Temporary impacts to stream channel habitat are anticipated at all locations as a result of construction access (for equipment and personnel) and may include installation of temporary de-watering system or diversion. Permanent impacts across all sites will primarily result from placement of RSP around the existing bridge piers and abutments. In areas subject to high erosion and flooding, larger footprints of RSP will be placed and occasionally span the entire channel width. At Bridge #46C0309, concrete cut-off walls will be constructed along the existing bridge structures and will result in minor permanent fill to the respective stream channels.

The Project is anticipated to temporarily impact a cumulative 1.22 acres and permanently impact a cumulative 0.76 acres of stream channel habitat (Figure 5. Project Impacts).

Table 7: Stream Channel Habitat Impacts

Bridge Number	Aquatic Feature	Impact Type	Area (acres)[1]
#46C0036	TID Canal/Crocker Cut	Temporary	0.07 acres
		Permanent	0.01 acres
#46C0058	Cross Creek	Temporary	0.07 acres
		Permanent	0.13 acres
#46C0059	Cross Creek	Temporary	0.09 acres
		Permanent	0.10 acres
#46C0087	Deer Creek	Temporary	0.06 acres
		Permanent	0.09 acres
#46C0106	Deer Creek	Temporary	0.09 acres
		Permanent	0.02 acres
#46C0108	Deer Creek	Temporary	0.05 acres
		Permanent	0.01 acres
#46C0202	Deer Creek	Temporary	0.06 acres
		Permanent	--
#46C0204	Tyler Creek	Temporary	0.03 acres
		Permanent	0.01 acres
#46C0205	Deer Creek	Temporary	0.05 acres
		Permanent	--
#46C0226	Friant Kern Canal	Temporary	0.11 acres
		Permanent	0.05 acres
#46C0269	Elk Bayou	Temporary	0.09 acres
		Permanent	0.11 acres
#46C0309	Lewis Creek	Temporary	0.02 acres
		Permanent	0.01 acres
#46C0318	Deer Creek	Temporary	0.07 acres
		Permanent	0.01 acres

Bridge Number	Aquatic Feature	Impact Type	Area (acres)[1]
#46C0330	Cottonwood Creek	Temporary	0.07 acres
		Permanent	0.07 acres
#46C0403	Crocker Cut/TID Canal	Temporary	0.08 acres
		Permanent	0.01 acres
#46C0408	Mill Creek	Temporary	0.03 acres
		Permanent	<0.01 acres
#46C0420	Saint Johns River	Temporary	0.03 acres
		Permanent	0.01 acres
Total		**Temporary**	**1.22 acres**
		Permanent	**0.76 acres**

[1] Impact area rounded to the nearest 0.01 acres for each project location.
The cumulative total reflects the un-rounded total across all sites.

Avoidance and Minimization Efforts

To reduce impacts to stream channel habitat, avoidance and minimization measures BIO-1, BIO-3, BIO-4, and BIO-5 will be implemented during Project construction. For more information, refer to Appendix H. Avoidance and Minimization Measures.

Compensatory Mitigation

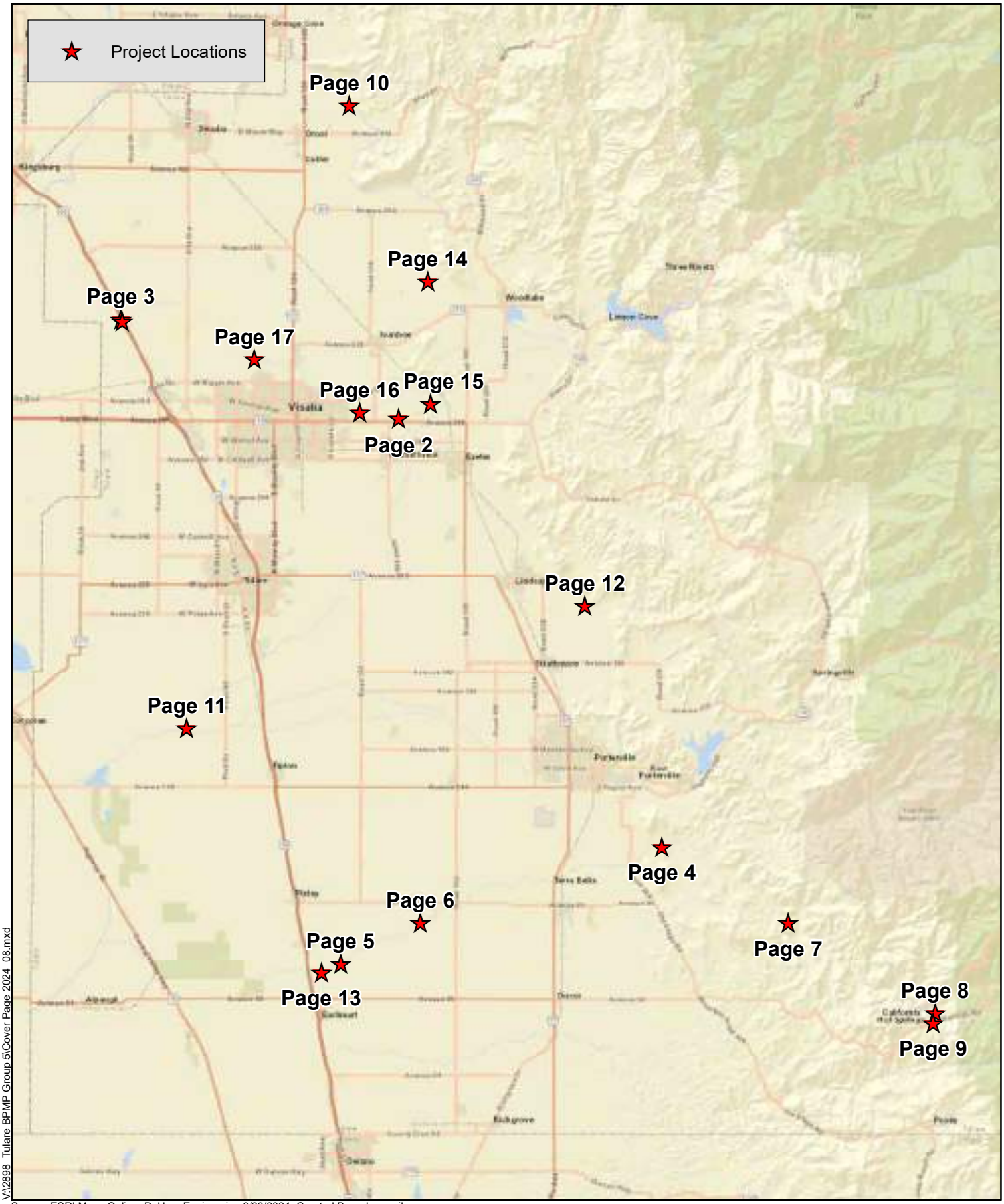
The County will mitigate for direct impacts to stream channel habitat in coordination with permitting agencies (e.g., USACE, CDFW and/or RWQCB). Given the permanent impacts at each location are miniscule compensatory mitigation may be developed for cumulative impacts across all sites. The preferred compensatory mitigation method is purchase of mitigation credits or payment to an in-lieu fee program (BIO-6 in Appendix H. Avoidance and Minimization Measures).

Cumulative Impacts

Overall, the Project would create minor temporary and permanent modifications to mostly already heavily modified water features. The purpose of the Project is preventative maintenance on existing structures and/or features and impacts at each location are negligible. No features are proposed that would substantially alter hydrology or result in long-term water quality issues. Across all seventeen sites permanent impacts are anticipated to be under one acre and with the inclusion of compensatory mitigation for permanent impacts to jurisdictional waters, no cumulative impacts to stream channel habitat are anticipated. Discussion of Riparian Habitat

Discussion of Riparian Habitat

Riparian communities are associated with floodplains and occur as a transitional habitat between wetted areas and upland habitat types. In Tulare County, riparian overstory vegetation commonly consists of cottonwoods, sycamores, and oaks. The understory within this vegetation community is typically dominated by willows and invasive Himalayan blackberry. Riparian habitat is of ecological importance as it provides food, water, and shelter for wildlife, including a variety of sensitive species (CDFW 1988).



V:\2898 Tulare BPMP Group 5\Cover Page 2024 08.mxd

Source: ESRI Maps Online; Dokken Engineering 8/23/2024; Created By: vchevreuil

FIGURE 5
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Tulare County, California



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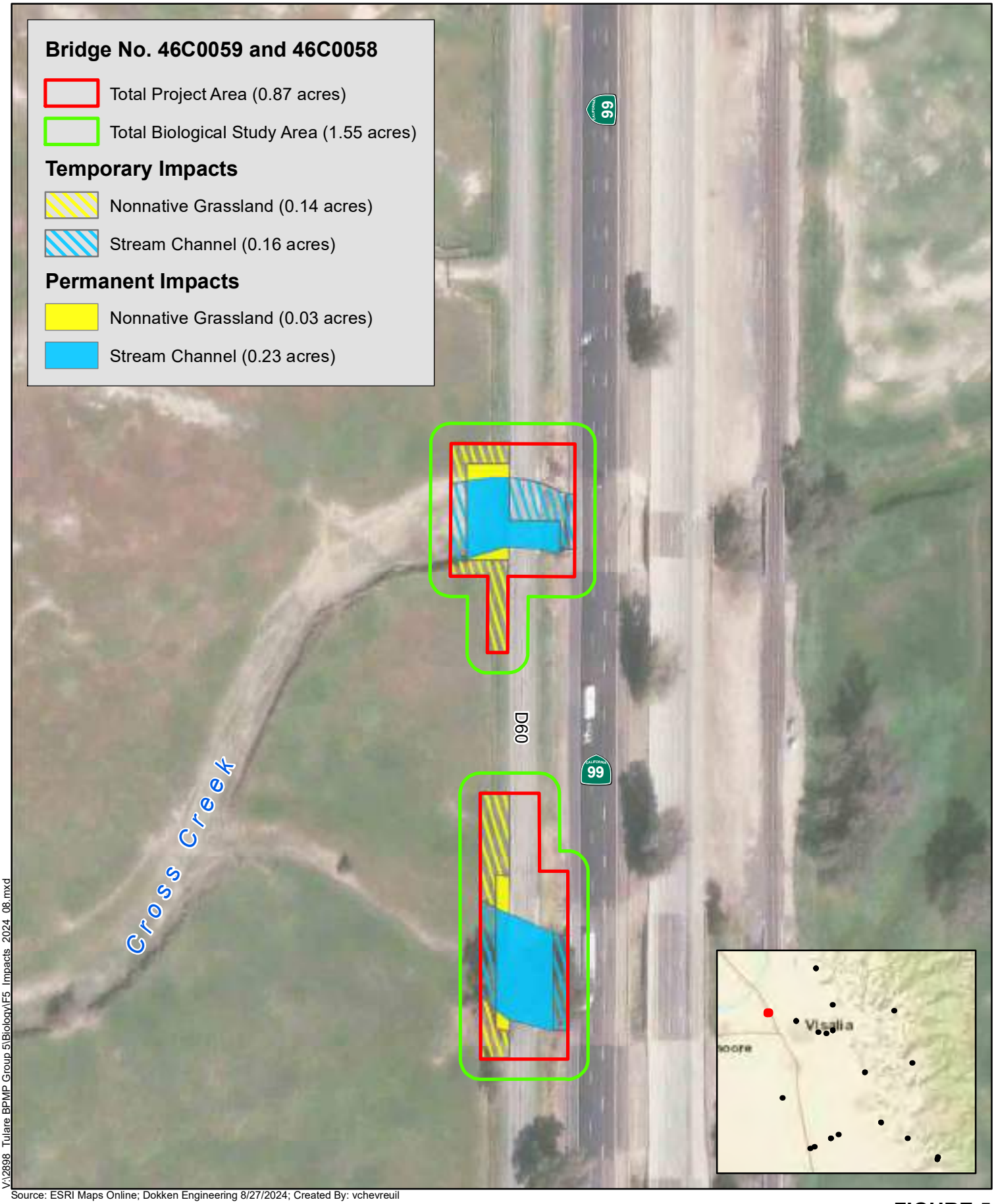
Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 5
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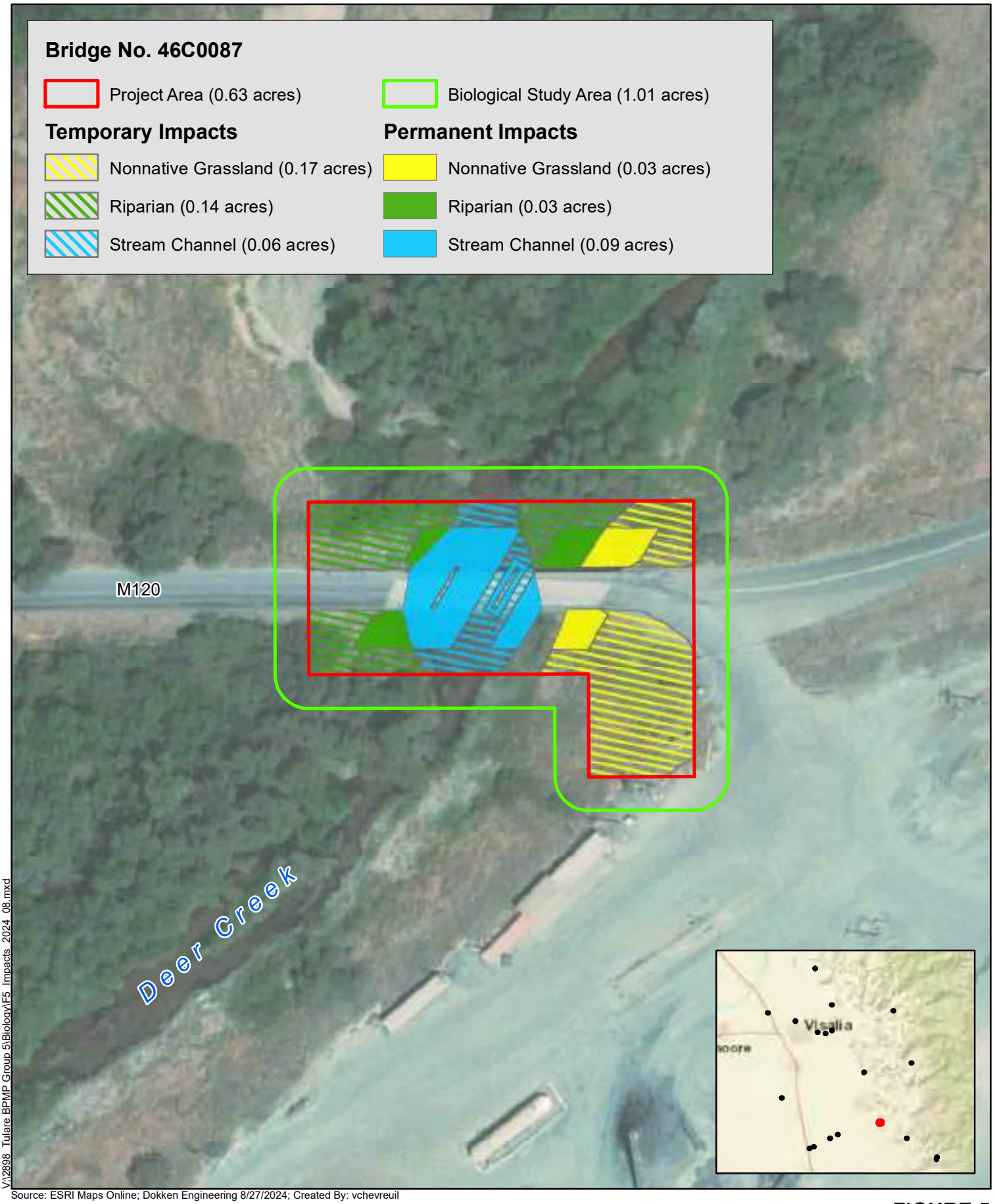
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Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 125 feet

0 75 150 Feet

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1 inch = 75 feet

0 75 150 Feet

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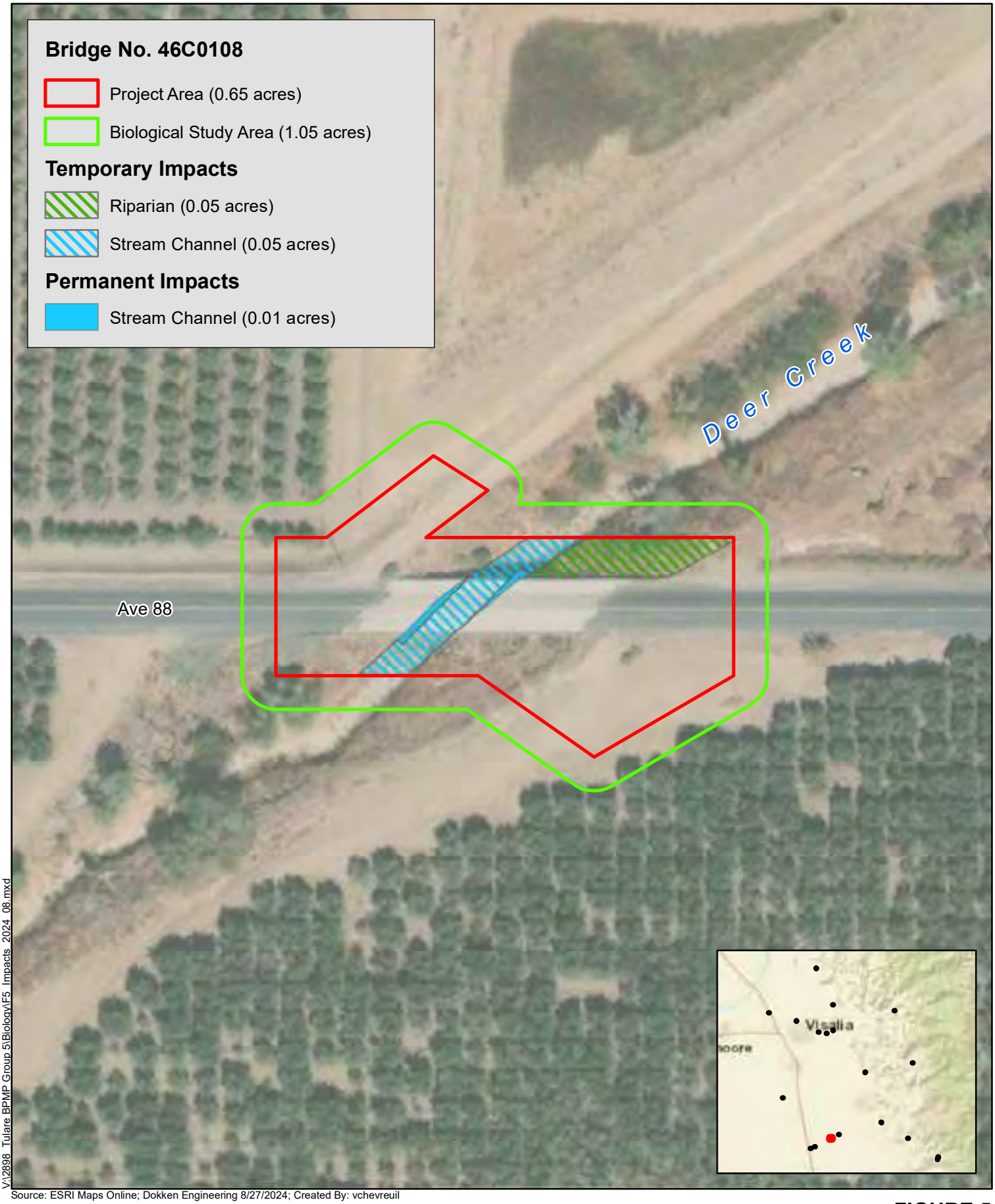
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Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 5
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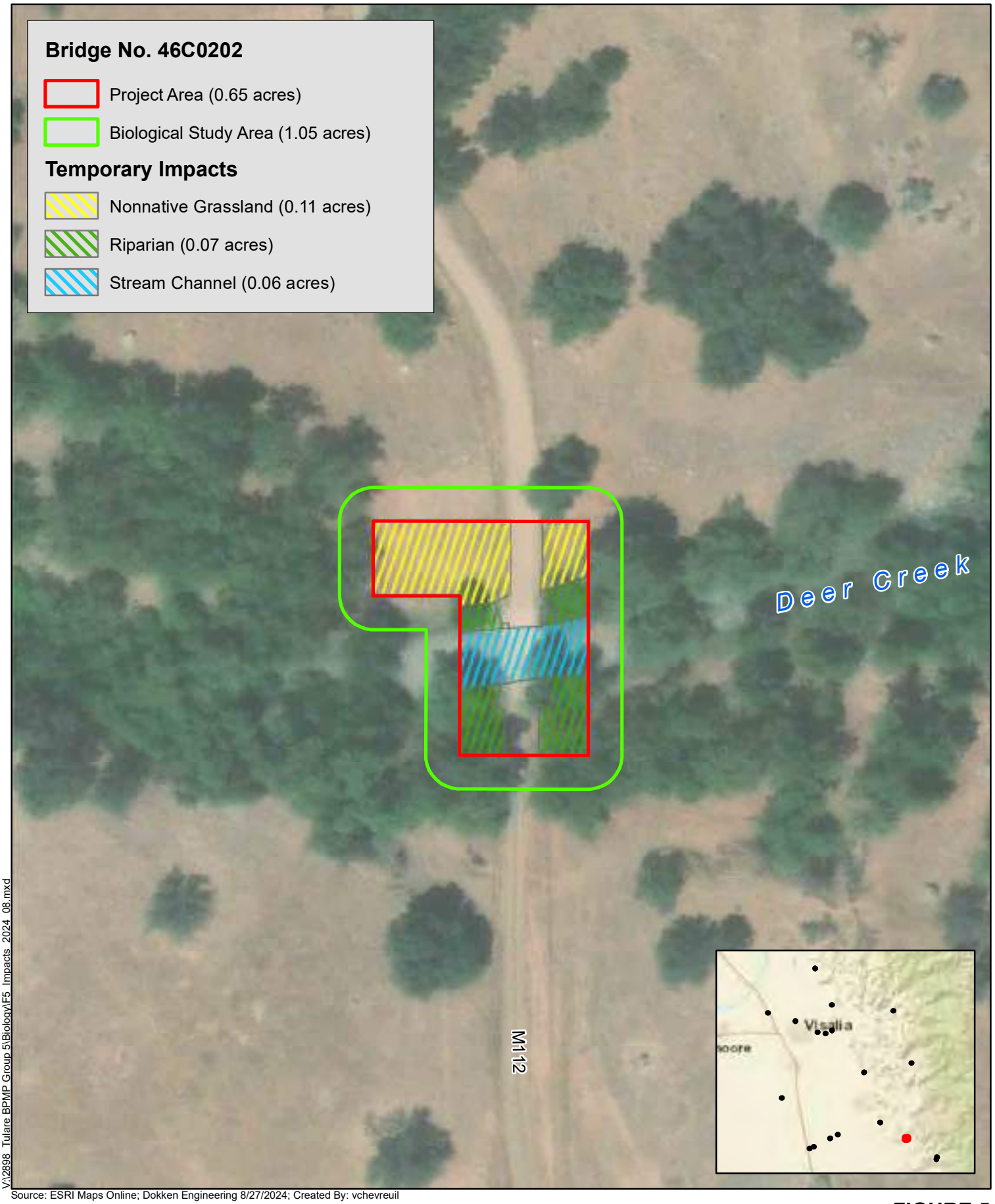
Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 5
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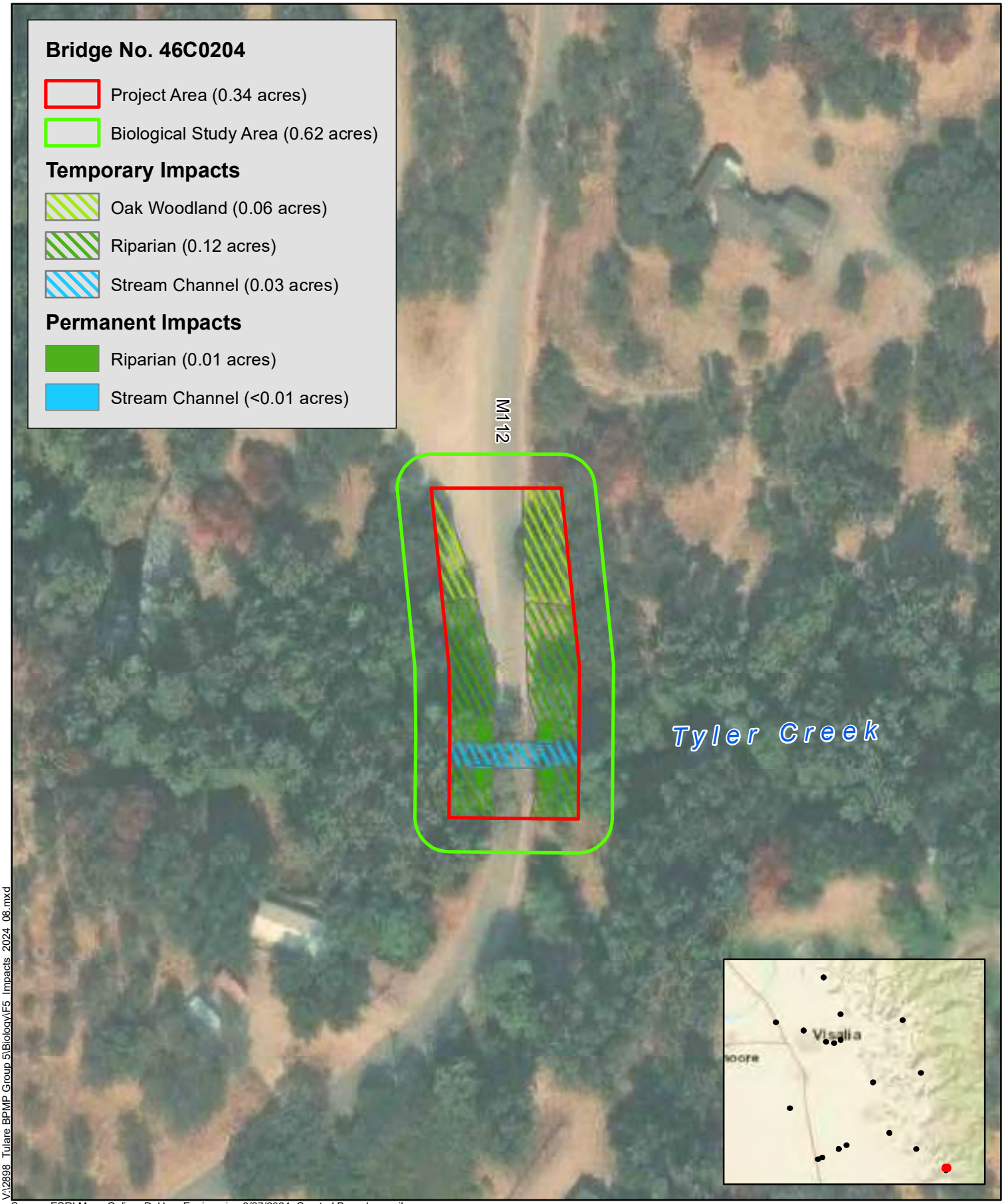
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Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 5
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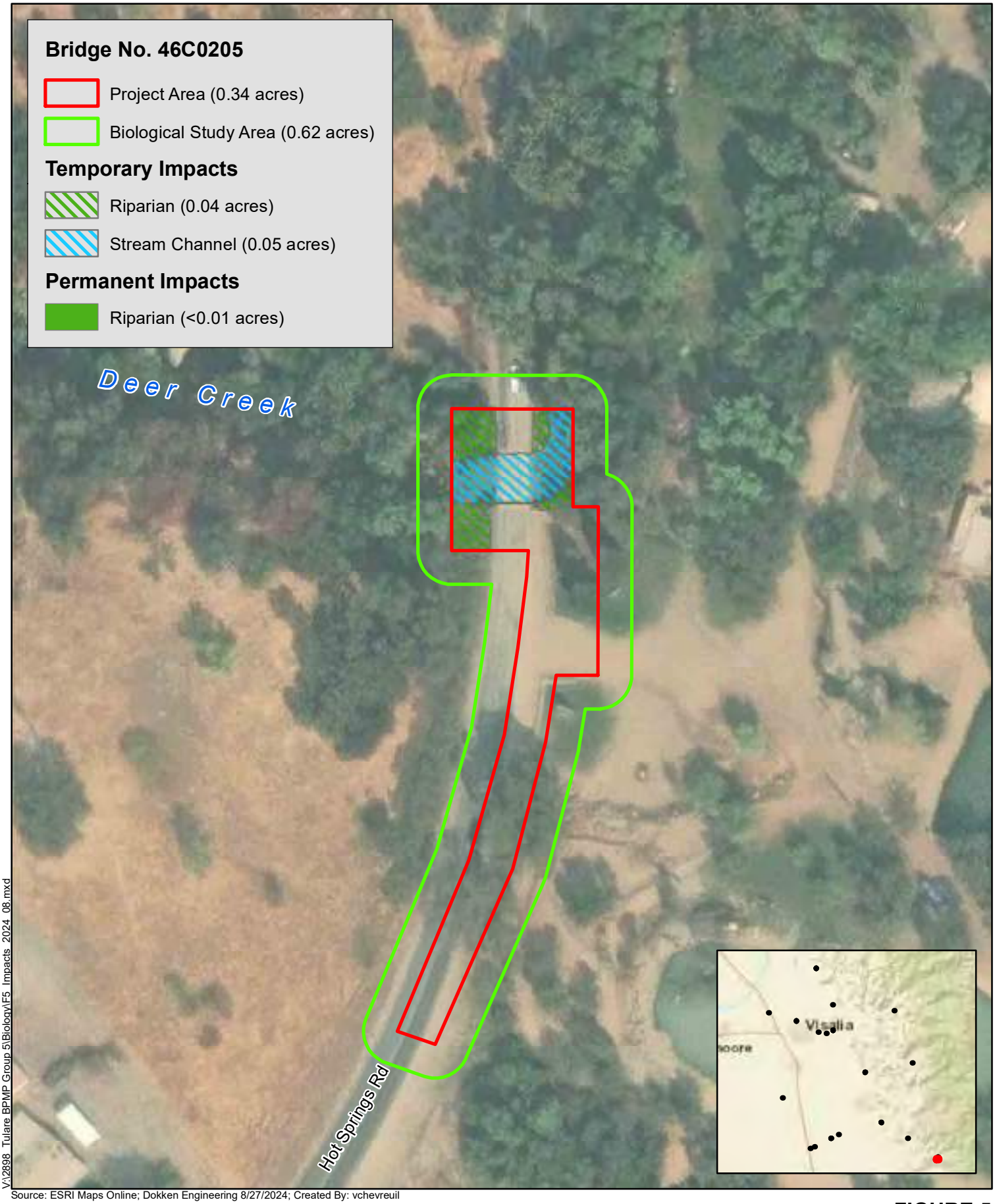
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Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

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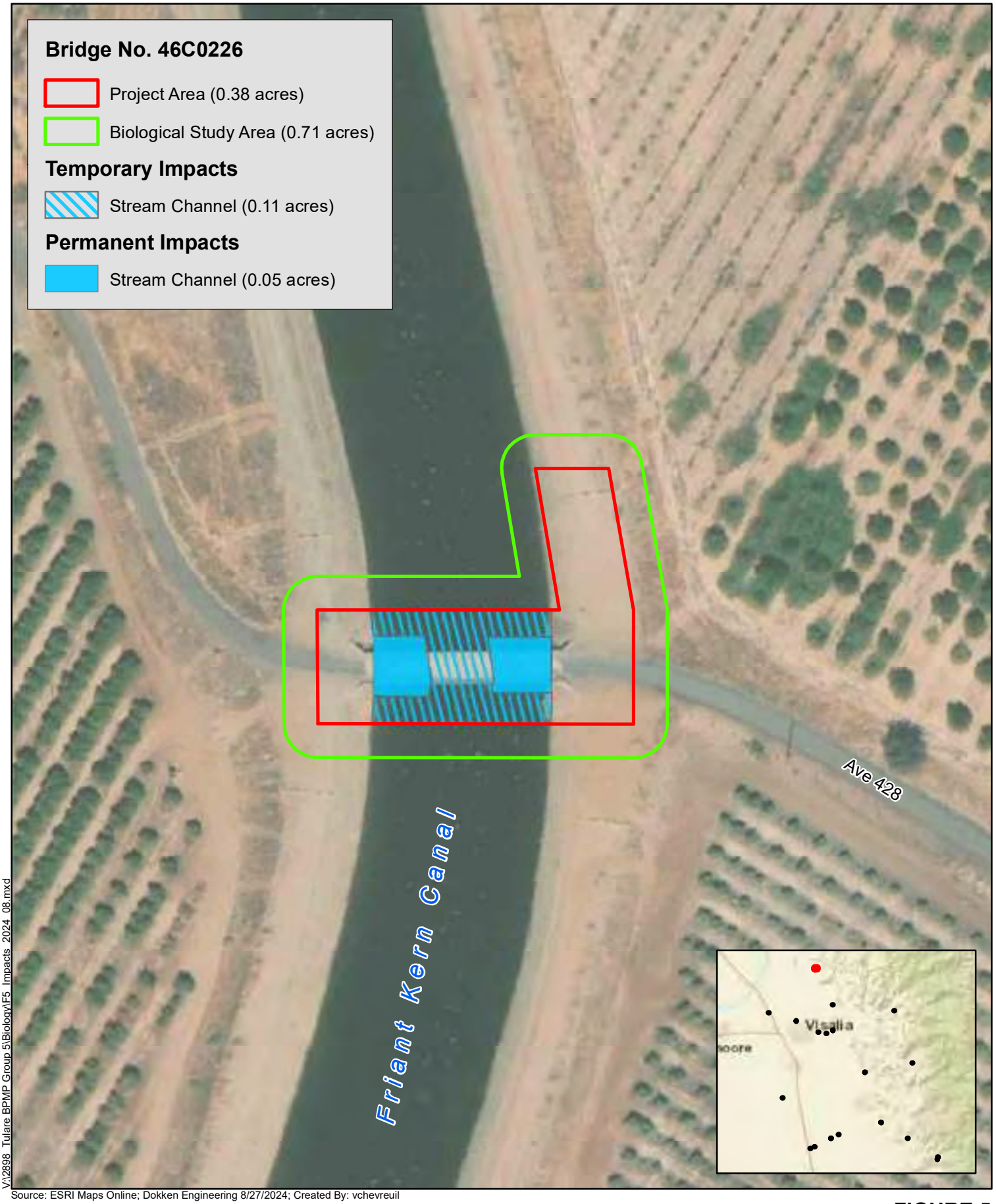
Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 5
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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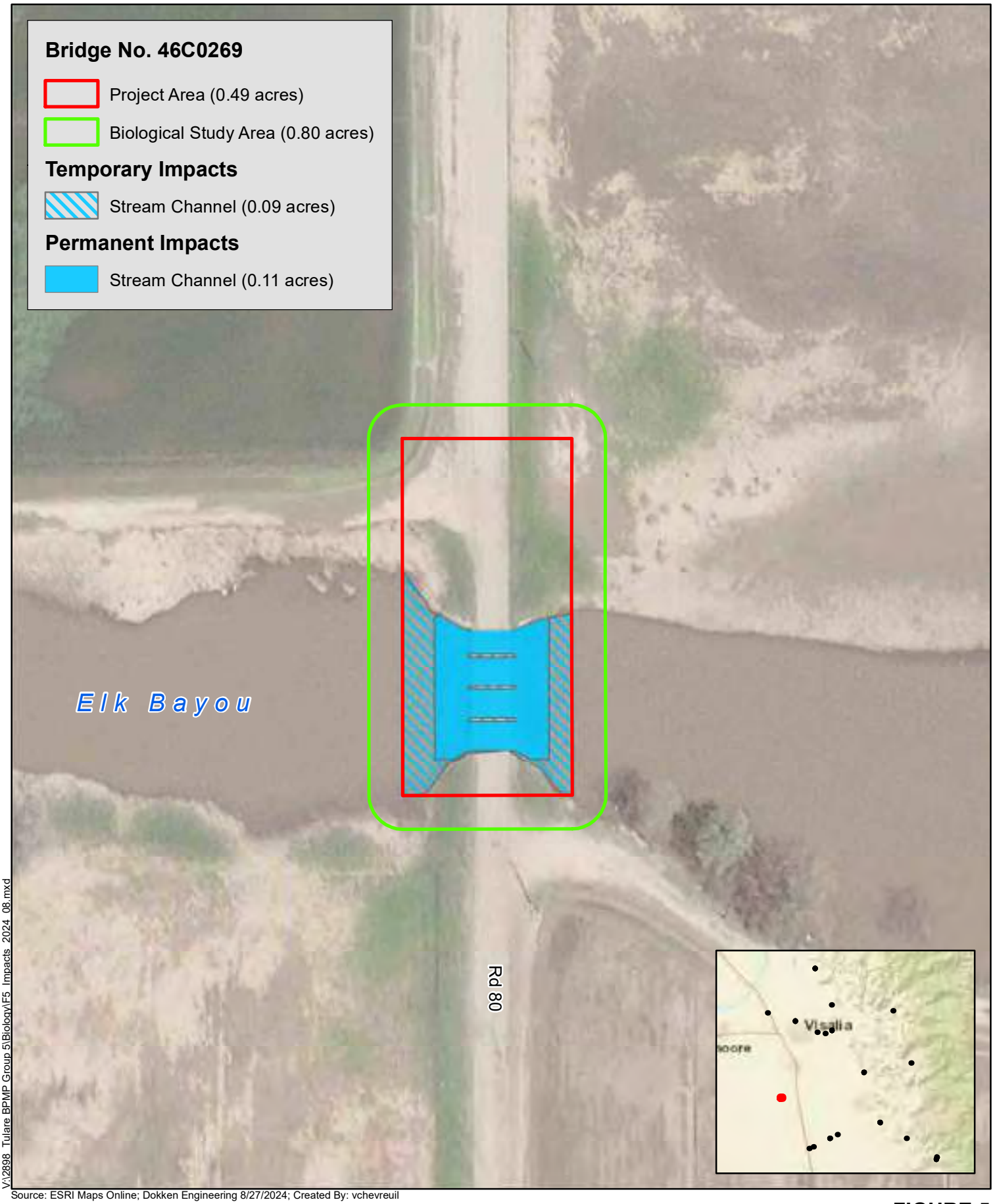
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1 inch = 75 feet

0 75 150 Feet

FIGURE 5
Project Impacts

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
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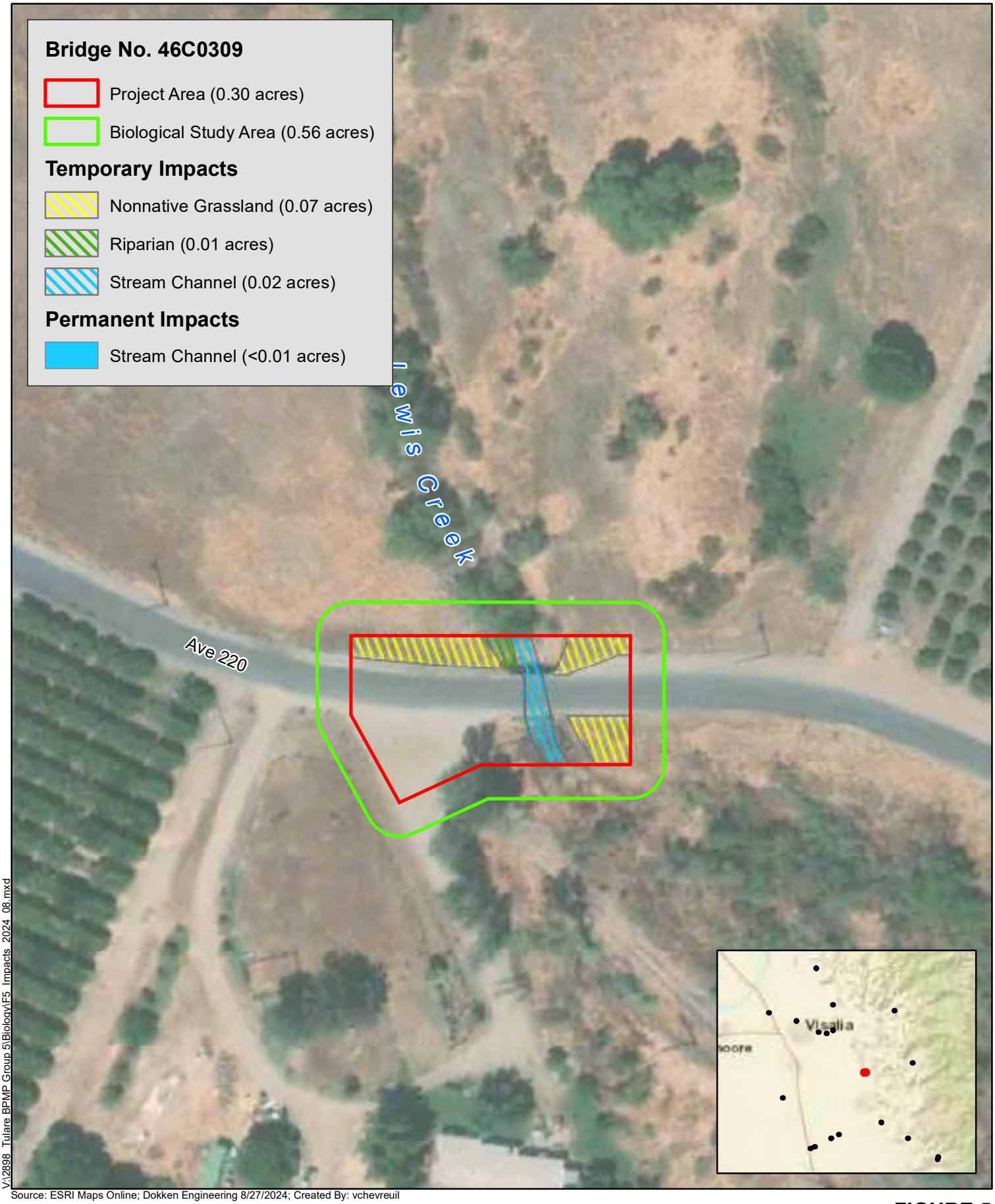
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1 inch = 75 feet

0 75 150 Feet

FIGURE 5
Project Impacts

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
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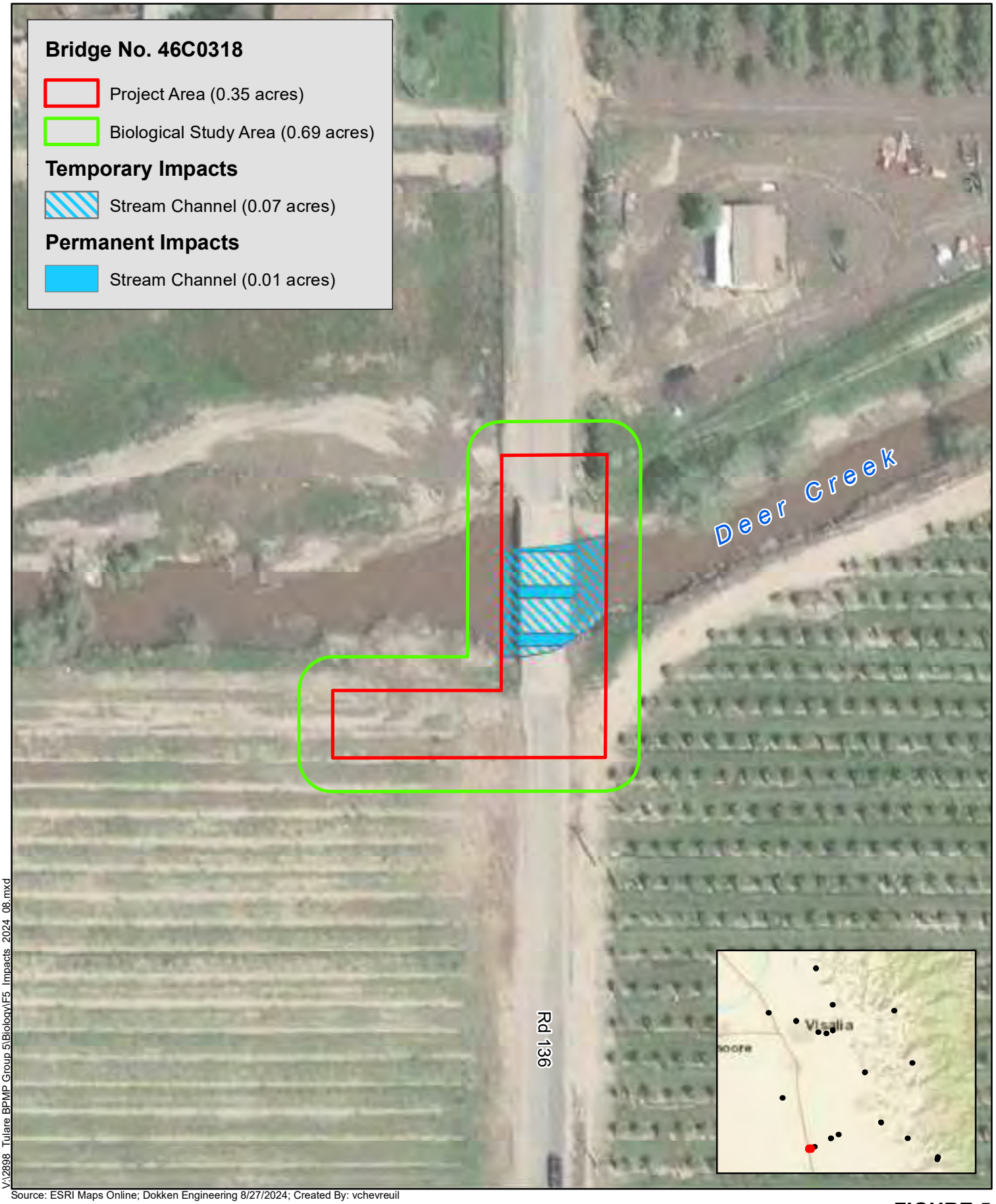
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Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

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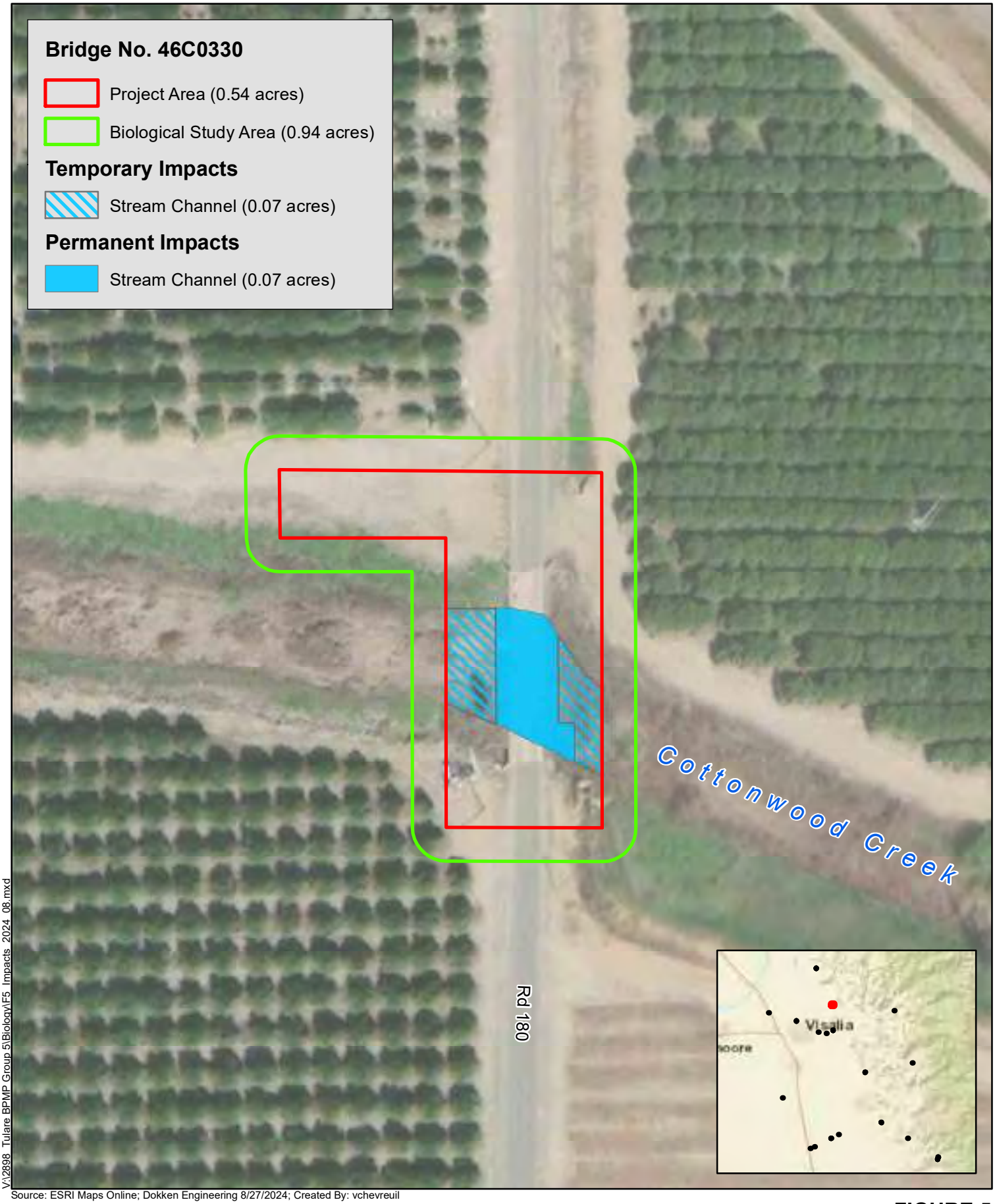
Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 5
Project Impacts

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
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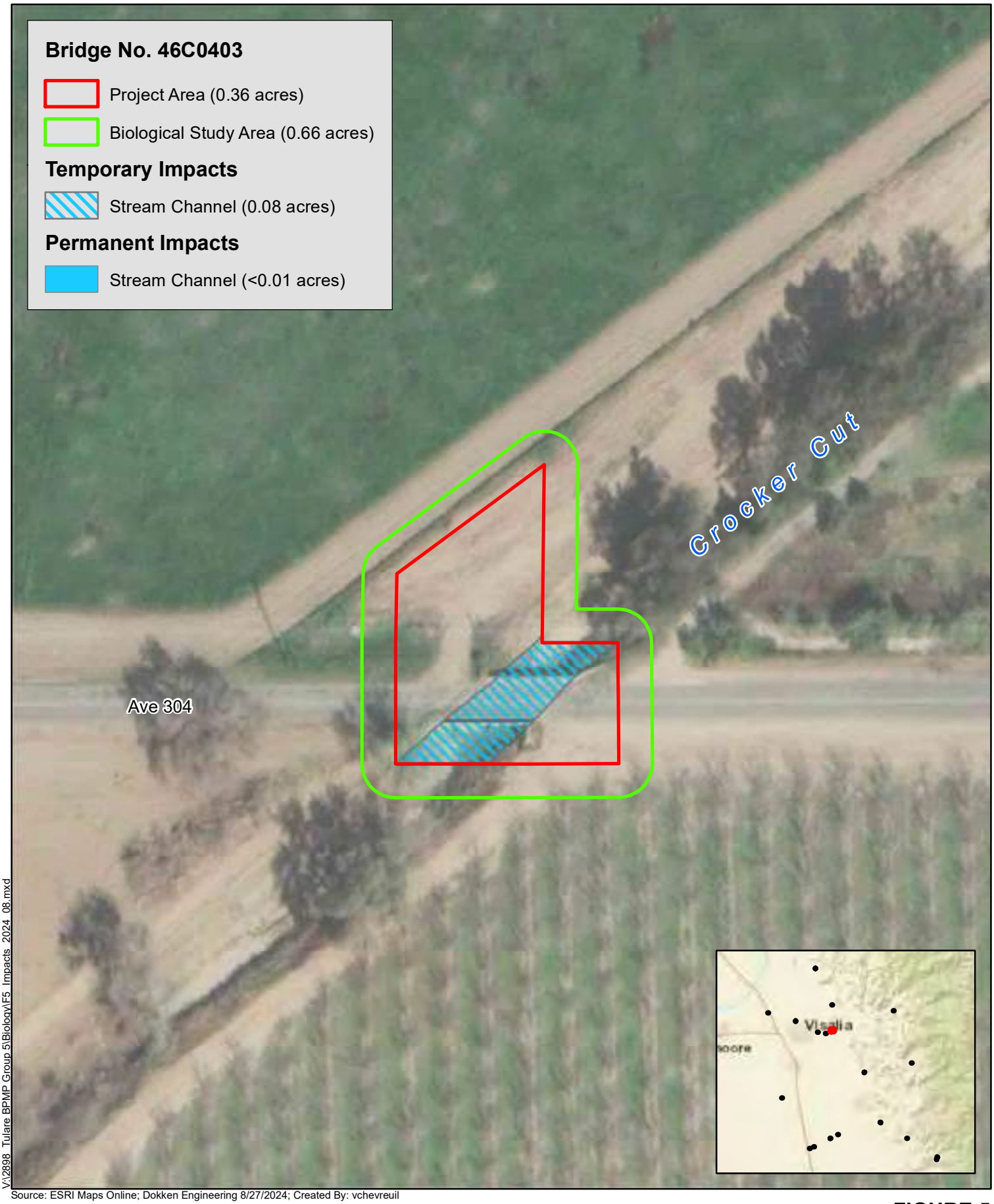
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Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

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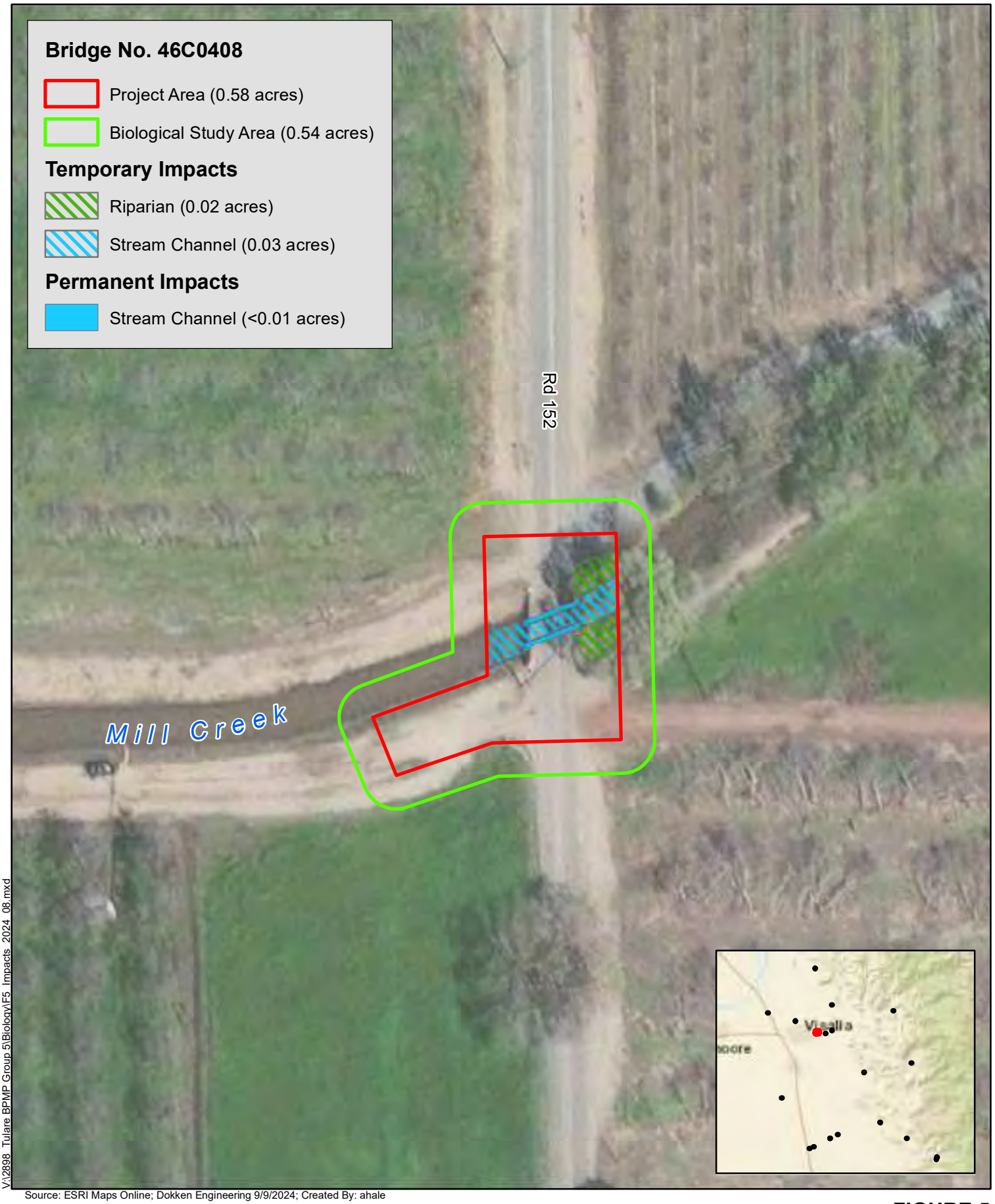
Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 5
Project Impacts

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



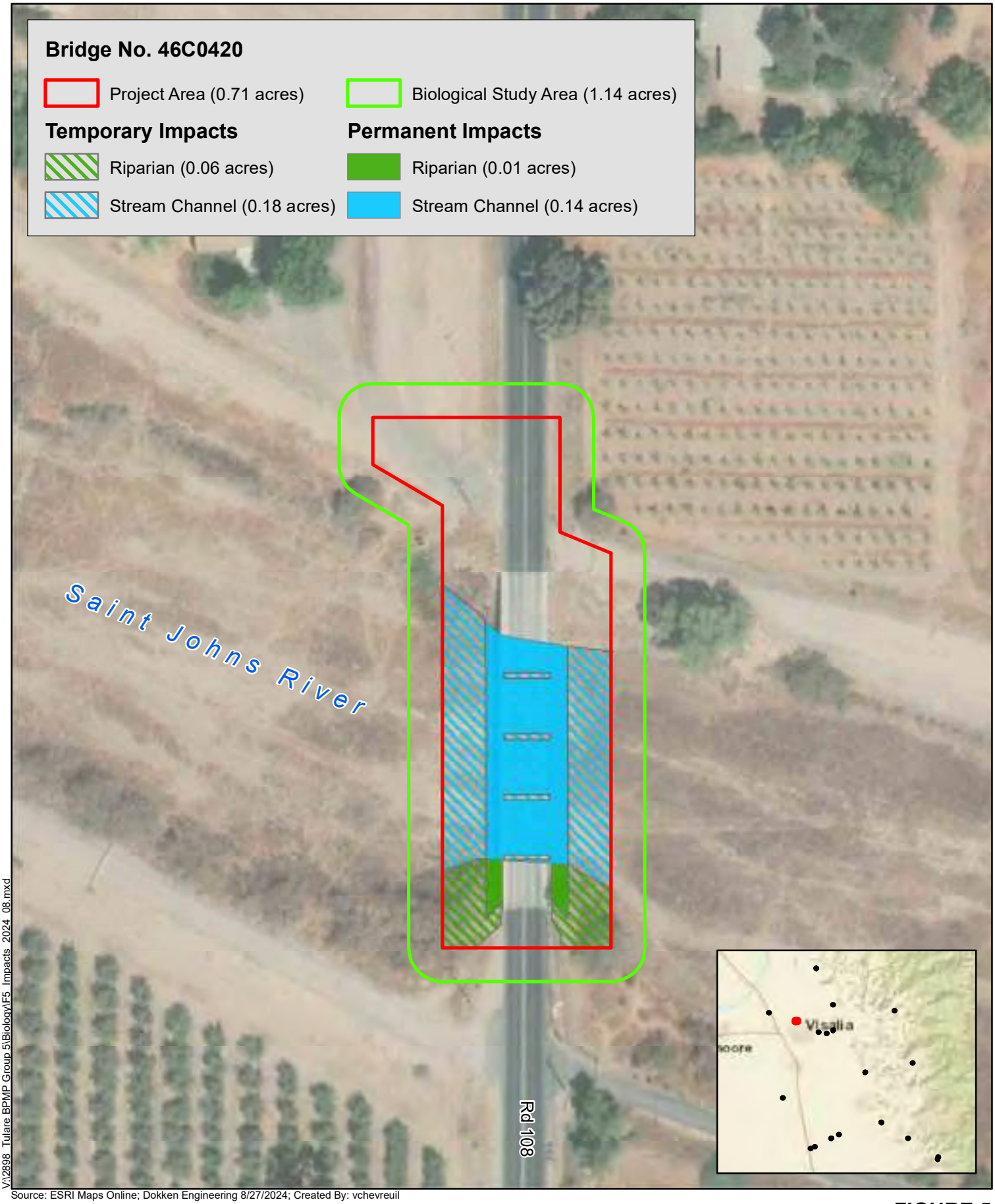
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Source: ESRI Maps Online; Dokken Engineering 9/9/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

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Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

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Survey Results

Riparian vegetation is present at ten of the bridge repair locations (see Table 8 below). Within the Tulare Basin, riparian corridors are highly fragmented and primarily consist of sporadic stands of willows, Himalayan blackberry, and the occasional cottonwood tree. Although riparian habitat within the valley is not contiguous the corridors serve as important wildlife habitat for migration in an otherwise agriculturally developed area.

Bridge locations within the Sierra Nevada foothills (Bridge #46C0202, Bridge #46C0204, and Bridge #46C0205) encompass dense riparian canopies that include a mosaic of oak, sycamore, and white alder trees that provide habitat for a variety of local wildlife species.

Project Impacts

Temporary impacts to riparian vegetation will result from construction access including equipment and personnel, and permanent impacts will primarily result from the placement of RSP around the existing bridge piers and abutments. At Bridge #46C0205, a cut-off wall will be constructed along the existing bridge structure and will result in minor permanent impacts to riparian habitat.

The Project is anticipated to temporarily impact a cumulative 0.54 acres and permanently impact a cumulative 0.06 acres of riparian habitat (Table 8. Riparian Habitat Impacts; Figure 5. Project Impacts).

Table 8: Riparian Habitat Impacts

Bridge Number	Impact Type	Area (acres)[1]
#46C0036	Temporary	0.02 acres
	Permanent	--
#46C0087	Temporary	0.14 acres
	Permanent	0.03 acres
#46C0108	Temporary	0.05 acres
	Permanent	--
#46C0202	Temporary	0.07 acres
	Permanent	--
#46C0204	Temporary	0.12 acres
	Permanent	0.01 acres
#46C0205	Temporary	0.04 acres
	Permanent	<0.01 acres
#46C0309	Temporary	0.01 acres
	Permanent	--
#46C0403	Temporary	--
	Permanent	--
#46C0408	Temporary	0.02 acres
	Permanent	--
#46C0420	Temporary	0.06 acres
	Permanent	0.01 acres
Total	**Temporary**	**0.54 acres**
	Permanent	**0.06 acres**

[1] Impact area rounded to the nearest 0.01 acres for each project location. The cumulative total reflects the un-rounded total across all sites.

Avoidance and Minimization Efforts

To reduce impacts to riparian vegetation, avoidance and minimization measures BIO-1 through BIO-5 will be implemented during Project construction (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

The County will mitigate for permanent impacts to riparian habitat in coordination with permitting agencies (e.g., CDFW and/or RWQCB). Given the permanent impacts at each location are miniscule compensatory mitigation may be developed for cumulative impacts across all sites. The preferred compensatory mitigation method is purchase of mitigation credits or establishment/restoration at an offsite location (BIO-6 in Appendix H. Avoidance and Minimization Measures).

Cumulative Impacts

The Project would have minor temporary and permanent impacts to riparian habitat. Across all locations permanent impacts are anticipated to be under a tenth of an acre, and with the inclusion of compensatory mitigation for permanent fill to riparian habitat, no cumulative impacts are anticipated.

Special Status Plant Species

The plants listed are considered to be of special concern based on (1) Federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the presence of habitat required by the special-status plants occurring on site. The following special status plants may have the potential to occur within the BSA: brittlescale (*Atriplex depressa*), earlimart orach (*Atriplex cordulata var. erecticaulis*), heartscale (*Atriplex cordulata var. cordulata*), and lesser saltscale (*Atriplex minuscula*).

Discussion of Brittlescale

Brittlescale is identified in the CNPS Rank 1B.2, indicating it is moderately rare throughout its range. Brittlescale is an annual herb that inhabits alkaline and clay soils of chenopod scrub, meadows, seeps, playas, vernal pools, and valley and foothill grassland communities. The blooming period for this species is between April and October, and it is typically found at elevations between sea level and approximately 1,050 feet (Calflora 2024).

Survey Results

This species was not observed during biological surveys, which were conducted during the species' blooming period; however, protocol level surveys, consisting of three or more site visits were not completed. Although there are no recent CNDDB occurrences of the species, Bridge #46C0269 and Bridge #46C0318 include saline soils within non-native grassland habitat that may provide suitable habitat for this species. The species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat.

Project Impacts

The Project will result in temporary impacts to upland habitat that could be potentially suitable for the species. Temporary impacts may include staging, grading, and clearing/grubbing at the bridge

locations identified above. Direct impacts to brittlescale are not anticipated with implementation of a pre-construction rare plant survey.

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1 through BIO-5 and BIO-10, which includes pre-construction protocol rare plant surveys, impacts to brittlescale are not anticipated (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, direct impacts to brittlescale are not anticipated and therefore compensatory mitigation is not warranted or proposed at this time.

Cumulative Impacts

With implementation of pre-construction protocol rare plant surveys, the Project will avoid direct impacts to rare plant species. If brittlescale is discovered within the direct impact area, seeds will be collected and relocated. The intent of the Project is to conduct maintenance and repairs on existing bridge structures, and therefore the Project area is mainly confined to existing roadways and adjacent areas. The Project would not result in large-scale permanent loss of potentially suitable habitat for rare plant species, and therefore would not result in a cumulative impact.

Discussion of Earlimart Orach

Earlimart orach is identified in the CNPS Rank 1B.2, indicating it is moderately rare throughout its range. Earlimart orach is an annual herb that inhabits saline or alkaline soils of valley and foothill grassland communities. The blooming period for this species is between August and September, and it is found at elevations below approximately 330 feet (Jepson 2024).

Survey Results

The biological surveys were not conducted during the species bloom period; and therefore, the species was not detectable during site visits. There is a recent (2002) Calflora occurrence of this species located approximately 2.35 miles southwest of Bridge #46C0269. In addition, Bridge #46C0269 and Bridge #46C0318 include saline soils within nonnative grassland habitat that may be potentially suitable for the species. Overall, there is a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat.

Project Impacts

The Project will result in temporary impacts to upland habitat that could be potentially suitable for the species. Temporary impacts may include staging, grading, and clearing/grubbing at the bridge locations identified above. Direct impacts to Earlimart orach are not anticipated with implementation of a pre-construction rare plant survey.

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1 through BIO-5 and BIO-10, which includes pre-construction protocol rare plant surveys, impacts to Earlimart orach are not anticipated (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, direct impacts to Earlimart orach are not anticipated and therefore compensatory mitigation is not warranted or proposed at this time.

Cumulative Impacts

With implementation of pre-construction protocol rare plant surveys, the Project will avoid direct impacts to rare plant species. If Earlimart orach is discovered within the direct impact area, seeds will be collected and relocated. The intent of the Project is to conduct maintenance and repairs on existing bridge structures, and therefore the Project area is mainly confined to existing roadways and adjacent areas. The Project would not result in large-scale permanent loss of potentially suitable habitat for rare plant species, and therefore would not result in a cumulative impact.

Discussion of Heartscale

Heartscale is identified in the CNPS as Rank 1B.2, indicating it is moderately rare throughout its range. Heartscale is an annual herb that inhabits saline or alkaline soils of chenopod scrub, meadows, seeps, and sandy valley and foothill grassland communities. The blooming period for this species is between April and October, and it is found at elevations below approximately 1,840 feet (Calflora 2024).

Survey Results

This species was not observed during biological surveys, which were conducted during the species' blooming period; however, protocol level surveys, consisting of three or more surveys were not completed. Additionally, there are no recent CNDDB occurrences of this species in the vicinity of any of the proposed Project locations. However, Bridge #46C0269 and Bridge #46C0318 include saline soils within non-native grassland habitat that may provide potentially suitable habitat for the species. The species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat.

Project Impacts

The Project will result in temporary impacts to upland habitat that could be potentially suitable for the species. Temporary impacts may include staging, grading, and clearing/grubbing at the bridge locations identified above. Direct impacts to heartscale are not anticipated with implementation of a pre-construction rare plant survey.

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1 through BIO-5 and BIO-10, which includes pre-construction protocol rare plant surveys, impacts to heartscale are not anticipated (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, direct impacts to heartscale are not anticipated and therefore compensatory mitigation is not warranted or proposed at this time.

Cumulative Impacts

With implementation of pre-construction protocol rare plant surveys, the Project will avoid direct impacts to rare plant species. If heartscale is discovered within the direct impact area, seeds will be collected and relocated. The intent of the Project is to conduct maintenance and repairs on existing bridge structures, and therefore the Project area is mainly confined to existing roadways and adjacent areas. The Project would not result in large-scale permanent loss of potentially suitable habitat for rare plant species, and therefore would not result in a cumulative impact.

Discussion of Lesser Saltscale

Lesser saltscale is identified in the CNPS as Rank 1B.1, indicating it is seriously threatened throughout its range. Lesser saltscale is an annual herb that inhabits saline or alkaline soils of chenopod scrub, playa, and valley and foothill grassland communities. The blooming period for this species is between May and October, and it is found at elevations below approximately 660 feet (Calflora 2024).

Survey Results

The biological surveys were not conducted during the species bloom period; and therefore, the species was not detectable during site visits. There are no recent CNDDB occurrences of this species in the vicinity of any of the proposed Project locations. However, Bridge #46C0269 and Bridge #46C0318 include saline soils within non-native grassland habitat that may provide potentially suitable habitat for this species. The species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat.

Project Impacts

The Project will result in temporary impacts to upland habitat that could be potentially suitable for the species. Temporary impacts may include staging, grading, and clearing/grubbing at the bridge locations identified above. Direct impacts to lesser saltscale are not anticipated with implementation of a pre-construction rare plant survey.

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1 through BIO-5 and BIO-10, which includes pre-construction protocol rare plant surveys, impacts to lesser saltscale are not anticipated (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, direct impacts to lesser saltscale are not anticipated and therefore compensatory mitigation is not warranted or proposed at this time.

Cumulative Impacts

With implementation of pre-construction protocol rare plant surveys, the Project will avoid direct impacts to rare plant species. If lesser saltscale is discovered within the direct impact area, seeds will be collected and relocated. The intent of the Project is to conduct maintenance and repairs on existing bridge structures, and therefore the Project area is mainly confined to existing roadways and adjacent areas. The Project would not result in large-scale permanent loss of potentially suitable habitat for rare plant species, and therefore would not result in a cumulative impact.

Special Status Animal Species

Animals are considered to be of special concern based on (1) Federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on site. Fifteen special status animals may have the potential to occur within the BSA, each species is discussed below (Table 6. Special Status Species with Potential to Occur in the Project Vicinity).

Discussion of American Badger

The American badger is a CDFW Species of Special Concern (SSC). The American badger most commonly inhabits treeless areas including tall grass and short grass prairies, grass-dominated meadows and fields within forested habitats. The species home range lies between 338-1549 acres with a supply of rodent prey (Zeiner 1988). The species requires friable soils for burrow construction. Typically, American badgers reuse old burrows for young rearing during March and April, although some may dig a new den each night for cover. The American badger is a nightly active, year-round species of California up to 12,000 feet elevation where habitat exists and is sensitive to automobile mortality, trapping and persistent poisons (Zeiner 1998).

Survey Results

There are no CNDDB occurrences of this species in the vicinity of any of the proposed Project locations. However, Bridge #46C0058 and Bridge #46C0059 fall within the anticipated range of the species and include treeless, dry, open herbaceous habitat features with friable soils. The species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat. No suitable habitat is present at any other Project location.

Project Impacts

The Project will result in temporary impacts to upland habitat that could be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. Direct impacts to American badger are not anticipated with implementation of a pre-construction clearance survey.

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1, BIO-2, BIO-5, and species-specific measure BIO-11, impacts to American badger are not anticipated (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, direct impacts to American badger are not anticipated, and compensatory mitigation is not proposed.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to American badger. The intent of the Project is to conduct maintenance and repairs on existing bridge structures, and therefore the Project area is mainly confined to existing roadways and adjacent areas. The Project would not result in large-scale permanent loss of potentially suitable habitat for American Badger, and therefore, would not result in a cumulative impact to the local population.

Discussion of Bakersfield Legless Lizard

The Bakersfield legless lizard (*Anniella grinnelli*, formerly *Anniella pulchra*) is considered a SSC under CDFW. This species inhabits warm, moist soils in vegetated areas such as beach dunes, chaparral, woodlands, desert scrubs, sandy washes, and stream terraces. Individuals spend most of their time burrowed in loose soils and are often found under surface objects such as rocks, boards, and logs. Known predators of Bakersfield legless lizards include snakes, mice, weasels, and birds. Geographically, the species is restricted to the southern San Joaquin Valley and east of the Carrizo Plain (Nafis 2024).

Survey Results

There is a recent (2019) CNDDB observation of this species within Deer Creek, approximately 2.8 miles west of State Route 99. Due to its restricted range, potentially suitable habitat for this species is limited to bridge repair locations along Deer Creek, including Bridge #46C0087, Bridge #46C0106, Bridge #46C0108, and Bridge #46C0318. Overall, there is a low to moderate potential for the species to occur at these bridge sites. No suitable habitat is present at any other Project location.

Project Impacts

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. Direct impacts to Bakersfield legless lizard are not anticipated with implementation of a pre-construction clearance survey.

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1, BIO-2, BIO-5, and BIO-12, which includes a pre-construction survey for the species, direct impacts to Bakersfield legless lizard are not anticipated (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of species-specific avoidance and minimization measures, direct impacts to Bakersfield legless lizard are not anticipated, and compensatory mitigation is not proposed.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to Bakersfield legless lizard. The intent of the Project is to conduct maintenance and repairs on existing bridge structures, and therefore the Project area is mainly confined to existing roadways and adjacent areas. The Project would not result in large-scale permanent loss of potentially suitable habitat for Bakersfield legless lizard, and therefore, would not result in a cumulative impact to the local population.

Discussion of Burrowing Owl

The burrowing owl is a SSC under CDFW and a USFWS Migratory Nongame Bird of Management Concern. Burrowing owls were historically common throughout much of California; however, due to habitat degradation and urbanization, populations have been drastically reduced. The owl can be a migrant or yearlong resident occupying disturbed open, arid habitats, particularly grasslands, deserts, and abandoned agricultural areas. The species requires friable soils for burrow construction and an adequate prey base (Zeiner 1988). Burrowing owls rely on California ground

squirrels and other fossorial mammals for burrow construction. Although active throughout the day, burrowing owls mainly forage nocturnally for small vertebrate and invertebrate prey including mammals, lizards, birds, and beetles (Shuford 2008). Burrowing owl nests can be identified by the presence of owl excrement, pellets, debris, grass, and feathers in the vicinity of a burrow. Human development threatens burrowing owl populations by reducing available nesting habitat and decreasing rodent populations, which serve as the owl's main food source.

Survey Results

There is a recent (2017) CNDDB occurrence of this species located within 1 mile of Bridge #46C0058 and Bridge #46C0059. These Project locations are surrounded by disturbed open grassland and agricultural habitat communities that may provide suitable habitat for burrowing owl. Therefore, there is a low to moderate potential for the species to occur at these bridge locations. No suitable habitat is present at any other Project location.

Project Impacts

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at Bridge #46C0058 and Bridge #46C0059. The Project will not result in a permanent loss of potentially suitable burrowing owl habitat. Furthermore, direct impacts to burrowing owl are not anticipated with implementation of a pre-construction surveys.

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1, BIO-2, BIO-5, and BIO-13, which includes pre-construction surveys for burrowing owl, direct impacts to the species are not anticipated (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of species-specific avoidance and minimization measures, direct impacts to burrowing owl are not anticipated, and compensatory mitigation is not proposed.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to burrowing owl. The intent of the Project is to conduct maintenance and repairs on existing bridge structures, and therefore the Project area is mainly confined to existing roadways and adjacent areas. The Project would not result in large-scale permanent loss of potentially suitable habitat for burrowing owl, and therefore, would not result in a cumulative impact to the local population.

Discussion of California Tiger Salamander – Central California DPS

The CTS is a state and federally listed species. The species' range spans from Yolo County to its southern extent in Santa Barbara County and can be found in annual grasslands within the Central Valley (Central California DPS). Adult salamanders spend much of their existence in pre-made subterranean refuges such as mammal burrows. The greatest threats to CTS include habitat loss, including both upland grassland habitat and seasonal aquatic breeding habitat. Their breeding season occurs between the months of December and February, where CTS emerge from underground during the first significant rain events of the fall/winter and begin migrating to seasonal breeding ponds. A female salamander may lay over 1,000 eggs.

In August of 2005, the USFWS designated almost 200,000 acres of the Central Valley as Critical Habitat for the Central California DPS of CTS (50 CFR 4380). CTS Critical Habitat spans from Butte County south to San Luis Obispo and encompasses the northwestern extent of Tulare County.

Survey Results

Bridge #46C0058 and Bridge #46C0059 fall within designated Critical Habitat for CTS and encompass potentially suitable CTS upland dispersal habitat. During biological survey efforts, small mammal burrows were observed in adjacent grassland habitat, which could serve as refugia for the species. Potentially suitable breeding habitat does not occur at these bridge locations but is present within a 1-mile radius of the Project areas.

In addition, there is a historic (1999) CNDDB occurrence within Cross Creek, 3.3 miles southwest of the bridge locations. Due to the presence of locally suitable upland dispersal habitat as well as the local historic occurrence, the species has a low to moderate potential to occur at Bridge #46C0058 and Bridge #46C0059. No suitable habitat is present at any other Project location.

Project Impacts

The Project will result in approximately 0.14 acres of temporary impacts to potentially suitable CTS upland habitat due to equipment and personnel access at Bridge #46C0058 and Bridge #46C0059. In addition, installation of RSP adjacent to the existing bridges will result in approximately 0.03 acres of permanent impacts to potentially suitable CTS upland habitat (Figure 5. Project Impacts). At these bridge locations RSP would be installed on top of the channel banks to prevent erosion. However, installation of RSP is not anticipated to severely degrade or decrease the quantity or quality of potentially suitable CTS upland habitat nor would it result in long-term impacts to CTS movement.

Due to the proposed Project impacts to potentially suitable CTS upland habitat, which is located within designated Critical Habitat for the species, informal Section 7 consultation with USFWS will be required. The Project *May Affect, Not Likely to Adversely Affect* CTS and associated CTS Critical Habitat. Given the minor scope of bridge maintenance activities, short construction duration and relatively small impact area, take of CTS is not anticipated, and therefore consultation under FGC Section 2081 is not anticipated. Project activities would not result in long-term impacts related to habitat suitability for CTS.

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1, BIO-2, BIO-5, and species-specific measures BIO-14 through BIO-19, impacts to CTS will be minimized. Species-specific measures include pre-construction surveys, burrow mapping, weather restrictions, exclusion fencing, and daily clearance surveys, for more details see Appendix H. Avoidance and Minimization Measures.

Compensatory Mitigation

Given the minor scope of bridge maintenance activities, short construction duration and relatively small impact area, and with implementation of species-specific avoidance measures take of CTS is not anticipated. Furthermore, the Project would not result in long-term impacts or alterations to potentially suitable CTS upland habitat, and therefore compensatory mitigation is not proposed.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to CTS. Additionally, given the location of permanent features, which are relatively close to the existing bridge structures and roadway the Project is not anticipated to result in a large-scale permanent loss of potentially suitable CTS upland habitat that would result in a cumulative impact to the local population.

Discussion of Coast Horned Lizard

The coast horned lizard is a CDFW SSC. This species is historically found in California along the Pacific coast from the Baja California border west of the deserts and the Sierra Nevada, north to the Bay Area, and inland as far north as Shasta Reservoir. The range has now been severely fragmented due to development and agriculture. The species inhabits open areas of sandy soil and low-lying vegetation within grassland, coniferous forests, woodlands, and chaparral habitat communities. Individuals are often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently attracted to ant hills.

Coast horned lizards are most active April through July, with breeding occurring April to May and hatchlings emerging August to September. This species is diurnal, displaying active periods during warm weather and retreating underground during extended periods of low temperatures or extreme heat. This species mainly eats ants, especially harvester ants, but also consumes other small invertebrates such as spiders, beetles, termites, flies, honeybees, moth larvae, and grasshoppers (Stebbins 2003).

Survey Results

The following locations contain potentially suitable open and vegetated habitats that may support the species: Bridge #46C0058, Bridge #46C0059, Bridge #46C0087, Bridge #46C0202, Bridge #46C0269, and Bridge #46C0309. The species has a low to moderate potential to occur at these sites due to the presence of potentially suitable habitat features. The species is presumed absent from the other Project locations due to the lack of suitable habitat features.

Project Impacts

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. Direct impacts to coast horned lizard are not anticipated with implementation of a pre-construction clearance survey.

Avoidance and Minimization Efforts

With the implementation of the avoidance and minimization measures BIO-1, BIO-2, BIO-5, and species-specific measure BIO-20, which includes a pre-construction survey, direct impacts to coast horned lizard are not anticipated.

Compensatory Mitigation

With the implementation of a species-specific avoidance and minimization measure, direct Project impacts to coast horned lizard are not anticipated, and compensatory mitigation is not proposed.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to coast horned lizard. The intent of the Project is to conduct maintenance

and repairs on existing bridge structures, and therefore the Project area is mainly confined to existing roadways and adjacent areas. The Project would not result in large-scale permanent loss of potentially suitable habitat for coast horned lizard, and therefore, would not result in a cumulative impact to the local population.

Discussion of Crotch Bumble Bee

The Crotch bumble bee is a candidate for listing as endangered under CESA. This species is known to occupy grassland, shrubland, and chaparral habitats throughout central California, south to Baja California, and into Mexico. Most observations occur in southern California along coastal areas. Crotch bumble bees nest underground, overwintering in soft, disturbed soil or under leaf litter. They are generalists and primarily feed on the following plants: *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia* and *Salvia* (Xerces 2018).

Survey Results

Potentially suitable Crotch bumble bee habitat is present at, Bridge #46C0309, Bridge #46C0087, Bridge #46C0204, Bridge #46C0205, Bridge #46C0202 given the presence of grassland habitat, which is surrounded by open, undeveloped areas that contain a diversity of flowering plant species. Additionally, there are recent (2022 and 2024) iNaturalist occurrences of the species within the Sierra Nevada foothills in the vicinity of the above references bridge locations. Due to the presence of potentially suitable habitat features, the species has a low to moderate potential to occur at these locations. No suitable habitat is present at any other Project location.

Project Impacts

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, clearing/grubbing and access at the locations identified above. However, with implementation of species-specific avoidance measures listed below, take of Crotch bumble bee is not anticipated and therefore consultation with CDFW under Section 2018 is not required.

Avoidance and Minimization Efforts

With the implementation of the avoidance and minimization measures BIO-1, BIO-2, BIO-5, and species-specific measure BIO-21, which includes a pre-construction survey, direct impacts to Crotch bumble bee are not anticipated (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, direct Project impacts to Crotch bumble bee are not anticipated, and compensatory mitigation is not proposed.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to Crotch bumble bee. Additionally, given the location of permanent features, which are relatively close to the existing bridge structures and roadway the Project is not anticipated to result in a large-scale permanent loss of potentially suitable habitat that would result in a cumulative impact to the local population of Crotch's bumble bee.

Discussion of Foothill Yellow-legged Frog – South Sierra DPS

In December of 2019 the CFG Commission made a listing decision under CESA regarding the FYLF. According to the FYLF status review, published by CDFW in September 2019, there are 5 distinct genetic clades of FYLF throughout California. Due to the genetic diversity, geographic isolation and varying threats within the FYLF populations listing of the species has been separated by clade. The southwest/south coast clade, west/central coast clade and the east/southern Sierra clade are listed as state endangered under CESA and the northeast/northern Sierra and the Feather River clade are listed as state threatened under CESA. The FYLF population with potential to occur within the BSA is part of the south Sierra clade listed as endangered under CESA.

The FYLF inhabits shallow streams and riffles with rocky substrate and open, sunny banks in a variety of habitats including chaparral and woodland forests, but the vegetation community is likely less important in determining FYLF occupancy (CDFW 2019). FYLF habitat is characterized by partly shaded, shallow, perennial rivers and streams with a low gradient and rocky substrate that is at least cobble-sized for the species to utilized as basking habitat (Zweifel 1955, Hayes and Jennings 1988). Tadpoles require water for at least three or four months to complete development. The breeding season typically occurs from late March through May and occurs from elevations near sea level to 6,700 ft.

Survey Results

Potentially suitable aquatic and upland habitat occurs at Bridge #46C0204, and Bridge #46C0205. According to historic CNDDB occurrences, the species is presumed extirpated from these areas; however, there are recent iNaturalist occurrences near Johnsondale approximately 11 miles northeast of Bridge #46C0204 and Bridge #46C0205. However, Johnsondale is about 2,000 feet higher in elevation than the bridge locations and is not hydrologically connected to aquatic resources present within the BSA. Given the presence of potentially suitable habitat, FYLF has a low potential to occur at Bridge #46C0204 and Bridge #46C0205. No suitable habitat is present at any other Project location.

Project Impacts

The Project will result in temporary and permanent impacts to potentially suitable FYLF aquatic and upland habitat (Figure 5. Project Impacts). Table 9 below includes impacts to both riparian and stream channel habitat. Temporary impacts may consist of construction access for personnel and equipment, clearing/grubbing, and de-watering and/or installation of a temporary water diversion. Permanent impacts may include permanent fill within the riparian zone, as well as in stream channel habitat at Bridge #46C0204, permanent fill is not anticipated to exceed 0.01 acres. The Project is not anticipated to permanently fill portions of the channel that would eliminate potentially suitable breeding habitat for FYLF.

Due to the proposed Project impacts to potentially suitable FYLF aquatic and upland habitat informal Section 7 consultation with USFWS will be required. The Project *May Affect, Not Likely to Adversely Affect* FYLF. Additionally, given the minor scope of bridge maintenance activities, short construction duration and relatively small impact area, take of FYLF is not anticipated, and therefore consultation under FGC Section 2081 is not anticipated. Project activities would not result in long-term impacts related to habitat suitability for FYLF.

Table 9: Foothill Yellow-Legged Frog Habitat Impacts

Bridge Number	Impact Type	Area (acres)
#46C0204	Temporary	0.15 acres
	Permanent	0.01 acres
#46C0205	Temporary	0.09 acres
	Permanent	<0.01 acres
Total	**Temporary**	**0.24 acres**
	Permanent	**0.01 acres**

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1 through BIO-6, and species-specific measures BIO-22 through BIO-25, take of FYLF is not anticipated. Species-specific measures include pre-construction surveys and exclusion fencing, for more details see Appendix H. Avoidance and Minimization Measures.

Compensatory Mitigation

Given the minor scope of bridge maintenance activities, short construction duration and relatively small impact area, and with implementation of species-specific avoidance measures take of FYLF is not anticipated. Furthermore, the Project would not result in long-term impacts or alterations to potentially suitable FYLF aquatic or upland habitat, and therefore compensatory mitigation is not proposed.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to FYLF. Additionally, given the location of permanent features, which are relatively close to the existing bridge structures and roadway the Project is not anticipated to result in a large-scale permanent loss of potentially suitable FYLF habitat that would result in a cumulative impact to the local population.

Discussion of Loggerhead Shrike

The loggerhead shrike is a medium-size carnivorous songbird. The species is a CDFW SSC. Historically, shrikes were found throughout most of California in a variety of open habitats with sparse shrubs or trees for perching, territorial advertisement, and nest construction. The species preys on a variety of small insects, amphibians, reptiles, small mammals and other songbirds. The species is unusual in that it will store larger prey by impaling it on sharp objects (i.e. cactus thorns or barbed wire) for later consumption. According to the North American Breeding Bird Survey, the species has declined on average by 2.9 percent per year between 1966 and 1993, which is a cumulative loss of more than 75 percent. Much of this decline has been attributed to the widespread use of pesticides and habitat loss as suitable open woodland and scrub habitats are converted to agricultural or urban areas (Peterjohn et. al 1993).

Survey Results

Loggerhead shrikes are generalists that can occur in a variety of habitat types, including those present throughout the BSAs of the proposed bridge maintenance locations. There are also multiple recent eBird sightings within a mile of each Project location. Due to the presence of locally suitable habitat as well as the recent observations of the species in the vicinity of the Project, this species has a low to moderate potential to occur at all of the Project locations excluding Bridge #46C0226, which lacks vegetative cover.

Project Impacts

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. Direct impacts to loggerhead shrike are not anticipated with implementation of a pre-construction nesting bird surveys.

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1, BIO-2, BIO-5, and BIO-8, which includes a pre-construction nesting bird survey, impacts to loggerhead shrike, as well as other migratory nesting birds, are not anticipated (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, direct impacts to loggerhead shrike are not anticipated, and compensatory mitigation is not warranted.

Cumulative Impacts

With implementation of a pre-construction nesting bird survey the Project will avoid direct effects to loggerhead shrike. Additionally, the Project in whole is anticipated to permanent impact a total of 0.06 acres of riparian habitat, which will be mitigated in accordance with BIO-6. Therefore, the Project is not anticipated to result in a large-scale permanent loss of suitable nesting or foraging habitat for loggerhead shrike that would result in a cumulative impact to the local population.

Discussion of Northern California Legless Lizard

The Northern California legless lizard (*Anniella pulchra*) is considered a CDFW SSC. This species is primarily found in areas comprised of sandy or loose organic soils with plenty of leaf litter for them to burrow, including coastal dune, valley-foothill, chaparral, and coastal scrub habitat communities (Zeiner 1988). The species' range includes the San Joaquin River south through Santa Barbara County, with scattered populations along the southern Sierra Nevada and eastern Tehachapi Mountain ranges (Nafis 2024). Individuals forage for small insects near the base of shrubs or other vegetation, and often seek refuge beneath surface objects such as rocks or branches.

Survey Results

The following bridge sites contain potentially suitable habitat for Northern California legless lizard: Bridge #46C0058, Bridge #46C0059, Bridge #46C0087, Bridge #46C0202, Bridge #46C0269, and Bridge #46C0309. The species has a low to moderate potential to occur due to the presence of locally suitable habitat features, such as sandy soils and open grassland habitat. The species is presumed absent from the other Project locations due to the lack of suitable habitat features.

Project Impacts

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. Direct impacts to Northern California legless lizard are not anticipated with implementation of a pre-construction clearance survey.

Avoidance and Minimization Efforts

With the implementation of the avoidance and minimization measures BIO-1, BIO-2, BIO-5, and species-specific measure BIO-20, which includes pre-construction surveys, direct impacts to Northern California legless lizard are not anticipated.

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, direct Project impacts to Northern California legless lizard are not anticipated, and compensatory mitigation is not warranted.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to Northern California legless lizard. The intent of the Project is to conduct maintenance and repairs on existing bridge structures, and therefore the Project area is mainly confined to existing roadways and adjacent areas. The Project would not result in large-scale permanent loss of potentially suitable habitat for Northern California legless lizard, and therefore, would not result in a cumulative impact to the local population.

Discussion of Pallid Bat

The pallid bat (*Antrozous pallidus*) is considered a CDFW SSC. The pallid bat is locally common to a variety of habitats throughout California, including grasslands, shrublands, and woodlands; however, the species prefers dry, open areas for foraging and roosting. Pallid bats are social and roost in groups of at least 20, which may include bats of other species. Colonies are usually found in rocky crevices, caves, and mines, but are also known to roost in hollow trees and on buildings (Zeiner 1988). Additionally, studies have concluded that colonies may use living or dead trees, specifically snags, for roosting. Pallid bats primarily feed on large-bodied insects and can forage up to three miles from their roosting site. Pallid bats are nocturnal and are highly susceptible to disturbance when roosting (Zeiner 1988).

Survey Results

Bridge #46C0202, Bridge #46C0204, and Bridge #46C0205 fall within suitable woodland habitat near open, rocky areas that may support roosting habitat for this species. Although the bridges lack crevices suitable for roosting, there is a low potential for this species to utilize adjacent trees as day roosts. Due to locally suitable habitat features, there is a low potential for the species to occur at these Project locations. The species is presumed absent at all other locations due to the lack of locally suitable habitat features.

Project Impacts

If pallid bats are roosting near the bridge locations during construction, temporary disturbances may include construction related noise and presence/staging of equipment. However, given the

short-term nature of these activities it is not anticipated that these would result in abandonment of a bat maternity colony.

The Project is not anticipated to result in direct impacts to potentially suitable roosting habitat for pallid bat maternity colonies given that tree removal will not be required to complete bridge maintenance activities. However, if tree removal is deemed necessary to accommodate access for construction, a bat habitat assessment will be required at the above locations prior to tree removal (BIO-26).

Avoidance and Minimization Efforts

With the implementation of the avoidance and minimization measures BIO-1, BIO-2, BIO-5, and species-specific measure BIO-26, direct impacts to roosting bats would be avoided (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, direct impacts to pallid bat are not anticipated, and compensatory mitigation is not warranted.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to pallid bat and other maternity roosting bats. Additionally, the Project is not anticipated to result in a large-scale permanent loss of suitable bat roosting habitat that would lead to a cumulative impact to local bat populations.

Discussion of San Joaquin Coachwhip

The San Joaquin coachwhip (*Masticophis flagellum ruddocki*) is considered a CDFW SSC. A subspecies to the widely occurring coachwhip (*Masticophis flagellum*), this species is endemic to California, ranging from Alameda County south along the South Coast Ranges and into the San Joaquin Valley. This snake occurs in open, dry, treeless areas with little to no cover, including valley grassland and saltbush scrub habitat communities. Individuals prefer and tolerate warmer temperatures, emerging from winter burrows between April and May. Their high speed allows them to run down fast-moving reptiles, as well as small mammals, birds, and amphibians. The San Joaquin coachwhip is threatened by the extensive habitat loss and fragmentation due to the conversion of much of its restricted range to agricultural use. In addition, these snakes are susceptible to vehicle strikes due their habit of basking on roads and eating roadkill (Nafis 2024).

Survey Results

Bridge #46C0058 and Bridge #46C0059 encompass open, dry grassland habitat and occur within the anticipated range of this species. Due to the presence of potentially suitable habitat features, the species has a low potential to occur at these locations. No suitable habitat is present at any other Project location.

Project Impacts

The Project will result in temporary impacts to habitat that may be potentially suitable for the species. Temporary impacts may include staging, grading, and access at the bridge locations identified above. Direct impacts to San Joaquin coachwhip are not anticipated with implementation of a pre-construction clearance survey.

Avoidance and Minimization Efforts

With the implementation of the avoidance and minimization measures BIO-1, BIO-2, BIO-5, and species-specific measure BIO-27, which includes a pre-construction survey, direct impacts to San Joaquin coachwhip are not anticipated (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, direct impacts to San Joaquin coachwhip are not anticipated, and compensatory mitigation is not warranted.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to San Joaquin coachwhip. The intent of the Project is to conduct maintenance and repairs on existing bridge structures, and therefore the Project area is mainly confined to existing roadways and adjacent areas. The Project would not result in large-scale permanent loss of potentially suitable habitat for San Joaquin coachwhip, and therefore, would not result in a cumulative impact to the local population.

Discussion of San Joaquin Kit Fox

The SJKF is a nonmigratory fox that is state threatened and federally listed as endangered. This species inhabits annual grasslands or other open areas with scattered vegetation and requires loose-textured soils for burrowing. SJKF construct their own dens, but may also modify burrows constructed by other animals, such as California ground squirrels (*Otospermophilus beecheyi*) and coyotes (*Canis latrans*). They also den in human-made structures, such as culverts and abandoned pipes. Pups are born in dens excavated in open, level areas with loose-textured soils. SJKF play important roles in their respective ecosystems as "architects of subterranean burrows", which in turn provide cover for many of the species. SJKF are vulnerable to many human activities such as hunting, use of rodenticides and other poisons, off-road vehicles, and trapping.

Survey Results

Bridge #46C0309 contains potentially suitable SJKF habitat with open, level grassland communities with scattered vegetation. In addition, there are numerous historic (1975) CNDDB occurrences of this species located near the bridge site.

The species is presumed absent from the other Project locations due to the lack of contiguous open grasslands with scattered shrubs that could support this species.

Project Impacts

The Project will result in temporary impacts to grassland habitat within the known range of SJKF. Temporary impacts may include staging, grading, and access at Bridge #46C0309. No permanent impacts to upland areas are anticipated at this bridge site. Given the Project largely encompasses the existing roadway and immediately surrounding environment there is an extremely low likelihood of encountering a SJKF den or SJKF individual within 200 feet of the Project site during construction. Therefore, the Project is anticipated to have *No Effect* on SJKF and Section 7 consultation with USFWS is not anticipated.

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1, BIO-2, BIO-5, and species-specific measures BIO-28 and BIO-29, including a pre-construction survey for active

SJKF dens, direct impacts to SJKF will be avoided (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

With the implementation of the species-specific avoidance measures, direct impacts to SJKF are not anticipated, and compensatory mitigation is not warranted.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to SJKF. The intent of the Project is to conduct maintenance and repairs on existing bridge structures, and therefore the Project area is mainly confined to existing roadways and adjacent areas. The Project would not result in large-scale permanent loss of potentially suitable habitat for SJKF, and therefore, would not result in a cumulative impact to the local population.

Discussion of Swainson's Hawk

The SHWA is state listed as threatened. SWHA migrates annually from wintering areas in South America to breeding locations in northwestern Canada, the western U.S., and Mexico. In California, SWHA nest throughout the Sacramento and San Joaquin Valley in large trees in riparian habitats and in isolated trees in or adjacent to agricultural fields. The breeding season extends from late March through late August, with peak activity from late May through July (England et al. 1997). SWHA forage in large, open agricultural habitats, including alfalfa and hay fields. The breeding population in California has declined by an estimated 91% since 1900; this decline is attributed to the loss of riparian nesting habitats and the conversion of native grassland and woodland habitats to agriculture and urban development (CDFW 1994).

Survey Results

There are numerous recent CNDDB occurrences of this species located throughout the San Joaquin Valley in the vicinity of the Project locations. Swainson's hawk potential of occurrence was determined based on presence of potentially suitable nesting habitat within, adjacent or nearby the bridge maintenance locations. Swainson's hawk has a low to moderate potential to occur at the following Project locations due to the presence of locally suitable habitat features: Bridge #46C0036, Bridge #46C0108, Bridge #46C0309, Bridge #46C0318, Bridge #46C0403, Bridge #46C0408, Bridge #46C0087, Bridge #46C0106, Bridge #46C0269, Bridge #46C0420.

Additionally, Swainson's hawk was observed at Bridge #46C0058 and Bridge #46C0059 during biological surveys. The species was observed landing in a large eucalyptus stand, approximately 500 feet southeast from these locations. The eucalyptus stand is in between the north-bound and south-bound lanes on Highway 99 and is within a highly disturbed setting.

The following locations, including Bridge #46C0202, Bridge #46C0204, and Bridge #46C0205 fall within the Sierra Nevada foothills, outside the anticipated range of this species. In addition, Bridge #46C0226, and Bridge #46C0330 lack large and/or mature trees that would be suitable for nesting. As such, SWHA are presumed absent from these Project locations.

Project Impacts

Although the Project will not result in direct impacts to potentially suitable SWHA nesting habitat construction may result in minor temporary disturbance to SWHA that may be flying and/or

foraging in the area. Short-term disturbances may include noise from construction and/or presence of personnel and equipment. However, with implementation of species-specific avoidance measures these activities would not result in take of an active SWHA nest if one is discovered near a Project location. As such, no direct impacts to this species are anticipated, and consultation with CDFW under Section 2081 is not anticipated (Figure 5. Project Impacts).

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1, BIO-2, BIO-5, BIO-8, and species-specific measures BIO-30, which includes establishment of a no-work buffer and biological monitoring for any active SWHA nests, take of SWHA would be avoided (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

Tree removal is not anticipated at any of the bridge locations, and therefore removal of potentially suitable SWHA nesting habitat is not anticipated. As such, no direct impacts to SWHA are anticipated and no compensatory mitigation is proposed.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to SWHA. Additionally, the Project is not anticipated to result in a large-scale permanent loss of suitable nesting or foraging habitat for SWHA that would lead to a cumulative impact to the local population.

Discussion of Western Pond Turtle

The WPT is considered a CDFW SSC and is proposed threatened under FESA. The WPT is prevalent all throughout California west of the Sierra-Cascade crest and certain desert regions. Individuals are subject to desiccation in hot or dry conditions, meaning this species is found around permanent and near-permanent water sources such as ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Individuals are omnivorous and feed on aquatic plants as well as invertebrates, frogs, and fishes. Predators include certain fishes, garter snakes, wading birds, and some mammals, and the WPT retreats from basking sites to underwater refuges at the sign of danger. This species is known to hibernate underwater beneath a muddy bottom in colder climates, or under moist vegetation/leaf litter and reproduce from March to August. Nests are generally found in flat areas with low vegetation and dry, hard soil (Zeiner 1988).

Survey Results

Potentially suitable stream channel habitat for WPT, including suitable basking and breeding habitat within or adjacent to bridge maintenance activities is present at the following locations: Bridge #46C0087, Bridge #46C0204, and Bridge #46C0205. In addition, there are recent (2022 and 2023) research-grade iNaturalist observations of this species within the vicinity of Bridge #46C0204 and Bridge #46C0205 (iNaturalist 2024). Within Tulare County recent WPT occurrences are concentrated in the foothills and higher elevations. Due to the presence of locally suitable habitat features as well as the recent local occurrences, the species is presumed to have a low potential to occur at these bridge maintenance locations.

The species is presumed absent from the remaining Project locations due to the absence of permanent, semi-permanent aquatic habitat, and/or suitable upland habitat that is necessary to support this species.

Project Impacts

The Project will result in temporary and permanent impacts to potentially suitable WPT aquatic and upland habitat (Figure 5. Project Impacts). Table 10 below includes impacts to both riparian and stream channel habitat. Temporary impacts may consist of construction access for personnel and equipment, clearing/grubbing, and de-watering and/or installation of a temporary water diversion. Permanent impacts would be limited to installation of RSP or other minor fill. The Project is not anticipated to permanently fill portions of the channel that would eliminate potentially suitable habitat for WPT.

Due to the proposed Project impacts to potentially suitable WPT aquatic and upland habitat informal Section 7 consultation with USFWS will be required. Given the short duration of construction at each bridge maintenance site, and minor impacts the Project *May Affect, Not Likely to Adversely Affect* WPT.

Table 10: Western Pond Turtle Habitat Impacts

Bridge Number	Impact Type	Area (acres)
#46C0087	Temporary	0.20
	Permanent	0.12
#46C0204	Temporary	0.15
	Permanent	0.01
#46C0205	Temporary	0.09
	Permanent	0.01
Total	**Temporary**	**0.44 acres**
	Permanent	**0.14 acres**

Avoidance and Minimization Efforts

With the implementation of avoidance and minimization measures BIO-1, BIO-2, BIO-5, and species-specific measures BIO-31, which includes a pre-construction clearance survey, direct impacts to WPT will be avoided (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

Given the minor scope of bridge maintenance activities, short construction duration and relatively small impact area, and with implementation of species-specific avoidance measures take of WPT is not anticipated. Furthermore, the Project would not result in long-term impacts or alterations to potentially suitable WPT aquatic or upland habitat, and therefore compensatory mitigation is not proposed.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to WPT. Additionally, given the location of permanent features, which are relatively close to the existing bridge structures and roadway the Project is not anticipated to result in a large-scale permanent loss of potentially suitable WPT aquatic and/or upland habitat that could result in a cumulative impact to the local population.

Discussion of Western Spadefoot

The western spadefoot is proposed threatened under FESA and is a CDFW SSC. The species occurs primarily in grasslands habitats throughout the Central Valley and along the coast of southern California. Adults spend most of their lifecycle in underground burrows made by small mammals but may also create their own burrows. Rainfall is important in the formation and maintenance of shallow, temporary ponds that western spadefoot use for breeding following heavy winter rains. The species may also utilize isolated ponding water in drying ephemeral stream channels or roadside ruts. During this season, females can lay over 500 eggs and resulting tadpoles may be heavily predated by wading birds (Zeiner 1988).

Survey Results

Although isolated pockets of ponding water were not observed during biological surveys efforts, western spadefoot breeding habitat may change on a yearly basis depending on rainfall, changes in channel morphology, and rate of water evaporation. Therefore, ephemeral stream channel habitat, at the locations listed below, may provide potentially suitable breeding habitat for the species in some years.

Although the species has not been documented at any of the Project locations, based on the species most recent distribution within the Tulare Basin there is a low to moderate potential for species occurrence at the following locations: Bridge #46C0058, Bridge #46C0059, Bridge #46C0106, Bridge #46C0108, Bridge #46C0269, Bridge #46C0309, Bridge #46C0318, Bridge #46C0330. There are multiple recent (2022-2023) occurrences of the species throughout the Tulare Basin within close proximity to the sites listed above (iNaturalist 2024). Although none of these sites contain vernal pool habitat the species has been documented breeding in roadside ruts and ponding areas within ephemeral stream channel habitat.

Project Impacts

If ponding water is present at the Project sites during construction, Project activities could result in temporary impacts to potentially suitable western spadefoot breeding habitat. For stream channel impacts at these locations refer to Figure 5. Temporary impacts to stream channel habitat at these locations may include de-watering or installation of a temporary water diversion, as well as in-channel access for construction equipment and personnel. Permanent impacts would be limited to installation of RSP or other minor fill. The Project is not anticipated to permanently fill portions of the channel that would eliminate potentially suitable breeding habitat for western spadefoot.

Due to the proposed Project impacts to potentially suitable aquatic habitat for western spadefoot, informal Section 7 consultation with USFWS will be required. With implementation of species-specific avoidance measures, the Project is *May Affect Not Likely to Adversely Affect* western spadefoot.

Avoidance and Minimization Efforts

With the implementation of the avoidance and minimization measures BIO-1, BIO-2, BIO-5, and species-specific measures BIO-32 through BIO-35, which include pre-construction clearance surveys, monitoring of de-watering and/or water diversion installations and weather restrictions,

direct impacts to western spadefoot are not anticipated (Appendix H. Avoidance and Minimization Measures).

Compensatory Mitigation

Given the minor scope of bridge maintenance activities, short construction duration and relatively small impact area, and with implementation of species-specific avoidance measures direct impacts to western spadefoot are not anticipated. Furthermore, the Project would not result in long-term impacts or alterations to potentially suitable western spadefoot aquatic habitat, and therefore compensatory mitigation is not proposed.

Cumulative Impacts

With implementation of species-specific avoidance and minimization measures the Project will avoid direct effects to western spadefoot. Additionally, the Project is not anticipated to result in any long-term or large-scale permanent loss of suitable breeding or upland habitat that would lead to a cumulative impact to the local population.

Chapter 5 – Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

Table 11 below lists the 29 federally listed species that were returned via database searches and the effect determinations for each species. Five federally listed species have potential to occur within the Project's BSA: CTS, FYLF, WPT, and western spadefoot. Consultation with USFWS under Section 7 of the FESA will be required. Due to the extremely low likelihood of encountering a SJKF den or SJKF individual at Bridge #46C0309, Section 7 consultation for this species is not anticipated.

Table 11. Federally Listed Species Determinations

Species Name	Federal Status	Potential	Determination
Species			
Blunt-nosed leopard lizard (*Gambelia silus*)	Endangered	Absent	No Effect
Buena Vista Lake ornate shrew (*Sorex ornatus relictus*)	Endangered	Absent	No Effect
California condor (*Gymnogyps californianus*)	Endangered	Absent	No Effect
California jewelflower (*Caulanthus californicus*)	Endangered	Absent	No Effect
California spotted owl (*Strix occidentalis occidentalis*)	Proposed Threatened	Absent	No Effect
California tiger salamander (*Ambystoma californiense*)	Threatened	Low to Moderate Potential	May affect, not likely to adversely affect
Conservancy fairy shrimp (*Branchinecta conservatio*)	Endangered	Absent	No Effect
Fisher (*Pekania pennanti*)	Endangered	Absent	No Effect
Foothill yellow-legged frog (*Rana boylii*)	Endangered	Low Potential	May affect, not likely to adversely affect
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	Endangered	Absent	No Effect
Hoover's spurge (*Chamaesyce hooveri*)	Threatened	Absent	No Effect
Keck's checker-mallow (*Sidalcea keckii*)	Endangered	Absent	No Effect
Kern mallow (*Eremalche parryi ssp. kernensis*)	Endangered	Absent	No Effect
Monarch butterfly (*Danaus plexippus*)	Candidate	Absent	No Effect
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	Threatened	Absent	No Effect
San Joaquin kit fox	Endangered	Low Potential	No Effect

Species Name	Federal Status	Potential	Determination
Species			
(*Vulpes macrotis mutica*)			
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	Threatened	Absent	No Effect
San Joaquin woollythreads (*Monolopia congdonii*)	Endangered	Absent	No Effect
Southern mountain yellow-legged frog (*Rana muscosa*)	Endangered	Absent	No Effect
Springville clarkia (*Clarkia springvillensis*)	Threatened	Absent	No Effect
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	Endangered	Absent	No Effect
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	Threatened	Absent	No Effect
Vernal pool fairy shrimp (*Branchinecta lynchi*)	Threatened	Absent	No Effect
Vernal pool tadpole shrimp (*Lepidurus packardi*)	Endangered	Absent	No Effect
Western pond turtle (*Actinemys marmorata*)	Proposed Threatened	Low to Moderate Potential	May affect, not likely to adversely affect
Western spadefoot (*Spea hammondii)*	Proposed Threatened	Low to Moderate Potential	May affect, not likely to adversely affect
Western yellow-billed cuckoo (*Coccyzus americanus*)	Threatened	Absent	No Effect
Wolverine (*Gulo gulo*)	Proposed Threatened	Absent	No Effect
Critical Habitat			
California tiger salamander (*Ambystoma californiense*)	Threatened	Present at Location #46C0058 and #46C0059	No Effect
Vernal pool fairy shrimp (*Branchinecta lynchi*)	Threatened	Present at Location #46C0058 and #46C0059	No Effect
Vernal pool tadpole shrimp (*Lepidurus packardi*)	Endangered	Present at Location #46C0058 and #46C0059	No Effect

This Project is located outside of National Oceanic and Atmospheric Administration's Fisheries jurisdiction; therefore, a NMFS species list was not queried for the Project.

Essential Fish Habitat Consultation Summary

The BSA does not fall within any Essential Fish Habitat and therefore consultation is not required.

California Endangered Species Act Consultation Summary

Table 12 below lists the 19 state listed species that were returned via database searches and the potential for occurrence for each species.

Five state listed species may have a low potential to occur within the Project's BSA: CTS, Crotch bumble bee, FYLF, SJKF, and SWHA. With the inclusion of species-specific avoidance and minimization measures, take of these species is not anticipated and consultation with CDFW under Section 2081 is not required.

Table 12. State Listed Species Determination

Species Name	State Status	Potential
Bald eagle (*Haliaeetus leucocephalus*)	Endangered	Absent
Blunt-nosed leopard lizard (*Gambelia sila*)	Endangered	Absent
California condor (*Gymnogyps californianus*)	Endangered	Absent
California jewelflower (*Caulanthus californicus*)	Endangered	Absent
California tiger salamander (*Ambystoma californiense*)	Threatened	Low to Moderate Potential
Crotch bumble bee (*Bombus crotchii*)	Candidate Endangered	Low Potential
Fisher – southern Sierra Nevada ESU (*Pekania pennanti pop. 2*)	Threatened	Absent
Foothill yellow-legged frog (*Rana boylii*)	Endangered	Low Potential
San Joaquin adobe starburst (*Pseudobahia peirsonii*)	Endangered	Absent
San Joaquin kit fox (*Vulpes macrotis mutica*)	Threatened	Low Potential
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	Endangered	Absent
Southern mountain yellow-legged frog (*Rana muscosa*)	Endangered	Absent
Springville clarkia (*Clarkia springvillensis*)	Threatened	Absent
Striped adobe-lily (*Fritillaria striata*)	Threatened	Absent
Swainson's hawk (*Buteo swainsonii*)	Threatened	Low to Moderate Potential
Tipton kangaroo rat (*Dipodomus nitratoides*)	Endangered	Absent
Tricolored blackbird	Threatened	Absent

Species Name	State Status	Potential
(*Agelaius tricolor*)		
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	Endangered	Absent
Wolverine (*Gulo gulo*)	Threatened	Absent

Wetlands and Other Waters Coordination Summary

The BSA includes ten jurisdictional waters including: Deer Creek, TID Canal/Crocker Cut, Cross Creek, Tyler Creek, Friant Kern Canal, Elk Bayou, Lewis Creek, Cottonwood Creek, Mill Creek, and the Saint Johns River. Descriptions of these stream channels are provided in Chapter 4. All of these features are considered WoS and WoU include all features with the exception of Deer Creek and Tyler Creek.

The Project will result in permanent impacts to approximately 0.76 acres of stream channel habitat and will temporarily affect an additional 1.22 acres of stream channel habitat. A detailed breakdown of both temporary and permanent impacts for each water body can be found in Table 7 and shown of Figure 5.

Prior to work within these areas, the County will obtain a CWA Section 404 Nationwide Permit 3 from USACE, Section 401 Water Quality Certification from the RWQCB for discharge into state waters, and Section 1600 Streambed Alteration Agreement from CDFW for impacts to waters and riparian habitat. Because ground disturbance associated with the Project will exceed one acre in size, the Project will be required to obtain a Section 402 Notice of Intent under the NPDES from the RWQCB.

Invasive Species

In February 1999, EO 13112 was signed, requiring Federal agencies to work on preventing and controlling the introduction and spread of invasive species. Avoidance and minimization measure BIO-2 will be incorporated into the Project to ensure that invasive species are not introduced or spread (Appendix H. Avoidance and Minimization Measures).

Other

General Wildlife

To minimize and avoid potential effects to local wildlife, avoidance and minimization measure BIO-7 has been incorporated into the Project design (Appendix H. Avoidance and Minimization Measures).

Migratory Birds

Native birds are protected by the MBTA and CFG Code Section 3513. The implementation of avoidance and minimization measure BIO-8 and BIO-9 would avoid all potential impacts to nesting migratory birds (Appendix H. Avoidance and Minimization Measures).

Chapter 6 – References

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Appendix A. USFWS Species List

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: 09/09/2024 17:48:55 UTC
Project Code: 2024-0141416
Project Name: BPMP Group 5

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, intentional or unintentional, 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.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. 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: 2024-0141416
Project Name: BPMP Group 5
Project Type: Bridge - Maintenance
Project Description: Multiple Bridge Rehabilitation
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.94999485,-119.17625165016682,14z



Counties: Tulare County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 24 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.

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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.

MAMMALS

NAME	STATUS
Buena Vista Lake Ornate Shrew *Sorex ornatus relictus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1610	Endangered
Fisher *Pekania pennanti* Population: SSN DPS There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3651	Endangered
Fresno Kangaroo Rat *Dipodomys nitratoides exilis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5150	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247	Endangered

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
California Spotted Owl *Strix occidentalis occidentalis* Population: Sierra Nevada No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7266	Proposed Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

REPTILES

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Northwestern Pond Turtle *Actinemys marmorata*	Proposed Threatened

NAME STATUS

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1111

AMPHIBIANS

NAME STATUS

California Tiger Salamander *Ambystoma californiense* — Threatened
Population: U.S.A. (Central CA DPS)
There is **final** critical habitat for this species. Your location overlaps the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2076

Foothill Yellow-legged Frog *Rana boylii* — Endangered
Population: South Sierra Distinct Population Segment (South Sierra DPS)
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/5133

Mountain Yellow-legged Frog *Rana muscosa* — Endangered
Population: Northern California DPS
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/8037

Western Spadefoot *Spea hammondii* — Proposed Threatened
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/5425

INSECTS

NAME STATUS

Monarch Butterfly *Danaus plexippus* — Candidate
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

CRUSTACEANS

NAME STATUS

Conservancy Fairy Shrimp *Branchinecta conservatio* — Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/8246

Vernal Pool Fairy Shrimp *Branchinecta lynchi* — Threatened
There is **final** critical habitat for this species. Your location overlaps the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp *Lepidurus packardi* — Endangered
There is **final** critical habitat for this species. Your location overlaps the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2246

FLOWERING PLANTS

NAME	STATUS
California Jewelflower *Caulanthus californicus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4599	Endangered
Hoover's Spurge *Chamaesyce hooveri* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3019	Threatened
Keck's Checker-mallow *Sidalcea keckii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5704	Endangered
San Joaquin Adobe Sunburst *Pseudobahia peirsonii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2931	Threatened
San Joaquin Valley Orcutt Grass *Orcuttia inaequalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5506	Threatened
Springville Clarkia *Clarkia springvillensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8309	Threatened

CRITICAL HABITATS

There are 3 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
California Tiger Salamander *Ambystoma californiense* https://ecos.fws.gov/ecp/species/2076#crithab	Final
Vernal Pool Fairy Shrimp *Branchinecta lynchi* https://ecos.fws.gov/ecp/species/498#crithab	Final
Vernal Pool Tadpole Shrimp *Lepidurus packardi* https://ecos.fws.gov/ecp/species/2246#crithab	Final

IPAC USER CONTACT INFORMATION

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Appendix B. CNDDB Species List

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Posey (3511876) OR California Hot Springs (3511886) OR Gibbon Peak (3511887) OR Fountain Springs (3511888) OR Sausalito School (3511982) OR Pixley (3511983) OR Taylor Weir (3611914) OR Success Dam (3611818) OR Lindsay (3611921) OR Springville (3611827) OR Dennison Peak (3611837) OR Kaweah (3611848) OR Exeter (3611932) OR Ivanhoe (3611942) OR Visalia (3611933) OR Monson (3611943) OR Traver (3611944))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali-sink goldfields *Lasthenia chrysantha*	PDAST5L030	None	None	G2	S2	1B.1
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
American bumble bee *Bombus pensylvanicus*	IIHYM24260	None	None	G3G4	S2	
Bakersfield legless lizard *Anniella grinnelli*	ARACC01050	None	None	G2G3	S2S3	SSC
bald eagle *Haliaeetus leucocephalus*	ABNKC10010	Delisted	Endangered	G5	S3	FP
Berry's morning-glory *Calystegia malacophylla var. berryi*	PDCON040K2	None	None	G4G5T2Q	S2	3.3
Big Tree Forest *Big Tree Forest*	CTT84250CA	None	None	G3	S3.2	
black swift *Cypseloides niger*	ABNUA01010	None	None	G4	S3	SSC
blunt-nosed leopard lizard *Gambelia sila*	ARACF07010	Endangered	Endangered	G1	S2	FP
brittlescale *Atriplex depressa*	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S2	SSC
calico monkeyflower *Diplacus pictus*	PDSCR1B240	None	None	G2	S2	1B.2
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G2	S2	1B.2
California condor *Gymnogyps californianus*	ABNKA03010	Endangered	Endangered	G1	S2	FP
California jewelflower *Caulanthus californicus*	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
California legless lizard *Anniella spp.*	ARACC01070	None	None	G3G4	S3S4	SSC
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
California satintail *Imperata brevifolia*	PMPOA3D020	None	None	G3	S3	2B.1
California tiger salamander - central California DPS *Ambystoma californiense pop. 1*	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
Central Valley Drainage Hardhead/Squawfish Stream *Central Valley Drainage Hardhead/Squawfish Stream*	CARA2443CA	None	None	GNR	SNR	
chaparral ragwort *Senecio aphanactis*	PDAST8H060	None	None	G3	S2	2B.2
Clough Cave harvestman *Calicina cloughensis*	ILARAU8090	None	None	G1	S1	
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G4	S4	SSC
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1
Crotch's bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G2	S2	
delicate bluecup *Githopsis tenella*	PDCAM07070	None	None	G2	S2	1B.3
Earlimart orache *Atriplex cordulata var. erecticaulis*	PDCHE042V0	None	None	G3T1	S1	1B.2
Fisher - southern Sierra Nevada ESU *Pekania pennanti pop. 2*	AMAJF01022	Endangered	Threatened	G5T1	S1	SSC
foothill yellow-legged frog - south Sierra DPS *Rana boylii pop. 5*	AAABH01055	Endangered	Endangered	G3T2	S2	
Great Valley Valley Oak Riparian Forest *Great Valley Valley Oak Riparian Forest*	CTT61430CA	None	None	G1	S1.1	
Greenhorn fritillary *Fritillaria brandegeei*	PMLIL0V040	None	None	G2G3	S2S3	1B.3
Greenhorn Mountains slender salamander *Batrachoseps altasierrae*	AAAAD02200	None	None	G2	S2	
grey-leaved violet *Viola pinetorum ssp. grisea*	PDVIO04431	None	None	G4G5T3	S3	1B.2
Hoover's spurge *Euphorbia hooveri*	PDEUP0D150	Threatened	None	G1	S1	1B.2
Hopping's blister beetle *Lytta hoppingi*	IICOL4C010	None	None	G1G2	S2	
Kaweah brodiaea *Brodiaea insignis*	PMLIL0C060	None	Endangered	G1	S1	1B.2
Kaweah monkeyflower *Erythranthe norrisii*	PDSCR1B2Y0	None	None	G2	S2	1B.3
Keck's checkerbloom *Sidalcea keckii*	PDMAL110D0	Endangered	None	G2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Kern mallow *Eremalche parryi ssp. kernensis*	PDMAL0C031	Endangered	None	G3G4T3	S3	1B.2
Kern shoulderband *Helminthoglypta callistoderma*	IMGASC2080	None	None	G1	S1	
lesser saltscale *Atriplex minuscula*	PDCHE042M0	None	None	G2	S2	1B.1
loggerhead shrike *Lanius ludovicianus*	ABPBR01030	None	None	G4	S4	SSC
Lost Hills crownscale *Atriplex coronata var. vallicola*	PDCHE04371	None	None	G4T3	S3	1B.2
Madera leptosiphon *Leptosiphon serrulatus*	PDPLM09130	None	None	G3	S3	1B.2
moestan blister beetle *Lytta moesta*	IICOL4C020	None	None	G2	S2	
molestan blister beetle *Lytta molesta*	IICOL4C030	None	None	G2	S2	
Moody's gnaphosid spider *Talanites moodyae*	ILARA98020	None	None	G2G3	S2S3	
Morrison's blister beetle *Lytta morrisoni*	IICOL4C040	None	None	G1G2	S2	
mountain plover *Charadrius montanus*	ABNNB03100	None	None	G3	S2	SSC
mouse buckwheat *Eriogonum nudum var. murinum*	PDPGN08495	None	None	G5T2	S2	1B.2
Munz's iris *Iris munzii*	PMIRI090M0	None	None	G2	S2	1B.3
Northern California legless lizard *Anniella pulchra*	ARACC01020	None	None	G3	S2S3	SSC
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 leopard frog *Lithobates pipiens*	AAABH01170	None	None	G5	S2	SSC
northwestern pond turtle *Actinemys marmorata*	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G4	S3	SSC
Piute Mountains navarretia *Navarretia setiloba*	PDPLM0C0S0	None	None	G2	S2	1B.1
recurved larkspur *Delphinium recurvatum*	PDRAN0B1J0	None	None	G2?	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
rose-flowered larkspur *Delphinium purpusii*	PDRAN0B1G0	None	None	G3	S3	1B.3
San Joaquin adobe sunburst *Pseudobahia peirsonii*	PDAST7P030	Threatened	Endangered	G1	S1	1B.1
San Joaquin coachwhip *Masticophis flagellum ruddocki*	ARADB21021	None	None	G5T2T3	S3	SSC
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S3	
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin tiger beetle *Cicindela tranquebarica joaquinensis*	IICOL0220E	None	None	G5T1	S1	
San Joaquin Valley giant flower-loving fly *Rhaphiomidas trochilus*	IIDIP05010	None	None	G1	S1	
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
San Joaquin woollythreads *Monolopia congdonii*	PDASTA8010	Endangered	None	G2	S2	1B.2
Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0	None	None	G3	S3	1B.2
shining navarretia *Navarretia nigelliformis ssp. radians*	PDPLM0C0J2	None	None	G4T2T3	S2S3	1B.2
spiny-sepaled button-celery *Eryngium spinosepalum*	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Springville clarkia *Clarkia springvillensis*	PDONA05120	Threatened	Endangered	G2	S2	1B.2
striped adobe-lily *Fritillaria striata*	PMLIL0V0K0	None	Threatened	G1	S1	1B.1
subtle orache *Atriplex subtilis*	PDCHE042T0	None	None	G1	S1	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S4	
Sycamore Alluvial Woodland *Sycamore Alluvial Woodland*	CTT62100CA	None	None	G1	S1.1	
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	AMAFD03152	Endangered	Endangered	G2T1T2	S2	
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G4	S2	SSC
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Tulare grasshopper mouse *Onychomys torridus tularensis*	AMAFF06021	None	None	G5T1T2	S1S2	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T3	S3	
Valley Sacaton Grassland *Valley Sacaton Grassland*	CTT42120CA	None	None	G1	S1.1	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool smallscale *Atriplex persistens*	PDCHE042P0	None	None	G2	S2	1B.2
vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered	None	G3	S3	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G4G5T4	S3S4	SSC
western spadefoot *Spea hammondii*	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Winter's sunflower *Helianthus winteri*	PDAST4N260	None	None	G2?	S2?	1B.2
wolverine *Gulo gulo*	AMAJF03010	Threatened	Threatened	G4	S1	FP

Record Count: 90

Appendix C. CNPS Species List

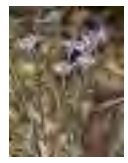
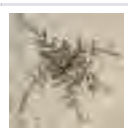
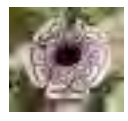
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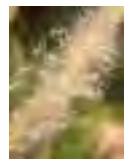
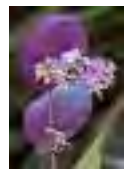
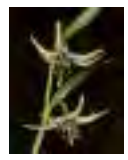
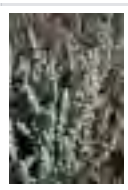
CNPS Rare Plant Inventory

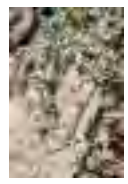
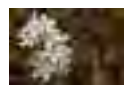
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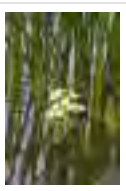
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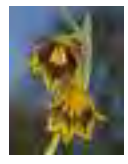
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▲ COMMON NAME	SCIENTIFIC NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Abrams' onion	*Allium abramsii*	Alliaceae	perennial bulbiferous herb	May-Jul	None	None	G3	S3	1B.2	Yes	2012-03-13	 © 2018 Steve Matson
alkali-sink goldfields	*Lasthenia chrysantha*	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	Yes	2019-09-30	 © 2009 California State University, Stanislaus
Berry's morning-glory	*Calystegia malacophylla* var. *berryi*	Convolvulaceae	perennial rhizomatous herb	Jul-Aug	None	None	G4G5T2Q	S2	3.3	Yes	1980-01-01	No Photo Available
brittlescale	*Atriplex depressa*	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	Yes	1994-01-01	 © 2009 Zoya Akulova
calico monkeyflower	*Diplacus pictus*	Phrymaceae	annual herb	Mar-May	None	None	G2	S2	1B.2	Yes	1974-01-01	 © 2020 Matt C. Berger
California alkali grass	*Puccinellia simplex*	Poaceae	annual herb	Mar-May	None	None	G2	S2	1B.2		2015-10-15	 © 2017 Chris Winchell
California jewelflower	*Caulanthus californicus*	Brassicaceae	annual herb	Feb-May	FE	CE	G1	S1	1B.1	Yes	1984-01-01	No Photo Available

California satintail	*Imperata brevifolia*	Poaceae	perennial rhizomatous herb	Sep-May	None	None	G3	S3	2B.1		2006-12-26	 © 2020 Matt C. Berger
Call's angelica	*Angelica callii*	Apiaceae	perennial herb	Jun-Jul	None	None	G3	S3	4.3	Yes	1974-01-01	No Photo Available
chaparral ragwort	*Senecio aphanactis*	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	2B.2		1994-01-01	No Photo Available
Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	Asteraceae	annual herb	Feb-Jun	None	None	G4T2	S2	1B.1		1994-01-01	 © 2013 Keir Morse
delicate bluecup	*Githopsis tenella*	Campanulaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.3	Yes	2001-01-01	No Photo Available
Earlimart orache	*Atriplex cordulata* var. *erecticaulis*	Chenopodiaceae	annual herb	Aug-Sep(Nov)	None	None	G3T1	S1	1B.2	Yes	2001-01-01	 © 2009 Robert E. Preston, Ph.D.
Ewan's larkspur	*Delphinium hansenii* ssp. *ewanianum*	Ranunculaceae	perennial herb	Mar-May	None	None	G4T3	S3	4.2	Yes	1994-01-01	No Photo Available
Farnsworth's jewelflower	*Streptanthus farnsworthianus*	Brassicaceae	annual herb	May-Jun	None	None	G4	S4	4.3	Yes	1974-01-01	 © 2010 Aaron Schusteff
Greenhorn fritillary	*Fritillaria brandegeei*	Liliaceae	perennial bulbiferous herb	Apr-Jun	None	None	G2G3	S2S3	1B.3	Yes	1974-01-01	 © 2017 Aaron Schusteff
grey-leaved violet	*Viola pinetorum* ssp. *grisea*	Violaceae	perennial herb	Apr-Jul	None	None	G4G5T3	S3	1B.2	Yes	1994-01-01	No Photo Available
heartscale	*Atriplex cordulata* var. *cordulata*	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	Yes	1988-01-01	 © 1994 Robert E. Preston, Ph.D.

Hoover's spurge	*Euphorbia hooveri*	Euphorbiaceae	annual herb	(May-Jun)Jul-Sep(Oct)	FT	None	G1	S1	1B.2	Yes	1974-01-01	 © 2020 Neal Kramer
Kaweah brodiaea	*Brodiaea insignis*	Themidaceae	perennial bulbiferous herb	Apr-Jun	None	CE	G1	S1	1B.2	Yes	1974-01-01	 © 2007 Robert E. Preston, Ph.D.
Kaweah monkeyflower	*Erythranthe norrisii*	Phrymaceae	annual herb	Mar-May	None	None	G2	S2	1B.3	Yes	1984-01-01	No Photo Available
Keck's checkerbloom	*Sidalcea keckii*	Malvaceae	annual herb	Apr-May(Jun)	FE	None	G2	S2	1B.1	Yes	1974-01-01	No Photo Available
Kern ceanothus	*Ceanothus pinetorum*	Rhamnaceae	perennial evergreen shrub	May-Jul	None	None	G3	S3	4.3	Yes	1974-01-01	 ©2017 Aaron Schusteff
Kern mallow	*Eremalche parryi* ssp. *kernensis*	Malvaceae	annual herb	Jan(Feb)Mar-May	FE	None	G3G4T3	S3	1B.2	Yes	1974-01-01	No Photo Available
lesser saltscale	*Atriplex minuscula*	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	Yes	1994-01-01	 © 2000 Robert E. Preston, Ph.D.
little mousetail	*Myosurus minimus* ssp. *apus*	Ranunculaceae	annual herb	Mar-Jun	None	None	G5T2Q	S2	3.1		1980-01-01	No Photo Available
Lost Hills crownscale	*Atriplex coronata* var. *vallicola*	Chenopodiaceae	annual herb	Apr-Sep	None	None	G4T3	S3	1B.2	Yes	1974-01-01	No Photo Available
Madera leptosiphon	*Leptosiphon serrulatus*	Polemoniaceae	annual herb	Apr-May	None	None	G3	S3	1B.2	Yes	1980-01-01	 © 2008 Chris Winchell
Mexican mosquito fern	*Azolla microphylla*	Azollaceae	annual/perennial herb	Aug	None	None	G5	S4	4.2		1994-01-01	No Photo Available
mouse buckwheat	*Eriogonum nudum* var. *murinum*	Polygonaceae	perennial herb	Jun-Nov	None	None	G5T2	S2	1B.2	Yes	1974-01-01	No Photo Available

Munz's iris	*Iris munzii*	Iridaceae	perennial rhizomatous herb	Mar-Apr(May)	None	None	G2	S2	1B.3	Yes	1974-01-01	 © 2009 Irene Lindsey
Piute Mountains navarretia	*Navarretia setiloba*	Polemoniaceae	annual herb	Apr-Jul	None	None	G2	S2	1B.1	Yes	1974-01-01	No Photo Available
recurved larkspur	*Delphinium recurvatum*	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2	1B.2	Yes	1988-01-01	No Photo Available
rose-flowered larkspur	*Delphinium purpusii*	Ranunculaceae	perennial herb	(Mar)Apr-May	None	None	G3	S3	1B.3	Yes	1980-01-01	No Photo Available
San Joaquin adobe sunburst	*Pseudobahia peirsonii*	Asteraceae	annual herb	Feb-Apr	FT	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
San Joaquin bluecurls	*Trichostema ovatum*	Lamiaceae	annual herb	(Apr-Jun)Jul-Oct	None	None	G3	S3	4.2	Yes	1974-01-01	No Photo Available
San Joaquin Valley Orcutt grass	*Orcuttia inaequalis*	Poaceae	annual herb	Apr-Sep	FT	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
San Joaquin woollythreads	*Monolopia congdonii*	Asteraceae	annual herb	Feb-May	FE	None	G2	S2	1B.2	Yes	1988-01-01	No Photo Available
Sanford's arrowhead	*Sagittaria sanfordii*	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	Yes	1984-01-01	 ©2013 Debra L. Cook
shining navarretia	*Navarretia nigelliformis* ssp. *radians*	Polemoniaceae	annual herb	(Mar)Apr-Jul	None	None	G4T2T3	S2S3	1B.2	Yes	1994-01-01	No Photo Available
short-bracted bird's-beak	*Cordylanthus rigidus* ssp. *brevibracteatus*	Orobanchaceae	annual herb (hemiparasitic)	Jul-Aug(Sep-Oct)	None	None	G5T3	S3	4.3	Yes	2001-01-01	No Photo Available
Sierra Nevada monkeyflower	*Erythranthe sierrae*	Phrymaceae	annual herb	Mar-Jul	None	None	G2	S2	4.2	Yes	2013-10-02	 © 2014 Neal Kramer
slender clarkia	*Clarkia exilis*	Onagraceae	annual herb	Apr-May	None	None	G3	S3	4.3	Yes	1974-01-01	No Photo Available
small-flowered morning-glory	*Convolvulus simulans*	Convolvulaceae	annual herb	Mar-Jul	None	None	G4	S4	4.2		1994-01-01	No Photo Available

spiny-sepaled button-celery	*Eryngium spinosepalum*	Apiaceae	annual/perennial herb	Apr-Jun	None	None	G2	S2	1B.2	Yes	1980-01-01	No Photo Available
Springville clarkia	*Clarkia springvillensis*	Onagraceae	annual herb	(Mar)Apr-Jul	FT	CE	G2	S2	1B.2	Yes	1980-01-01	No Photo Available
stinkbells	*Fritillaria agrestis*	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3	S3	4.2	Yes	1980-01-01	 © 2016 Aaron Schusteff
striped adobe-lily	*Fritillaria striata*	Liliaceae	perennial bulbiferous herb	Feb-Apr	None	CT	G1	S1	1B.1	Yes	1974-01-01	 © 2013 Aaron Schusteff
subtle orache	*Atriplex subtilis*	Chenopodiaceae	annual herb	(Apr)Jun-Sep(Oct)	None	None	G1	S1	1B.2	Yes	1994-01-01	 © 2000 Robert E. Preston, Ph.D.
vernal barley	*Hordeum intercedens*	Poaceae	annual herb	Mar-Jun	None	None	G3G4	S3S4	3.2		1994-01-01	No Photo Available
vernal pool smallscale	*Atriplex persistens*	Chenopodiaceae	annual herb	Jun-Oct	None	None	G2	S2	1B.2	Yes	2001-01-01	No Photo Available
Watson's amaranth	*Amaranthus watsonii*	Amaranthaceae	annual herb	Apr-Sep	None	None	G5?	S3	4.3		2001-01-01	 © 2003 Debra Valov
Winter's sunflower	*Helianthus winteri*	Asteraceae	perennial shrub	Jan-Dec	None	None	G2?	S2?	1B.2	Yes	2014-10-15	 © 2014 Chris Winchell

Showing 1 to 53 of 53 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 9 September 2024].

Appendix D. NRCS Soil Report



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
130	Nord fine sandy loam, 0 to 2 percent slopes	0.7	100.0%
Totals for Area of Interest		**0.7**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
109	Crosscreek-Kai association, 0 to 2 percent slopes	0.8	100.0%
Totals for Area of Interest		**0.8**	**100.0%**



Map Scale: 1:445 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 20 40 80 120

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
109	Crosscreek-Kai association, 0 to 2 percent slopes	0.4	100.0%
Totals for Area of Interest		**0.4**	**100.0%**



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
115	Cibo-Rock outcrop complex, 15 to 50 percent slopes	0.1	24.8%
151	Riverwash	0.4	75.2%
Totals for Area of Interest		**0.5**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
134	Riverwash	0.6	97.9%
138	Tujunga loamy sand, 0 to 2 percent slopes	0.0	2.1%
Totals for Area of Interest		**0.6**	**100.0%**

Soil Map—Tulare County, Western Part, California



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
108	Colpien loam, 0 to 2 percent slopes	0.0	5.7%
130	Nord fine sandy loam, 0 to 2 percent slopes	0.1	13.1%
134	Riverwash	0.5	81.1%
Totals for Area of Interest		**0.7**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
130	Nord fine sandy loam, 0 to 2 percent slopes	0.1	18.6%
134	Riverwash	0.5	81.4%
Totals for Area of Interest		**0.7**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
175	Xerofluvents, flooded	0.4	100.0%
Totals for Area of Interest		**0.4**	**100.0%**



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
108	Blasingame-Rock outcrop complex, 9 to 50 percent slopes	0.5	100.0%
Totals for Area of Interest		**0.5**	**100.0%**

Soil Map—Tulare County, California, Central Part



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Auberry-Rock outcrop complex, 9 to 50 percent slopes	0.1	19.4%
108	Blasingame-Rock outcrop complex, 9 to 50 percent slopes	0.4	80.6%
Totals for Area of Interest		**0.5**	**100.0%**

Soil Map—Tulare County, California, Central Part



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
101	Auberry sandy loam, 9 to 15 percent slopes	0.7	100.0%
Totals for Area of Interest		**0.7**	**100.0%**



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
147	Porterville clay, 0 to 2 percent slopes	0.2	58.9%
W	Water	0.2	41.1%
Totals for Area of Interest		**0.4**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Biggriz-Biggriz, saline-Sodic, complex, 0 to 2 percent slopes	0.4	100.0%
Totals for Area of Interest		**0.4**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
146	Pits	0.2	100.0%
Totals for Area of Interest		**0.2**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
101	Akers-Akers, saline-Sodic, complex, 0 to 2 percent slopes	0.1	31.0%
134	Riverwash	0.2	69.0%
Totals for Area of Interest		**0.4**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
176	Yettem sandy loam, 0 to 2 percent slopes	0.4	100.0%
Totals for Area of Interest		**0.4**	**100.0%**



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

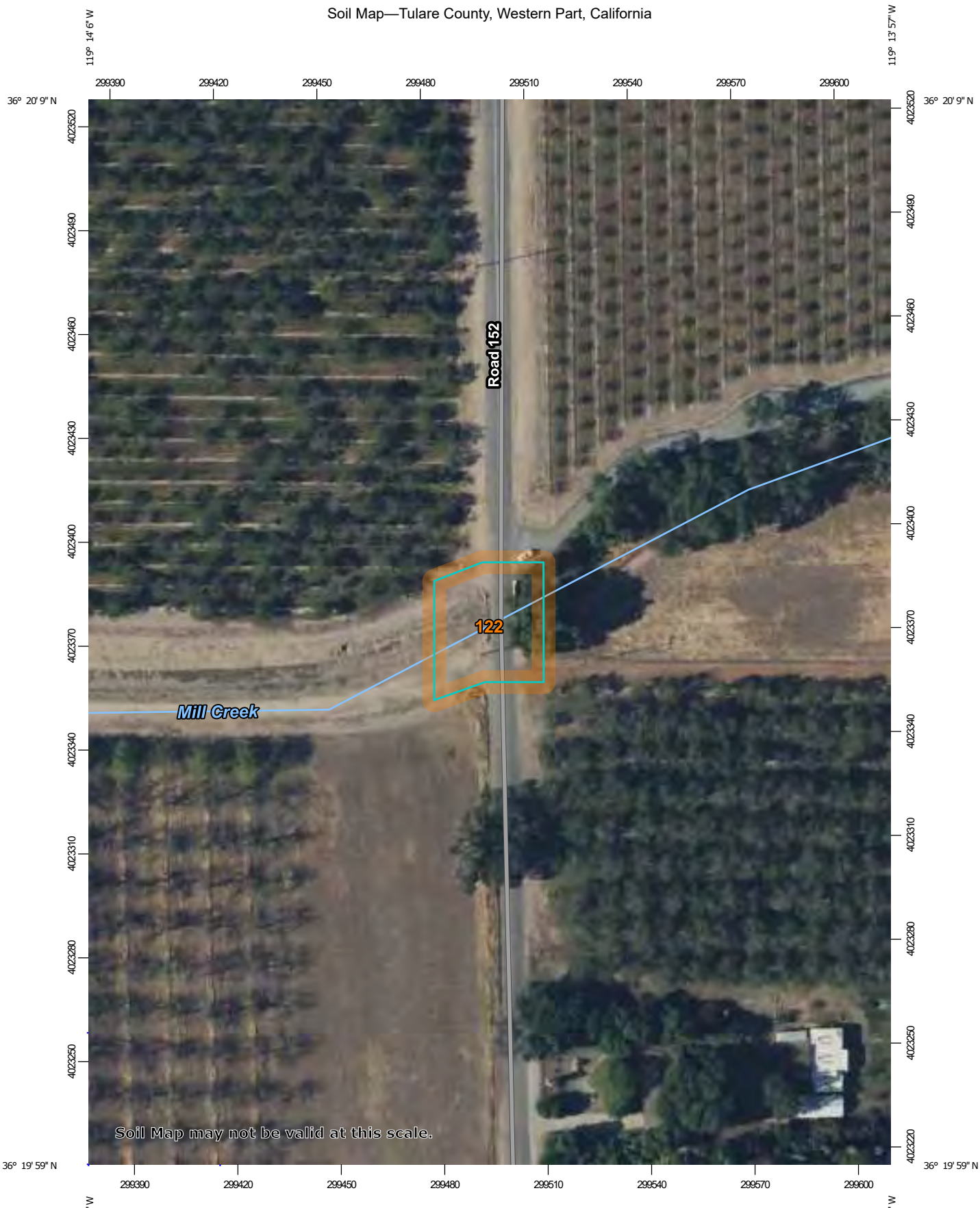
Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
130	Nord fine sandy loam, 0 to 2 percent slopes	0.5	100.0%
Totals for Area of Interest		**0.5**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
122	Grangeville sandy loam, drained, 0 to 2 percent slopes	0.3	100.0%
Totals for Area of Interest		**0.3**	**100.0%**

Soil Map—Tulare County, California, Central Part



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
175	Xerofluvents, flooded	0.3	100.0%
Totals for Area of Interest		**0.3**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
122	Grangeville sandy loam, drained, 0 to 2 percent slopes	0.8	32.7%
134	Riverwash	1.6	67.3%
Totals for Area of Interest		**2.4**	**100.0%**

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Tulare County, Western Part, California
Survey Area Data: Version 17, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 16, 2022—May 30, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Appendix E. Special Status Species Potential Table

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Amphibian Species						
California tiger salamander – central California DPS	*Ambystoma californiense pop. 1*	Fed: State: CDFW:	T T WL	Inhabits annual grasslands, oak savanna, mixed woodland edges, and lower elevation coniferous forest. Requires underground refuges, especially ground squirrel burrows, vernal pools, or other seasonal water sources for breeding. Breeding occurs December through February in fish-free ephemeral ponds.	HP	**Low to Moderate Potential:** Potentially suitable upland habitat occurs at #46C0058 and #46C0059. Furthermore, there is a historic (1999) CNDDB occurrence within Cross Creek, approximately 3.3 miles southwest of the bridge locations. Additionally, potentially suitable breeding habitat is located within 1-mile of the Project sites. Therefore, CTS has a low to moderate potential to occur in potentially suitable upland habitat at sites #46C0058 and #46C0059. No suitable habitat is present at any other Project location.
Foothill yellow-legged frog – south Sierra DPS	*Rana boylii pop. 5*	Fed: State: CDFW:	E E --	Inhabits shallow streams and riffles with rocky substrate and open, sunny banks in a variety of habitats including chaparral and woodland forests. Tadpoles require water for at least three or four months to complete development. Breeds March to May, with eggs laid in clusters on the downstream side of rocks in shallow, slow-moving water, attached to rocks, pebbles, and vegetation. Occurs from elevations near sea level to 6,700 feet.	HP	**Low Potential:** Potentially suitable FYLF aquatic and upland habitat occurs at locations #46C0204 and #46C0205. According to historic CNDDB occurrences, the species is presumed extirpated from these areas (Jennings 1996); however, there are recent iNaturalist occurrences near Johnsondale approximately 11 miles northeast of #46C0204 and #46C0205. However, Johnsondale is about 2,000 feet higher in elevation than the Project locations and is not hydrologically connected to aquatic resources at the Project sites. Given the presence of potentially suitable habitat, FYLF has a low potential to occur at sites #46C0204 and #46C0205. No suitable habitat is present at any other Project location.
Southern mountain yellow-legged frog	*Rana muscosa*	Fed: State: CDFW:	E E WL	This species is endemic to the southern Sierra Nevada and Transverse Ranges where it is restricted to mid- to high-elevation	A	**Presumed Absent:** Locations #46C0204 and #46C0205 are on the edge of the species known range near

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				(above 6,000 feet) aquatic habitat with most extant populations occurring on national park and national forest lands. Members of this species live in high mountain lakes, ponds, tarns, and streams. Alpine lakes used by mountain yellow-legged frogs usually have open shorelines with grassy or muddy margins and a depth greater than 2.5 meters. Adults are typically found sitting on rocks along the shoreline, usually where there is little or no vegetation. Larvae are often distributed in the warm water shallow areas along the shoreline during the daytime. Breeding habitat consists of ponds, lakes and streams that do not dry out in summer, are deep enough to prevent freezing to the bottom in winter, and do not contain fish.		California Hot Springs. However, the aquatic habitat at these locations is not within the species preferred range of at or above 6,00 feet in elevation. Additionally, there are no known recent occurrences within Tyler Creek or Deer Creek (the aquatic features present within the Project area). Therefore, the species is presumed absent.
Northern leopard frog	*Lithobates pipiens*	Fed: State: CDFW:	-- -- SSC	The species inhabits grassland, wet meadows, potholes, forests, woodland, brushlands, springs, canals, bogs, marshes, and reservoirs. Generally prefers permanent water with abundant vegetation. The species is well adapted to cold conditions. Can stray far from water in summer, into habitats with sufficient vegetative cover for concealment, such as hay fields and grassy woodlands. Hibernates in winter under large, deep bodies of water that do not freeze, under rocks or logs. Breeding activities occur from March to July, after the snow melt.	A	**Presumed Absent:** The native range of this species does not extend within Tulare County. CNDDB observations of this species are historic (1961) and were translocations outside of the species' native range. As such, the species is presumed absent from the Project.
Western spadefoot	*Spea hammondii*	Fed: State: CDFW:	PT -- SSC	Inhabits open areas with sandy or gravelly soils within mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Burrows underground from most of the year and is active above ground during rainfall. Requires vernal, shallow, temporary pools formed by heavy winter rains for reproduction. These pools must be free of bullfrogs, fish, and crayfish. Breeds from late winter to March.	HP	**Low to Moderate Potential:** Although isolated pockets of ponding water were not observed during biological surveys efforts, western spadefoot breeding habitat may change on a yearly basis depending on rainfall, changes in channel morphology, and rate of water evaporation. Therefore, ephemeral stream channel habitat, at the locations listed below, may provide potentially suitable breeding habitat for the species in some years.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						Potentially suitable aquatic habitat occurs at Bridge #46C0058, Bridge #46C0059, Bridge #46C0269, Bridge #46C0309, Bridge #46C0318, Bridge #46C0330, Bridge #46C0106, Bridge #46C0108. There are multiple recent (2022-2023) occurrences of the species throughout the Tulare Basin within close proximity to the sites listed above (iNaturalist 2024). The species was thought to breed exclusively within vernal pool/seasonal pool habitat; however, the species has been documented breeding in ephemeral stream channel systems and may utilized ponding water in drying creek systems. Given the recent nearby occurrences and potentially suitable aquatic and upland habitat the species has a high potential to occur at the sites listed above. No suitable habitat is present at any other Project location.
Reptile Species						
Bakersfield legless lizard	*Anniella grinnelli*	Fed: State: CDFW:	-- -- SSC	Inhabits moist, loose soils with plant cover. Moisture is essential. Associated with sparsely vegetated beach dunes, pine-oak woodlands, desert scrubs, sandy washes or stream habitats. Can be found hidden beneath natural and artificial surfaces. May occur in suburban gardens in Southern California.	HP	**Low to Moderate Potential:** There is a recent (2019) CNDDB observation of this species within the Deer Creek channel west of State Route 99. Due to the pattern of occurrence of this species, potentially suitable habitat occurs at #46C0318, #46C0106, #46C0108, and #46C0087. No suitable habitat is present at any other Project location.
Blunt-nosed leopard lizard	*Gambelia sila*	Fed: State: CDFW:	E E FP	The species inhabits sparsely vegetated alkali and desert scrub habitats in areas of low topographic relief, including alkali flats, arroyos, canyons, and washes with dense vegetation in the San Joaquin Valley and foothills. Uses mammal burrows, shrubs, and structures (fence posts) for shelter. Large	A	**Presumed Absent:** The Project locations do not encompass suitable alkali or desert scrub habitat that would support this species. The species is presumed absent due to a lack of locally suitable habitat features.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				shrubs with dense canopy cover are used for thermoregulation. The species prefers flat areas where these features are dispersed sparsely throughout. The number of available burrows determines the size of the local population. The species breeds and lays eggs from May through August (100-2,400 feet).		
Coast horned lizard	*Phrynosoma blainvillii*	Fed: State: CDFW:	-- -- SSC	Inhabits valley-foothill hardwood, conifer forest, and riparian habitats, as well as pine-cypress, juniper woodland, and annual grasslands with sandy areas, washes or flood plains. Frequently found near ant hills. Egg laying occurs from May to June, and some females may lay two clutches per year (sea level-8,000 feet).	HP	**Low to Moderate Potential:** Locations #46C0058, #46C0059, #46C0087, #46C0202, #46C0269, and #46C0309 encompass open, vegetated habitat that may be suitable for this species. The species may have a low to moderate potential to occur due to the presence of locally suitable habitat features. The species is presumed absent from the other Project locations due to the lack of suitable habitat features.
Northern California legless lizard	*Anniella pulchra*	Fed: State: CDFW:	-- -- SSC	Occurs in moist, warm, loose soil with plant cover. Moisture is essential. Requires moisture to aid in shedding skin. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine and mock heather often indicate suitable habitat. Often can be found under surface objects such as rocks, boards, driftwood, and logs. Sometimes is found in suburban gardens in Southern California. Occurs from the southern edge of the San Joaquin River in northern Contra Costa County south to the Ventura County. Probably breeds from early spring to July, and bears live young.	HP	**Low to Moderate Potential:** Locations #46C0058, #46C0059, #46C0087, #46C0202, #46C0269, and #46C0309 encompass open, vegetated habitat that may be suitable for this species. The species may have a low to moderate potential to occur due to the presence of locally suitable habitat features. The species is presumed absent from the other Project locations due to the lack of suitable habitat features.
San Joaquin coachwhip	*Masticophis flagellum ruddocki*	Fed: State: CDFW:	-- -- SSC	This subspecies is endemic to California and primarily occurs across the Central Valley where it may be found in portions of the San Joaquin Valley, as well. It is highly tolerant of	HP	**Low Potential:** Locations #46C0058 and #46C0059 encompass open, dry grassland habitat and occur within the anticipated range of this

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				heat. Found in open, dry regions with no trees or thick vegetation. Mating occurs in May. The species primarily feeds on rodents and eggs as well as other reptiles, such as lizards.		species. Due to the presence of potentially suitable habitat features, the species has a low potential to occur at these locations. No suitable habitat is present at any other Project location.
Western pond turtle	*Actinemys marmorata*	Fed: State: CDFW:	PT -- SSC	A fully aquatic turtle of ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with aquatic vegetation. Suitable habitat includes woodland, forests, and grasslands. Requires logs, rocks, cattail mats, and exposed banks for basking. Suitable upland habitat (sandy banks or grassy open field) is required for reproduction, which begins in April and ends with egg laying as late as August (sea level to 4,700 feet).	HP	**Low Potential:** Locations #46C0087, #46C0204, and #46C0205 encompass suitable stream channel habitat with suitable basking and breeding habitat. In addition, there are recent (2022 and 2023) research-grade iNaturalist observations of this species within the vicinity of locations #46C0204 and #46C0205 (iNaturalist 2024). Within Tulare County recent WPT occurrences are concentrated in the foothills and higher elevations. Due to the presence of locally suitable habitat features as well as the recent local occurrences, the species is presumed to have a low potential to occur at these bridge maintenance locations. The species is presumed absent from the remaining Project locations due to the absence of permanent or semi-permanent aquatic habitat that is necessary to support this species.
Bird Species						
Bald eagle	*Haliaeetus leucocephalus*	Fed: State: CDFW:	D E FP	Species occurs near ocean shores, lakes, rivers, rangelands, and coastal wetlands for nesting and wintering; nesting occurs within one mile of a water source with abundant fish near mountain forests and woodlands. The species nests in large, old growth, or dominant live trees with open branches. Prefers ponderosa pines and often chooses the largest tree in a stand. Usually will not nest near evident human disturbance. Prefers lower elevations and not found in the	HP	**Presumed Absent:** The Project locations occur over stream channels throughout the Central Valley and adjacent foothills; however, these locations do not fall adjacent to a large suitable water source that the species would use to forage. Furthermore, the Project locations lack large, old-growth trees that could support a nest of this species. The species is presumed absent from the Project locations due to a lack of locally suitable habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				high Sierra Nevada. The breeding season is from February through July.		
Black swift	*Cypseloides niger*	Fed: State: CDFW:	-- -- SSC	The species returns to California in May where they breed locally in the Sierra Nevada and Cascade Range, the San Gabriel, San Bernardino, and San Jacinto Mountains, and in coastal bluffs and mountains from San Mateo County to San Luis Obispo County from June through August. Nests in small colonies within moist crevices or caves on sea cliffs over the surf, or within cliffs of deep canyons behind or immediately adjacent to waterfalls. The species is very specific with requisite nesting conditions. Nests are constructed of mud mixed with moss, ferns, seaweed, and other plant materials, kept moist by mist from the surf or waterfalls. The species forages over many habitats and may undergo long distance foraging flights. Avoids arid regions. Breeds early June to late August.	A	**Presumed Absent:** The Project locations lack suitable nesting conditions for the species. Due to a lack of suitable nesting habitat and recent occurrences of the species, the species is presumed absent from the Project locations.
Burrowing owl	*Athene cunicularia*	Fed: State: CDFW:	-- -- SSC	The species inhabits arid, open areas with sparse vegetation cover such as deserts, abandoned agricultural areas, grasslands, and disturbed open habitats. Can be associated with open shrub stages of pinyon-juniper and ponderosa pine habitats. Nests in old small mammal burrows but may dig own burrow in soft soil. Nests are lined with excrement, pellets, debris, grass, and feathers. The species may use pipes, culverts, and nest boxes, and even buildings where burrows are scarce. Breeding occurs March through August (below 5,300 feet).	HP	**Low to Moderate Potential:** There is a recent (2017) CNDDB occurrence of this species located within 1 mile of Bridge #46C0058 and Bridge #46C0059. These locations are surrounded by disturbed open grassland and agricultural habitat communities. Therefore, there is a low to moderate potential of the species occurring within these Project locations. No suitable habitat is present at any other Project location.
California condor	*Gymnogyps californianus*	Fed: State: CDFW:	E E FP	The species inhabits semi-arid, rugged mountain ranges up to 6,000 feet. Nesting sites occur in caves, crevices, behind rock slabs, and on large cliff ledges. Nests are not constructed; eggs are laid on dirt floors, often surrounded by dense brush. Foraging sites occur in open grassland and oak savanna foothill habitat, sometimes far from nesting	A	**Presumed Absent:** The Project locations lack suitable nesting habitat for the species. Some of the locations contain oak woodland habitat that is suitable for foraging. However, there is only one historic (1976) occurrence of the species on CNDDB along the North Fork of the Tule River, and all eBird sightings are scattered in

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				sites. Large trees and snags are required for roosting. The species is reproductive after the age of 6 years. Only one egg is laid per nesting attempt, and nesting does not occur in consecutive years. Young depend on the parents for up to 12 months.		the foothills outside of a 10-mile radius of the Project locations. Due to a lack of recent occurrences and suitable nesting habitat the species is presumed absent from the Project locations.
California spotted owl	*Strix occidentalis occidentalis*	Fed: State: CDFW:	PT -- --	Inhabits dense, old-growth, multilayered mixed conifer, redwood, and Douglas-fir forest habitats. In Northern California, the species prefers narrow, steep sided canyons with north facing slopes. In Southern California, the species is found in oak and oak-conifer habitats. The species requires 100-600 acres of mature forest habitat. The species prefers to nest in tree or snag cavities or the tops of large broken trees in proximity to water. They are also known to re-use nests from year to year. Breeds from March to June (0-7,600 feet).	A	**Presumed Absent:** There are CNDDB observations of this species within 3 miles of locations #46C0204 and #46C0205. However, these Project locations are situated within valleys and lack suitable old-growth coniferous forest habitat that this species nests in. Furthermore, the Project locations are not situated along steep-sided canyons. The species is presumed absent from the Project locations due to a lack of locally suitable nesting habitat.
Loggerhead shrike	*Lanius ludovicianus*	Fed: State: CDFW:	-- -- SSC	The species is associated with open canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Inhabits open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Rarely found in urbanized areas but will inhabit open cropland. Nests are built on stable branches in densely foliaged shrubs or trees. Breeds from March through May.	HP	**Low to Moderate Potential:** All the Project locations encompass suitable habitat communities for the species excluding Bridge #46C0226, which lacks vegetative cover. There are also multiple recent eBird sightings within a mile of each location. There is one historic CNDDB occurrence of the species 3.5 miles northeast of Project locations #46C0058 and #46C0059. Due to the presence of locally suitable habitat, this species has a low to moderate potential to occur at any Project location.
Mountain plover	*Charadrius montanus*	Fed: State: CDFW:	-- -- SSC	California winter resident from September to March. Found on short grassland and plowed fields on the Central Valley from Sutter and Yuba counties southward. Does not nest in California.	A	**Presumed Absent:** The Project locations lack suitable grasslands and plowed fields. In addition, this bird does not nest in California. There is one historic (1987) occurrence of the species 3 miles southwest of Project location #46C0269, and there are no recent sightings of the species within a 10-mile radius of the Project locations on eBird. The species is

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						presumed absent due to a lack of locally suitable habitat.
Swainson's hawk	*Buteo swainsoni*	Fed: State: CDFW:	-- T --	Inhabits grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, alfalfa or grain fields that support a stable rodent prey base. Breeds March to late August.	HP	**Low to Moderate Potential:** There are numerous recent CNDDB occurrences of this species located throughout the San Joaquin Valley in the vicinity of the Project locations. Swainson's hawk potential of occurrence was determined based on presence of potentially suitable nesting habitat within, adjacent or nearby the bridge maintenance locations. Swainson's hawk has a low to moderate potential to occur at the following Project locations due to the presence of locally suitable habitat features: Bridge #46C0036, Bridge #46C0108, Bridge #46C0309, Bridge #46C0318, Bridge #46C0403, Bridge #46C0408, Bridge #46C0087, Bridge #46C0106, Bridge #46C0269, Bridge #46C0420. Additionally, Swainson's hawk was observed at the following locations during biological surveys, including Bridge #46C0058 Bridge #46C0059. The species was observed landing in a large eucalyptus stand, approximately 500 feet southeast from these locations. The eucalyptus stand is in between the north-bound and south-bound lanes on Highway 99. Swainson's hawk is presumed absent from the other Project locations given the lack of vegetation and/or elevation of the remaining Project sites.
Tricolored blackbird	*Agelaius tricolor*	Fed: State: CDFW:	-- T SSC	Inhabits freshwater marsh, swamp and wetland communities, but may utilize agricultural or upland habitats that can support large colonies, often in the Central Valley area. Requires dense nesting habitat that is protected from predators, is within 3-5 miles from a suitable foraging area containing insect prey and is within 0.3 miles	A	**Presumed Absent:** The Project locations lack suitable dense nesting habitat that could support a colony of this species. Due to the lack of necessary habitat features, this species is presumed absent from the Project locations.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				of open water. Suitable foraging includes wetland, pastureland, rangeland, at dairy farms, and some irrigated croplands (silage, alfalfa, etc.). Nests in dense cattails, tules, willow, blackberry, wild rose, or tall herbs. Nests mid-March to early August, but may extend until October or November in the Sacramento Valley region.		
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Fed: State: CDFW:	T E --	Species inhabits riparian forests, along broad, lower flood bottoms of larger river systems. Nests in large blocks of riparian jungles often mixed with cottonwoods. Nesting appears to be preferred in riparian forest habitats with a dense understory; requires water near nesting site. Breeds June to August.	A	**Presumed Absent:** The Project locations lack riparian forests along broad, lower flood bottoms of larger river systems. There is only one historic (1919) CNDDB occurrence 3.5 miles west of Bridge #46C0408. There are no sightings of the species on eBird within a 10-mile radius of any Project location. Due to a lack of suitable habitat features and recent occurrences, the species is presumed absent from the Project locations.
Invertebrate Species						
Conservancy fairy shrimp	*Branchinecta conservatio*	Fed: State: CDFW:	E -- --	Inhabits relatively large and turbid clay bottomed playa vernal pools. Species requires pools to continuously hold water for a minimum of 19 days and must remain inundated into the summer months. Occupied playa pools typically vary from 1 to 88 acres in size, but species may utilize smaller, less turbid pools. Juveniles are most abundant where there are deep (0.5 to 1+ m), well-shaded pools with plenty of overhead cover.	A	**Presumed Absent:** Vernal pool habitat does not occur at any of the Project locations. The species is presumed absent from the Project.
Crotch bumble bee	*Bombus crotchii*	Fed: State: CDFW:	-- CE --	This species is known to occur in central California, Nevada south to Baja California and into Mexico. Inhabits coastal areas, deserts and the Central Valley. The species nests underground in grassland, shrubland and chaparral habitats. The species has a short tongue and primarily feeds on the following plants: *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia* and *Salvia*.	HP	**Low to Moderate Potential:** The following locations contain potentially suitable habitat for Crotch bumble bee: Bridge #46C0309, Bridge #46C0087, Bridge #46C0204, Bridge #46C0205, Bridge #46C0202, including open, dry grassland habitat near open, undeveloped areas that contain a diversity of flowering plant species. Additionally, there are recent (2022 and 2024) iNaturalist occurrences of the species within the Sierra Nevada foothills in the

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						vicinity of the above references bridge locations. Due to the presence of potentially suitable habitat features, the species has a low to moderate potential to occur at these locations. No suitable habitat is present at any other Project location.
Monarch – California overwintering population	*Danaus plexippus pop. 1*	Fed: State: CDFW:	C -- --	Migratory species that roosts along the coast from northern Mendocino to Baja California in the winter months. Utilizes wind protected tree groves in proximity to nectar and water sources. Host plants include milkweed species such as *Asclepias syriaca*, *A. incarnara*, and *A. speciosa*. Suitable habitat includes fields, meadows, weedy areas, marshes, and roadsides. Mass adult migrations occur from August to October.	A	**Presumed Absent:** The Project location does not occur along the California coastline and lacks suitable overwintering habitat. In addition, there are no recent or historic CNDDB occurrences of this species within 10 miles of any Project location. Due to the pattern of occurrence of this species as well as the lack of locally suitable habitat, the species is presumed absent from the Project.
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Fed: State: CDFW:	T -- --	Species requires red or blue elderberry *(Sambucus sp*.) as host plants. Typically occurs in moist valley oak woodlands associated with riparian corridors in the lower Sacramento River and upper San Joaquin River drainages. Adults are active, feeding, and breeding from March until June. Species can be encountered from sea level up to 3,000 feet in elevation. Habitat loss and fragmentation as well as conversion of riparian habitats are the most common threats the species currently face.	A	**Presumed Absent:** The Project locations occur outside of the known range of this species. Furthermore, the biological surveys conducted in April 2022 did not identify any elderberry shrubs at any of the locations, which are required to host this species. Due to the pattern of occurrence of this species as well as the lack of locally suitable habitat, the species is presumed absent from the Project.
Vernal pool fairy shrimp	*Branchinecta lynchi*	Fed: State: CDFW:	T -- --	In California, species inhabits portions of Tehama county, south through the Central Valley, and scattered locations in Riverside County and the Coast Ranges. Species is associated with smaller and shallower cool-water vernal pools approximately 6 inches deep and short periods of inundation. In the southernmost extremes of the range, the species occurs in large, deep cool-water pools. Inhabited pools have low to moderate levels of alkalinity and total dissolved solids. The shrimp are temperature sensitive,	CH	**Presumed Absent:** Critical habitat for vernal pool fairy shrimp is present at Bridge #46C0058 and Bridge #46C0059. However, no vernal pools are present or adjacent to Project activities. Additionally, vernal pool habitat does not occur at any of the Project locations. The species is presumed absent from the Project. The Project will have no effect to vernal pool fairy shrimp Critical Habitat.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				requiring pools below 50 F to hatch and dying within pools reaching 75 F. Young emerge during cold-weather winter storms. The species lay dourght-resistant eggs that can survive hot dry summers and/or cold wet winters. Habitat conversion and development are main causes of the species' decline.		
Vernal pool tadpole shrimp	*Lepidurus packardi*	Fed: State: CDFW:	E -- --	Inhabits vernal pools and swales containing clear to highly turbid waters such as pools located in grass bottomed swales of unplowed grasslands, old alluvial soils underlain by hardpan, and mud-bottomed pools with highly turbid water. The species presents a patchy distribution from Shasta County to Tulare County. Tadpole shrimp eggs can remain dormant until the pool conditions are ideal for emergence. Habitat development and loss of vernal pools are the main threats faced by the species.	CH	**Presumed Absent:** Critical habitat for vernal pool tadpole shrimp is present at Bridge #46C0058 and Bridge #46C0059. However, no vernal pools are present or adjacent to Project activities. Additionally, vernal pool habitat does not occur at any of the Project locations. The species is presumed absent from the Project. The Project will have no effect to vernal pool tadpole shrimp Critical Habitat.
Mammal Species						
American badger	*Taxidea taxus*	Fed: State: CDFW:	-- -- SSC	Prefers treeless, dry, open stages of most shrub and herbaceous habitats with friable soils and a supply of rodent prey. Species also inhabits forest glades, meadows, marshes, brushy areas, hot deserts, and mountain meadows. Species maintains burrows within home ranges estimated between 338-1,700 acres, dependent on seasonal activity. Burrows are frequently re-used, but new burrows may be created nightly. Young are born in March and April within burrows dug in relatively dry, often sandy, soil, usually in areas with sparse overstory cover. Species is somewhat tolerant of human activity, but is sensitive to automobile mortality, trapping, and persistent poisons (up to 12,000 feet).	HP	**Low to Moderate Potential:** Bridge #46C059 and Bridge #46C058 include treeless, dry, open herbaceous habitat features. The species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat. No suitable habitat is present at any other Project location.
Buena Vista Lake ornate shrew	*Sorex ornatus relictus*	Fed: State: CDFW:	E -- --	Found in habitats nearby water sources where cattails, deep leaf litter and fallen logs are present and can be used for protection. Reliant on dense understory riparian and	A	**Presumed Absent:** Several Project locations fall within the anticipated range of this species; however, the water sources within the Project area do

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				emergent marsh vegetation that occur alongside canals and other bodies of water. Occasionally the species can occur across drier grasslands or desert scrub if nearby water sources present abundant prey availability. Primarily insectivore, but can feed on smaller amphibians (e.g., frogs and salamanders), plants, and mushrooms. Breeding occurs from early spring through May. The species currently only occurs at Kern Lake Preserve, Kern National Wildlife Refuge, and disjunct populations may be encountered in proximity of Buena Vista Aquatic Recreation, Tule Elk Reserve, and along the Valley floor canals that lead into Goose Lake Slough (Collins 1998).		not satisfy the habitat requirements for this species. Furthermore, the Project does not occur within the areas that remaining populations of this species are known to occur (in Kern County). Due to the absence of locally suitable habitat as well as the pattern of occurrence of the species, this species is presumed absent from the Project locations.
Fisher – southern Sierra Nevada ESU	*Pekania pennanti pop.2*	Fed: State: CDFW:	E T SSC	Inhabits mature, dense habitats of north coast coniferous forest and old growth and riparian forest communities with a high percent of canopy closure, large trees and snags with cavities and other deformities, large diameter downed wood and multiple canopy layers. Forest structural composition is critical for species; diversity in tree size and shape, light gaps and associated understory vegetation, natural structures (downed trees, broken limbs, snags, etc.) and limbs close to the ground. Breeds from late February to late April (1,970-8,530 feet). In the Southern Sierra Nevada, the species is not found at elevations below 4,500 feet.	A	**Presumed Absent:** The Project locations are all below the elevational range of the species. There are multiple recent and historic CNDDB occurrences of the species roughly 5 miles east of Bridge #46C0204 and Bridge #46C0205. However, these occurrences are all in the southern Sierra Nevada mountains and at appropriate elevations (>4,500 feet). The species is presumed absent from the Project locations due to its pattern of occurrence.
Fresno kangaroo rat	*Dopodomys nitratoides exillis*	Fed: State: CDFW:	E -- --	The species historically inhabited herbaceous grassland, shrubland, alkali desert scrub, and chaparral habitats. Recently, the species has inhabited alkali sink communities from 200 to 300 feet elevation. Burrows in light, sandy soils in raised areas. The species is known to occur in Fresno County in San Joaquin Valley. Likely breeds in winter. Species requires crumbly soils away from seasonal flooding.	A	**Presumed Absent:** The Project locations lack alkali sink habitat that would support current populations of this species. In addition, there are no occurrences of the species in Tulare County on CNDDB or iNaturalist. The species is presumed absent from the Project locations due to the lack of locally suitable habitat as well as its pattern of occurrence.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Pallid bat	*Antrozous pallidus*	Fed: State: CDFW:	-- -- SSC	Inhabits low elevations of deserts, grasslands, shrub lands, woodlands and forests year-round. Most common in open, dry habitats with rocky areas for roosting. Forages over open ground within 1-3 miles of day roosts. Prefers caves, crevices, and mines for day roosts, but may utilize hollow trees, bridges and buildings. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites. Maternity colonies form early April and young are born April-July (below 10,000 feet).	HP	**Low Potential:** Bridge #46C0202, Bridge #46C0204, and Bridge #46C0205 fall within suitable woodland habitat near open, rocky areas that may support this species. Although the bridges lack crevices suitable for roosting, there is a low potential for this species to utilize adjacent trees as day roosts. Due to locally suitable habitat features, there is a low to moderate potential for the species to occur at these Project locations. The species is presumed absent at all other locations due to the lack of locally suitable habitat features.
San Joaquin kit fox	*Vulpes macrotis mutica*	Fed: State: CDFW:	E T --	Inhabits open, level (less than 5 percent slopes) alkali scrub/shrub and arid grassland communities with scattered shrubby vegetation and short vegetative structure. Preferred substrates are loose, relatively stone-free, sandy soils and are unlikely to utilize locations with high water tables, subject to flooding, impenetrable hardpans, close proximity to parent material (such as bedrock) or soils that are intensively irrigated. Species feeds preferentially on kangaroo rats but will consume other food sources; habitat must have an appropriate prey base capable of sustaining a kit fox population. Utilizes subsurface dens for shelter and reproduction; young disperse in August or September. The species occurs in the foothills of the western Sierra Nevada mountains across other locations.	HP	**Low Potential:** Bridge #46C0309 contains marginally potentially suitable grassland habitat and is adjacent to an open/undeveloped area (to the east). In addition, there are numerous historic (1975) CNDDB occurrences of this species located in the vicinity of this Project location. However, given the lack of recent occurrences and given the Project area mostly encompasses existing roadway, the species has a low potential to occur. The species is presumed absent from the other Project locations due to the lack of contiguous open grasslands with scattered shrubs that could support this species.
Tipton kangaroo rat	*Dipodomys nitratoides nitratoides*	Fed: State: CDFW:	E E --	Inhabits chenopod scrub, saltbrush scrub and sink scrub in the Tulare lake basin; prefers sparse-to-moderate shrub cover. Digs burrows in elevated soil mounds at bases of shrubs. Requires friable soils away from seasonal flooding.	A	**Presumed Absent:** There are several historic CNDDB occurrences of the species within a 10-mile radius of Bridge #46C0318, Bridge #46C0106, and Bridge #46C0269; however, the Project locations lack suitable alkaline

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						scrub habitat communities that is known to support this species. Due to a lack of suitable habitat features and with no recent or local CNDDB occurrences, the species is presumed absent from all Project locations.
Townsend's big-eared bat	*Corynorhinus townsendii*	Fed: State: CDFW:	-- -- SSC	Species occurs throughout California in all habitats except subalpine and alpine communities. Requires caves, mines tunnels, buildings or man-made structures for day and night roosts. Rarely roosts in tree cavities, limited to males and non-reproductive females. Young born May-June (0 - 10,800 feet).	A	**Presumed Absent:** The Project locations lack roosting habitat suitable for this species. In addition, all CNDDB occurrences of the species within a 10-mile radius of the Project locations are historic. There is one recent (2022) occurrence of the species in Tulare County from iNaturalist but it is at an elevation >5000 feet, well above any Project location. The species is presumed absent due to the lack of locally suitable roosting habitat.
Tulare grasshopper mouse	*Onychomys torridus tularensis*	Fed: State: CDFW:	-- -- SSC	The Tulare grasshopper mouse is a subspecies of the southern grasshopper mouse. This species is carnivorous, feeding on a diet of small mammals, invertebrates, and seeds. Individuals are typically found in arid shrubland communities within larger grassy areas, such as blue oak woodlands, alkali sinks, and grasslands along the sloping margins of the San Joaquin Valley and Carrizo Plain. Once occupying a greater area, this species is currently known to occur along the western margin of the Tulare Basin, including western Kern County, the Carrizo Plain Natural Area, along the Caliente Mountain Range, and within the Ciervo-Panoche Region of Fresno and San Benito Counties.	A	**Presumed Absent:** The Project locations lack suitable habitat communities for the species. In addition, there are no recent or local occurrences of this species within 10 miles of any Project location. Furthermore, the species is no longer known to occupy Tulare County. The species is presumed absent due to the lack of locally suitable habitat as well as its pattern of occurrence.
Western mastiff bat	*Eumops perotis californicus*	Fed: State: CDFW:	-- -- SSC	Inhabits many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Prefers open, rugged, rocky areas where suitable crevices are available for day roosts. Roots in cliff face crevices (usually granite or consolidated sandstone), high	A	**Presumed Absent:** The Project locations lack open, semi-arid to arid habitats. In addition, the Project locations do not encompass any roosting locations that would be suitable for this species. There are no occurrences of the species on iNaturalist in Tulare County. All

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				buildings, trees and tunnels. Roosting sites must have a minimum 10 foot vertical drop. Births early April through August or September (sea level-8,475 feet).		CNDDB occurrences of the species are historic. Due to a lack of suitable habitat features as well as the absence of recent occurrences of the species, the species is presumed absent from all Project locations.
Wolverine	*Gulo gulo*	Fed: State: CDFW:	PT T FP	The species is a scarce resident of North Coast mountains and Sierra Nevada. In north coastal areas, the species has been observed in Douglas-fir and mixed conifer habitats, and probably uses red fir, lodgepole, wet meadow, and montane riparian habitats at elevations from 1,600-4,800 feet. In the northern Sierra Nevada, the species has been found in mixed conifer, red fir, and lodgepole habitats, and probably use subalpine conifer, alpine dwarf-shrub, wet meadow, and montane riparian habitats at elevations from 4,300-7,300 feet. In the southern Sierra Nevada, the species inhabits red fir, mixed conifer, lodgepole, subalpine conifer, alpine dwarf-shrub, barren meadows, wet meadows, montane chaparral, and Jeffrey pine communities at elevations from 6,400 - 10,800 feet. The species prefers areas with low human disturbance and uses caves, hollows in cliffs, logs, rock outcrops, and burrows for cover, generally in denser forest stages. Home ranges can vary from 100-600 square miles but averages 156 square miles for males and 144 square miles for females. Mating occurs from May to July, with offspring being born from January through April.	A	**Presumed Absent:** All Project locations are below the elevational range of the species, except for Bridge #46C0204 and Bridge #46C0205. However, these Project locations lack suitable conifer dominated habitat communities that are known to support this species. All CNDDB occurrences of the species are historic and are found at appropriate elevations east of Bridge #46C0204 and Bridge #46C0205. There are no occurrences of the species on iNaturalist in Tulare County. Due to a lack of suitable habitat features as well as the lack of recent or local occurrences, the species is presumed absent from all Project locations.
Plant Species						
Abrams' onion	*Allium abramsii*	Fed: State: CNPS:	- - 1B.2	A perennial bulbiferous herb inhabiting granitic sandy soils of lower montane coniferous forest communities. Flowers May-July (2,900-10,000 feet).	A	**Presumed Absent:** The Project locations occur throughout the Central Valley and adjacent foothills, below the elevation range of this species. The species is presumed absent due to its pattern of occurrence.
Alkali mariposa-lily	*Calochortus striatus*	Fed: State:	- -	A perennial herb inhabiting alkaline and mesic soils within meadows and seeps in	A	**Presumed Absent:**

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
		CNPS:	1B.2	chaparral, chenopod scrub, and Mojave desert scrub communities. Flowers April-June (230-5,200 feet).		The Project locations do not encompass meadow or seep habitat within chaparral, chenopod scrub, or Mojave Desert scrub vegetation communities. Furthermore, this species occurs almost exclusively south of Tulare County. Due to the lack of locally suitable habitat as well as its pattern of occurrence, the species is presumed absent from the Project locations.
Alkali-sink goldfields	*Lasthenia chrysantha*	Fed: State: CNPS:	- - 1B.1	An annual herb native to California. Generally found in alkali sinks, valley grassland, vernal pools, saline flats, and wetland-riparian areas. Blooms February to June (<300 ft).	A	**Presumed Absent:** The Project locations do not include alkali sinks, vernal pools, or saline flats, which are necessary to support this species. The species is presumed absent from the Project.
Berry's morning-glory	*Calystegia malacophylla var. berryi*	Fed: State: CNPS:	- - 3.3	A perennial rhizomatous herb inhabiting chaparral and lower montane coniferous forest communities. Flowers July-August (2,000-8,000 feet).	A	**Presumed Absent:** No Project locations contain suitable montane coniferous habitat to support the species; and therefore, the species is presumed absent.
Brittlescale	*Atriplex depressa*	Fed: State: CNPS:	- - 1B.2	An annual herb inhabiting alkaline and clay soils of chenopod scrub, meadows and seeps, playas, vernal pools, and valley and foothill grassland communities. Flowers April-October (0-1,050 feet).	HP	**Low to Moderate Potential:** Bridge #46C0269 and Bridge #46C0318 include saline soils within valley grassland habitat that may support this species. The species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat. No suitable habitat is present at any other Project location.
Calico monkeyflower	*Diplacus pictus*	Fed: State: CNPS:	- - 1B.2	An annual herb inhabiting bare, sunny, shrubby areas in proximity to granite outcrops and granitic disturbed areas of broad-leafed upland forest and cismontane woodland communities. Flowers March-May (330-4,700 feet).	A	**Presumed Absent:** The Project locations do not encompass granite outcrops or granitic disturbed areas that would be suitable for this species. The species is presumed absent due to the lack of locally suitable habitat.
California alkali grass	*Puccinellia simplex*	Fed: State: CNPS:	- - 1B.2	An annual herb native to California, inhabiting alkaline and vernally mesic soils in sinks, flats, and lake margins. Associated with chenopod scrub, meadows, seeps, valley grassland, foothill grassland, and	A	**Presumed Absent:** The Project locations do not include alkaline or vernally mesic sinks, flats, or lake margins. The species is presumed absent

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				vernal pool communities. Blooms March-May (0-3,050 feet).		due to a lack of locally suitable habitat features.
California jewelflower	*Caulanthus californicus*	Fed: State: CNPS:	E E 1B.1	An annual herb inhabiting sandy soils on flats and slopes of chenopod scrub, pinyon/juniper woodland, and valley and foothill grassland communities. Flowers February-April (230-3,280 feet).	A	**Presumed Absent:** Although potentially suitable grassland may be available at Bridge #46C0106, Bridge #46C0205, Bridge #46C0408, and Bridge #46C0420 this species is presumed extirpated from the vicinity of the Project locations due to local agricultural development. Additionally, this species was not observed during the biological survey conducted in April 2022. The species is presumed absent due to its pattern of occurrence as well as the lack of local observations.
California satintail	*Imperata brevifolia*	Fed: State: CNPS:	- - 2B.1	A perennial herb inhabiting mesic soils within springs, meadows, streambanks, floodplain, chaparral, coastal scrub, Mojave Desert scrub, and riparian scrub communities. Blooms September-May (0-4,000 feet).	A	**Presumed Absent:** The Project locations include streambank habitat that may be suitable for this species; however, this species was not observed during the biological survey conducted in April 2022. Furthermore, the regional distribution of the species is concentrated in the Central Valley within Fresno County, and down in southern California in Los Angeles and San Berardino Counties. The species is presumed absent due to a lack of local occurrences.
Chaparral ragwort	*Senecio aphanactis*	Fed: State: CNPS:	- - 2B.2	An annual herb native to California and Baja California, inhabiting alkaline soils in cismontane woodland, coastal scrub, and chaparral communities. Blooms January-May (50-2,600 feet).	A	**Presumed Absent:** This species typically occurs west of the Central Valley from the San Francisco Bay south to Baja California. The species is only known to occur in Tulare County from one historic (1982) CNDDB observation. Furthermore, the Project locations lack alkaline soils within suitable vegetation communities that may support this species. The species is presumed absent due to its pattern of occurrence as well as the lack of locally suitable habitat.
Copper-flowered bird's-foot trefoil	*Hosackia oblongifolia var. cuprea*	Fed: State: CNPS:	- - 1B.3	A perennial rhizomatous herb inhabiting mesic soils of meadows and seeps and upper montane coniferous forest	A	**Presumed Absent:** The Project locations occur well below the elevation range of this species. The species

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				communities. Flowers July–August (7,875-9,200 feet).		is presumed absence due to its pattern of occurrence.
Coulter's goldfields	*Lasthenia glabrata ssp. coulteri*	Fed: State: CNPS:	- - 1B.1	An annual herb inhabiting playas, coastal salt marshes, swamps, and vernal pool communities. Flowers from February-June (0-4,000 feet).	A	**Presumed Absent:** The Project locations do not encompass playas, coastal salt marshes, swamps, or vernal pool complexes that may support this species. The species is presumed absent due to the lack of locally suitable habitat.
Delicate bluecup	*Githopsis tenella*	Fed: State: CNPS:	- - 1B.3	An annual herb native to California and Baja California, inhabiting disturbed areas in chaparral and wetlands. Blooms April-June (1,500-2,300 feet).	A	**Presumed Absent:** The Project locations lack chaparral or wetland habitat that may support this species; therefore the species is presumed absent due to the lack of locally suitable habitat.
Earlimart orach	*Atriplex cordulata var. erecticaulis*	Fed: State: CNPS:	- - 1B.2	An annual herb inhabiting saline or alkaline soils of valley and foothill grassland communities. Flowers August-September (0-330 feet).	HP	**Low to Moderate Potential:** Bridge #46C0269 and Bridge #46C0318 include saline soils within valley grassland habitat that may support this species. The species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat. No suitable habitat is present at any other Project location.
Greenhorn fritillary	*Fritillaria brandegeei*	Fed: State: CNPS:	- - 1B.3	A perennial bulbiferous herb inhabiting granitic soils of lower montane coniferous forest communities. Flowers April-June (4,360-6,890 feet).	A	**Presumed Absent:** There are historic CNDDB occurrences of this species within 5 miles of Bridge #46C0204 and Bridge #46C0205; however, these locations occur well below the elevation range of the species. The species is presumed absent due to its pattern of occurrence.
Grey-leaved violet	*Viola pinetorum ssp. Grisea*	Fed: State: CNPS:	- - 1B.2	A perennial herb native and endemic to California, inhabiting mountain peaks and alpine zones. Flowers June-July (6,500-12,140 feet).	A	**Presumed Absent:** The Project locations occur well below the elevation range of the species. The species is presumed absent due to its pattern of occurrence.
Heartscale	*Atriplex cordulata var. cordulata*	Fed: State: CNPS:	- - 1B.2	An annual herb inhabiting saline or alkaline soils of chenopod scrub, meadows and seeps, and sandy valley and foothill	HP	**Low to Moderate Potential:** Bridge #46C0269 and Bridge #46C0318 include saline soils within valley grassland habitat that may support this species. The

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				grassland communities. Flowers April-October (0-1,840 feet).		species may have a low to moderate potential to occur within these Project locations due to the presence of locally suitable habitat. No suitable habitat is present at any other Project location.
Hoover's spurge	*Euphorbia hooveri*	Fed: State: CNPS:	T - 1B.2	An annual endemic to California, inhabiting vernal pools, valley grasslands, freshwater wetlands, and wetland-riparian communities. Blooms from July-October (80-820 feet).	A	**Presumed Absent:** Vernal pool habitat does not occur at any of the Project locations. The species is presumed absent from the Project.
Kaweah brodiaea	*Brodiaea insignis*	Fed: State: CNPS:	- - 1B.2	A perennial bulbiferous herb inhabiting granitic or clay soils of south-southwest facing slopes within cismontane woodland, valley and foothill grassland, and meadows & seep communities. Known only from the Tule and Kaweah River drainages. Flowers April-June (500-4,600 feet).	A	**Presumed Absent:** The Project locations do not occur within the Tule or Kaweah River drainages, where this species is exclusively known to occur. The species is presumed absent due to its pattern of occurrence.
Kaweah monkeyflower	*Erythranthe norrisii*	Fed: State: CNPS:	- - 1B.3	An annual herb inhabiting rocky, carbonate soils and marble crevices of chaparral and cismontane woodland communities. Known from fewer than ten occurrences in the Kaweah and Kings River drainages. Flowers March-May (1,200-4,300 feet).	A	**Presumed Absent:** The Project locations do not occur within the Kaweah or Kings River drainages. The species is presumed absent due to its pattern of occurrence.
Keck's checkerbloom	*Sidalcea keckii*	Fed: State: CNPS:	E - 1B.1	An annual herb inhabiting serpentinite and clay soils on grassy slopes within cismontane woodland, valley and foothill grassland communities. Flowers April-May (250-2,130 feet).	A	**Presumed Absent:** The Project locations do not encompass clay or serpentinite soils that may be suitable for this species. The species is presumed absent due to a lack of locally suitable habitat.
Kern mallow	*Eremalche parryi ssp. Kernensis*	Fed: State: CNPS:	E - 1B.2	An annual herb native and endemic to California, inhabiting eroded hillsides and alkali flats. Flowers March-May (330-3,280 feet).	A	**Presumed Absent:** This species is primarily constricted to Kern County and is only known in Tulare County by historic occurrences. Furthermore, the Project locations lack eroded hillsides or alkali flat habitat. The species is presumed absent due to the lack of locally suitable habitat as well as its pattern of occurrence.
Lesser saltscale	*Atriplex minuscula*	Fed: State: CNPS:	- - 1B.1	An annual herb inhabiting sandy, alkaline soils of chenopod scrub, valley and foothill grassland, and playas communities. Flowers May-October (0-660 feet).	HP	**Low to Moderate Potential:** Bridge #46C0269 and Bridge #46C0318 include sandy, alkaline soils within grassland

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						habitat that may provide suitable habitat for this species. No suitable habitat is present at any other Project location.
Little mousetail	*Myosurus minimus* ssp. *apus*	Fed: State: CNPS:	- - 3.1	An annual herb native to California, inhabiting wet fields, vernal pools, streambanks, and lakeshores. Flowers April-June (upwards of 6890 feet).	A	**Presumed Absent:** This species is known to occur in vernal pools and other seasonally wet areas that do not occur within the footprints of the Project locations. The species is presumed absent due to a lack of locally suitable habitat.
Lost Hills crownscale	*Atriplex coronate var. vallicola*	Fed: State: CNPS:	- - 1B.2	An annual herb endemic to California, inhabiting dried ponds and alkaline soils of shadscale scrub, valley grassland, freshwater wetlands, and wetland-riparian communities. Blooms April-August/September (0-1,400 feet).	A	**Presumed Absent:** Occurrences of this species are typically constrained to the grasslands and foothills west of the Central Valley and are only known within the Central Valley from historic occurrences. The species is presumed absent due to its pattern of occurrence.
Madera leptosiphon	*Leptosiphon serrulatus*	Fed: State: CNPS:	- - 1B.2	An annual herb inhabiting openings in woodland and chaparral of cismontane woodland and lower montane coniferous forest communities. Flowers April-May (990-4,270 feet).	A	**Presumed Absent:** None of the Project sites include chapparal, woodland and cismontane woodland. The regional distribution of the species is concentrated at higher elevations within the southern Sierra Nevada foothills and mountain range. As such, the species is presumed absent from these Project locations due to the lack of local observations. No suitable habitat is present at any other Project location.
Mouse buckwheat	*Eriogonum nudum var. murinum*	Fed: State: CNPS:	- - 1B.2	A perennial herb inhabiting sandy soils of chaparral, cismontane woodland and valley and foothill grassland communities. Species is known from fewer than 20 occurrences in the Sequoia National Forest. Flowers June-October (1,200-3,700 feet).	A	**Presumed Absent:** This species is only known from fewer than 20 occurrences within the Sequoia National Forest. The species is presumed absent from the Project locations due to its pattern of occurrence.
Munz's iris	*Iris munzii*	Fed: State: CNPS:	- - 1B.3	A perennial rhizomatous wildflower endemic to cismontane woodlands within the southern Sierra Nevada foothills. Inhabits wet, grassy sides of granitic, moist sandy loam soils,	A	**Presumed Absent:** There are no recent CNDDB occurrences of this species in the vicinity of any of the Project locations. Furthermore, this species was not observed during the biological

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				often along streams. Blooms in April (1,000-2,600 feet).		survey conducted in April 2022. The species is presumed absent due to a lack of local occurrences.
Piute Mountains navarretia	*Navarretia setiloba*	Fed: State: CNPS:	- - 1B.1	An annual herb inhabiting clay or gravelly loam soils of cismontane woodland, pinyon/juniper woodland, and valley and foothill grassland communities. Flowers April-July (940-6,900 feet).	A	**Presumed Absent:** The current range of this species begins south of Isabella Lake and is only known in Tulare County by one historic occurrence. The species is presumed absent due to its pattern of occurrence.
Recurved larkspur	*Delphinium recurvatum*	Fed: State: CNPS:	- - 1B.2	A perennial herb inhabiting poorly drained, fine, alkaline soils in chenopod scrub, Atriplex scrub, cismontane woodland, and valley and foothill grassland communities. Flowers March-June (10-2,600 feet).	A	**Presumed Absent:** Bridge #46C0269 and Bridge #46C0318 include sandy, alkaline soils and some roadside ruderal vegetation. However, both of these sites are highly disturbed by adjacent agricultural operations and orchards. This species is known to occur in open, relatively undisturbed habitat communities, and although once commonly found in the Tulare Basin many of the historic occurrences are presumed extirpated due to agricultural development. The species is presumed absent from these locations. No suitable habitat is present at any other Project location.
Rose-flowered larkspur	*Delphinium purpussi*	Fed: State: CNPS:	- - 1B.3	A perennial herb native and endemic to California, inhabiting poorly drained, fine, alkaline soils in grassland. Flowers March-June (100-1970 feet).	A	**Presumed Absent:** The known occurrences of this species are limited to low-lying areas within the Sequoia National Forest, which are geographically isolated from the Project locations. The species is presumed absent due to its pattern of occurrence.
San Joaquin adobe sunburst	*Pseudobahia peirsonii*	Fed: State: CNPS:	T E 1B.1	An annual herb inhabiting bare, adobe clay soils of cismontane woodland and valley and foothill grassland communities. Flowers March-April (300-3,000 feet).	A	**Presumed Absent:** The Project locations do not encompass adobe clay soils that are known to support this species.
San Joaquin Valley Orcutt grass	*Orcuttia inaequalis*	Fed: State: CNPS:	T E 1B.1	An annual herb inhabiting vernal pools of valley grassland, freshwater wetlands, and wetland-riparian communities. Flowers April-September (30-2,600 feet).	A	**Presumed Absent:** Vernal pool habitat does not occur at any of the Project locations. The species is presumed absent from the Project.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
San Joaquin woollythreads	*Monolopia congdonii*	Fed: State: CNPS:	E - 1B.2	An annual herb inhabiting sandy valleys, foothill grassland, alkali sinks, and chenopod scrub communities. Flowers February-May (200-2,600 feet).	A	**Presumed Absent:** There are historic (1881) CNDDB occurrences of this species within Tulare County; however, these populations are presumed to be extirpated due to local agricultural development. Currently, the species is known to occur along the southern coastal range mountains west of the San Joaquin Valley. Furthermore, this species was not observed at any Project location during the biological surveys conducted in April 2022. As such, the species is presumed absent due to its pattern of occurrence as well as the lack of local observations.
Sanford's arrowhead	*Sagittaria sanfordii*	Fed: State: CNPS:	- - 1B.2	A perennial rhizomatous herb inhabiting freshwater marshes, swamps, ponds, and ditches. Flowers May-October (0-2,130 feet).	A	**Presumed Absent:** There is a historic (1983) CNDDB occurrence directly north of Bridge #46C0330; however, this population was confirmed extirpated due to local development and flooding. Many Project locations encompass suitable aquatic habitat that may support this species; however, this species was not observed at any Project location during the biological surveys conducted in April 2022. As such, the species is presumed absent.
Shining navarretia	*Navarretia nigelliformis ssp. Radians*	Fed: State: CNPS:	- - 1B.2	An annual herb inhabiting clay soils within vernal pools, cismontane woodlands, and valley/foothill grassland communities. Flowers April-July (250-3,280 feet).	A	**Presumed Absent:** The Project locations do not encompass clay soils within vegetation communities known to for this species. The species is presumed absent due to a lack of locally suitable habitat.
Spiny-sepaled button-celery	*Eryngium spinosepalum*	Fed: State: CNPS:	- - 1B.2	An annual/perennial herb inhabiting roadside ditches, depressions, vernal pools, swales within valley and foothill grassland communities. Flowers April-June (260-3,200 feet).	A	**Presumed Absent:** The Project locations lack suitable vernal pools, swales, or similar depressions that would support this species. In addition, this species was not observed at any Project location during the biological survey conducted in April 2022. The species is presumed absent due to the lack of locally suitable habitat as well as the absence of local occurrences.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Springville clarkia	*Clarkia springvillensis*	Fed: State: CNPS:	T E 1B.2	An annual herb inhabiting granitic soils of chaparral, cismontane woodland, and valley and foothill grassland communities. Only known to occur within the Tule River watershed. Flowers May-July (1,000-4,000 feet).	A	**Presumed Absent:** The Project locations do not occur within the Tule River watershed, where this species is exclusively known to occur. The species is presumed absent due to the lack of necessary habitat features.
Striped adobe-lily	*Fritillaria striata*	Fed: State: CNPS:	- T 1B.1	A perennial bulbiferous herb inhabiting Adobe, typically clay, soils of cismontane woodland and valley and foothill grassland communities. Flowers February-April (440-4,775 feet).	A	**Presumed Absent:** The Project locations do not encompass suitable adobe or clay soils that would support this species. The species is presumed absent due to the lack of necessary habitat features.
Subtle orache	*Atriplex subtilis*	Fed: State: CNPS:	- - 1B.2	An annual herb inhabiting saline depressions of valley and foothill grassland communities. Flowers June-October (130-330 feet).	A	**Presumed Absent:** Saline depressions do not occur at any of the Project locations. The species is presumed absent from the Project.
Vernal barley	*Hordeum intercedens*	Fed: State: CNPS:	-- -- 3.2	An annual grass native to California and Baja California, inhabiting saline flats and depressions in foothill grassland, valley grassland, coastal dune, coastal scrub, vernal pool, freshwater wetland, and wetland-riparian habitats. Flowers March-June (15-3,300 feet).	A	**Presumed Absent:** Saline depressions do not occur at any of the Project locations. The species is presumed absent from the Project.
Vernal pool smallscale	*Atriplex persistens*	Fed: State: CNPS:	- - 1B.2	An annual herb inhabiting alkaline vernal pools. Flowers June-September (30-375 feet).	A	**Presumed Absent:** Vernal pool habitat does not occur at any of the Project locations. The species is presumed absent from the Project.
Winter's sunflower	*Helianthus winteri*	Fed: State: CNPS:	- - 1B.2	A perennial shrub, inhabiting steep, south-facing slopes in granitic, often rocky soils. Found in cismontane woodlands and foothill grasslands. Blooms year-round (590-1,510 feet).	A	**Presumed Absent:** The Project locations do not encompass granitic, south-facing slopes. Furthermore, this species occurs in a limited area that excludes most of the Project locations. Due to the pattern of occurrence of this species as well as the lack of locally suitable habitat, this species is presumed absent from the Project locations.

Federal Designations (Fed): (FESA, USFWS) **E:** Federally listed, endangered **T:** Federally listed, threatened **DL**: Federally listed, delisted C: Candidate	**State Designations (CA):** (CESA, CDFW) **E:** State-listed, endangered **T:** State-listed, threatened
Other Designations CDFW_SSC: CDFW Species of Special Concern CDFW_FP: CDFW Fully Protected **California Native Plant Society (CNPS) Designations:** ***Note: according to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions.*** **1A:** Plants presumed extinct in California. **1B:** Plants rare and endangered in California and throughout their range. **2:** Plants rare, threatened, or endangered in California but more common elsewhere in their range. **3:** Plants about which need more information; a review list. **Plants 1B, 2, and 4 extension meanings:** **_.1 Seriously** endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat) **_.2 Fairly** endangered in California (20-80% occurrences threatened) **_.3** Not very endangered in California (<20% of occurrences threatened or no current threats known)	
Habitat Potential Absent [A] - No habitat present and no further work needed. Habitat Present [HP] - Habitat is or may be present. The species may be present. Critical Habitat [CH] – Project is within designated Critical Habitat.	
Potential for Occurrence Criteria: **Present**: Species was observed on site during a site visit or focused survey. **High**: Habitat (including soils and elevation factors) for the species occurs on site and a known occurrence has been recorded within 5 miles of the site. **Low and/or Moderate**: Either low quality habitat (including soils and elevation factors) for the species occurs on site and a known occurrence exists within 5 miles of the site; or suitable habitat strongly associated with the species occurs on site, but no records were found within the database search. **Presumed Absent**: Focused surveys were conducted, and the species was not found, or species was found within the database search but habitat (including soils and elevation factors) do not exist on site, or the known geographic range of the species does not include the survey area.	
Source: (CDFW 2024b), (CNPS 2024), (Calflora 2024), (Jepson 2024), (USFWS 2024), (NMFS 2024).	

Appendix F. Species Observed Lists

#46C0036 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Blue elderberry	*Sambucus nigra ssp. caerulea*	N
Bread wheat	*Triticum aestivum*	X
California wild grape	*Vitis californica*	N
Cheeseweed	*Malva parviflora*	X
Curly dock	*Rumex crispus*	X [Limited]
Filaree	*Erodium sp.*	X
Foxtail brome	*Bromus madritensis*	X
Nightshade	*Solanum sp.*	N
Northern California black walnut	*Juglans hindsii*	N
Perennial sow thistle	*Sonchus arvensis*	X
Peruvian pepper tree	*Schinus terebinthifolius*	X [Limited]
Poison hemlock	*Conium maculatum*	X [Moderate]
Ripgut	*Bromus diandrus*	X [Moderate]
Valley oak	*Quercus lobata*	N
Wild oat	*Avena fatua*	X [Moderate]
Wildlife Species		
Bushtit	*Psaltriparus minimus*	N
California scrub-jay	*Aphelocoma californica*	N
Eurasian collared-dove	*Streptopelia decaocto*	X
European starling	*Sturnus vulgaris*	X
Mourning dove	*Zenaida macroura*	N
Red-shouldered hawk	*Buteo lineatus*	N

[1]California Invasive Plant Council (Cal-IPC) Rating

#46C0059 and #46C0058 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Bread wheat	*Triticum aestivum*	X
Burclover	*Medicago polymorpha*	X [Limited]
Common mustard	*Brassica rapa*	X [Limited]
Curly dock	*Rumex crispus*	X [Limited]
Eucalyptus	*Eucalyptus sp.*	X
Fiddleneck	*Amsinckia sp.*	N
Filaree	*Erodium sp.*	X
Foxtail barley	*Hordeum murinum*	X [Moderate]
Jimsonweed	*Datura wrightii*	N
Medusa head	*Elymus caput-medusae*	X [High]
Ripgut brome brome	*Bromus diandrus*	X [Moderate]
Russian thistle	*Salsola australis*	X
Wild oat	*Avena fatua*	X [Moderate]
Wild radish	*Raphanus sativus*	X [Limited]
Wildlife Species		
Black phoebe	*Sayornis nigricans*	N
Cliff swallow	*Petrochelidon pyrrhonota*	N
Desert cottontail	*Sylvilagus audubonii*	N
House sparrow	*Passer domesticus*	N
Western fence lizard	*Sceloporus occidentalis*	N

[1]Cal-IPC Rating

#46C0087 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Blow wives	*Achyrachaena mollis*	N
Bull thistle	*Cirsium vulgare*	X [Moderate]
California mugwort	*Artemisia douglasiana*	N
Charlock mustard	*Brassica kaber*	X
Elderberry	*Sambucus sp.*	N
Fiddleneck	*Amsinckia sp.*	N
Himalayan blackberry	*Rubus armeniacus*	X [High]
Lupin	*Lupinus sp.*	N
Mule fat	*Baccharis salicifolia*	N
Perennial sow thistle	*Sonchus arvensis*	X
Red-stemmed filaree	*Erodium cicutarium*	X [Limited]
Russian thistle	*Salsola australis*	X
Tree tobacco	*Nicotiana glauca*	X [Moderate]
Watercress	*Nasturtium officinale*	N
Wild oat	*Avena fatua*	X [Moderate]
Willow	*Salix sp.*	N
Wildlife Species		
Ash-throated flycatcher	*Myiarchus cinerascens*	N
Black phoebe	*Sayornis nigricans*	N
House finch	*Haemorhous mexicanus*	N
Mourning dove	*Zenaida macroura*	N
Western fence lizard	*Sceloporus occidentalis*	N

[1]Cal-IPC Rating

#46C0106 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
California mugwort	*Artemisia douglasiana*	N
Cheeseweed	*Malva parviflora*	X
Common mustard	*Brassica rapa*	X [Limited]
Curly dock	*Rumex crispus*	X
Fiddleneck	*Amsinckia sp.*	N
Fremont cottonwood	*Populus fremontii*	N
Jimsonweed	*Datura stramonium*	X
Lesser saltscale	*Atriplex minuscula*	N
Pineapple weed	*Matricaria discoidea*	N
Red-stemmed filaree	*Erodium cicutarium*	X [Limited]
Ripgut brome	*Bromus diandrus*	X [Moderate]
Russian thistle	*Salsola australis*	X
Seep monkeyflower	*Erythranthe guttata*	N
Stinging nettle	*Urtica dioica*	N
Sweet clover	*Melilotus sp.*	X
Tree tobacco	*Nicotiana glauca*	X [Moderate]
Wild radish	*Raphanus raphanistrum*	X
Wildlife Species		
Cliff swallow	*Petrochelidon pyrrhonota*	N
House finch	*Haemorhous mexicanus*	N
House sparrow	*Passer domesticus*	X
Killdeer	*Charadrius vociferus*	N
Mourning dove	*Zenaida macroura*	N
Red-tailed hawk	*Buteo jamaicensis*	N
White-crowned sparrow	*Zonotrichia leucophrys*	N

[1]Cal-IPC Rating

#46C0108 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Arroyo willow	*Salix lasiolepis*	N
California mugwort	*Artemisia douglasiana*	N
Cheeseweed	*Malva parviflora*	X
Fiddleneck	*Amsinckia sp.*	N
Field mustard	*Brassica sp.*	X
Filaree	*Erodium sp.*	X
Fremont cottonwood	*Populus fremontii*	N
Jimsonweed	*Datura stramonium*	X
Medusa head	*Elymus caput-medusae*	X [High]
Mistletoe	*Arceuthobium sp.*	N
Mule fat	*Baccharis salicifolia*	N
Poison hemlock	*Conium maculatum*	X [Moderate]
Ripgut brome	*Bromus diandrus*	X [Moderate]
Tree tobacco	*Nicotiana glauca*	X [Moderate]
Wildlife Species		
Cliff swallow	*Petrochelidon pyrrhonota*	N
Mourning dove	*Zenaida macroura*	N

[1]Cal-IPC Rating

#46C0202 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Arroyo willow	*Salix lasiolepis*	N
Bedstraw	*Galium sp.*	N
Blessed milk thistle	*Silybum marianum*	X [Limited]
Blue oak	*Quercus douglasii*	N
Bull thistle	*Cirsium vulgare*	X [Moderate]
California mugwort	*Artemisia douglasiana*	N
Common buttonbush	*Cephalanthus occidentalis*	N
Curly dock	*Rumex crispus*	X [Limited]
Fiddleneck	*Amsinckia sp.*	N
Filaree	*Erodium sp.*	X
Foxtail barley	*Hordeum murinum*	X [Moderate]
Interior live oak	*Quercus wislizeni*	N
Mule fat	*Baccharis salicifolia*	N
Oregon ash	*Fraxinus latifolia*	N
Prickly lettuce	*Lactuca serriola*	X
Ripgut brome	*Bromus diandrus*	X [Moderate]
Seep monkeyflower	*Erythranthe guttata*	N
Sweet Clover	*Melilotus sp.*	X
Western sycamore	*Platanus racemose*	N
Wild carrot	*Daucus pusillus*	N
Wild oat	*Avena fatua*	X [Moderate]
Wild radish	*Raphanus sativus*	X [Limited]
Wildlife Species		
Black phoebe	*Sayornis nigricans*	N
Bushtit	*Psaltriparus minimus*	N
California ground squirrel	*Otospermophilus beecheyi*	N
California quail	*Callipepla californica*	N
Cliff swallow	*Petrochelidon pyrrhonota*	N
European starling	*Sturnus vulgaris*	X

[1]Cal-IPC Rating

#46C0204 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
California mugwort	*Artemisia douglasiana*	N
California poppy	*Eschscholzia californica*	N
Fiddleneck	*Amsinckia sp.*	N
Foxtail brome	*Bromus madritensis*	X
Gray pine	*Pinus sabiniana*	N
Interior live oak	*Quercus wislizeni*	N
Miner's lettuce	*Claytonia parviflora*	N
Miniature lupine	*Lupinus bicolor*	N
Pacific blackberry	*Rubus ursinus*	N
Popcorn flower	*Plagiobothrys cognatus*	N
Rabbitsfoot grass	*Polypogon monspeliensis*	X [Limited]
Red-stemmed filaree	*Erodium cicutarium*	X [Limited]
Ripgut brome	*Bromus diandrus*	X [Moderate]
Shepherd's purse	*Capsella bursa-pastoris*	X
Soft chess	*Bromus hordeaceus*	X [Limited]
Stinging nettle	*Urtica dioica*	N
Sweet bedstraw	*Galium triflorum*	N
Western sycamore	*Platanus racemose*	N
White alder	*Alnus rhombifolia*	N
Wild carrot	*Daucus pusillus*	N
Wild oat	*Avena fatua*	X [Moderate]
Willow	*Salix sp.*	N
Wildlife Species		
Acorn woodpecker	*Melanerpes formicivorus*	N
Black phoebe	*Sayornis nigricans*	N
California newt	*Taricha torosa*	N
European starling	*Sturnus vulgaris*	X
Wild turkey	*Meleagris gallopavo*	N

[1]Cal-IPC Rating

#46C0205 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Bedstraw	*Galium sp.*	N
California mugwort	*Artemisia douglasiana*	N
Fiddleneck	*Amsinckia sp.*	N
Greater periwinkle	*Vinca major*	X [Moderate]
Himalayan blackberry	*Rubus armeniacus*	X [High]
Miner's lettuce	*Claytonia parviflora*	N
Soft chess	*Bromus hordeaceus*	X [Limited]
Stinging nettle	*Urtica dioica*	N
White alder	*Alnus rhombifolia*	N
Wild carrot	*Daucus pusillus*	N
Wildlife Species		
Eurasian collared dove	*Streptopelia decaocto*	X
Great-tailed grackle	*Quiscalus mexicanus*	N
Song sparrow	*Melospiza melodia*	N
Western bluebird	*Sialia Mexicana*	N

[1]Cal-IPC Rating

#46C0226 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Foxtail brome	*Bromus madritensis*	X

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Ripgut brome	*Bromus diandrus*	X [Moderate]
Sow thistle	*Sonchus asper spp. asper*	X
Wild oat	*Avena fatua*	X [Moderate]
Wildlife Species		
Cliff swallow	*Petrochelidon pyrrhonota*	N
Honey bee	*Apis sp.*	X
Red-tailed hawk	*Buteo jamaicensis*	N
Turkey vulture	*Cathartes aura*	N
Western fence lizard	*Sceloporus occidentalis*	N

[1]Cal-IPC Rating

#46C0269 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Bread wheat	*Triticum aestivum*	X
California mugwort	*Artemisia douglasiana*	N
Cheeseweed	*Malva parviflora*	X
Curly dock	*Rumex crispus*	X [Limited]
Fiddleneck	*Amsinckia sp.*	N
Field mustard	*Brassica sp.*	X
Filaree	*Erodium sp.*	X
Foxtail barley	*Hordeum murinum*	X [Moderate]
Foxtail brome	*Bromus madritensis*	X
Poison hemlock	*Conium maculatum*	X [Moderate]
Valley oak	*Quercus lobata*	N
Wild oat	*Avena fatua*	X [Moderate]
Wildlife Species		
Cliff swallow	*Petrochelidon pyrrhonota*	N
Western fence lizard	*Sceloporus occidentalis*	N

[1]Cal-IPC Rating

#46C0309 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
California burclover	*Medicago polymorpha*	X [Limited]
Cattail	*Typha domingensis*	N
Common buttonbush	*Cephalanthus occidentalis*	N
Curly dock	*Rumex crispus*	X [Limited]
Eucalyptus	*Eucalyptus sp.*	X
Filaree	*Erodium sp.*	X
Foxtail brome	*Bromus madritensis*	X
Milk thistle	*Silybum marianum*	X [Limited]
Mule fat	*Baccharis salicifolia*	N
Narrowleaf willow	*Salix exigua*	N
Ripgut brome	*Bromus diandrus*	X [Moderate]
Seep monkeyflower	*Erythranthe guttata*	N
Sweet clover	*Melilotus sp.*	X
Wild oat	*Avena fatua*	X [Moderate]
Wildlife Species		
Canada goose	*Branta canadensis*	N
House finch	*Haemorhous mexicanus*	N
Turkey vulture	*Cathartes aura*	N

[1]Cal-IPC Rating

#46C0318 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Arroyo willow	*Salix lasiolepis*	N
California mugwort	*Artemisia douglasiana*	N
Cheeseweed	*Malva parviflora*	X
Curly dock	*Rumex crispus*	X [Limited]
Fiddleneck	*Amsinckia sp.*	N
Field mustard	*Brassica rapa*	X [Limited]
Filaree	*Erodium sp.*	X
Fremont cottonwood	*Populus fremontii*	N
Jimsonweed	*Datura wrightii*	N
Mule fat	*Baccharis salicifolia*	N
Poison hemlock	*Conium maculatum*	X [Moderate]
Ripgut brome	*Bromus diandrus*	X [Moderate]
Tree tobacco	*Nicotiana glauca*	X [Moderate]
Wildlife Species		
Black phoebe	*Sayornis nigricans*	N
House sparrow	*Passer domesticus*	N

[1]Cal-IPC Rating

#46C0330 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Black walnut	*Juglans hindsii*	N
California bulrush	*Schoenoplectus californicus*	N
California mugwort	*Artemisia douglasiana*	N
Field mustard	*Brassica rapa*	X [Limited]
Giant reed	*Arundo donax*	X [High]
Gooding's willow	*Salix gooddingii*	N
Milk thistle	*Silybum marianum*	X [Limited]
Mule fat	*Baccharis salicifolia*	N
Poison hemlock	*Conium maculatum*	X [Moderate]
Red-stemmed Filaree	*Erodium cicutarium*	X [Limited]
Tamarisk	*Tamarix sp.*	X
Wildlife Species		
Cliff swallow	*Petrochelidon pyrrhonota*	N
Desert cottontail	*Sylvilagus audubonii*	N
European starling	*Sturnus vulgaris*	X
Honey bee	*Apis sp.*	X
House sparrow	*Passer domesticus*	N

[1]Cal-IPC Rating

#46C0403 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Bottlebrush	*Callistemon sp.*	X
Bread wheat	*Triticum aestivum*	X
Cheeseweed	*Malva parviflora*	X
Curly dock	*Rumex crispus*	X [Limited]
Eucalyptus	*Eucalyptus sp.*	X
Field mustard	*Brassica rapa*	X [Limited]
Filaree	*Erodium sp.*	X
Jimsonweed	*Datura wrightii*	N
Poison hemlock	*Conium maculatum*	X [Moderate]
Ripgut brome	*Bromus diandrus*	X [Moderate]
Seep monkeyflower	*Erythranthe guttata*	N
Sow thistle	*Sonchus asper spp. asper*	X
Stinging nettle	*Urtica dioica*	N
Tree tobacco	*Nicotiana glauca*	X [Moderate]
Valley oak	*Quercus lobata*	N
Wild oat	*Avena fatua*	X [Moderate]
Wildlife Species		
Cliff swallow	*Petrochelidon pyrrhonota*	N
Red-tailed hawk	*Buteo jamaicensis*	N

[1]Cal-IPC Rating

#46C0408 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
Cheeseweed	*Malva parviflora*	X
English walnut	*Juglans regia*	X
Foxtail barley	*Hordeum murinum*	X [Moderate]
Milk thistle	*Silybum marianum*	X [Limited]
Ripgut brome	*Bromus diandrus*	X [Moderate]
Seep monkeyflower	*Erythranthe guttata*	N
Tree tobacco	*Nicotiana glauca*	X [Moderate]
Valley oak	*Quercus lobata*	N
Wild oat	*Avena fatua*	X [Moderate]
Wildlife Species		
Acorn woodpecker	*Melanerpes formicivorus*	N
Black phoebe	*Sayornis nigricans*	N
California ground squirrel	*Otospermophilus beecheyi*	N
European starling	*Sturnus vulgaris*	X
House finch	*Haemorhous mexicanus*	N
House sparrow	*Passer domesticus*	X
Mourning dove	*Zenaida macroura*	N
Red-shouldered hawk	*Buteo lineatus*	N
Red-tailed hawk	*Buteo jamaicensis*	N
Turkey vulture	*Cathartes aura*	N
Western fence lizard	*Sceloporus occidentalis*	N

[1]Cal-IPC Rating

#46C0420 –

Common Name	Scientific Name	Native (N)/Non-Native (X)[1]
Plant Species		
California mugwort	*Artemisia douglasiana*	N
Cheeseweed	*Malva parviflora*	X
Curly dock	*Rumex crispus*	X [Limited]
Elderberry	*Sambucus sp.*	N
Fiddleneck	*Amsinckia sp.*	N
Field mustard	*Brassica rapa*	X [Limited]
Filaree	*Erodium sp.*	X
Foxtail barley	*Hordeum murinum*	X [Moderate]
Fremont cottonwood	*Populus fremontii*	N
Herb Sophia	*Descurainia sophia*	X [Limited]
Italian rye grass	*Festuca perennis*	X [Moderate]
Prickly lettuce	*Lactuca serriola*	X
Ripgut brome	*Bromus diandrus*	X [Moderate]
Stinging nettle	*Urtica dioica*	N
Sweet clover	*Melilotus sp.*	X
Tree tobacco	*Nicotiana glauca*	X [Moderate]
Wild oat	*Avena fatua*	X [Moderate]
Willow	*Salix sp.*	N
Wildlife Species		
Anna's hummingbird	*Calypte anna*	N
Cliff swallow	*Petrochelidon pyrrhonota*	N
Eurasian collared-dove	*Streptopelia decaocto*	X
European starling	*Sturnus vulgaris*	X
House sparrow	*Passer domesticus*	X
Mourning dove	*Zenaida macroura*	N
Northern mockingbird	*Tyrannis verticalis*	N

[1]Cal-IPC Rating

Appendix G. Representative Photographs

#46C0036 –



Photograph 1. Representative photograph of Road 168 over the TID Canal (April 2022).



Photograph 2. Representative photograph of the TID Canal downstream (west) of the proposed bridge maintenance project (April 2022).

#46C0058 –



Photograph 3. Representative photograph of D60 over Cross Creek (April 2022).



Photograph 4. Representative of adjacent grassland habitat (April 2022).



Photograph 5. Representative photograph of D60 over Cross Creek (April 2022).



Photograph 6. Representative photograph of Cross Creek and its adjacent annual grassland habitat (April 2022).

#46C0087 –



Photograph 7. Representative photograph of M120 as it crosses Deer Creek (April 2022).



Photograph 8. Deer Creek and its adjacent riparian corridor upstream (east) of M120 (April 2022).



Photograph 9. Representative photograph of Road 144 over Deer Creek (April 2022).



Photograph 10. Representative photograph of Deer Creek and the ruderal vegetation present along its banks, taken facing east (April 2022)

#46C0108 –



Photograph 11. Representative photograph of Avenue 88 over Deer Creek (April 2022).

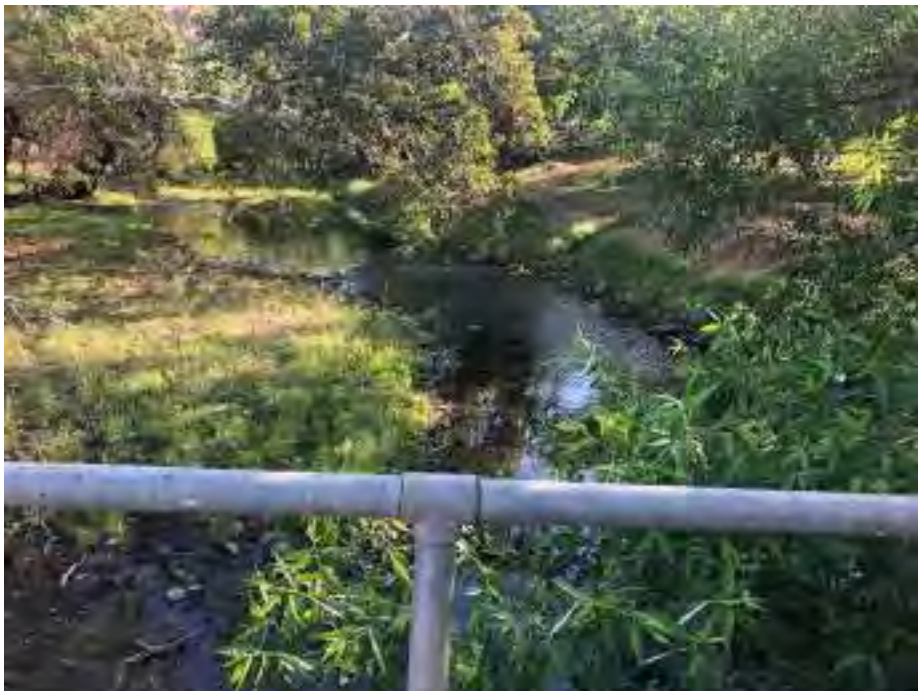


Photograph 12. Representative photograph of Deer Creek and the riparian vegetation present along its banks, taken facing east (April 2022).

#46C0202 –



Photograph 13. Representative photograph of M112 as it crosses Deer Creek (April 2022).



Photograph 14. Representative photograph of Deer Creek upstream of the bridge (April 2022).



Photograph 15. Representative photograph of M112 over Tyler Creek (April 2022).



Photograph 16. Representative photograph of Tyler Creek and its adjacent riparian taken facing west (April 2022).

#46C0205 –



Photograph 17. Representative photograph of SR56 (Hot Springs Road) over Deer Creek (April 2022).



Photograph 18. Representative photograph of Deer Creek and the adjacent riparian corridor upstream (east) of the bridge, taken facing northeast (April 2022).

#46C0226 –



Photograph 19. Representative photograph of Avenue 428 over the Friant Kern Canal (April 2022).



Photograph 20. The Friant Kern Canal is graded and devoid of vegetation (April 2022).

#46C0269 –



Photograph 21. Representative photograph of Road 80 over Elk Bayou (April 2022).



Photograph 22. Elk Bayou, taken facing east of the bridge (April 2022).

#46C0309 –



Photograph 23. Representative photograph of Avenue 220 over Lewis Creek (April 2022).



Photograph 24. Lewis Creek and its associated riparian vegetation, taken facing northwest (April 2022).

#46C0318 –



Photograph 25. Representative photograph of Road 136 over Deer Creek (April 2022).



Photograph 26. The riparian vegetation located along the northeast bank of Deer Creek (April 2022).

#46C0330 –



Photograph 27. Representative photograph of Road 180 over Cottonwood Creek (April 2022).



Photograph 28. Ruderal vegetation is present throughout the Cottonwood Creek Channel (April 2022).

#46C0403 –



Photograph 29. Representative photograph of Avenue 304 over Crocker Cut (April 2022).



Photograph 30. Representative photograph of the Crocker Cut channel (April 2022).



Photograph 31. Representative photograph of Road 152 over Mill Creek (April 2022).



Photograph 32. Representative photograph of Mill Creek west of the bridge (April 2022).

#46C0420 –



Photograph 33. Representative photograph of Road 108 over the St. Johns River (April 2022).



Photograph 34. Representative photograph of the bed and bank of the St. Johns River, as seen from the bridge deck. Taken facing northeast (April 2022).

Appendix H. Avoidance and Minimization Measures

Bridge Location	Avoidance and Minimization Measures (BIO-XX)																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
#46C0036		●	●	●	●	●	●	●	●																					●					
#46C0058	●	●	●	●	●	●	●	●	●		●		●	●	●	●	●	●	●	●	●						●	●	●	●		●	●	●	●
#46C0059	●	●	●	●	●	●	●	●	●		●		●	●	●	●	●	●	●	●	●						●	●	●	●		●	●	●	●
#46C0087		●	●	●	●	●	●	●	●			●								●										●	●				
#46C0106		●	●	●	●	●	●	●	●			●																							
#46C0108		●	●	●	●	●	●	●	●			●																		●					
#46C0202		●	●	●	●		●	●	●											●					●				●					
#46C0204	●	●	●	●	●	●	●	●														●	●	●	●	●					●				
#46C0205	●	●	●	●	●	●	●	●														●	●	●	●	●					●				
#46C0226		●	●	●	●	●	●	●	●																					●					
#46C0269	●	●	●	●	●	●	●	●	●	●										●										●		●	●	●	●
#46C0309	●	●	●	●	●	●	●	●												●								●	●	●		●	●	●	●
#46C0318	●	●	●	●	●	●	●	●	●	●		●																		●		●	●	●	●
#46C0330		●	●	●	●	●	●	●	●																										
#46C0403		●	●	●	●	●	●	●	●																					●					
#46C0408		●	●	●	●	●	●	●	●																										
#46C0420		●	●	●	●	●	●	●	●																					●					

Avoidance and Minimization Measures

General

BIO-1: Every individual working on the Project must attend a biological awareness training session delivered by the Project Biologist. This training program will include information regarding the sensitive habitats and special-status species occurring or potentially occurring within the Project area, and the importance of avoiding impacts to these species and their habitat.

BIO-2: All vegetation removal will be minimized to the greatest extent feasible. When possible, vegetation removal will be accomplished with the use of hand tools. Trees and shrubs will be trimmed rather than removed unless absolutely necessary for Project activities. Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.

BIO-3: Prior to the start of construction activities, the Project limits within environmentally sensitive areas (stream channel, riparian habitat, special-status species habitat) will be marked with high visibility Environmentally Sensitive Area (ESA) fencing or staking to ensure construction will not further encroach into sensitive resources.

BIO-4: BMPs will be incorporated into Project construction to minimize impacts on the environment including erosion and the release of pollutants (e.g. oils, fuels):

- Exposed soils and material stockpiles would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities;
- All construction roadway areas would be properly protected to prevent excess erosion, sedimentation, and water pollution;
- Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants must remain outside of jurisdictional waters and adjacent riparian habitat;
- Equipment used in and around jurisdictional waters must be in good working order and free of dripping or leaking contaminants;
- Any necessary equipment washing must occur where the water cannot flow into water bodies;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life will be prevented from contaminating the soil or entering jurisdictional waters;
- All erosion control measures and storm water control measures would be properly maintained until the site has returned to a pre-construction state;
- All construction materials would be hauled off-site after completion of construction;

- A chemical spill kit must be kept onsite and available for use in the event of a spill;
- Upon completion of construction activities, any temporary barriers to surface water flow must be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

BIO-5: Following the completion of construction, all sensitive natural areas disturbed by Project activities would be re-graded as to decompact the soils and seeded with a California native hydroseed mix to allow the site to return to pre-construction conditions.

BIO-6: The County will mitigate for permanent impacts to stream channel and/or riparian habitat in coordination with permitting agencies (USACE, CDFW and/or RWQCB), as appropriate for location-specific impacts. The preferred mitigation method is payment of mitigation bank credits, payment to an in-lieu fee program, and/or enhancement/restoration of riparian habitat at an offsite location.

BIO-7: To minimize and avoid potential effects to local wildlife:

- All food-related trash must be disposed into closed containers and must be removed from the Project area daily. Construction personnel must not feed or otherwise attract wildlife to the Project area.
- The contractor must not apply rodenticide or herbicide within the Project area during construction.
- If any wildlife is encountered during the course of construction, said wildlife will be allowed to leave the construction area unharmed.

BIO-8: Prior to vegetation removal or initial ground disturbance during the nesting bird season (February 1 – September 30) a pre-construction nesting bird survey must be conducted by a Project Biologist prior to the start of work. The nesting bird survey must include the Project area plus a 300-foot buffer. Within 2 weeks of the nesting bird survey, all vegetated areas that are designated for removal must be cleared by the contractor or a supplemental nesting bird survey is required.

A minimum 100-foot no-disturbance buffer will be established around any active nest of migratory birds and a minimum 300 foot no-disturbance buffer will be established around any nesting raptor species. The contractor must immediately stop work in the buffer area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the Project Biologist and in coordination with wildlife agencies) in the buffer area until a Project Biologist determines the young have fledged. A reduced buffer can be established if determined appropriate by the Project Biologist.

BIO-9: If work on the bridge structure will occur during the nesting bird seasons (February 1 – September 30) a nesting bird exclusion plan will be developed and will be installed prior to the nesting season and/or prior to nests becoming active (once eggs are laid in the nest). The use of netting is prohibited due to the risk of entanglement. Exclusion devices will be maintained in good working order throughout construction.

Sensitive Plants

BIO-10: During the spring/summer blooming season prior to initial ground disturbance activities, focused botanical surveys will be conducted by the Project Biologist for the following species:

Species of Interest	Blooming Period
Brittlescale (*Atriplex depressa*)	April-October
Earlimart orach (*Atriplex cordulata var. erecticaulis*)	August-September
Heartscale (*Atriplex cordulata var. cordulata*)	April-October
Lesser saltscale (*Atriplex miniscula*)	May-October

A minimum of three surveys will be conducted following methodology of the CDFW (2018) *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. If individuals or populations of the above species are observed within the Project footprint during this survey, a 5-foot buffer around the rare plant population will be marked with high-visibility Environmentally Sensitive Area (ESA) fencing. If the population and/or specimen cannot be feasibly avoided during construction, the Project biologist will relocate individual(s) and/or collect seeds to relocate to ensure the continued existence of the local population.

American Badger

BIO-11: Prior to any ground disturbing activity, the Project Biologist will conduct pre-construction clearance survey for American Badger den sites within open, herbaceous habitat located within the Project footprint and an approximate 100-foot buffer, as feasibly accessible. These surveys will be conducted no less than 14 days and no more than 30 days prior to the start of ground disturbing activities.

If an occupied maternity den (typically found February 15 – July 1) is identified within the survey area the Project Biologist will establish an appropriate no-work buffer, determined based on location of the den and proposed activities. If non-maternity dens are found and cannot be avoided during construction activities, they will be monitored for badger activity. If the Project Biologist determines that dens may be occupied, passive den exclusion measures will be implemented for three to five days to discourage the use of these dens prior to initiating Project activities.

Bakersfield Legless Lizard

BIO-12: Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for Bakersfield legless lizard within the Project footprint. If a Bakersfield legless lizard is observed during construction, work will be halted within 50 feet of the individual and the lizard will be allowed to leave on its own volition or will be relocated outside of the Project area by the Project Biologist.

Burrowing Owl

BIO-13: Prior to any ground disturbing activity, the Project Biologist will conduct protocol-level nesting season surveys for burrowing owl within suitable habitat located in the Project footprint and/or extending 500 feet from the boundary of the Project footprint, where access is available. Protocol nesting season surveys will be conducted between April and July prior to construction in accordance with guidelines in the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFW 2012).

Occupied burrowing owl burrows that will be directly affected by ground disturbing activities will be relocated in accordance with CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). To the extent feasible, the Project Biologist will establish 600-foot no-work buffers around occupied burrowing owl burrows in the Project area during the nesting season (February 1 – September 30). If the no-work buffer is not feasible and occupied burrows will be relocated during the nesting season, relocation will occur after the Project Biologist has determined that the juveniles from the occupied burrows are foraging independently and are capable of independent survival.

California Tiger Salamander – Central California DPS

BIO-14: The Project Biologist(s), approved by USFWS, will conduct a visual encounter pre-construction survey of the Project area for California tiger salamander (CTS) immediately prior to Project activities. The surveys will pay particular attention to detecting burrows and other crevices and cover sites that could be used as refugia by the species, that are within the direct impact area.

BIO-15: Prior to the start of work, and immediately following pre-construction surveys, temporary silt fencing (or other types of fencing materials that will not entangle the species), will be installed around the limits of the Project footprint to preclude construction equipment, vehicles, and personnel from encroaching on areas outside of these limits (i.e., ESAs such as aquatic features and undeveloped uplands), and to prevent CTS in outside areas from entering the work zones. Installation of this exclusion fencing will focus on where work areas abut suitable upland habitats. Fencing will include one-way escape funnels or ramps placed at regular intervals (every 5-10 feet) to allow any individuals that become trapped inside the fenced area to leave, but not re-enter the Project footprint. Fencing will measure 12 inches above ground and will be buried at least 6 inches below the ground to prevent individuals from attempting to burrow or move under the structure. The exclusion fencing will be well maintained throughout the course of construction and will be removed following Project completion.

BIO-16: To avoid inadvertent entrapment of CTS during construction:

- Plastic mono-filament netting (erosion control matting) or similar material that could trap CTS or other wildlife must not be used. Acceptable substitutes include jute, coconut coir matting or tackified hydroseeding compounds.

- All excavated, steep-walled holes or trenches greater than 6 inches deep must be covered at the end of the day or contain at least one escape ramp made of earth fill or wooden planks. All holes must be inspected by the Project Biologist or on-site inspector at the beginning of each workday and before the holes and trenches are

filled. Anything stored within the holes or trenches overnight must be inspected for CTS before being moved.

- All construction pipes, culverts, or similar structures that are stored on the construction site for one or more overnight periods will be capped or sealed with tape (or similar materials) or stored at least 3 ft. above ground level. They will be inspected thoroughly for CTS before being buried, capped, or otherwise used. If an individual is discovered during this inspection, the Project Biologist(s) will be notified immediately.

If at any time a CTS is discovered within the Project footprint, work will halt within 25 feet of the individual and the Project Biologist(s) will be notified. Work will not recommence within the 25-foot buffer until the CTS has left the Project footprint on its own volition.

BIO-17: The Project Biologist(s) or on-site inspector will perform daily clearance sweeps under equipment, trucks, and other materials prior to commencement of work. In the event that a CTS is observed, the vehicles/equipment will not be moved until the individual has vacated the area of its own accord.

The Project Biologist(s) will be present on-site to monitor for the species during the installation, replacement, and removal of all exclusion fencing. Additionally, when onsite, the Project Biologist(s) will inspect the fencing for damage, to report any required remedial actions, and to clear the fenced area. Furthermore, this individual(s) will be present on-site during initial ground-disturbing and vegetation removal activities (i.e., clearing, grubbing, grading, excavating, filling, etc.).

BIO-18: No construction activities will be conducted in upland habitat areas where CTS may occur if: 1) it is raining, 2) there is a greater than 70 percent chance of rain based on the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service forecast on any given workday, or 3) a rain event greater than 0.25 inch has occurred within the past 48 hours.

Following a rain event, the Project Biologist(s) will conduct visual encounter surveys for the species in all active work areas (including access roads and staging areas) prior to the resumption of construction activities and the use of access routes and staging areas.

BIO-19: If a water body will be temporarily dewatered by pumping, pump intakes will be screened with wire mesh no larger than 5 millimeters. The intake should be placed within a perforated bucket or other method that reduces suction to prevent CTS from entering the pump system. Pumped water will be managed in a matter that does not degrade water quality and, the water will be pumped back prior to the end of the Project, will be released back into the water body in a manner that does not cause erosion.

Coast Horned Lizard/ Northern California Legless Lizard

BIO-20: Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for the coast horned lizard and the northern California legless lizard within the Project footprint. If either lizard is observed during construction, work will be halted within 50 feet of the individual and the lizard will be allowed to leave on its own volition or will be relocated outside of the Project area by the Project Biologist.

Crotch Bumble Bee

BIO-21: Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction reconnaissance visual encounter survey for Crotch bumble bee within the Project footprint. The survey will be conducted between April and August when the Crotch bumble bee is more likely to be encountered. The survey will be conducted in accordance with the Photograph Only Survey protocol outlined in the *Survey Protocols for the Rusty Patched Bumble Bee* (USFWS 2019). If a Crotch bumble bee hive or colony is presumed present within the Project footprint and is unavoidable, work will halt and additional coordination with CDFW will occur to determine appropriate measures to avoid impacts to the species.

Foothill Yellow-legged Frog – South Sierra DPS

BIO-22: Prior to ground disturbing activities, exclusion fencing will be established on the edge of the Project boundary within foothill riparian habitat. The exclusion fencing within foothill riparian habitat will consist of silt fencing, or a similar plastic material, at least 3 feet high. The top few inches of the fence must be curved away (outside) from the construction area to curtail climbing frogs and will be dug at least 6 inches into the ground.

BIO-23: Immediately prior to vegetation removal, the Project Biologist(s), approved by USFWS, will inspect all areas where ground disturbing activity is anticipated. The Project Biologist will oversee all vegetation clearing and grubbing and will have stop work authority. If a foothill yellow-legged frog (FYLF) is spotted within an active work area the Project Biologist will immediately stop work activities. The individual will be allowed to leave the active work area on its own accord. If the individual must be relocated, the Project Biologist will first contact USFWS for further guidance.

All construction crew members will allow wildlife enough time to escape initial clearing and grubbing activities.

BIO-24: To avoid inadvertent entrapment of FYLF during construction:

- Non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that FYLF are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.

- All excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each workday or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within FYLF habitat will be inspected for FYLF prior to being moved.

BIO-25: Upon completion of construction activities, all barriers and exclusion fencing will be removed, with oversight from the Project Biologist.

Pallid Bat

BIO-26: If trees are planned for removal, trees will first be assessed by a Project Biologist familiar with the natural life history of pallid bat to determine if the trees designated for removal contain suitable roosting features. If any of the trees required for removal contain suitable roosting habitat and removal is planned to occur during the maternity season (April through August), then a Project Biologist will survey the trees immediately prior to removal for the presence of bats within the trees. If trees are found to support bat maternity colonies, the trees must be protected in place until the end of the maternity season (August 31).

If bats are found occupying trees designated for removal outside of the maternity season (September-March) the tree(s) can be removed using a two-step process. The first step, conducted on the first day, will involve removal of all non-bat habitat trees and trimming of major branches of bat habitat trees. The objective of the first step in two-step tree removal is to alter the habitat such that it becomes unsuitable for bats without directly impacting individuals. The second step of tree removal will be conducted on the second day and will include close inspection of the tree by a Project Biologist and, if determined to be unoccupied, full removal of the tree.

San Joaquin Coachwhip

BIO-27: Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for San Joaquin coachwhip within the Project footprint. If a San Joaquin coachwhip is observed during construction, work will be halted within 50 feet of the individual and the snake will be allowed to leave on its own volition or will be relocated outside of the Project area by the Project Biologist.

San Joaquin Kit Fox

BIO-28: Within 30 days prior to the start of any ground disturbing activity, the Project Biologist will conduct a pre-construction clearance survey for the San Joaquin Kit Fox (SJKF) within the Project footprint. The surveys will be conducted in accordance with USFWS *San Joaquin Kit Fox Survey Protocol for the Northern Range* (USFWS 1999b) between May 1 and September 30 for the purpose of identifying potential SJKF dens. If any occupied or potential dens are found during pre-construction surveys, they will be flagged and a minimum 200-foot no-work buffer will be established around the den. If an active den is discovered within 200 feet of Project activities the Project Biologist will assume full-time monitoring and contact USFWS for further guidance.

If an active den cannot be fully avoided Project activities will not commence until further guidance is provided from USFWS, or the Project Biologist determines the den is no longer active.

BIO-29: The Project will implement USFWS *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS [1999] 2011) to minimize impacts on this species, including:

- Disturbance to all kit fox dens will be avoided to the extent feasible.
- Construction activities that occur within 200 feet of any occupied dens will cease within one-half hour after sunset and will not begin earlier than one-half hour before sunrise, to the extent feasible.
- All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that are stored within the Project footprint for one or more overnight periods will be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved.
- If a SJKF is detected within an active Project area during construction, work will halt and the Project Biologist will be contacted. Work will not recommence until the SJKF has left the area by its own volition and the Project Biologist has deemed it safe.

Swainson's Hawk

BIO-30: If an active Swainson's hawk nest is observed during the pre-construction nesting bird survey, a no-work buffer will be established around the active nest, to be determined by the Project Biologist based on the type of work being completed, anticipated noise levels and equipment, location of nest, and evaluation of surrounding environment (e.g., urban vs. rural). After establishment of the no-work buffer Project activities may proceed at the discretion of the Project Biologist with full-time biological monitoring to ensure take avoidance. The Project Biologist will have stop work authority at any point if it is anticipated that continuation of Project activities will result in take of an active Swainson's hawk nest.

Western Pond Turtle

BIO-31: Prior to vegetation removal or in-water work, a Project Biologist must first inspect all areas where ground disturbing activity is anticipated. The Project Biologist will oversee all vegetation clearing and grubbing and will have stop work authority. If a western pond turtle is spotted within an active work area the Project Biologist will be contacted and work activities will immediately cease within 100 feet of the turtle. Work will not recommence until the turtle has left the Project site on its own volition.

Western Spadefoot

BIO-32: Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for western spadefoot within the Project footprint. If a western spadefoot is observed during construction, work will halt in the immediate vicinity and will not recommence until the individual(s) has left the Project site on its own volition.

BIO-33: No construction activities will be conducted in upland habitat areas where western spadefoot may occur if: 1) it is raining, 2) there is a greater than 70 percent chance of rain based on the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service forecast on any given workday, or 3) a rain event greater than 0.25 inch has occurred within the past 48 hours.

Following a rain event, the Project Biologist(s) will conduct visual encounter surveys for the species in all active work areas (including access roads and staging areas) prior to the resumption of construction activities and the use of access routes and staging areas.

BIO-34: To avoid inadvertent entrapment of western spadefoot during construction:

- Non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that western spadefoots are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials.

- All excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each workday or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western spadefoot habitat will be inspected for western spadefoot prior to being moved.

BIO-35: If water is present within the channel and de-watering or installation of a temporary diversion system is required, the Project Biologist will survey the channel and/or ponding water within 48 hours prior to in-water work. Additionally, the Project Biologist will be present to monitor initial in-water work and will have stop work authority if any life stage of western spadefoot is observed within the impact area. If western spadefoots eggs, tadpoles or froglets are discovered within ponding areas of the direct impact area the Project Biologist will contact USFWS for additional guidance and in-water work will not proceed until the species are relocated or naturally metamorph.

ATTACHMENT "C"

Hazardous Waste ISA

HAZARDOUS WASTE
INITIAL SITE ASSESSMENT

FOR THE

BRIDGE PREVENTIVE MAINTENANCE PROGRAM GROUP 5 PROJECT
County of Tulare, California

Federal Project Number: 5946(169)



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March 2025

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Summary

Tulare County (County), in cooperation with the California Department of Transportation (Caltrans), proposes to perform maintenance on 17 bridges as part of the Tulare County Bridge Preventative Maintenance Program (BPMP) – Group 5 Project (Project). The Project area includes bridge locations within Tulare County.

This report presents the results of a Phase I Initial Site Assessment (ISA) for the properties associated with the Project; this report will reference the properties associated with this Project as Subject Properties. This ISA was prepared in accordance with the standard practice set forth in American Society of Testing and Materials (ASTM) Designation E 1527-21, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. The purpose of this ISA was to identify Recognized Environmental Conditions (RECs) associated with the Subject Properties. RECs are defined in ASTM Designation E 1527-21 as "the presence or likely presence of any hazardous substance or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment."

The properties assessed for this ISA (Subject Properties) include existing County right-of-way, as well as adjacent properties within the Project area. Temporary construction easements (TCEs) are anticipated at select bridge locations to accommodate the construction of the proposed preventative maintenance activities. Partial and full right-of-way (ROW) takes are not anticipated.

An Environmental Data Resources (EDR) Inc. database search was obtained on January 12, 2024. The EDR reviewed standard federal, state, and local listings of known sites and identified 24 sites within 1 mile of the Project areas (**Table 4.2**). Nine of the seventeen bridge locations identified no sites within 1 mile of the Project area, while eight of the seventeen bridge locations identified at least 1 site within 1 mile of the Project area (**Appendix A**).

Based on the results of the ISA evaluation, **Table 1 - Summary Table** describes evidence of the potential for RECs or Activity and Use Limitations (AULs) on the Subject Properties.

Table 1 - Summary Table

Description of REC Evidence Found	Description of Associated AUL	Bridge Number															
		#46C0036	#46C0058	#46C0059	#46C0087	#46C0106	#46C0108	#46C0202	#46C0204	#46C0205	#46C0226	#46C0269	#46C0309	#46C0318	#46C0330	#46C0403	#46C0408	#46C0420
The structural elements of the bridge, including concrete, was potentially formed with asbestos containing material (ACMs), if it was constructed before 1989. As the structures within the Project area predates 1989, any structural concrete to be disturbed by the Project would require testing for ACMs.	Caltrans 2023 Special Standard Provision (SSP) Section 14-11.16	•		•	•	•	•	•	•		•	•		•	•	•	•	
Road shoulders along roadways contains non-hazardous levels of aerially-deposited lead (ADL).	Caltrans 2023 SSP Section 7-1.02K(6)(j)(iii)		•	•	•	•		•	•	•	•	•	•		•		•	•
Pavement Striping and paint along the roadway and in the bridge may contain potential lead and heavy metals.	Caltrans 2023 Standard Specifications Section 14-11.12 and/or Section 14-11.13	•				•	•		•			•		•		•		•
The Project area contains pressure treated wood posts which could potentially be disturbed during construction. Any treated wood encountered would be required to be disposed of as a hazardous waste.	Caltrans 2023 SSP 14-11.14											•						
Utility pole-mounted transformers and electrical equipment along the roadway contains potential polychlorinated biphenyl (PCB).	Caltrans 2023 Standard Specifications Section 14-11.15					•									•			

The scope of an ISA is limited to anecdotal and visual evidence of potential RECs and does not include verification of RECs based upon environmental testing. Based on the governmental records search, aerial photograph and topographic map review and visual site survey, the following actions are recommended to verify the presence/extent of RECs and evaluate the potential for remediation during the Plans, Specifications & Estimate (PS&E) phase of the Project:

- It is recommended that an ACM inspection/survey is conducted by a Certified Asbestos Consultant or by a Certified Site Surveillance Technician working under a Certified Asbestos Consultant. At least 10 working days prior to the commencement of abatement work, notification submissions shall be submitted to the National Emission Standards for Hazardous Air Pollutants (NESHAP). Abatement of ACM should be conducted by contractors certified to perform such work and in accordance with state and federal regulations. Waste management issues for ACM are regulated under CCR Title 22 and the NESHAP. Section 14-11.16 ASBESTOS-CONTAINING CONSTRUCTION MATERIALS IN BRIDGES of the 2023 Caltrans SSP, or the latest version of this special provision at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure ACM is properly managed and removed from the Project site.
- ADL is commonly associated with transportation construction due to emissions from vehicles powered by lead gasoline. Due to low classification of the roadways present, it is assumed that ADL is present in unregulated earth materials within the planned construction area. Section 7-1.02K(6)(j)(iii) "Unregulated Earth Material Containing Lead" of the 2023 Caltrans SSP, or the latest version of this special provision at the time of construction, will be included in the plan specifications to be implemented by the contractor. A lead compliance plan will be prepared by the contactor and may address soil, paint, markings, etc.
- There is a potential that the proposed Project could result in the removal of yellow thermoplastic pavement markings and other types or colors of street or municipal markings containing lead-based paint from the existing roadways and bridges. If such markings are affected as a result of the project, such markings will be collected, tested, and/or disposed of in accordance with applicable regulations. Section 14-11.12 "REMOVAL OF YELLOW TRAFFIC STRIPE AND PAVEMENT MARKING WITH HAZARDOUS WASTE RESIDUE" of the 2023 Caltrans Standard Specifications, or the latest version of this specification at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure any hazardous waste from yellow thermoplastic pavement markings from the roadway are properly disposed of. Section 14-11.13 "DISTURBANCE OF EXISTING PAINT SYSTEMS ON BRIDGES" of the 2023 Caltrans Standard Specifications, or the latest version of this specification at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure any hazardous waste from yellow thermoplastic pavement markings from the bridge are properly disposed of.
- Any chemically treated wood must be treated as Treated Wood Waste (TWW) and disposed of as hazardous waste. For the TWW, the DTSC regulations §66261.9.5 provide

alternative management standards for TWW. Caltrans 2023 SSP for TWW, SSP 14-11.14, is based on DTSCs Alternative Management Standards (AMS) regulations. This SSP directs the Contractor to follow the AMS including providing training to all personnel that may come in contact with TWW. This training must include, at a minimum, safe handling, sorting and segregating, storage, labeling (including date), and proper disposal methods.

- Any leaking transformers observed during the course of the project should be considered a potential PCB hazard. A detailed inspection of individual electrical transformers was not conducted for this ISA. However, should leaks from electrical transformers (that will either remain within the construction limits or will require removal and/or relocation) be encountered during construction, the transformer fluid should be sampled and analyzed by qualified personnel for detectable levels of PCB's. Should PCBs be detected, the transformer should be removed and disposed of in accordance with Title 22, Division 4.5 of the California Code of Regulations and any other appropriate regulatory agency. Any stained soil encountered below electrical transformers with detectable levels of PCB's should also be handled and disposed of in accordance with Title 22, Division 4.5 of the California Code of Regulations and any other appropriate regulatory agency. Section 14-11.15 DISPOSAL OF ELECTRICAL EQUPIMENT REQUIRING SPECIAL HANDLING of the 2023 Caltrans Standard Specifications, or the latest version of this specification at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure electrical transformers are properly handled and disposed of.
- As is the case for any Project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during Project construction. Contaminated soils can be encountered at any depth of excavation. If soils contaminated by hazardous waste are discovered during construction, proper hazardous waste handling and emergency procedures under 40 CFR § 262 and Division 4.5 of Title 22 CA Code of Regs shall be followed. The specific methods and protocol for determining if a soil is contaminated are contained in **Appendix D** – Caltrans Hazardous Procedures for Construction.
- For any previously unknown hazardous waste/material encountered during construction, the procedures outlined in the appropriate ASTM standard shall be followed.

If the Project area is anticipated to change (due to a change in the proposed Project or staging area), further investigation for potentially hazardous waste generators would be required to determine their impact to the revised Project limits. The Project area is not anticipated to change; therefore, additional searches are not anticipated at this time for the proposed Project.

I declare that to the best of my professional knowledge and belief, I meet the definition of an Environmental Professional as defined in 40 Code of Federal Regulations, Part 312.



Eric Espinoza, P.E. | Professional Registration | 8/26/24
Date

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Appendix D Caltrans Hazardous Procedures for Construction

ACRONYMS AND ABBREVIATIONS

AAI	All Appropriate Inquiries
AMS	Alternative Management Standards
ACM	Asbestos Containing Material
ADL	Aerially Deposited Lead
af	Acre-foot
ASTM	American Society of Testing and Materials
AUL	Activity and Use Limitation
BPMP	Bridge Preventative Maintenance Program
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
County	Tulare County
DTSC	Department of Toxic Substances Control
EDR	Environmental Data Resources, Inc.
FEMA	Federal Emergency Management Agency
HBP	Highway Bridge Program
ISA	Initial Site Assessment
NESHAP	National Emission Standards for Hazardous Air Pollutants
NEPA	National Environmental Policy Act
NOA	Naturally Occurring Asbestos
Project	Tulare County Bridge Preventative Maintenance Program -Group 5 Project
PS&E	Plans, Specifications & Estimate
PCB	polychlorinated biphenyl
REC	Recognized Environmental Condition
ROW	Right-of-way
SSP	Special Standard Provision
TCE	Temporary Construction Easement

TWW	Treated Wood Waste
USGS	United States Geological Survey

1 Introduction

1.1 Existing Conditions

The Project encompasses seventeen bridges located throughout Tulare County (**see Figure 1. Project Vicinity and Figure 2. Project Location**). The elevation of the Project locations ranges from 218 feet to 2,698 feet above sea level. Fourteen of the proposed bridge locations occur in the San Joaquin Valley, below 600 feet in elevation. Three of the proposed bridge locations occur in the Sierra Nevada foothills, above 800 feet in elevation. The soil composition of the bridge maintenance locations is summarized in **Table 1.2** below.

Tulare County spans the San Joaquin Valley and the neighboring Sierra Nevada mountains, encompassing a diverse array of geographic features and habitat communities. Within the valley, the region is dominated by agricultural land use and includes urban population centers such as Visalia, Tulare, and Porterville. Upon entering the foothills, land use transitions to primarily open space with sporadic rural residential communities.

Table 1.2: Soil Types Within the Project Areas

Bridge Number	Sandy Loam	Clay	Rocky Outcrop Complex	Saline-Sodic Complex	Xero-fluevents	Riverwash	Water	Other
#46C0036	100%	--	--	--	--	--	--	--
#46C0058	--	--	--	--	--	--	--	100%
#46C0059	--	--	--	--	--	--	--	100%
#46C0087	--	--	25%	--	--	75%	--	--
#46C0106	--	--	--	--	--	98%	--	2%
#46C0108	13%	--	--	--	--	81%	--	6%
#46C0202	--	--	100%	--	--	--	--	--
#46C0204	--	--	100%	--	--	--	--	--
#46C0205	100%	--	--	--	--	--	--	--
#46C0226	--	59%	--	--	--	--	41%	--
#46C0269	--	--	--	100%	--	--	--	--
#46C0309	--	--	--	--	--	--	--	100%
#46C0318	--	--	--	31%	--	69%	--	--
#46C0330	100%	--	--	--	--	--	--	--
#46C0403	100%	--	--	--	--	--	--	--
#46C0408	100%	--	--	--	--	--	--	--
#46C0420	33%	--	--	--	--	67%	--	--

1.2 Project Description

Tulare County, in cooperation with the Caltrans, proposes to perform maintenance on 17 bridges as part of the Tulare County BPMP – Group 5 Project. The Project area includes bridge locations throughout western Tulare County (**Figure 1. Project Vicinity** and **Figure 2. Project Location**).

The County is responsible for the maintenance of 359 bridges within the boundaries of Tulare County. In 2015, the County developed a BPMP, that includes five category groups of maintenance

activities, with the following objectives: maintain the existing bridge inventory in a structurally safe and serviceable condition; correct minor structural defects; repair deficiencies early in a bridge's life prior to encountering major, more costly rehabilitation, reconstruction, or replacement; and extend the service life of existing bridges. Group 5 includes scour countermeasures (streambed degradation or localized scour), which is often the highest priority, and the repair, restoration, and strengthening of structural elements.

The purpose of the Project is to extend the service life of 17 bridges within the County considered to be in generally good condition. Preventative maintenance activities are needed to provide improved safety and operations on each facility.

The proposed Project would implement preventive maintenance measures primarily consisting of scour protection repairs and other miscellaneous work including but not limited to deck treatment, spall repair, structural connection repairs, joint repairs, bridge bearing repairs, and overlay (asphalt concrete) removal. Erosion control will be placed where necessary and disturbed areas will be revegetated. A summary of specific work items per bridge is included in **Table 1.3** below:

Table 1.3: Proposed Work per Bridge Location

Bridge Number	Facility Carried/ Intersection	Location	Work Description
46C0036	Road 168 / Tulare Irrigation District (TID) Canal	0.1 mi N of SR 198	• Clear debris/rubble in TID Canal • Grout exposed piles and place grout bags in front of piers
46C0058	D60 / Cross Creek	2.05 mi S of AVE 352	• Partially grouted RSP along the whole creek width
46C0059	D60 / Cross Creek	1.95 mi S of AVE 352	• Clear debris/rubble in Cross Creek • South abutment rubble to be removed and replaced with properly sized RSP • Drop structure downstream of bridge • Grout exposed piles at abutments • Partially grouted riprap along full length of channel
46C0087	Avenue 120 / Deer Creek	0.5 mi E of RD 272	• Grout exposed pier piles and place cut-off walls at piers • Partially grouted riprap at abutments and piers • Methacrylate deck treatment
46C0106	Road 144 / Deer Creek	0.1 mi S of AVE 72	• Grout exposed pier piles and place partially grouted riprap around piers • Methacrylate deck treatment
46C0108	Avenue 88 / Deer Creek	0.2 mi E of RD 176	• Place partially grouted riprap around piers • Methacrylate deck treatment • Clear debris within Deer Creek
46C0202	M-112 / Deer Creek	5.86 mi SE of M120	• Replace left rotated wingwall • Add cut-off walls to both abutment footings

Bridge Number	Facility Carried/ Intersection	Location	Work Description
46C0204	M-112 / Tyler Creek	0.3 mi N of M56	• Place downdrains around wingwalls • Repaint areas where the paint system is damaged or no longer effective
46C0205	M-56 (Hot Springs Rd.) / Deer Creek	16.4 mi E of M109	• Cut-off wall at abutment 1
46C0226	Avenue 428 / Friant Kern Canal	0.4 mi E of RD 144	• Methacrylate deck treatment • Reset bearings at abutment 4 • Remove AC from sliding steel plate joint to allow for joint movement • Place RSP or turf reinforcement mat at abutments
46C0269	Road 80 / Elk Bayou	1.1 mi N of AVE 160	• Remove asphalt concrete surfacing (and re-stripe deck) • Place RSP at piers and abutments • Replace bridge rail
46C0309	Avenue 220 / Lewis Creek	0.25 mi E of RD 244	• Grout and place cut-off walls at abutments
46C0318	Road 136 / Deer Creek	0.6 mi S of AVE 78	• Place partially grouted riprap at piers • Clear debris within Deer Creek • Deck treatment – Polyester concrete overlay
46C0330	Road 180 / Cottonwood Creek	0.4 mi N of AVE 352	• Place RSP along channel and around wingwalls • Clear debris within Cottonwood Creek
46C0403	Avenue 304 / Crocker Cut	0.2 mi E of RD 180	• Construct cut-off wall along downstream • Remove AC at both approaches and along bridge
46C0408	Road 152 / Mill Creek	0.4 mi N of SR 198	• Place partially grouted riprap at piers • Replace or add additional grout bags at upstream portions of abutments
46C0420	Road 108 / Saint John's River	0.75 mi S of AVE 328	• Grout exposed piles • Place partially grouted riprap along full channel width • Methacrylate deck treatment • Place RSP within Saint Johns River

Temporary road closures and detours will take place at select bridge sites. The anticipated duration of the road closures will be approximately 4-6 hours depending upon access needs of residents and available detour options. Temporary construction easements (TCEs) will likely be needed on a limited basis to accommodate the construction of the proposed preventative maintenance activities. Partial and full right-of-way (ROW) takes are not anticipated. Construction at all bridge locations is expected to be completed in approximately 12 months.

The Project is federally funded through the Highway Bridge Program (HBP), as such it requires compliance with both the National Environmental Policy Act (NEPA) and the California

Environmental Quality Act (CEQA). The lead agency for the CEQA compliance is the County, and the lead agency for the NEPA compliance is Caltrans.

Purpose

The purpose of the Project is to extend the service lives of nineteen bridges within Tulare County that are considered to be in generally good condition.

Need

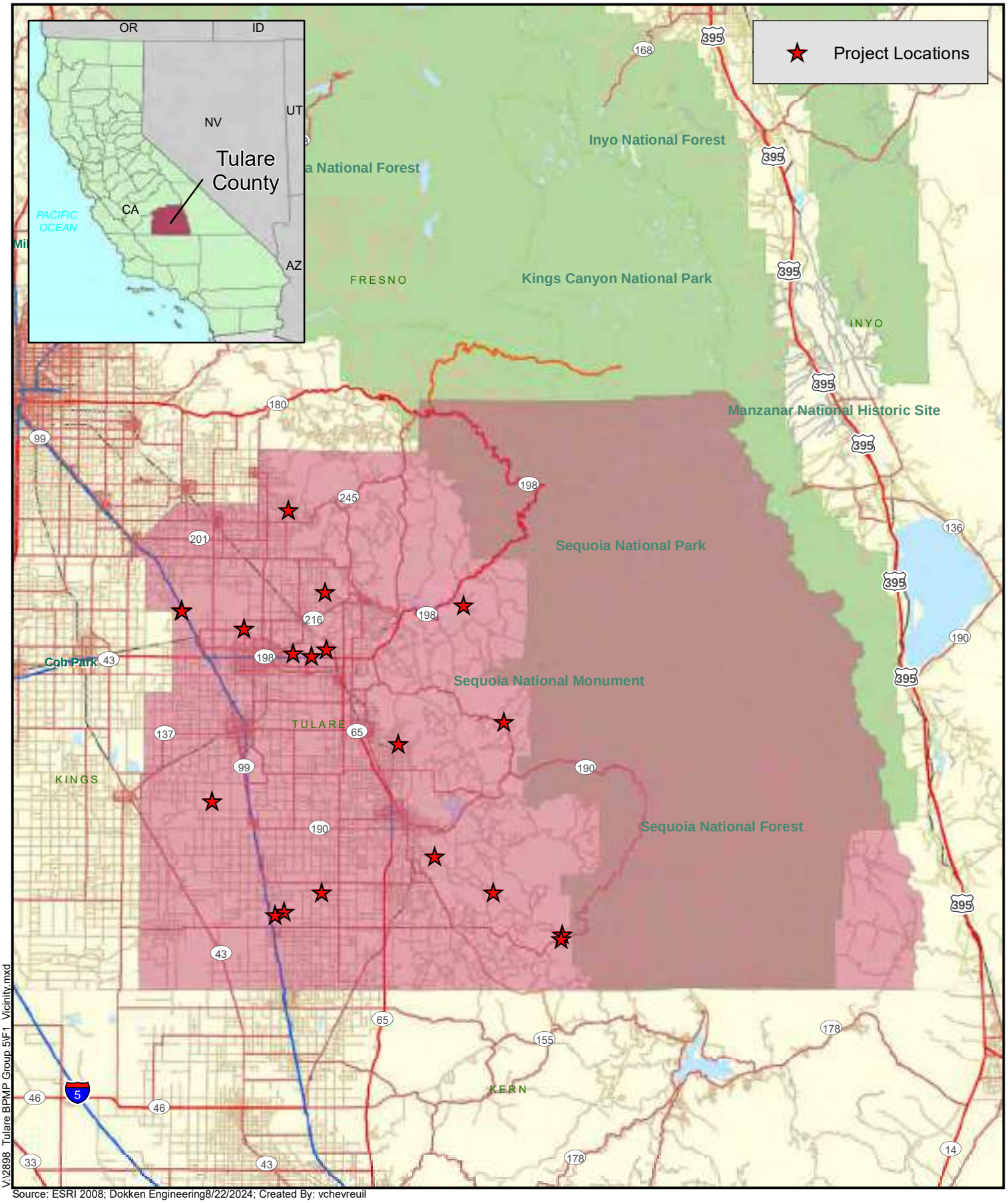
Preventative maintenance activities are needed to provide improved safety and operations on each facility.

Build Alternative

The Build Alternative would result in the performance of maintenance on nineteen bridges throughout various locations within the County to extend the service life and safety. Making up Group 5 of the BPMP, the bridges are generally in good condition with maintenance needs including scour countermeasures (streambed degradation or localized scour) and the repair, restoration, and strengthening of structural elements.

No Build Alternative

The No-Build Alternative would result in none of the specified Group 5 maintenance being conducted for the 19 bridges. As such, the existing bridges would remain with a non-extended lifespan and un-improved safety and operations.



Source: ESRI 2008; Dokken Engineering8/22/2024; Created By: vchevreuil

V:\2898 Tulare BPMP Group 5\F1 Vicinity.mxd

0 10 20 30 40 Miles

FIGURE 1
Project Vicinity

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



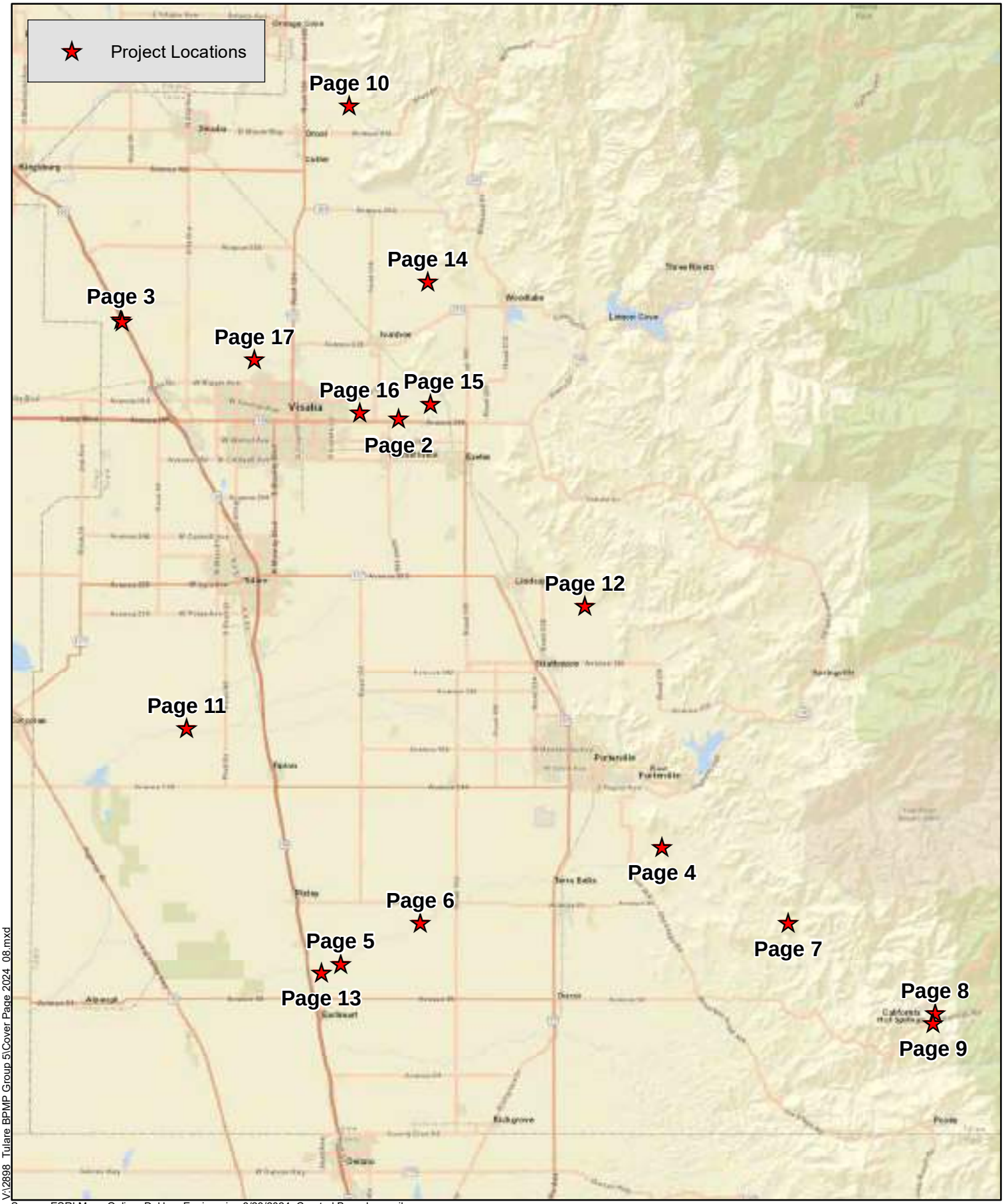
V:\2898 Tulare BPMP Group 5\F2 Location.mxd

Source: ESRI World Street Maps Online; Dokken Engineering 8/22/2024; Created By: vchevreuil

0 5 10 15 20 Miles

FIGURE 2
Project Location

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 8/23/2024; Created By: vchevreuil

0 5 10 15 Miles

FIGURE 3
Project Features
Page 1 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



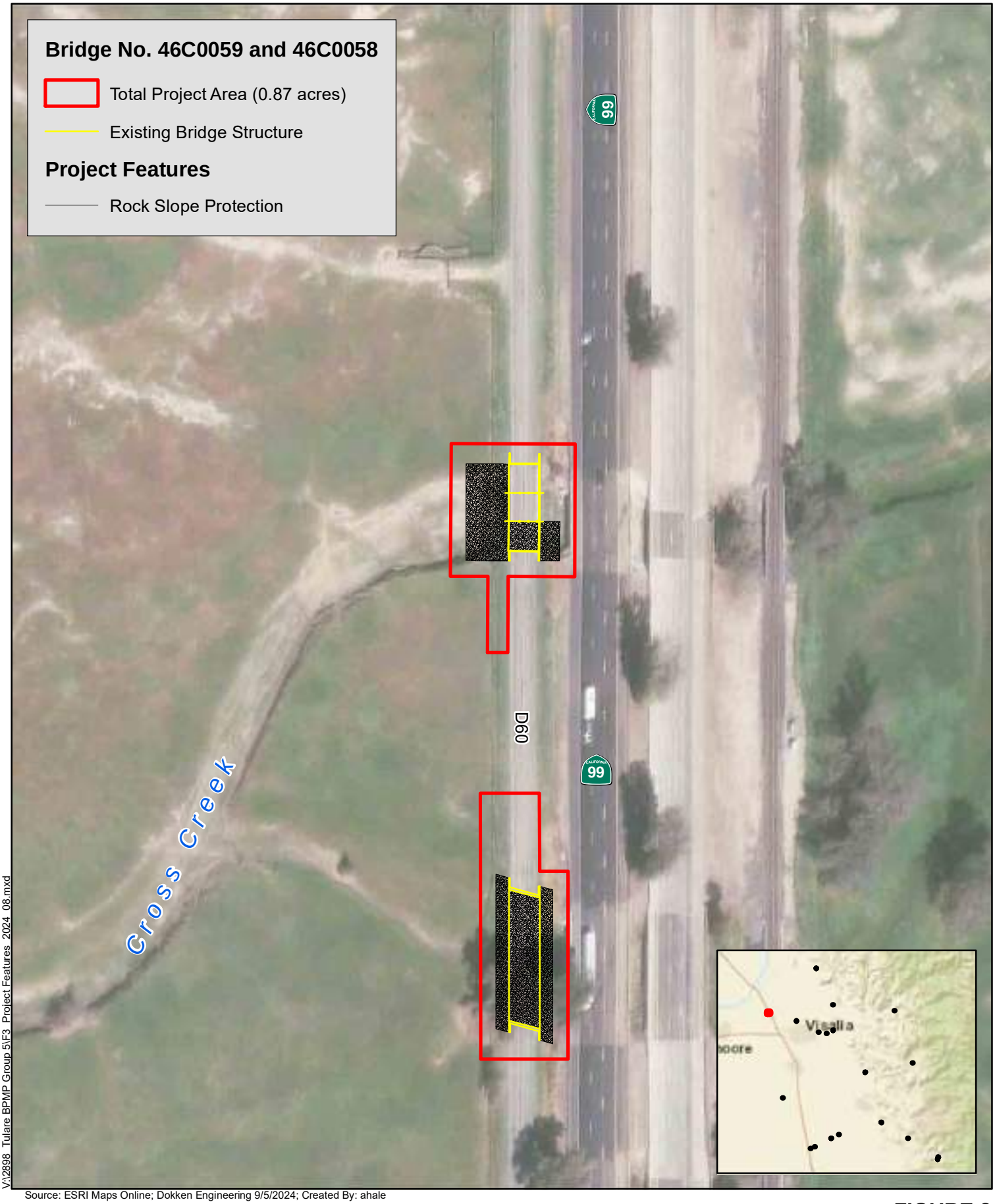
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 125 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 4 of 17

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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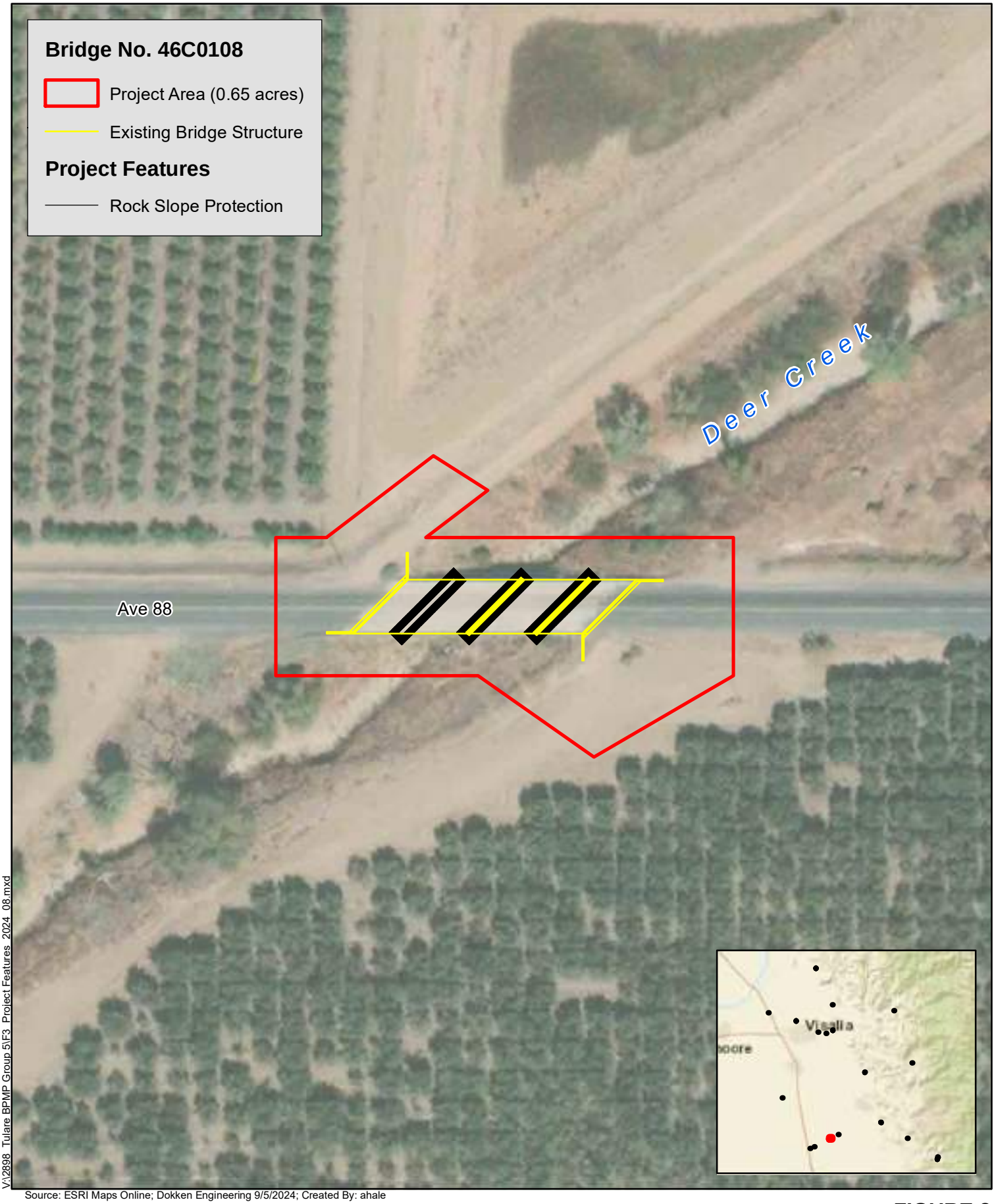
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 5 of 17

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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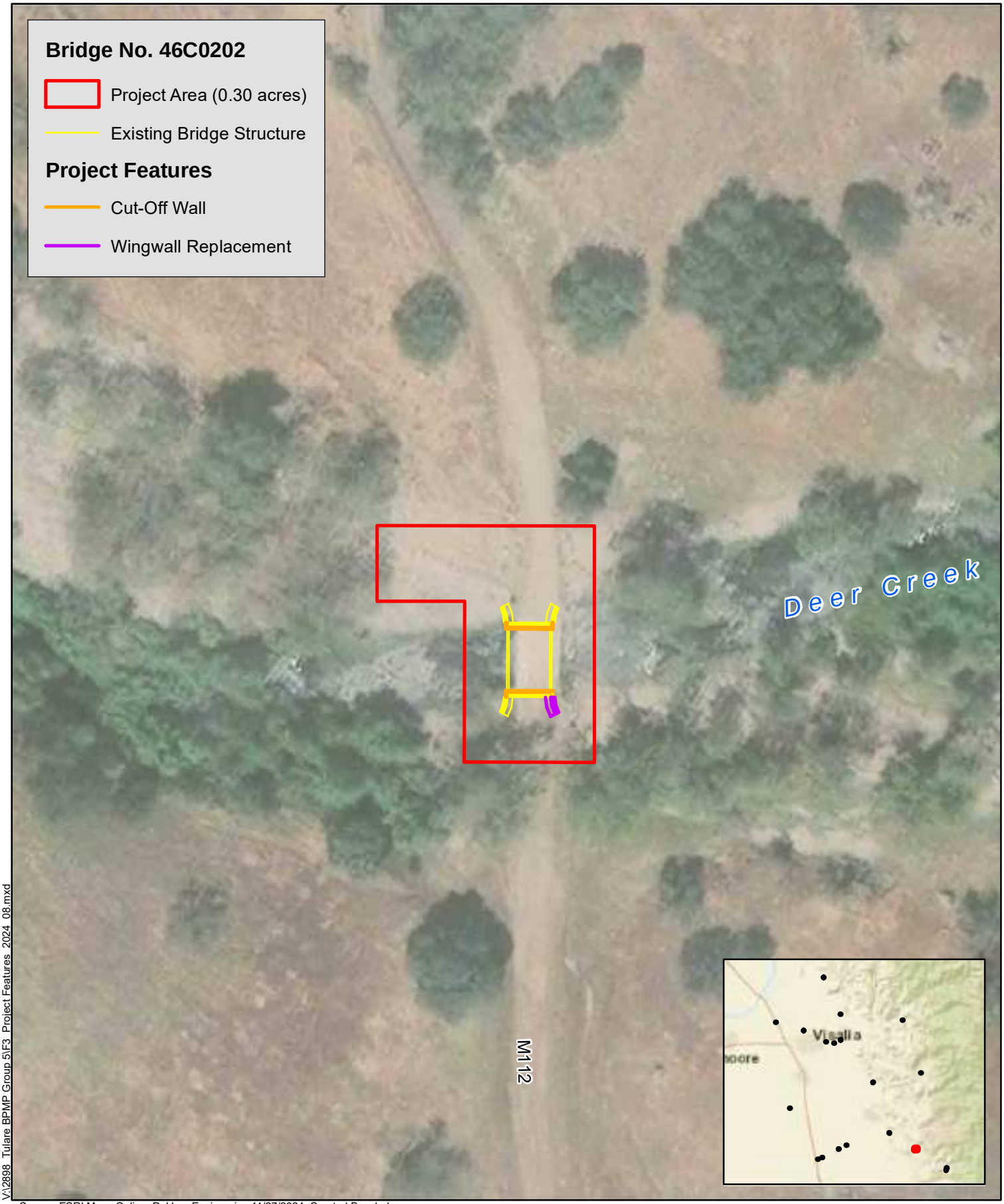
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 11/27/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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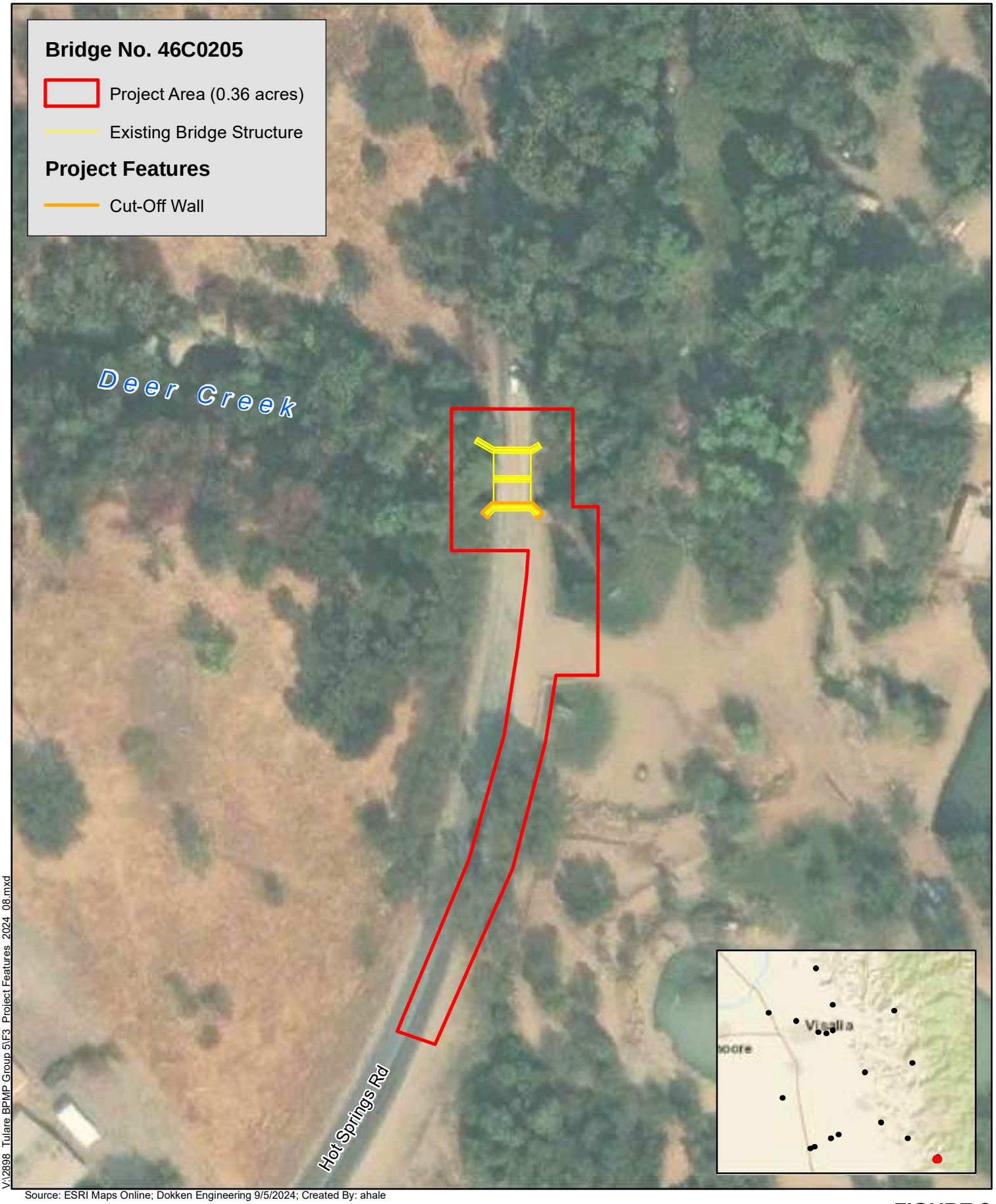
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



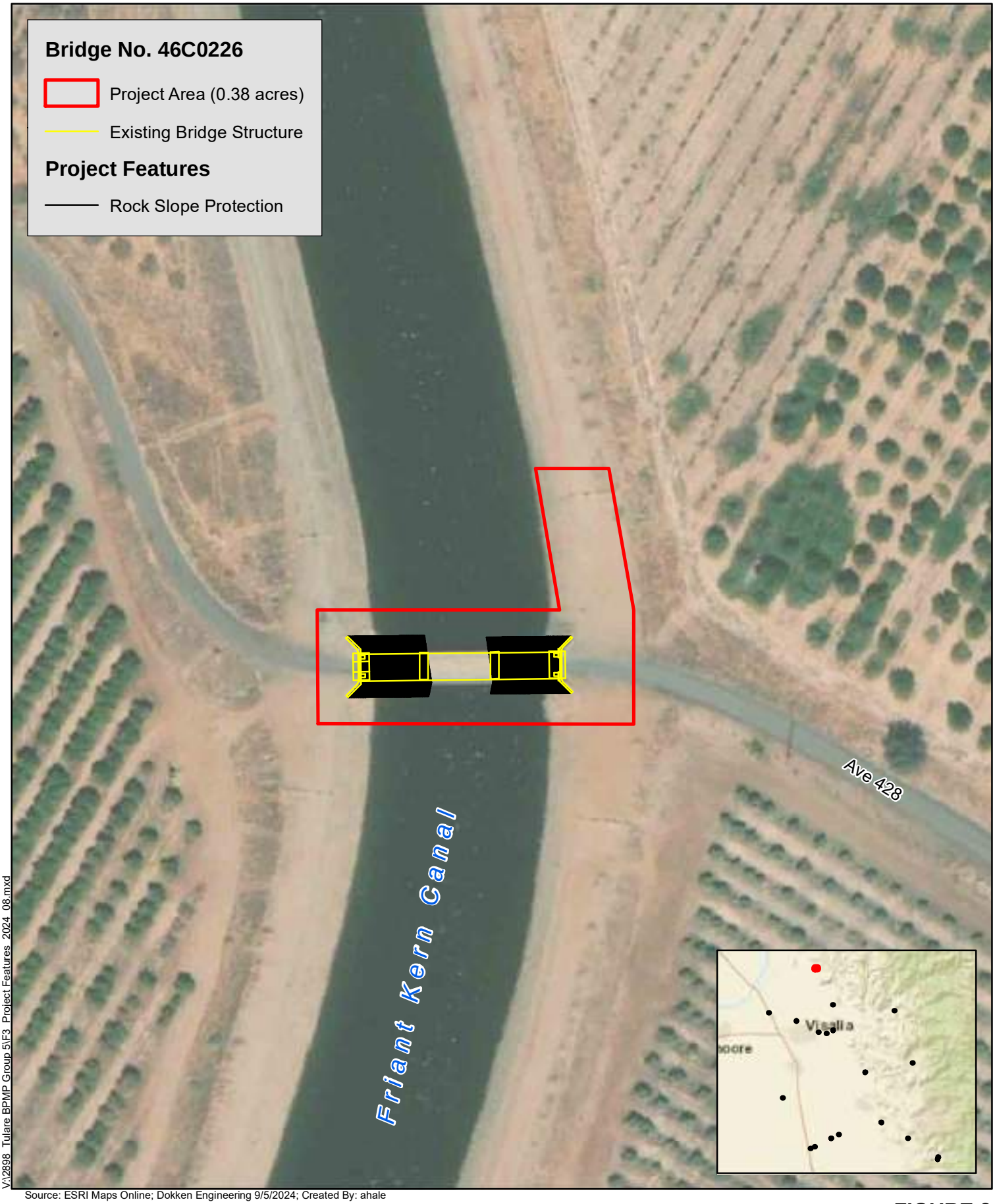
V:\2898 Tulare BPMP Group 5\F3 Project Features 2024 08.mxd

Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 9 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



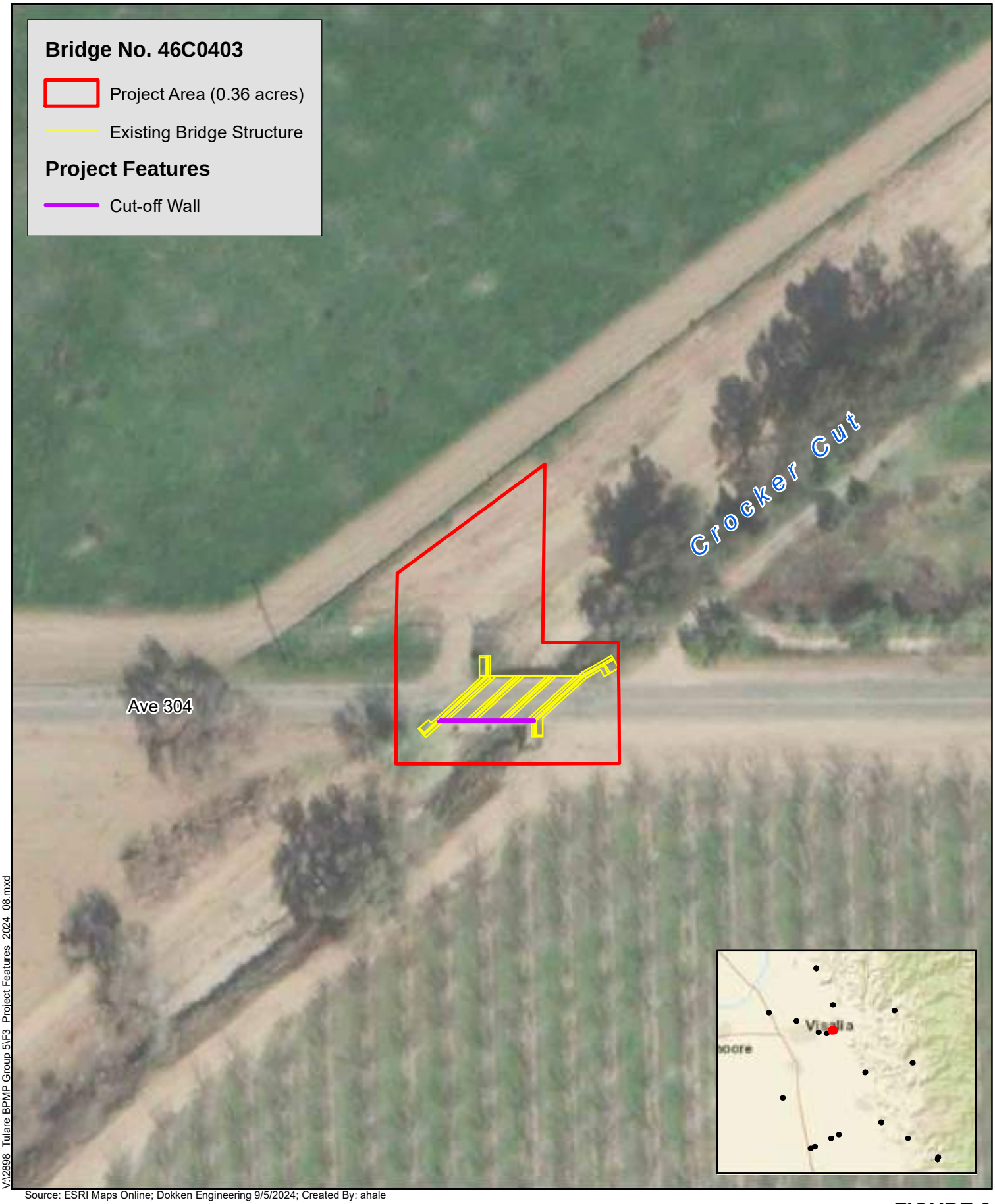
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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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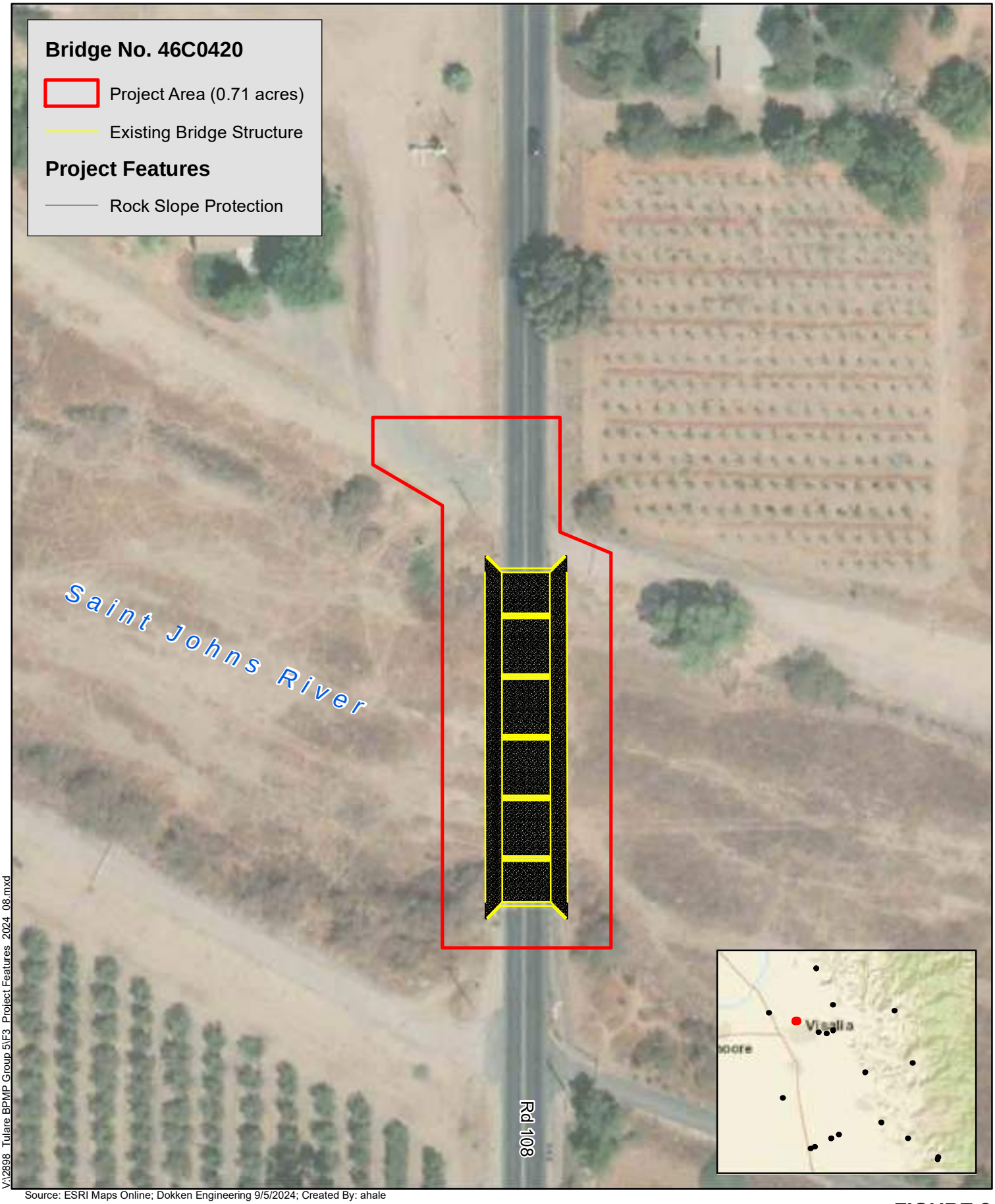
Source: ESRI Maps Online; Dokken Engineering 9/9/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



V:\2898 Tulare BPMP Group 5\F3 Project Features 2024 08.mxd

Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 17 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

1.3 Purpose of the Initial Site Assessment

This ISA was prepared in general accordance with "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", which is presented in the ASTM International Standard E-1527-21[1]. This document is intended to be in general compliance with the US Environmental Protection Agency's "Standards and Practice for All Appropriate Inquires (AAI)"[2].

The purpose of an ISA is to evaluate the Subject Properties, parcels that are within the Project area, for the presence of RECs and/or AULs, which are:

> REC: "...the presence or the likely presence of any hazardous substances or petroleum hydrocarbons on the (Subject Property) that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum hydrocarbons into structures or into the ground, groundwater, or surface water of the subject property."[1]
>
> AUL: "...legal or physical restrictions or limitations on the use of, or access to, a site or facility: 1) to reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil or ground water on the property, or 2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment."[1]

Opinions given in this ISA report, relative to the potential for hazardous materials to exist within the Project area, are based upon the information derived from the site reconnaissance conducted on March 18, 2024 and from other information sources described herein. Certain indicators of the presence of hazardous materials or petroleum hydrocarbons not readily observable during the reconnaissance may become observable at a later date. Readily available public information sources were reviewed as providing complete and accurate information, without independent verification. The findings and conclusions in this report are based solely on the limited scope of an ISA, which includes records reviews, reconnaissance surveys, findings of potential hazardous sites, and recommendations to address potential hazardous waste impacts. Because the scope of an ISA is necessarily limited and based in part on third party sources and significant assumptions, it is not warranted that the Subject Properties do not include hazardous material releases in areas not identified in this report.

[1] ASTM International E-1527-21.

[2] 40 Code of Federal Regulations, Part 312.

2 Subject Properties and Site Settings

The Project area includes portions of the parcels listed below in **Table 2.1- Parcel Identification** (**Figure 3. Project Features**). TCEs are likely needed on a limited basis to accommodate the construction of the proposed improvements. No permanent ROW acquisition would be required for construction of the Project.

Table 2.1 - Parcel Identification

Bridge Number	APN	Zoning
46C0036	111-180-064	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	111-180-015	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	111-180-028	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	111-180-063	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
46C0058	045-100-009	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
46C0059	045-100-009	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	045-100-021	AE-80 Exclusive Agricultural Zone – 80 Acre Minimum
46C0087	305-190-021	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	305-060-013	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	305-060-014	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
46C0106	318-130-005	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	318-290-002	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
46C0108	319-100-002	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	319-110-005	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
46C0202	325-030-005	AF – Foothill Agricultural
46C0204	325-210-065	A-1 Agricultural
	325-210-013	A-1 Agricultural
46C0205	344-190-006	A-1 Agricultural
	344-190-007	A-1 Agricultural
	344-190-004	A-1 Agricultural
46C0226	035-260-013	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	035-250-003	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
46C0269	228-010-019	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	228-010-021	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	228-010-012	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	228-010-011	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
46C0309	210-170-008	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	210-160-027	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
46C0318	316-180-008	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	316-180-012	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	318-120-014	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
46C0330	053-120-007	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	053-160-006	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum

Bridge Number	APN	Zoning
46C0403	111-050-042	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	111-130-011	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
46C0408	103-110-006	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	103-500-001	Government/Public
	103-110-016	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	103-110-015	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
	103-100-010	AE-20 Exclusive Agricultural Zone – 20 Acre Minimum
46C04420	077-040-029	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	077-040-031	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	078-020-029	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
	078-020-030	AE-40 Exclusive Agricultural Zone – 40 Acre Minimum
Source: Tulare County GIS Maps and Data, 2020 – Zoning		

2.1 Topography

The topography within the Project areas varies greatly, with slopes ranging from 0 to 50 percent and the elevation of the Project locations ranges from 218 feet to 2,698 feet above sea level. **Table 2.2** shows the elevation ranges at each bridge location. Fourteen of the proposed bridge locations occur in the San Joaquin Valley, below 600 feet in elevation. Three of the proposed bridge locations occur in the Sierra Nevada foothills, above 800 feet in elevation. **Table 2.2** below shows the elevation range for each Project location. Additionally, each bridge location crosses a water feature, listed in **Table 2.4**.

Table 2.2 – Elevation Range at Each Bridge Location

Bridge Number	Elevation Range
46C0036	375-440 feet
46C0058	270-275 feet
46C0059	260-275 feet
46C0087	545-560 feet
46C0106	270-285 feet
46C0108	340-347 feet
46C0202	875-880 feet
46C0204	2,587-2,590 feet
46C0205	2,680-2,698 feet
46C0226	438-442 feet
46C0269	218-232 feet

Bridge Number	Elevation Range
46C0309	465-470 feet
46C0318	257-268 feet
46C0330	390-402 feet
46C0403	377-385 feet
46C0408	347-356 feet
46C0420	310-325 feet
Source: Google Earth Pro, 2024	

2.2 Current Land Use

Table 2.3 shows the land use designations at each bridge location. Land use in the Project areas is largely designated as Agriculture. Agricultural activities occurring in parcels adjacent to the Project areas include deciduous fruit and nut orchards, vineyards and cattle grazing lands. There are also rural residential private properties associated with the surrounding agricultural lands. According to the Tulare County General Plan Update, resource land use designations occurring with the Project areas include Valley Agriculture Foothill Agriculture, and Urban. The Valley Agriculture designation establishes areas for intensive agricultural activities on prime valley soils, with uses including irrigated crop production, orchards, vineyards, livestock, and resource extraction activities. The Foothill Agriculture designation establishes areas for agricultural activities in the foothill and mountain regions with uses including orchards, vineyards, grazing of cattle, horses, sheep, and goats, and resource extraction activities. The Foothill Mixed Use designation establishes areas within the foothill development corridors for residential, commercial, recreation and light industrial uses. Mixed Use areas to encourage the development of affordable housing units, compact development in the implementation of development strategies that support the use of mass transit, reduction of air impacts, and implementation of measures that contribute to the reduction of global warming. The Urban land use designation includes three bridge locations which are nearby the cities of Visalia and Three Rivers. These cities are developed and include residential and commercial urban development (Tulare County Resource Management Agency, 2012).

Given that the surrounding land use is mostly designated as Agricultural, pesticide/herbicide usage may occur or may have historically occurred on privately owned lands adjacent to the Project. However, disturbance is not anticipated in these areas where pesticides/herbicides are applied since construction will only occur within the existing roadway and bridge alignments. Additionally, the primary concern with pesticide/herbicides usage is residual arsenical (copper arsenate) pesticides,

which are not contained in current used applications.

Table 2.3 – Land Use Designations at Each Bridge Location

Bridge Number	Land Use Designation
46C0036	Valley Agriculture
46C0058	Valley Agriculture
46C0059	Valley Agriculture
46C0087	Foothill Agriculture
46C0106	Valley Agriculture
46C0108	Valley Agriculture
46C0202	Foothill Agriculture
46C0204	Foothill Agriculture
46C0205	Foothill Agriculture
46C0226	Valley Agriculture
46C0269	Valley Agriculture
46C0309	Valley Agriculture
46C0318	Valley Agriculture
46C0330	Valley Agriculture
46C0403	Valley Agriculture
46C0408	Urban
46C0420	Urban
Source: Tulare General Plan Update, 2012	

2.3 Surface Water

Data obtained from Federal Emergency Management Agency (FEMA) Flood Map Service Center designates seventeen bridge locations within Zone A and Zone X (**Figure 4. FEMA Map**s). Zone A indicate a high-risk area and have at least a 1% annual chance of flooding. Zone X indicate moderate to low risk areas and are outside of the 1% annual chance floodplain.

The Project area is located within multiple watersheds and crosses 11 different surface water features, summarized in **Table 2.4** below:

Table 2.4 – Water Features within the Project Area

Bridge Number	Water Body	Watershed	HU8	FEMA Flood Zone
46C0036	TID Canal	Middle Branch Cross Creek	Upper Kaweah	Zone X
46C0058	Cross Creek	Middle Cross Creek	Upper Kaweah	Zone A
46C0059	Cross Creek	Middle Cross Creek	Upper Kaweah	Zone A
46C0087	Deer Creek	Middle Deer Creek	Upper Deer-Upper White	Zone A
46C0106	Deer Creek	Lower Deer Creek	Upper Deer-Upper White	Zone A
46C0108	Deer Creek	Lower Deer Creek	Upper Deer-Upper White	Zone A
46C0202	Deer Creek	Middle Deer Creek	Upper Deer-Upper White	Zone A
46C0204	Tyler Creek	Upper Deer Creek	Upper Deer-Upper White	Zone X
46C0205	Deer Creek	Upper Deer Creek	Upper Deer-Upper White	Zone X
46C0226	Friant-Kern Canal	Sand Creek	Upper Kaweah	Zone X
46C0269	Elk Bayou	Elk Bayou	Upper Tule	Zone A
46C0309	Lewis Creek	Lewis Creek	Upper Tule	Zone A
46C0318	Deer Creek	Lower Deer Creek	Upper Deer-Upper White	Zone A
46C0330	Cottonwood Creek	Lower Cottonwood Creek	Upper Kaweah	Zone A
46C0403	Crocker Cut	Middle Branch Cross Creek	Upper Kaweah	Zone X
46C0408	Mill Creek	Lower Cross Creek	Upper Kaweah	Zone X
46C0420	Saint John’s River	Upper Cross Creek	Upper Kaweah	Zone A



Document Path: V:\2898_Tulare BPMP Group 5\HazWaste\F4_FEMA.mxd

Source: ESRI World Street Maps Online; Dokken Engineering 8/27/2024; Created By: ahale

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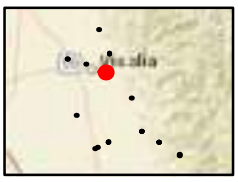
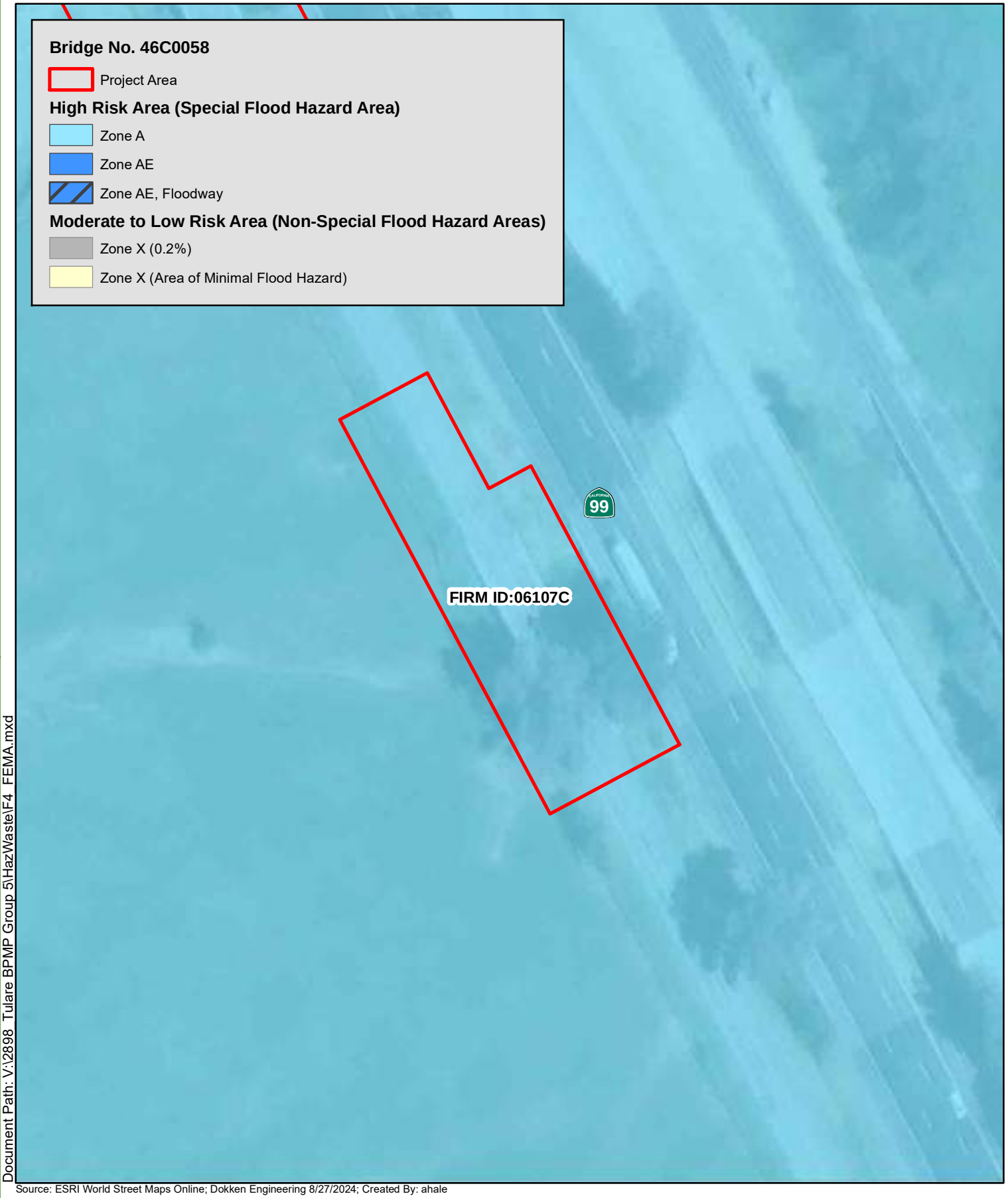


FIGURE 4
FEMA Map
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

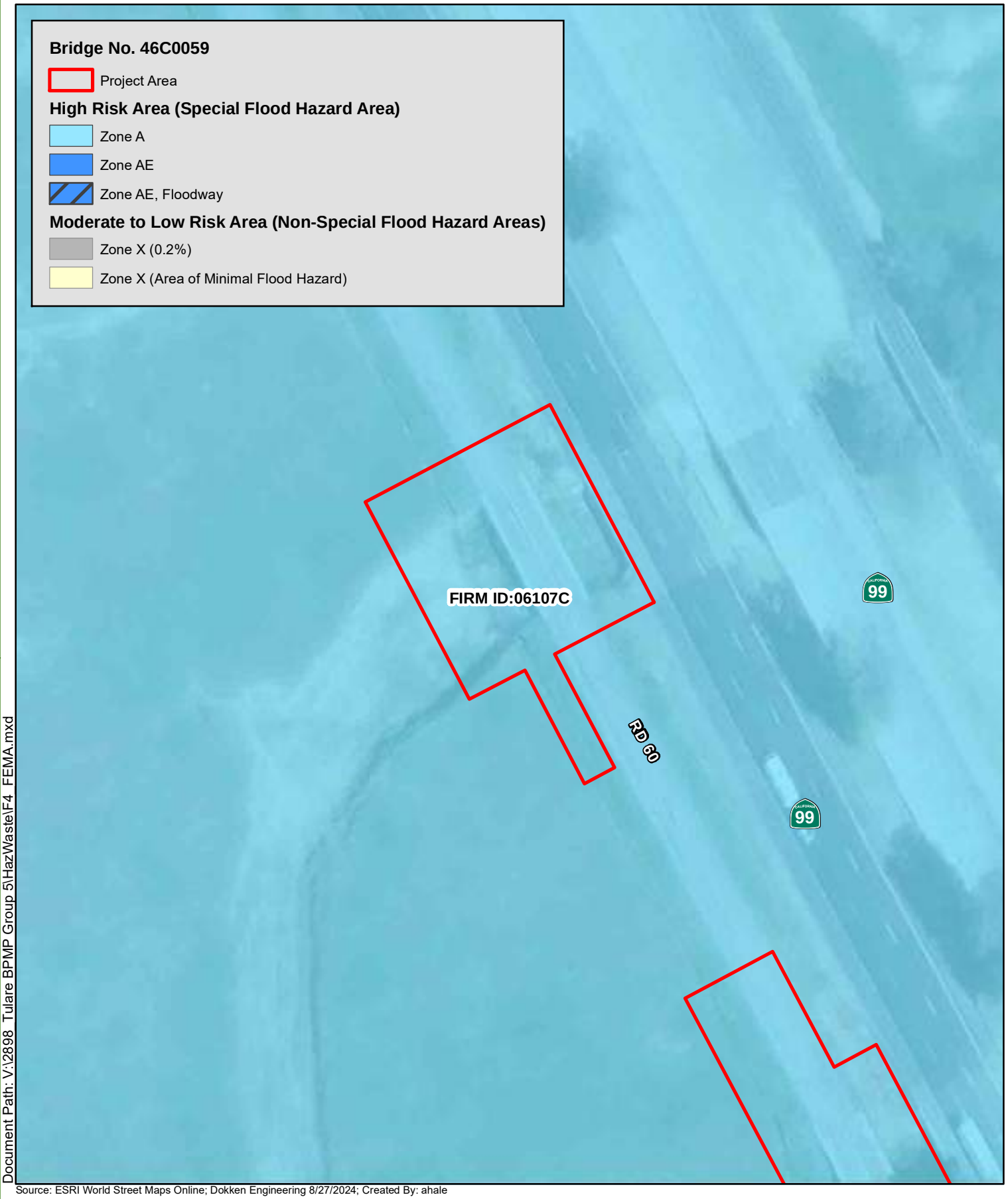


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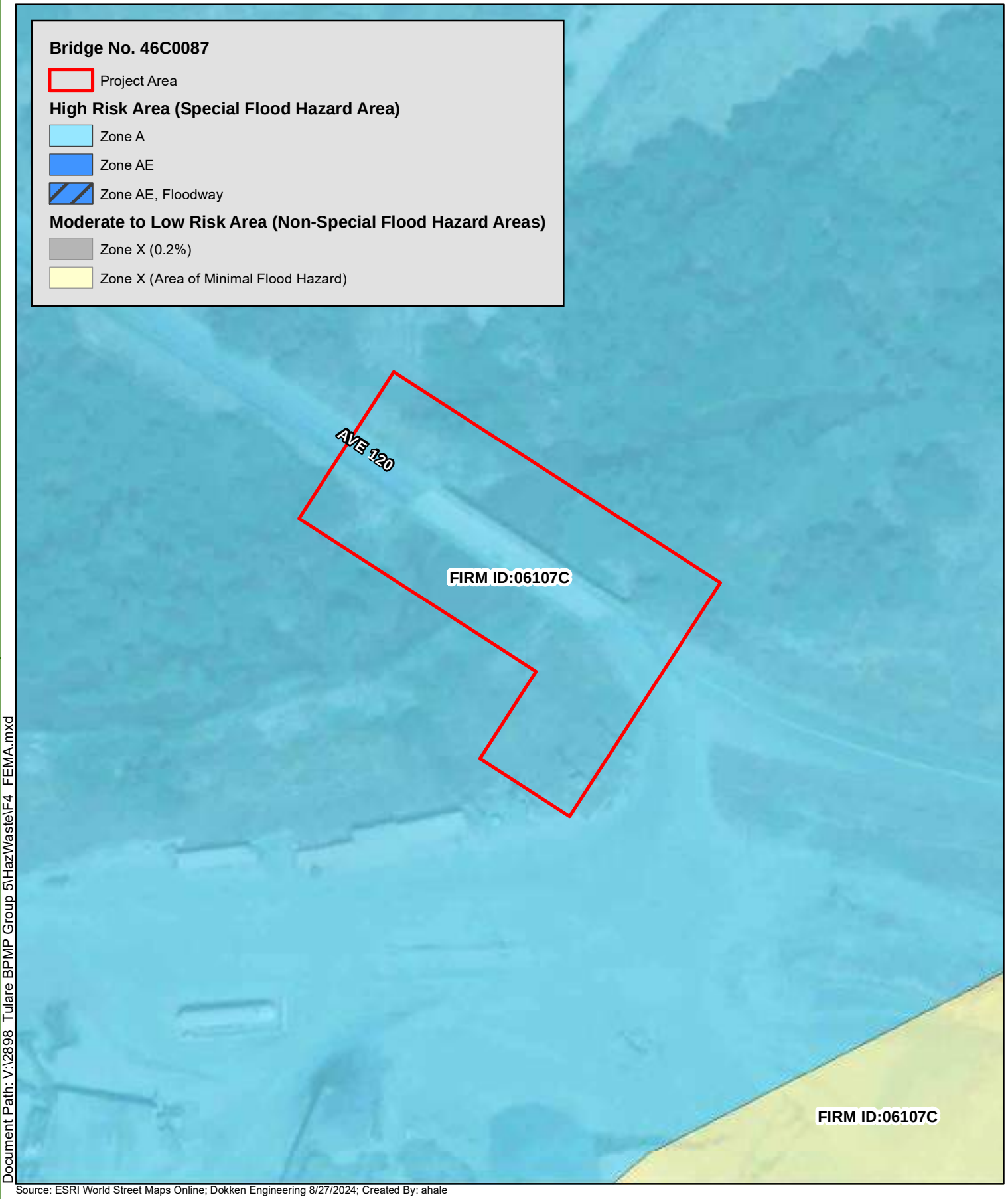


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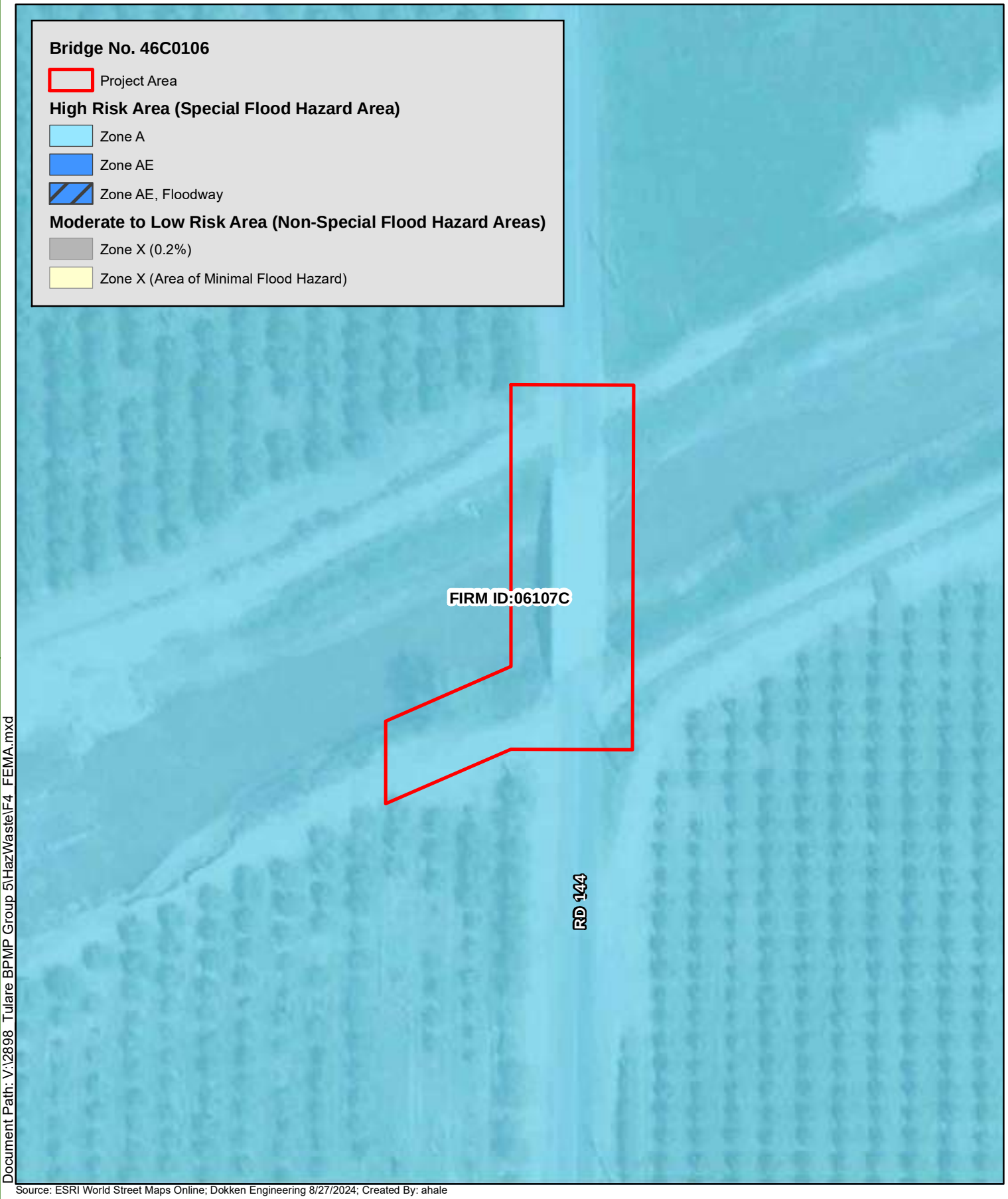


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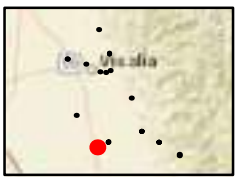
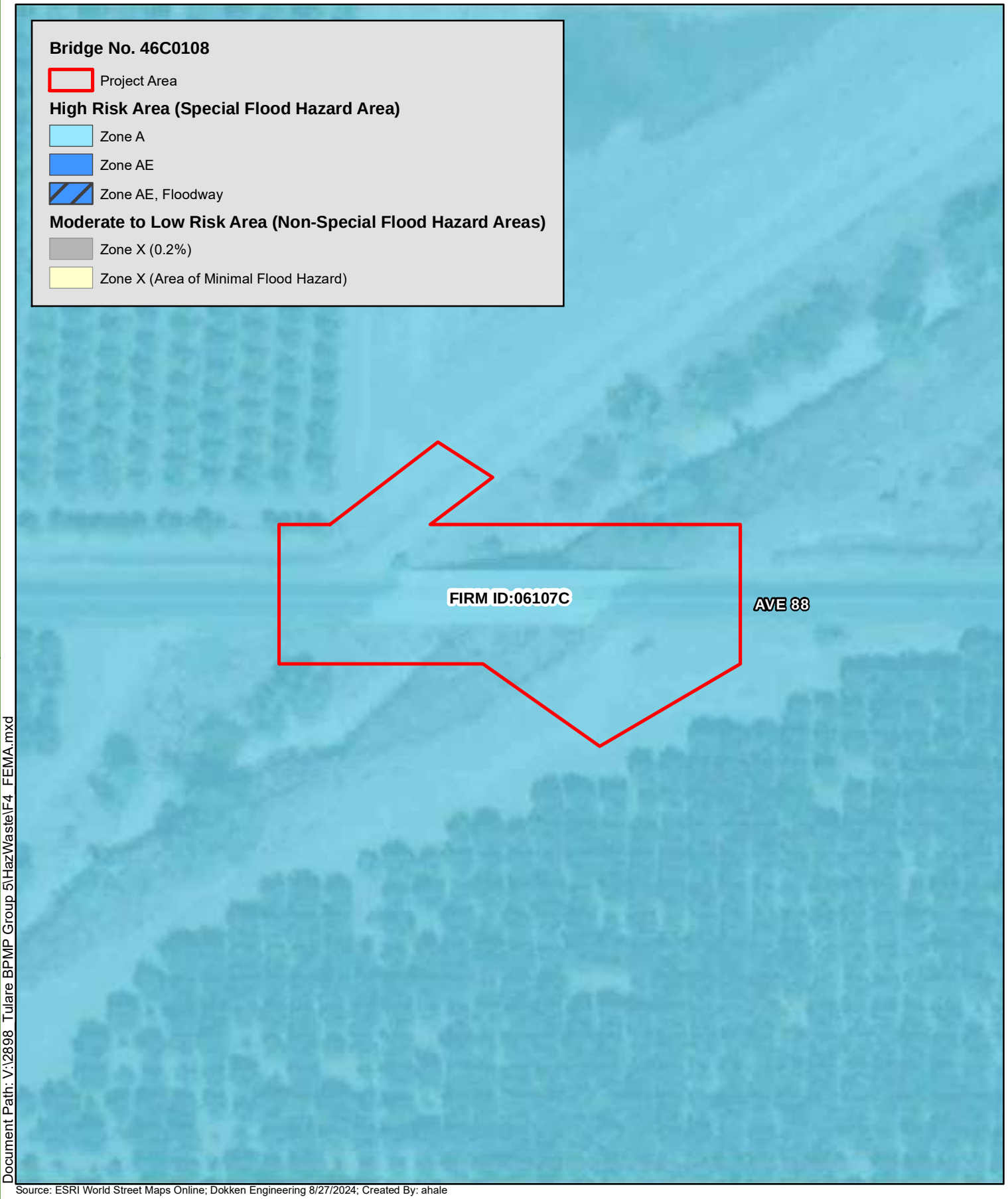


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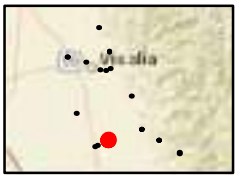
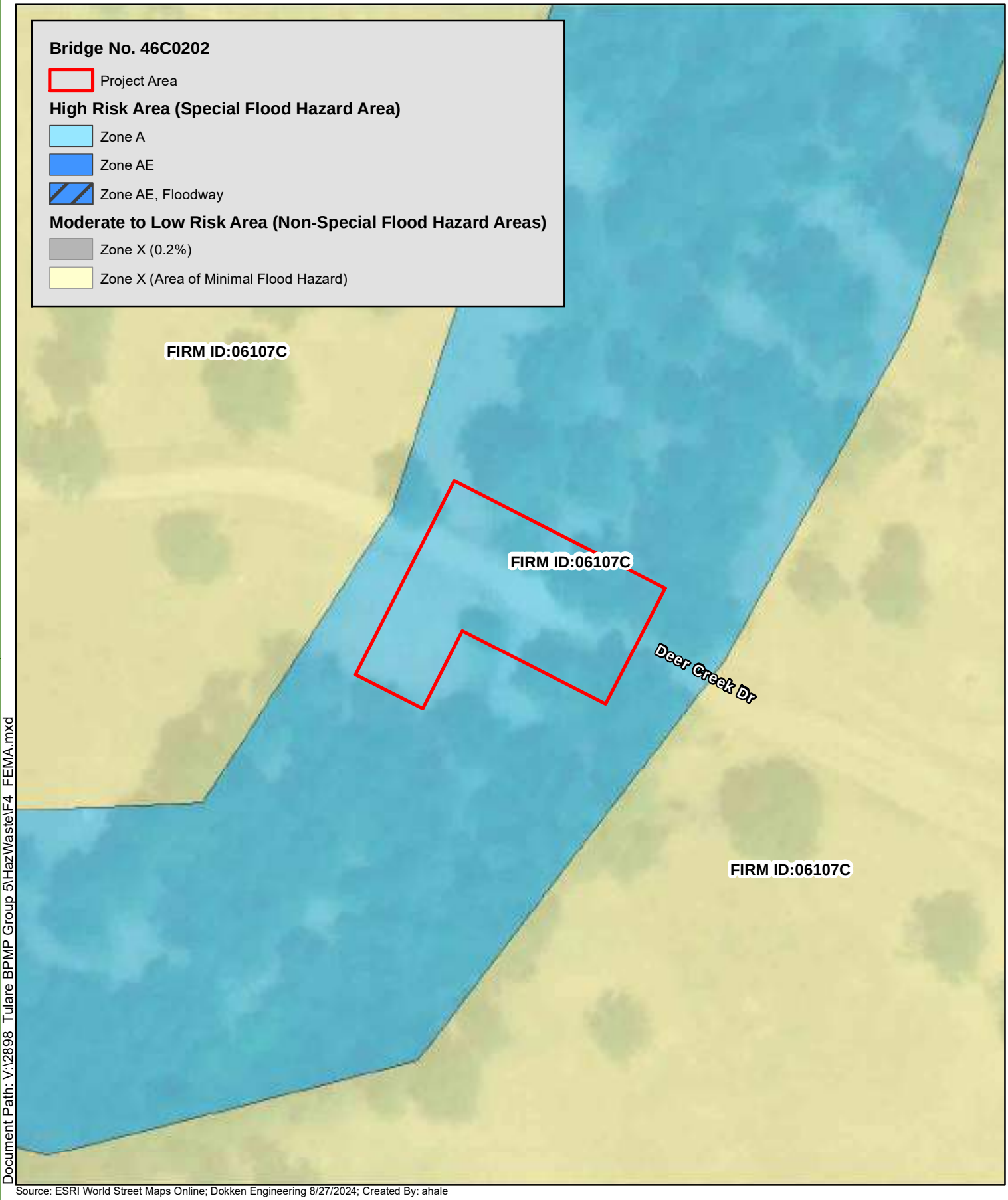


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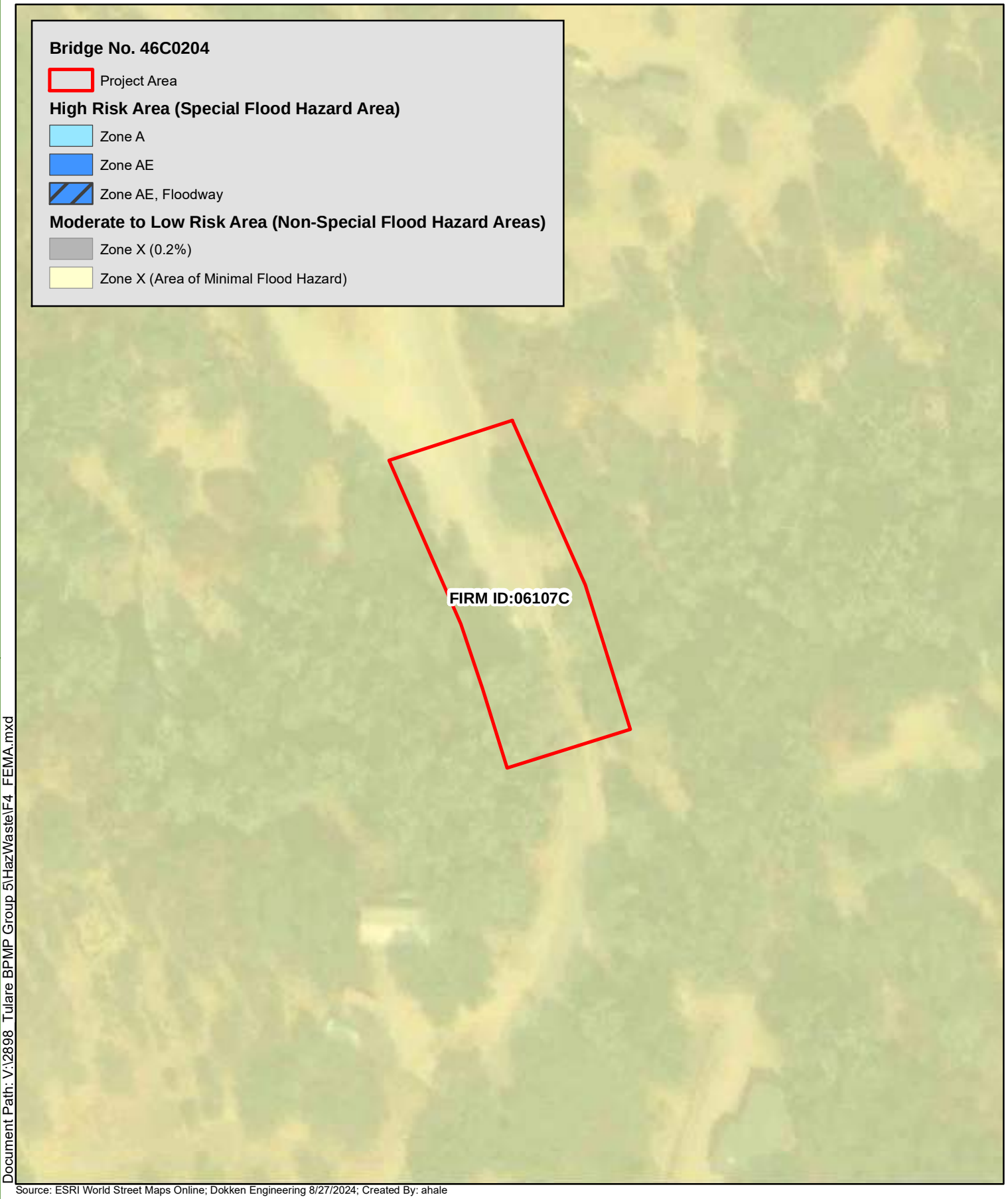


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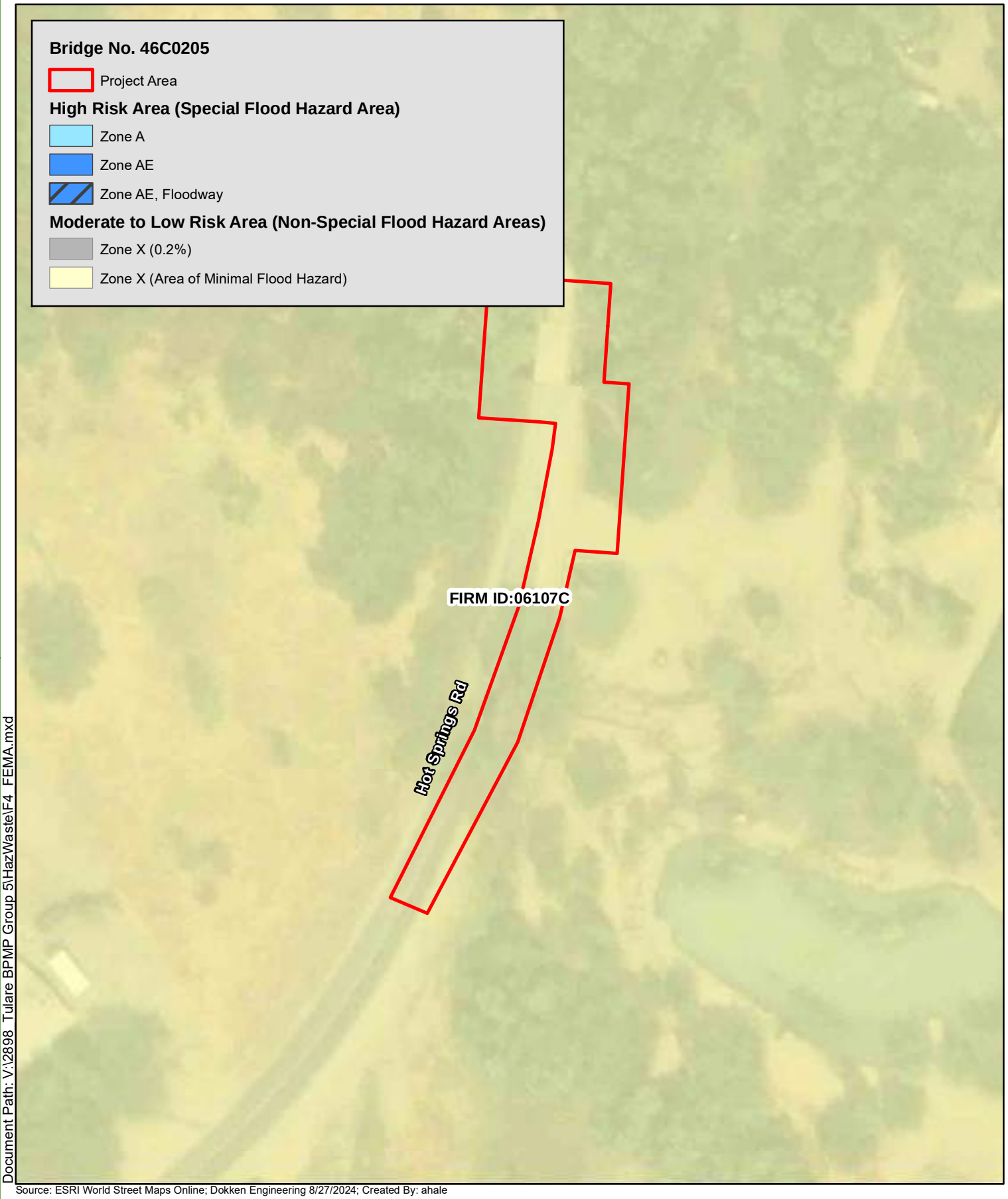


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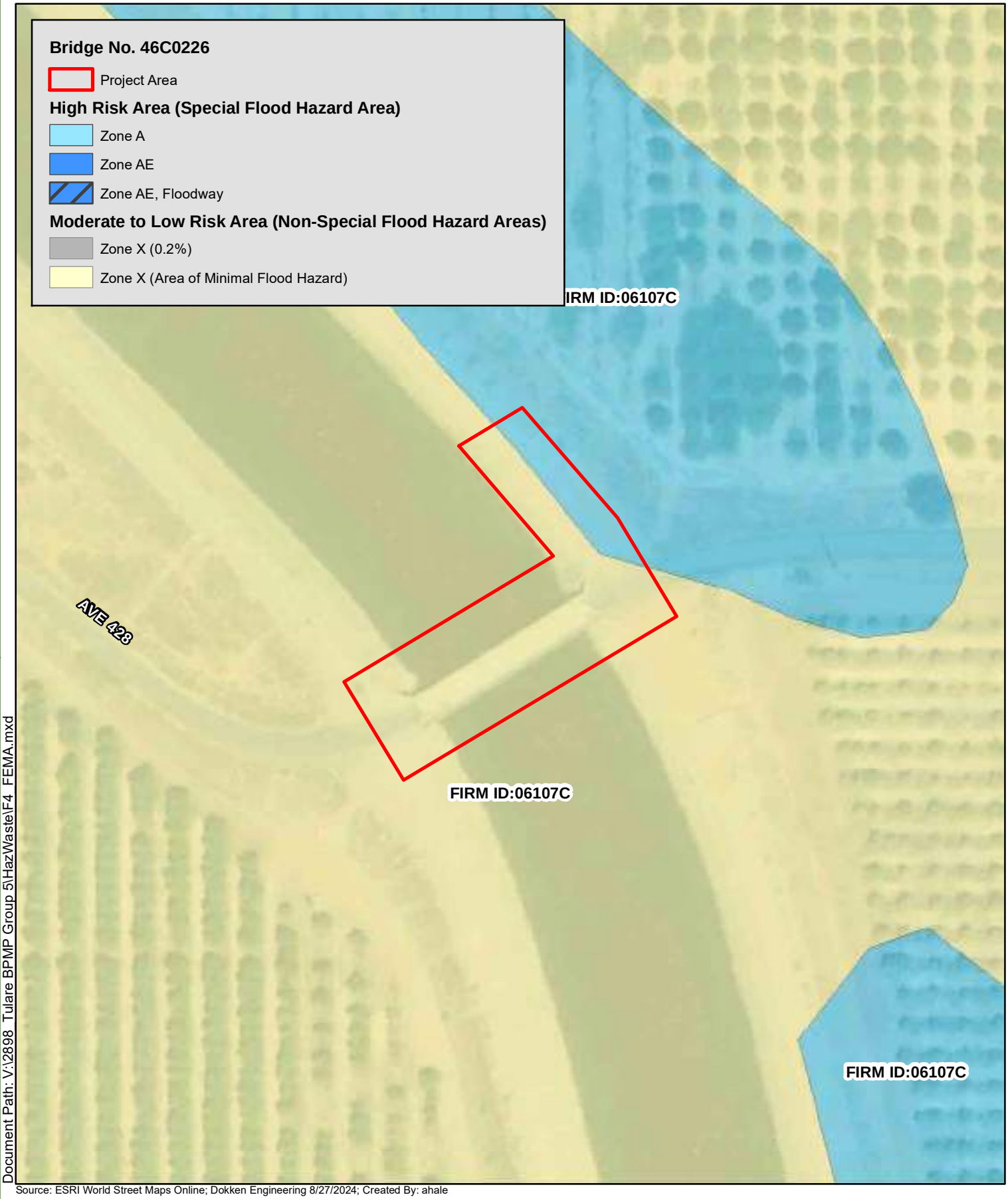


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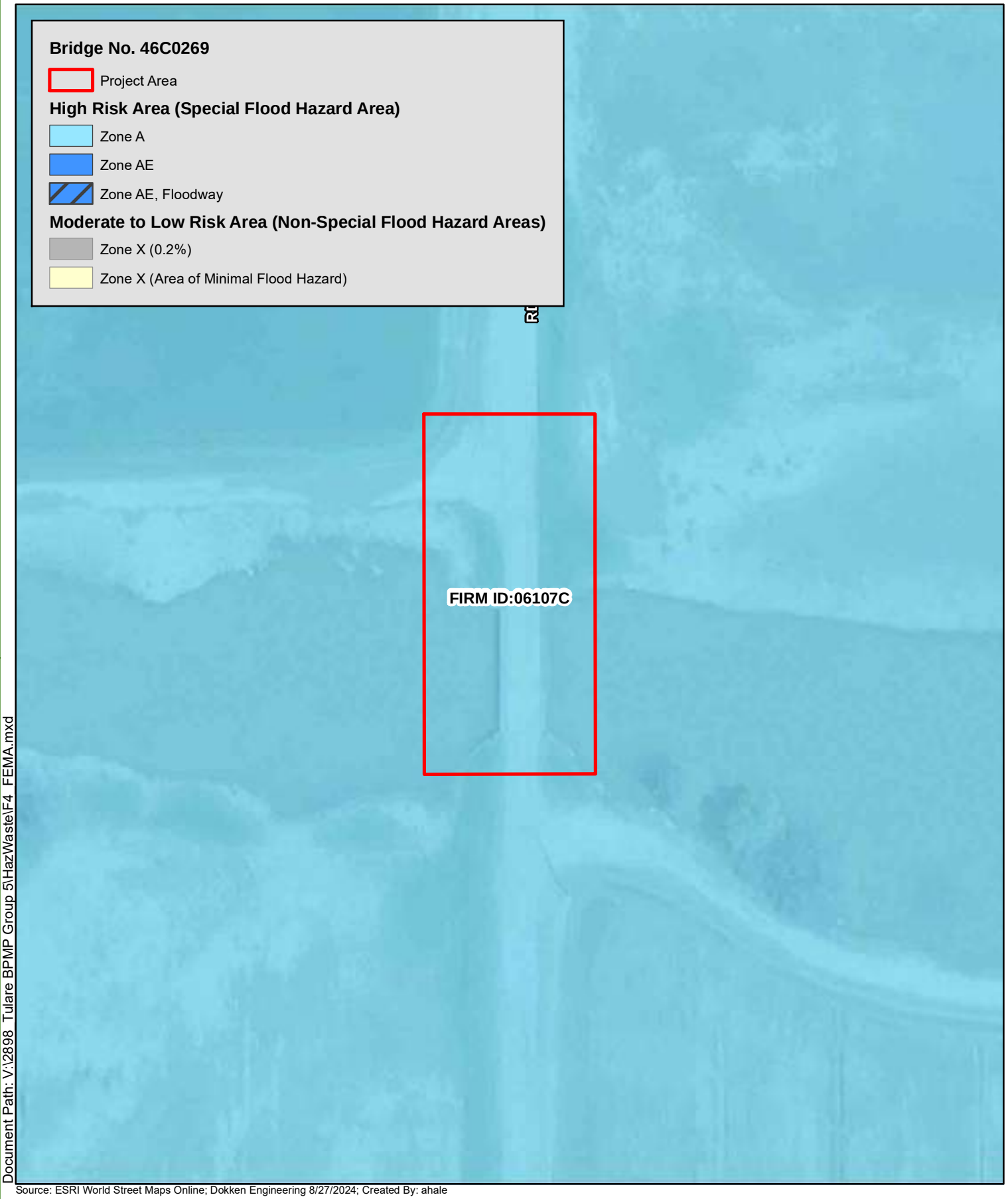


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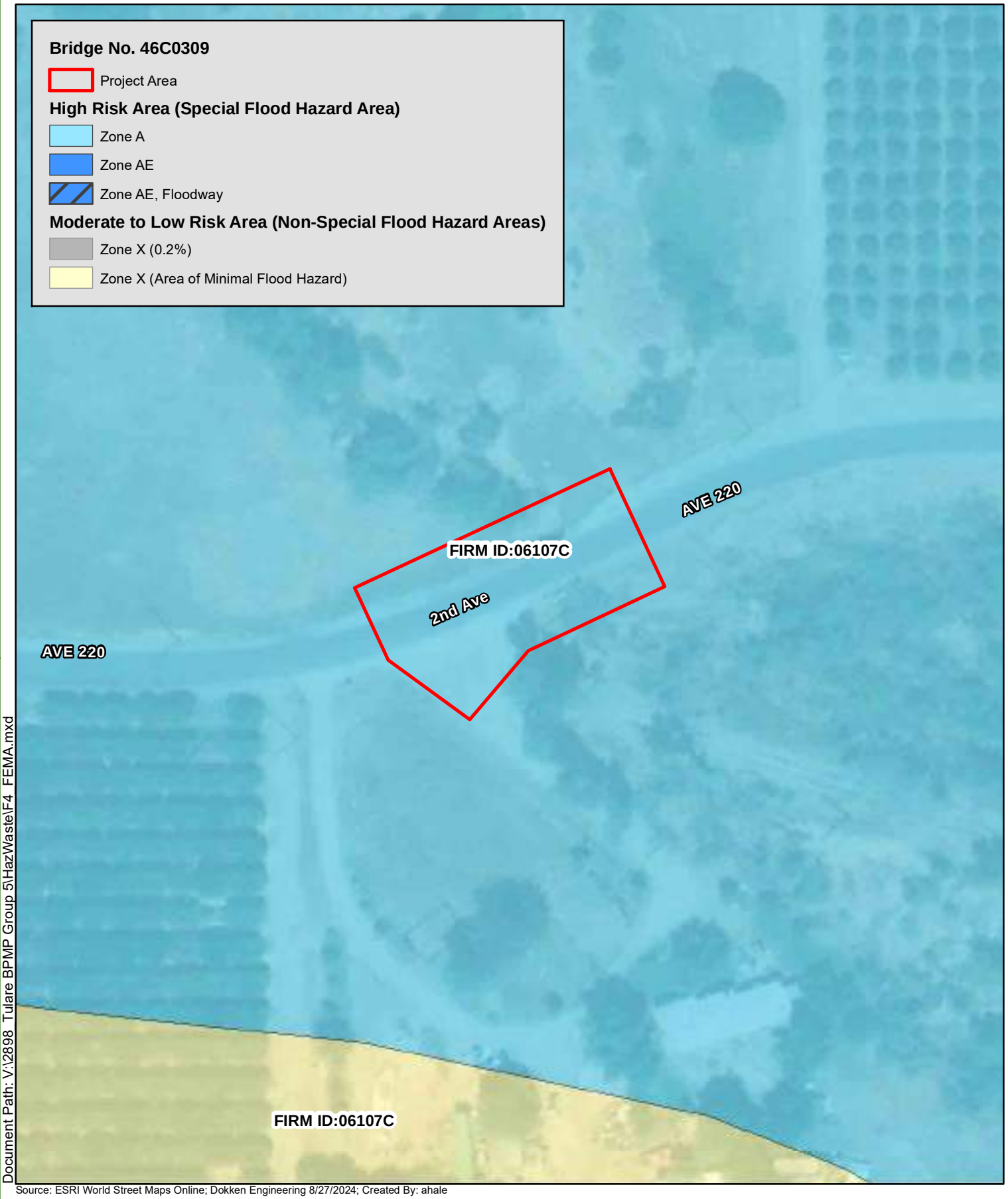


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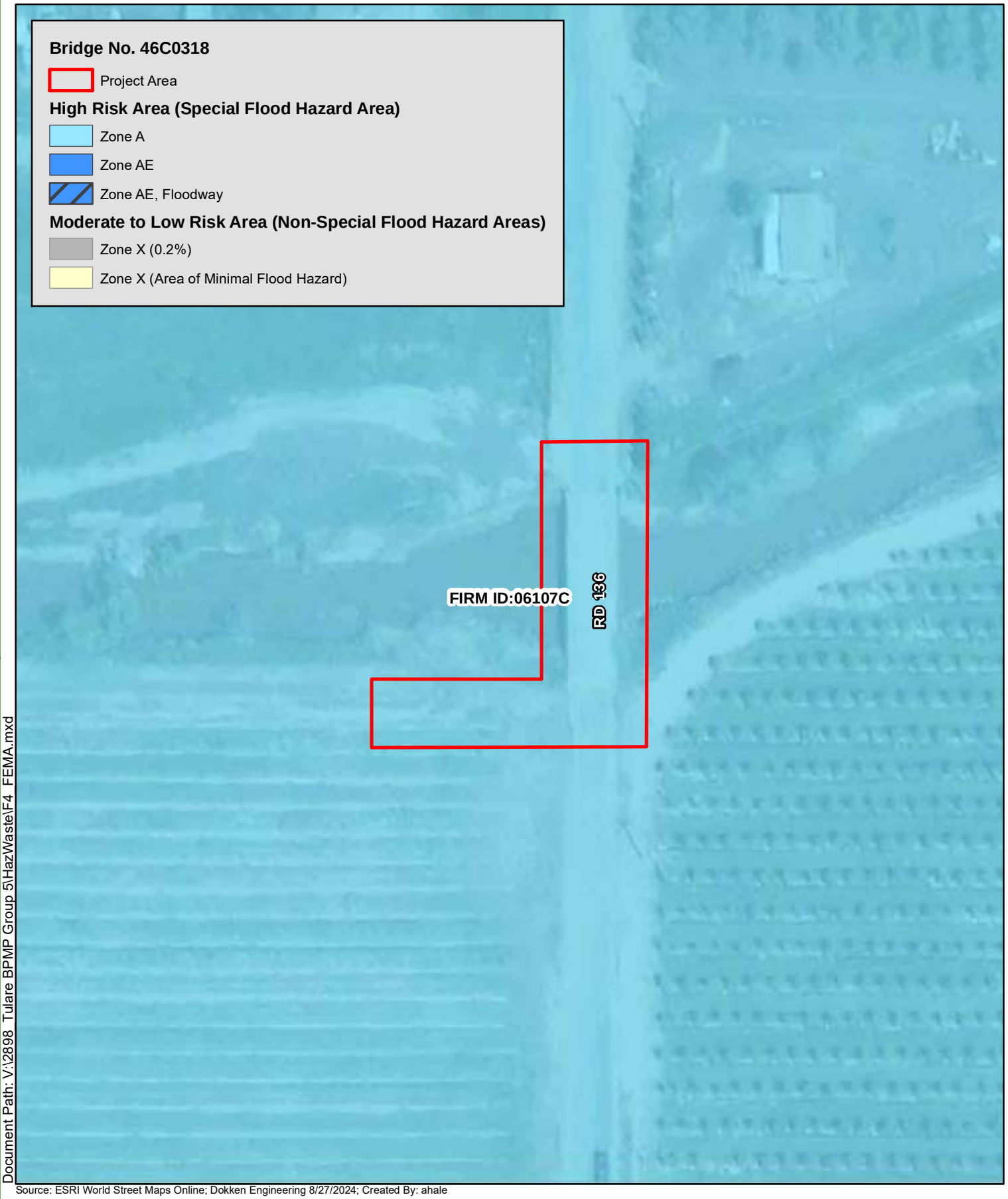


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Source: ESRI World Street Maps Online; Dokken Engineering 8/27/2024; Created By: ahale

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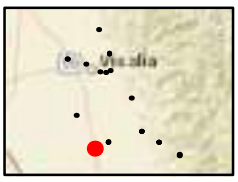


FIGURE 4
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Document Path: V:\2898_Tulare BPMP Group 5\HazWaste\F4_FEMA.mxd

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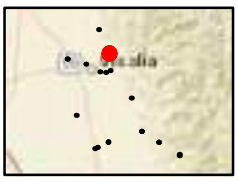


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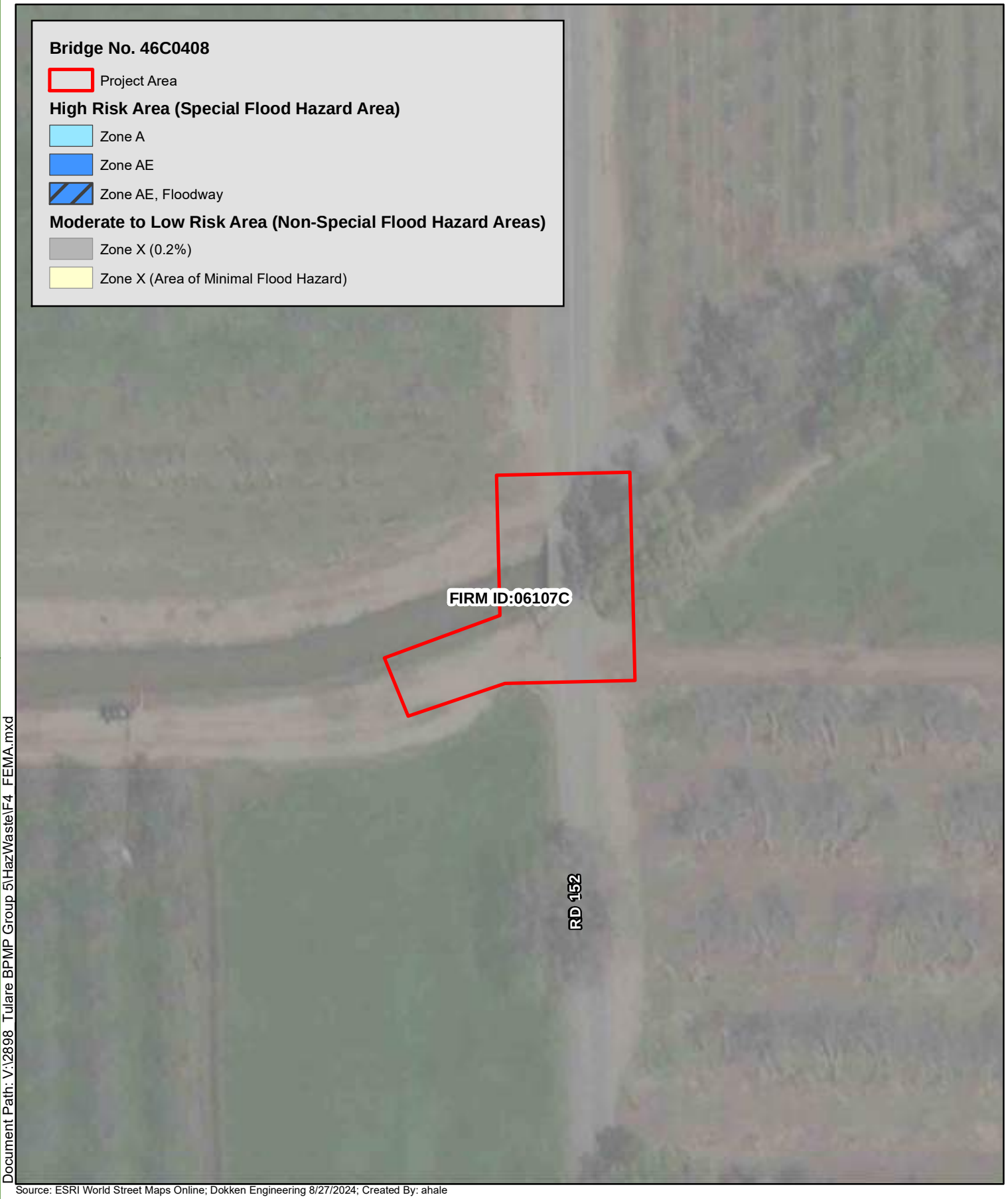


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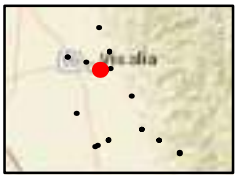
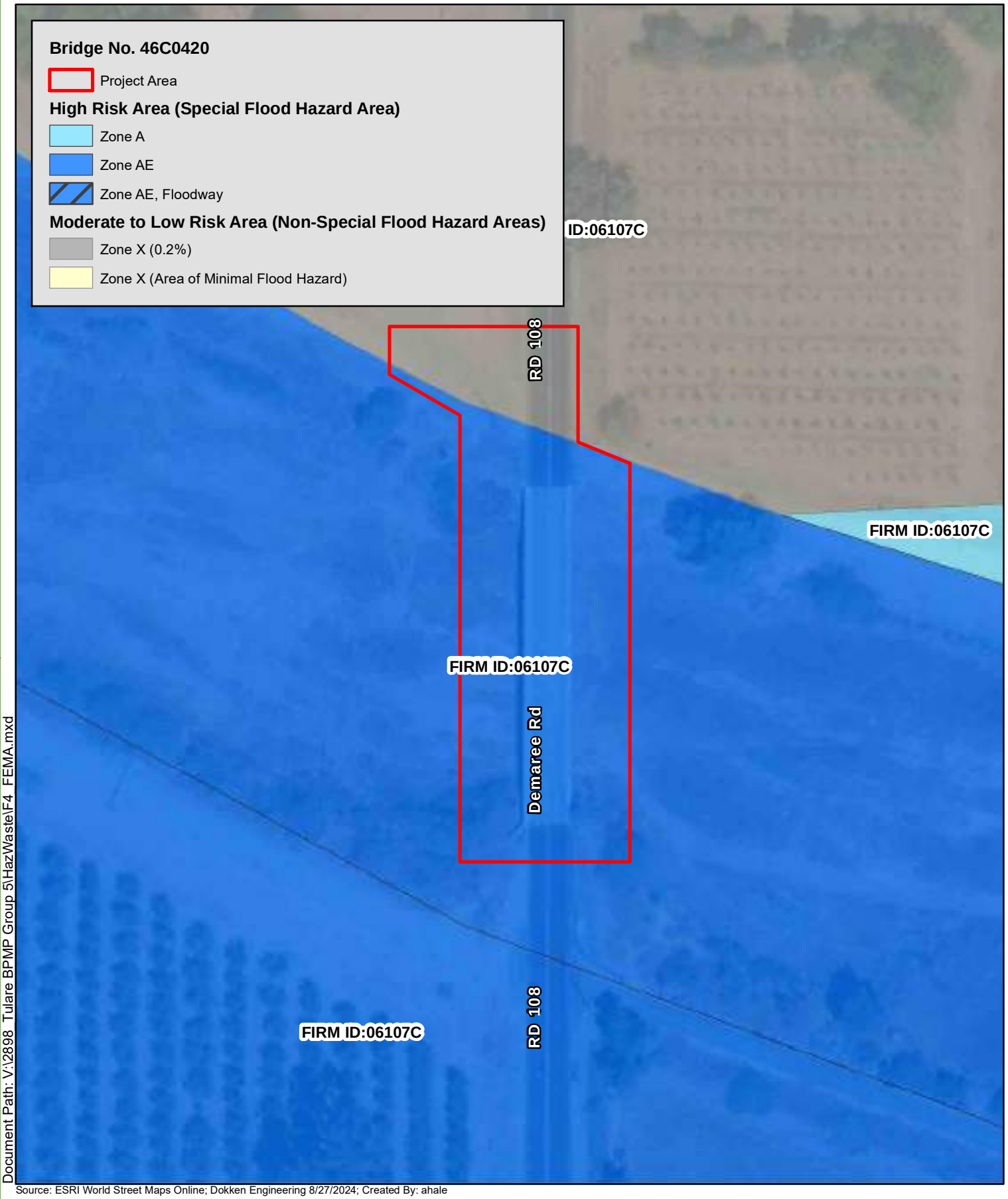


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FEMA Map
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Tulare County, California

3 Property Information

For properties that are intended to be acquired for the Project, this ISA addresses certain user-supplied information, including intended property use and readily available title documentation. A property appraisal of the subject properties was beyond the scope of this ISA.

No permanent ROW acquisition would be required for construction of the Project. TCEs are likely needed on a limited basis to accommodate the construction of the proposed improvements. A total of 52 parcels (Subject Properties) are within the Project area. These parcels and their associated zoning designation are listed above in **Table 2.1**.

4 Records Review

The following required public records as defined in the ASTM International Standard E-1527-21[3] were reviewed:

Table 4.1 - Reviewed Public Records

Standard Environmental Record Sources	Standard Environmental Record Sources Approximate Minimum Search Distance (miles)
Federal NPL site list	1.0
Federal Delisted NPL site list	1.0
Federal CERCLIS list	0.5
Federal CERCLIS NFRAP site list	0.5
Federal RCRA CORRACTS facilities list	1.0
Federal RCRA non-CORRACTS TSD facilities list	0.5
Federal RCRA generators list	0.25
Federal institutional control/engineering control registries	0.50
Federal ERNS list	0.001
State and tribal-equivalent NPL	1.0
State and tribal-equivalent CERCLIS	1.0
State and tribal landfill and/or solid waste disposal site lists	0.5
State and tribal leaking storage tank lists	0.5
State and tribal registered storage tank lists	0.25
State and tribal voluntary cleanup sites	0.5
State and tribal Brownfield sites	0.5

4.1 Government Records Search

A summary of the published lists of known hazardous substance sites was provided by EDR and a copy of the EDR Radius Report is included in **Appendix A**. EDR reviewed standard federal, state, and local listings of known sites and identified 24 sites within 1 mile of the Project areas. Nine of the seventeen bridge locations did not contain sites within 1 mile of the Project area, while eight of the seventeen sites identified at least 1 site within 1 mile of the Project area. **Table 4.2** below lists sites identified in the EDR Radius Report that are within 1 mile of the Project area.

[3] ASTM International E-1527-21.

Table 4.2 - Sites within 1 mile of Project Area

Bridge Number	EDR ID	Facility	Address	Database	Information	Distance (mile)
#46C0087	1	JAXON ENTERPRISES DBA DEER CREEK ROCK CO		US MINES	Permanently abandoned	0.022
	2	DEER CREEK ASPHALT	P.O. BOX 994248	MINES	Primary product produced by the mine: sand and gravel	0.036
	3	SHANNON QUARRY		MINES MRDS	Primary commodities: stone, crushed/broken	0.037
	4	DEER CREEK ASPHALT	27671 AVE 120	CERS HAZ WASTE CERS TANKS CUPA LISTINGS CERS	Hazardous Waste Generator; Aboveground Petroleum Storage Returned to compliance on 05/19/2014.	0.078
	5	DEER CREEK ASPHALT	27671 AVE 120	AST	Facility ID: FA1348610	0.078
#46C0204	1	023S030E35H001M		PFAS WQP	Water Sample-Routine (not detected)	0.199
#46C0205	1	MJ BATES	40730 HOT SPRINGS RD	RCRA NONGEN / NLR	Not a generator, verified	0.137
#46C0226	1	BEZZARIDES		MINES MRDS	Primary commodities: Uranium	0.159
#46C0318	1	EARLIMART TRANSFER STATION		LOS ANGELES CO LF METHANE		0.150
	2	EARLIMART TRANSFER STATION	7012 ROAD 136	SWF/LF	Solid Waste Facility	0.320
	3	EARLIMART DISPOSAL SITE	2 MI N EARLIMART	SWF/LF FINANCIAL ASSURANCE	Solid Waste Landfill	0.361
#46C0403	1	JOHN J. FLY	18202 AVE 304	RCRA NONGEN / NLR		0.022
	2	THE FLY FAMILY TRUST	18202 AVE 304	RCRA NONGEN / NLR		0.022
	3	JAY PETERSON DBA PETERSON FARMS	26165 ROAD 180	RCRA NONGEN / NLR		0.233
#46C0408	1	GARLAND PIT		MINES MRDS	Primary commodities: Sand and Gravel, Construction	0.093
#46C0420	1	CELL SITE CA 1280 – RIGGIN	32221 RD 108	CUPA LISTINGS	Quantities of Chem, Inactive	0.000
	2	AT&T MOBILITY – VISALIA (USID9634)	32300 ROAD 108	CERS HAZ WASTE CERS	Hazardous Waste Generator – no violations found	0.085
	3	AT&T MOBILITY – VISALIA (USID9634)	32300 ROAD 108	CUPA LISTINGS	Quantities of Chem – active	0.085

	4	AT&T MOBILITY	32300 ROAD 108	RCRA NONGEN / NLR	Not a generator, verified	0.085
	5	VERIZON WIRELESS DEMAREE	32300 RD 108	CUPA LISTINGS	Quantities of Chem – active	0.085
	6	GONZALEZ FARM LABOR	12770 AVE 320	CUPA LISTINGS	Quantities of Chem – active	0.198
	7	CALIFORNIA WATER SERVICE VIS 63	12739 AVE 320	CUPA LISTINGS EMI CERS	Quantities of Chem – active	0.212
	8	CROP AIR INC	11387 AVE 328	ENVIROSTOR	Site Screening completed. No visible problems.	0.720
	9	SHANNON RANCH PROPERTY SCHOOL SITE	SHANNON RANCH PROPERTY	ENVIROSTOR SCH	School Investigation – no further action	0.978

Out of all seventeen bridge locations, only one EDR site, EDR ID 1 located on bridge #46C0420 is within the Project area. This site is inactive and will not be directly impacted by the Project. No testing is recommended.

4.2 Bridge Number 46C0036

4.2.1 Bridge Number 46C0036 Historic Topographic Maps

Dokken Engineering obtained the United States Geological Survey (USGS) Exeter quadrangle for years 1926, 1950, 1952, 1969, 2012, 2015, 2018, and 2021 from EDR (see **Appendix A**). A review of the 1926 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include water features such as Deep Creek, the Kaweah River, Cameron Creek, Outside Creek and irrigation canals used to water the surrounding agricultural fields. These water features are present in all topographic maps and their alignments do not appear to have been altered over time. The irrigation canal, within the Project area contains mature riparian vegetation on both banks. Between 1926 and 1950, a few new facilities appeared on the map including East Union High School, Cameron Creek Colony and the Sequoia State Fish Hatchery. East Union High School and the Sequoia State Fish Hatchery were both closed prior to 2012 and neither facility appears on the 2012 topographic map. Between 1952 and 1969, California State Route (SR) 198 was expanded, and new on and off ramps were constructed. Local roads within the area have also been expanded between 1926 and 2021 to accommodate access for agricultural activities as well as new residents moving into the area. See section 4.2.2 for more information on historic aerials.

Table 4.3 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.3 – Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☐
Tanks	☐	☐
Man-made Lakes and Levees	☒	☒
Streams/Rivers/Coastal Features	☐	☒
Landfills/Disposal Operations	☐	☒
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☒
Vegetation	☒	☒

4.2.2 Bridge Number 46C0036 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.4 – Non-Standard Sources**.

Table 4.4 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0036)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.5 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.5 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of Tulare Irrigation District Canals and adjacent agricultural land. Road 168 and bridges over the irrigation canals are present and used for through traffic.	USDA: 1"=500'
1952	Amount of active agricultural lands has increased since 1937, more fields being used for orchards.	USDA: 1"=500'
1969	CA SR 198 increased number of lanes. Apart from this, land use appeared unchanged since the 1947 photograph.	USGS: 1"=500'
1977	Land use appeared unchanged since the 1969 photograph.	USGS: 1"=500'
1984	Land use appeared unchanged since the 1977 photograph.	USDA: 1"=500'
1994	Land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	There is one new development southwest of the Project area. Other than the new development, land use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	Land use appeared unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR for Location 46C0036 is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0036)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0036)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0036)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Road 168 has been in place at the current location since the late 1930s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not likely due to the lower classification of Road 168 and evidence of disking, grading, and other soil movement activities associated with farming near the road. Additionally, soils adjacent to the roadway will not be disturbed as part of construction activities. No impacts to ADL are anticipated. No further analysis for ADL is recommended.

Groundwater Data Information (Bridge Number 46C0036)

The Project is located within the San Joaquin Valley groundwater basin and the Kaweah subbasin. Groundwater flows southwest from the eastern boundary of Tulare County toward the western boundary of the County. The total storage capacity of this subbasin is anticipated to be 14,600,00 acre-feet (af) to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (California DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0036)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0036)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no active sites on or within 1 mile of the Project area. There are two closed sites approximately 0.5 mile south of the Project area that were LUST cleanup sites. Both of these sites have been closed for over 24 years are not anticipated to introduce hazardous waste into the Project area.

4.3 Bridge Number 46C0058

4.3.1 Bridge Number 46C0058 Historic Topographic Maps

Dokken Engineering obtained the USGS Traver quadrangle for years 1927, 1949, 1950, 1969, 1977, 2012, 2015, 2018, and 2021 from EDR (see **Appendix A**). A review of the 1927 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural annual grassland partially used for agriculture purposes.

Features shown in the historic topographic maps include Cross Creek, California SR-99, Drive 60 and the Southern Pacific Railroad. The areas adjacent to Drive 60 and SR-99 encompass annual grassland habitat. Cross Creek is present in all topographic maps and its alignment has not been altered. Drive 60 is absent from the 1927-1950 topographic maps and appears to have been constructed between 1950-1969. The Southern Pacific Railroad, located east of the Project area, is present in all of the topographic maps. Cross Creek lacks riparian vegetation within the Project area but does contain a few large riparian trees upstream and downstream. See section 4.3.2 for more information on historic aerials.

Table 4.6 – Property Features lists property features within and immediately adjacent to the

Project area identified on the 2021 USGS map.

Table 4.6 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☒
Buildings	☐	☐
Wells	☐	☒
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☐
Vegetation	☐	☒

4.3.2 Bridge Number 46C0058 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.7 – Non-Standard Sources**.

Table 4.7 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0058)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and partially used for agricultural purposes for multiple decades. **Table 4.8 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.8 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of Cross Creek and adjacent undeveloped grassland. Vegetation is present adjacent to Cross Creek. SR-99 is present, however Drive 60 was not.	USDA: 1"=500'
1952	There is less vegetation present along Cross Creek. Apart from this, land use appeared unchanged since the 1937 photograph. Drive 60 was paved between 1937 and 1952.	USDA: 1"=500'
1969	Land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1977	One agricultural field is present to the southeast of the Project area. Apart from this, land use appeared unchanged since the 1969 photograph.	USGS: 1"=500'
1984	One agricultural field is present to the northwest of the Project area. Apart from this, land use appeared unchanged since the 1977 photograph.	USDA: 1"=500'
1994	One additional agricultural field present to the south of the Project area. Apart from this, land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	Land use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	Land use appeared unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0058)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0058)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0058)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Drive 60 has been in place at the current location since the late 1960s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of Drive 60 and evidence of disking, grading, and other soil movement activities associated with farming near the road. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0058)

The Project is located within the San Joaquin Valley groundwater basin and the Kaweah subbasin. Groundwater flows southwest from the eastern boundary of Tulare County toward the western boundary of the County. The total storage capacity of this subbasin is anticipated to be 14,600,00 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0058)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0058)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no sites on or within 1 mile of the Project area.

4.4 Bridge Number 46C0059

4.4.1 Bridge Number 46C0059 Historic Topographic Maps

Dokken Engineering obtained the USGS Traver quadrangle for years 1927, 1949, 1950, 1969, 1977, 2012, 2015, 2018, and 2021 from EDR (see **Appendix A**). A review of the 1927 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural annual grassland partially used for agriculture purposes.

Features shown in the historic topographic maps include Cross Creek, California SR-99, Drive 60 and the Southern Pacific Railroad. The areas adjacent to Drive 60 and SR-99 encompass annual grassland habitat. Cross Creek is present in all topographic maps and its alignment has not been altered. Drive 60 is absent from the 1927-1950 topographic maps and appears to have been constructed between 1950-1969. The Southern Pacific Railroad, located east of the Project area, is present in all of the topographic maps. Cross Creek lacks riparian vegetation within the Project area but does contain a few large riparian trees upstream and downstream. See section 4.3.2 for more information on historic aerials.

Table 4.6 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.9 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☒
Buildings	☐	☐
Wells	☐	☒
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☐
Vegetation	☐	☒

4.4.2 Bridge Number 46C0059 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.7 – Non-Standard Sources**.

Table 4.10 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0059)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and partially used for agricultural purposes for multiple decades. **Table 4.8 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.11 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of Cross Creek and adjacent undeveloped grassland. SR-99 is present, however Drive 60 was not.	USDA: 1"=500'
1952	Land use appeared unchanged since the 1937 photograph. Drive 60 was paved between 1937 and 1952.	USDA: 1"=500'
1969	Land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1977	One agricultural field is present to the southeast of the Project area. Apart from this, land use appeared unchanged since the 1969 photograph.	USGS: 1"=500'
1984	One agricultural field is present to the northwest of the Project area. Apart from this, land use appeared unchanged since the 1977 photograph.	USDA: 1"=500'
1994	One additional agricultural field present to the south of the Project area. Apart from this, land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	Land use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	Land use appeared unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0059)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0059)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0059)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Drive 60 has been in place at the current location since the late 1960s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of Drive 60 and evidence of disking, grading, and other soil movement activities associated with farming near the road. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0059)

The Project is located within the San Joaquin Valley groundwater basin and the Kaweah subbasin. Groundwater flows southwest from the eastern boundary of Tulare County toward the western boundary of the County. The total storage capacity of this subbasin is anticipated to be 14,600,00 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0059)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0059)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no sites on or within 1 mile of the Project area.

4.5 Bridge Number 46C0087

4.5.1 Bridge Number 46C0087 Historic Topographic Maps

Dokken Engineering obtained the USGS Kaweah, White River, Tobias Peak, Springville, Success Dam and Fountain Springs quadrangles for years 1904, 1909, 1936, 1943, 1946, 1952/1957, 1956, 1961, 1965, 1977, 2012, 2015, 2018, 2021/2022 from EDR (see **Appendix A**). A review of the 1936 through 2022 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include Deer Creek, Hungry Hollow, Avenue 120, and several additional local roads such as Road 272 and Avenue 108. Avenue 120 is present in all topographic maps and its alignment has not been altered. Deer Creek is also present in all topographic maps and its alignment has not been altered. Furthermore, Deer Creek has thick stands of mature riparian vegetation on both banks. Pratt Ranch is present in the 1904-2012 topographic maps to the southeast of the Project area. See section 4.4.2 for more information on historic aerials.

Table 4.9 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021/2022 USGS map.

Table 4.12 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☐
Wells	☐	☒
Tanks	☐	☐
Man-made Lakes and Levees	☐	☐
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☒
Vegetation	☒	☒

4.5.2 Bridge Number 46C0087 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.10 – Non-Standard Sources**.

Table 4.13 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0087)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. Deer Creek Rock and Asphalt is also included in the historic aerials and was established between 1977 and 1985. **Table 4.11 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.14 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1940	The Project area consists primarily of Deer Creek and adjacent undeveloped land. Avenue 120 and the bridge over Deer Creek are present and used for through traffic. Agricultural fields present to the northwest of the Project area.	USDA: 1"=500'
1952	Land use appeared unchanged since the 1940 photograph.	USDA: 1"=500'
1963	Land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1977	Land use appeared unchanged since the 1963 photograph.	USGS: 1"=500'
1985	More agricultural fields established between 1977 and 1985, to the southwest of the Project area. Apart from this, land use appears unchanged since the 1977 photograph.	USDA: 1"=500'
1994	Deer Creek Asphalt was established between 1977 and 1985 to the south of the Project area. One additional agricultural field and associated road developed to the southeast of the Project area. Apart from this, land use appears unchanged since the 1985 photograph.	USGS/DOQQ: 1"=500'
2006	Additional agricultural fields and associated developments established to the southeast and to the north of the Project area. Apart from this, land use appears unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	Expansion of agricultural development and the Deer Creek Asphalt company. Apart from this, land use appears unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Deer Creek Asphalt further expanded south of the Project area. Apart from this, land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0087)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0087)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was mapped south of the Project area. Upon further review, NOA is mapped in the area where Deer Creek Mine is located, which is located just south of the Project area. According to the Deer Creek Mine Expansion Final and Draft Subsequent Environmental Impact Report (SCH# 2019049052), further investigation of the site's geology is not conducive to the formation of NOA (Tulare County, 2020). As such, NOA does not have the potential to occur within the Project area.

Aerially Deposited Lead (Bridge Number 46C0087)

ADL is known to be present within soils near major roadways in operation prior to 1980, when

lead was discontinued as a gasoline additive in the State of California. Avenue 120 has been in place at the current location since the late 1900s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of Avenue 120 and evidence of disking, grading, and other soil movement activities associated with farming near the road. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0087)

The Project is located within the San Joaquin Valley groundwater basin and the Tule subbasin. West-flowing Tule River, Deer Creek and the White River are the major drainages in the subbasin, which empty into the Tulare lakebed. The total storage capacity of this subbasin is estimated to be 14,600,000 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0087)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0087)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no active sites on or within 1 mile of the Project area. There is one closed cleanup program site approximately 1 mile west of the Project area that has been closed for over 15 years. This closed site is not anticipated to introduce hazardous waste into the Project area.

4.6 Bridge Number 46C0106

4.6.1 Bridge Number 46C0106 Historic Topographic Maps

Dokken Engineering obtained the USGS Sausalito School, Pixley, Terra Bella and Earlimart quadrangles for years 1929, 1942, 1947, 1950, 1954, 1969, 1977, 2012, 2015, 2018, and 2021 from EDR (see **Appendix A**). A review of the 1929 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include Deer Creek, and various local roads including Road 144 as it crosses over Deer Creek. Road 144 is present in all topographic maps and

its alignment has not been altered. Deer Creek is also present in all topographic maps and its alignment has not been altered. Deer Creek contains a few scattered, large riparian trees on both banks. There are also a few private residential buildings associated with agricultural fields adjacent to the Project area. See section 4.5.2 for more information on historic aerials.

Table 4.12 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.15 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☒
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☒
Vegetation	☒	☒

4.6.2 Bridge Number 46C0106 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.13 – Non-Standard Sources**.

Table 4.16 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0106)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.14 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.17 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of Deer Creek and adjacent undeveloped land. Road 144 and bridge are present and used for through traffic. Agricultural fields with residential homes are present north of the Project area.	USDA: 1"=500'
1952	Expansion of agricultural fields and development of associated dirt roads occurred between 1937 and 1952. Apart from this, land use appeared unchanged since the 1937 photograph.	USDA: 1"=500'
1969	A pond was developed south of the Project area. Apart from this, land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1977	A second pond was developed adjacent to the existing pond between 1969 and 1977. Apart from this, land use appeared unchanged since the 1969 photograph.	USGS: 1"=500'
1984	Further expansion of agricultural fields surrounding the Project area. Apart from this, land use appeared unchanged since the 1973 photograph.	USDA: 1"=500'
1994	Land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	The two existing ponds south of the Project area were filled in between 1994 and 2006. Apart from this, and use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	Land use appeared unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0106)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0106)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0106)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Road 144 has been in place at the current location since the late 1930s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of Road 144 and evidence of disking, grading, and other soil movement activities associated with farming near the road. However, non-hazardous levels of ADL may be present. As

such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0106)

The Project is located within the San Joaquin Valley groundwater basin and the Tule subbasin. West-flowing Tule River, Deer Creek and the White River are the major drainages in the subbasin, which empty into the Tulare lakebed. The total storage capacity of this subbasin is estimated to be 14,600,000 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0106)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0106)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no active sites on or within 1 mile of the Project area. There are two closed sites south of the Project area: one closed LUST cleanup site and one cleanup program site. Both of these sites have been closed for over 30 years and are not anticipated to introduce hazardous waste into the Project area.

4.7 Bridge Number 46C0108

4.7.1 Bridge Number 46C0108 Historic Topographic Maps

Dokken Engineering obtained the USGS Sausalito School and Terra Bella quadrangles for years 1929, 1942, 1947, 1950, 1954, 1969, 1977, 2012, 2015, 2018, and 2021 from EDR (see **Appendix A**). A review of the 1929 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include Deer Creek, and various local roads including Avenue 88 as it crosses over Deer Creek. Avenue 88 is present in all topographic maps and its alignment has not been altered. Deer Creek is also present in all topographic maps and its alignment appears to have been altered between 1969 and 1977. Deer Creek also contains some large riparian trees on its banks. In addition, there are a few private residential buildings associated with agricultural fields adjacent to the Project area. See section 4.6.2 for more information on historic aerials.

Table 4.15 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.18 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☒
Tanks	☐	☐
Man-made Lakes and Levees	☐	☐
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☒
Vegetation	☒	☒

4.7.2 Bridge Number 46C0108 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.16 – Non-Standard Sources**.

Table 4.19 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0108)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.17 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.20 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of Deer Creek and adjacent agricultural land. Avenue 88 and bridge are present and used for through traffic. There are also residential buildings associated with the agricultural fields present adjacent to the Project area.	USDA: 1"=500'
1952	Land use appeared unchanged since the 1937 photograph.	USDA: 1"=500'
1969	Land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1977	Between 1969 and 1977, Deer Creek appeared to have been realigned to a straighter alignment. Apart from this, land use appeared unchanged since the 1969 photograph.	USGS: 1"=500'
1984	Land use appeared unchanged since the 1977 photograph.	USDA: 1"=500'
1994	Land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	Land use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	Land use appeared unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2020 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0108)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0108)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0108)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Avenue 88 has been in place at the current location since the late 1930s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not likely due to the lower classification of Avenue 88 and evidence of disking, grading, and other soil movement activities associated with farming near the road. Additionally, soils adjacent to the roadway will not be disturbed as part of construction activities. No impacts to ADL are anticipated. No further analysis for ADL is recommended.

Groundwater Data Information (Bridge Number 46C0108)

The Project is located within the San Joaquin Valley groundwater basin and the Tule subbasin. West-flowing Tule River, Deer Creek and the White River are the major drainages in the subbasin, which empty into the Tulare lakebed. The total storage capacity of this subbasin is estimated to be 14,600,000 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0108)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0108)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no sites on or within 1 mile of the Project area.

4.8 Bridge Number 46C0202

4.8.1 Bridge Number 46C0202 Historic Topographic Maps

Dokken Engineering obtained the USGS White River, Tobias Peak and Gibbon Peak quadrangles for years 1936, 1943, 1946, 1952, 1965, 1977, 1994, 2012, 2015, 2018, and 2021 from EDR (see **Appendix A**). A review of the 1936 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for ranch lands.

Features shown in the historic topographic maps include Mountain Road 112 (M-112), Pothole Creek, Deer Creek and Hanson Ranch. Hanson Ranch, located east of the Project area, is present in the 1952 map and is last shown in the 2012 topographic map. M-112 is present in the 1936 map and its alignment has not been altered. Deer Creek and Pothole Creek are present in all topographic maps and their alignments have not been altered. Deer Creek contains mature riparian vegetation on both of its banks. There are also springs and wells present in the 1965-1994 topographic maps. See section 4.9.2 for more information on historic aerials. **Table 4.24 – Property Features** lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.21 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☒
Tanks	☐	☐
Man-made Lakes and Levees	☐	☐
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☒
Vegetation	☒	☒

4.8.2 Bridge Number 46C0202 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.25 – Non-Standard Sources**.

Table 4.22 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0202)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.26 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.23 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1940	The Project area consists primarily of Deer Creek and adjacent undeveloped land. M-112 and bridge over Deer Creek are present and used for through traffic.	USDA: 1"=500'
1952	Land use appeared unchanged since the 1940 photograph.	USDA: 1"=500'
1963	Land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1977	Land use appeared unchanged since the 1963 photograph.	USGS: 1"=500'
1986	Land use appeared unchanged since the 1977 photograph.	USDA: 1"=500'
1994	Land use appeared unchanged since the 1986 photograph.	USGS/DOQQ: 1"=500'
2005	Land use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	Land use appeared unchanged since the 2005 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0202)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0202)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0202)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. M-112 has been in place at the current location since the early 1940s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of M-112. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0202)

The Project falls outside of the San Joaquin Valley groundwater basin. Therefore, the proposed improvements will have no effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0202)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0202)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no sites on or within 1 mile of the Project area.

4.9 Bridge Number 46C0204

4.9.1 Bridge Number 46C0204 Historic Topographic Maps

Dokken Engineering obtained the USGS Marysville and Yuba City quadrangles for years 1936, 1943, 1945, 1958, 1986, 1989, 1994, 2012, 2015, 2015, and 2021/2022 from EDR (see **Appendix A**). A review of the 1936 through 2021/2022 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for residential and agricultural uses.

Features shown in the historic topographic maps include the Tyler Creek, Deer Creek, Tyler Peak, Sycamore Gap, Uhl Hill, Uhl Pocket and Cedar Springs. Roadways shown on all topographic maps include Mountain Road 56 (M-56), M-112, Tyler Creek Road, Hot Springs Road, Deer Creek Drive, Old Hot Springs Road and Uhl Pocket Road. The alignment of the roadways and creeks does not appear to have been altered between 1936 and 2022. See section 4.10.2 for more information on historic aerials.

Table 4.27 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021/2022 USGS map.

Table 4.24 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☐
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☒
Vegetation	☒	☒

4.9.2 Bridge Number 46C0204 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.28 – Non-Standard Sources**.

Table 4.25 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0204)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.29 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.26 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1940	The Project area consists primarily of Tyler Creek, Deer Creek and adjacent agricultural and undeveloped land. M-112 and bridge over Tyler Creek are present and used for through traffic. A few buildings are also present adjacent to the local roadways.	USDA: 1"=500'
1952	Land use appeared unchanged since the 1940 photograph.	USDA: 1"=500'
1976	Between 1952 and 1976, a pond was developed in the agricultural field to the southeast of the Project area. Apart from this, land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1985	Land use appeared unchanged since the 1976 photograph.	USDA: 1"=500'
1995	Trees were cleared out of an area north of the Project area to create an agricultural field. Apart from this, land use appeared unchanged since the 1985 photograph.	USGS/DOQQ: 1"=500'
2002	Land use appeared unchanged since the 1995 photograph.	USGS/DOQQ: 1"=500'
2005	Land use appeared unchanged since the 2002 photograph.	USDA/NAIP: 1"=500'
2009	Residential development was expanded south of the Project area. Apart from this, land use appeared unchanged since the 2005 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0204)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0204)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0204)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. M-112 has been in place at the current location since the early 1940s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of M-112. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0204)

The Project falls outside of the San Joaquin Valley groundwater basin. Therefore, the proposed improvements will have no effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0204)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0204)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no active sites on or within 1 mile of the Project area. There is one closed LUST cleanup site at the Pine Mountain Fire Station approximately 0.60 mile south of the Project area. This closed site is not anticipated to introduce hazardous waste into the Project area.

4.10 Bridge Number 46C0205

4.10.1 Bridge Number 46C0205 Historic Topographic Maps

Dokken Engineering obtained the USGS Tobias Peak, California Hot Springs and Posey quadrangles for years 1936, 1943, 1945, 1958, 1986, 1994, 2012, 2015, 2018 and 2021/2022 from EDR (see **Appendix A**). A review of the 1936 through 2021/2022 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include the Tyler Creek, Deer Creek, Tyler Peak, Sycamore Gap, Uhl Hill, Uhl Pocket and Cedar Springs. Roadways shown on all topographic maps include Mountain Road 56 (M-56), M-112, Tyler Creek Road, Hot Springs Road, Deer Creek Drive, Old Hot Springs Road and Uhl Pocket Road. The alignment of the roadways and creeks does not appear to have been altered between 1936 and 2022. See section 4.11.2 for more information on historic aerials.

Table 4.30 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021/2022 USGS map.

Table 4.27 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☐
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☒
Vegetation	☒	☒

4.10.2 Bridge Number 46C0205 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.31 – Non-Standard Sources**.

Table 4.28 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0205)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.32 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.29 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1940	The Project area consists primarily of Deer Creek and adjacent agricultural and undeveloped land. M-56 and bridge over Deer Creek are present and used for through traffic.	USDA: 1"=500'
1952	A pond was established north of the Project area. Apart from this, land use appeared unchanged since the 1940 photograph.	USDA: 1"=500'
1976	Two additional ponds were established north and southeast of the Project area. Apart from this, land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1985	Old Hot Springs Road was beginning to be established off of M-56. Apart from this, land use appeared unchanged since the 1976 photograph.	USDA: 1"=500'
1995	Land use appeared unchanged since the 1985 photograph.	USGS/DOQQ: 1"=500'
2002	A road was established off of M-56 leading to the Hot Springs School south of the Project area. Apart from this, land use appeared unchanged since the 1995 photograph.	USGS/DOQQ: 1"=500'
2005	Land use appeared unchanged since the 2002 photograph.	USDA/NAIP: 1"=500'
2009	Between 2005 and 2009, Quail Recreational Village, northeast of the Project area appeared to have expanded, with more buildings present. Apart from this, land use appeared unchanged since the 2005 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2020 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0205)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0205)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0205)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. M-56 has been in place at the current location since the early 1940s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of M-56. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0205)

The Project falls outside of the San Joaquin Valley groundwater basin. Therefore, the proposed improvements will have no effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0205)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0205)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no active sites on or within 1 mile of the Project area. There is one closed LUST cleanup site at the Pine Mountain Fire Station approximately 0.10 mile south of the Project area. This closed site is not anticipated to introduce hazardous waste into the Project area.

4.11 Bridge Number 46C0226

4.11.1 Bridge Number 46C0226 Historic Topographic Maps

Dokken Engineering obtained the USGS Stokes Mountain, Trimmer, Sultana, Dinuba, Dunlap, Orange Cove South and Stokes Mountain quadrangles for years 1921, 1922, 1923, 1924, 1942, 1944, 1950, 1966, 1986, 2012, 2015, 2018, 2021 from EDR (see **Appendix A**). A review of the 1921 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include the Alta East Branch Canal and local roadways such as Avenue 420, Avenue 424, Avenue 428, Avenue 432 and Road 144. Between 1944 and 1950, the Friant-Kern Irrigation Canal was created and passes through the Project area. The Friant-Kern Canal is present in the topographic maps from 2012-2021 and its alignment has not been altered. There is also no riparian vegetation on the banks of the Friant-Kern Canal. The roadways within and adjacent to the Project area are present in all topographic maps and their alignments have not been altered. The town of East Orosi is also present in all topographic maps. Additionally, the Atchison, Topeka and Santa Fe Railway is present to the east of the Project area in all historic topographic maps until 2012. Rails and ties associated with this track have been removed. See section 4.12.2 for more information on historic aerials.

Table 4.33 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.30 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☒
Tanks	☐	☐
Man-made Lakes and Levees	☒	☒
Streams/Rivers/Coastal Features	☐	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☐
Vegetation	☐	☒

4.11.2 Bridge Number 46C0226 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.34 – Non-Standard Sources**.

Table 4.31 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0226)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.35 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.32 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of local roadways, including Avenue 428, and adjacent agricultural fields.	USDA: 1"=500'
1940	Land use appeared unchanged since the 1937 photograph.	USDA: 1"=500'
1952	Between 1940 and 1952, the Friant-Kern Canal was created and bisects the agricultural fields. Apart from this, land use appeared unchanged since the 1940 photograph.	USDA: 1"=500'
1963	Between 1952 and 1963, undeveloped land was converted into agricultural land northeast of the Project area. Apart from this, land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1969	Agricultural development continued expanding northeast of the Project area. Apart from this, land use appeared unchanged since the 1963 photograph.	USGS: 1"=500'
1973	Land use appeared unchanged since the 1969 photograph.	USDA: 1"=500'
1977	Land use appeared unchanged since the 1973 photograph.	USGS: 1"=500'
1984	Agricultural development continued expanding northeast of the Project area. Apart from this, land use appeared unchanged since the 1977 photograph.	USDA: 1"=500'
1998	Land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	Land use appeared unchanged since the 1998 photograph.	USDA/NAIP: 1"=500'
2009	Land use appeared unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Agricultural development continued expanding northwest of the Project area. Apart from this, land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Agricultural development continued expanding northwest of the Project area. Apart from this, land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Agricultural development continued expanding northwest of the Project area. Apart from this, land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0226)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0226)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0226)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Avenue 428 has been in place at the current location since the late 1930s, according to historic aerial photography.

Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of Avenue 428 and evidence of disking, grading, and other soil movement activities associated with farming near the road. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0226)

The Project is located within the San Joaquin Valley groundwater basin and the Kings subbasin. The San Joaquin and Kings Rivers are the two principal rivers within the subbasin and groundwater flow is generally to the southwest. The total storage capacity of this subbasin is estimated to be 93,000,000 af to a depth of 1000 feet or less (DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0226)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0226)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no sites on or within 1 mile of the Project area.

4.12 Bridge Number 46C0269

4.12.1 Bridge Number 46C0269 Historic Topographic Maps

Dokken Engineering obtained the USGS Tipton, Lake View School, Tulare, Tipton and Taylor Weir quadrangles for years 1925, 1927, 1942, 1950, 1951, 1969, 2012, 2015, 2018, 2021 from EDR (see **Appendix A**). A review of the 1925 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include the Tule River, Elk Bayou and various roadways such as Road 80, Avenue 160, Avenue 176 and Road 72. In the historic topographic maps prior to 2012, only Avenue 160 and Road 80 are present, and have not been realigned over time. Between 1942 and 1950, the lower channel of the Tule River was realigned to provide irrigation to the adjacent agricultural fields. The Elk Bayou within the Project area contains herbaceous vegetation and only a few mature riparian trees. In the 2021 topographic map, there are also many large canals associated with local dairies which surround the Project area. The Elk

Bayou School appears on the 1925-2012 topographic maps and was abandoned between 1942 and 1950. See section 4.13.2 for more information on historic aerials.

Table 4.36 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.33 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☐
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☒	☒
Vegetation	☒	☒

4.12.2 Bridge Number 46C0269 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.37 – Non-Standard Sources**.

Table 4.34 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0269)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.38 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.35 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of Elk Bayou and adjacent undeveloped land. Road 80 and bridge are present and used for through traffic. There are a few agricultural developments north of the Project area.	USDA: 1"=500'
1952	Agricultural operations expanded both north and south of the Project area. The Tule River was realigned between 1937 and 1952 to provide irrigation to adjacent agricultural fields. Apart from this, land use appeared unchanged since the 1937 photograph.	USDA: 1"=500'
1969	Agricultural development continued to expand, with more fields established north of the Project area. There was also another irrigation canal established just south of the new Tule River irrigation canal. Apart from this, land use appeared unchanged since the 1947 photograph.	USGS: 1"=500'
1977	The Tule River was further realigned for irrigation purposes. Agricultural development continued to expand in every direction surrounding the Project area. Apart from this, land use appeared unchanged since the 1959 photograph.	USGS: 1"=500'
1984	Agricultural development continued expanding to the east and west of the Project area. Apart from this, land use appears unchanged since the 1962 photograph.	USDA: 1"=500'
1994	Land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	Land use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	Land use appeared unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0269)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0269)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0269)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Road 80 has been in place at the current location since the late 1930s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower

classification of Road 80 and evidence of disking, grading, and other soil movement activities associated with farming near the road. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0269)

The Project is located within the San Joaquin Valley groundwater basin and the Kaweah subbasin. Groundwater flows southwest from the eastern boundary of Tulare County toward the western boundary of the County. The total storage capacity of this subbasin is anticipated to be 14,600,00 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (California DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0269)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0269)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no active sites on or within 1 mile of the Project area. There is one closed cleanup program site at the GJ TE Velde Ranch approximately 0.75 mile southwest of the Project area. This site has been closed for 4 years and is not anticipated to introduce hazardous waste into the Project area.

4.13 Bridge Number 46C0309

4.13.1 Bridge Number 46C0309 Historic Topographic Maps

Dokken Engineering obtained the USGS Lindsay, Porterville and Frazier Valley quadrangles for years 1928, 1942, 1951, 1969, 2012, 2015, 2018, 2021 from EDR (see **Appendix A**). A review of the 1928 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include Lewis Creek, Rocky Hills, and various local roadways including Avenue 220, Road 224, Avenue 212 (El Mirador Highway) and Road 236 (F Avenue). Avenue 220, within the Project area, is present in all topographic maps and its alignment has not been altered. Lewis Creek is also present in all topographic maps and its alignment has not been altered. The 1928-1951 topographic maps show the Visalia Electric

Railroad, which was decommissioned between 1951 and 1969. Additionally, the Atchison, Topeka and Santa Fe Railway is present to the east of the Project area in all historic topographic maps until 2012. Rails and ties associated with these tracks have been removed. Agriculture seemed to accelerate in the area between 1928 and 1942, with many undeveloped plots of land converted into orchards and other types of agricultural fields. See section 4.14.2 for more information on historic aerials.

Table 4.39 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2018 USGS map.

Table 4.36 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☐
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☒
Vegetation	☒	☒

4.13.2 Bridge Number 46C0309 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.40 – Non-Standard Sources**.

Table 4.37 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0309)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.41 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.38 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of Lewis Creek and adjacent undeveloped and agricultural land. Avenue 220 and bridge over Lewis Creek are present and used for through traffic.	USDA: 1"=500'
1940	Land use appeared unchanged since the 1937 photograph.	USDA: 1"=500'
1952	Agricultural development has expanded south of the Project area. Apart from this, land use appeared unchanged since the 1940 photograph.	USDA: 1"=500'
1969	Between 1952 and 1969, undeveloped plots of land to the north and south of the Project area have been converted into agricultural fields. Apart from this, land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1977	Land use appeared unchanged since the 1969 photograph.	USGS: 1"=500'
1984	Land use appeared unchanged since the 1977 photograph.	USDA: 1"=500'
1994	Further agricultural development occurred between 1984 and 1994 to the north and south of the Project area. Apart from this, land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	Land use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	More residential buildings were built adjacent to the agricultural fields surrounding the Project area. Apart from this, land use appeared unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0309)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0309)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0309)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Avenue 220 has been in place at the current location since the late 1930s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of Avenue 220 and evidence of disking, grading, and other soil movement activities

associated with farming near the road. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0309)

The Project is located within the San Joaquin Valley groundwater basin and the Kaweah subbasin. Groundwater flows southwest from the eastern boundary of Tulare County toward the western boundary of the County. The total storage capacity of this subbasin is anticipated to be 14,600,00 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (California DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0309)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0309)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no active sites on or within 1 mile of the Project area. There is one closed LUST cleanup site approximately 0.50 mile southwest of the Project area at Peel Property. However, this site has been closed for over 30 years and is not anticipated to introduce hazardous waste into the Project area.

4.14 Bridge Number 46C0318

4.14.1 Bridge Number 46C0318 Historic Topographic Maps

Dokken Engineering obtained the USGS Sausalito School, Pixley, Earlimart, and Terra Bella quadrangles for years 1929, 1942, 1950, 1954, 1969, 2012, 2015, 2018, 2021 from EDR (see **Appendix A**). A review of the 1929 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include the Southern Pacific Railroad, Road 136, and Deer Creek. The Southern Pacific Railroad, located east of the Project area, is present in all historical topographic maps. Current records indicate that the Southern Pacific Railroad track is still active. Road 136 is present in the 1929 map and its alignment has not been altered. Deer Creek is also present in all topographic maps and its alignment has not been altered. Deer Creek has a

few mature riparian trees on each bank both upstream and downstream of the Project area. The Pixley National Wildlife Refuge is shown on the 1969-2021 topographic maps. Between 1954 and 1969, on- and off-ramps were added to SR 99 north and south of the Project area. See section 4.15.2 for more information on historic aerials.

Table 4.42 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.39 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☒
Buildings	☐	☒
Wells	☐	☒
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☒
Vegetation	☒	☒

4.14.2 Bridge Number 46C0318 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.43 – Non-Standard Sources**.

Table 4.40 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0318)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.44 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.41 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of Deer Creek and adjacent undeveloped land. Road 136 is present but does not appear to be paved yet and the bridge over Deer Creek has not been built yet.	USDA: 1"=500'
1952	Between 1937 and 1952, Road 136 was paved and the bridge over Deer Creek was constructed and is used for through traffic. Agricultural operations have also expanded, with undeveloped land south of the Project area converted into agricultural fields. Apart from this, land use appeared unchanged since the 1937 photograph.	USDA: 1"=500'
1969	Agricultural operations have further expanded, with undeveloped land north of the Project area converted into agricultural fields. Deer Creek also appears to have been realigned to a straighter alignment to the east of the Project area between 1952 and 1969. Apart from this, land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1977	Agricultural operations have further expanded, with most undeveloped land surrounding the Project area converted into agricultural fields. Deer Creek also appears to have been realigned to a straighter alignment to the west of the Project area between 1969 and 1977. Apart from this, land use appeared unchanged since the 1969 photograph.	USGS: 1"=500'
1984	Land use appears unchanged since the 1977 photograph.	USDA: 1"=500'
1994	Land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	Agricultural operations have further expanded between 1994 and 2006, with all undeveloped land surrounding the Project area converted into agricultural fields. Additionally, more residential buildings have been developed north of the Project area. Apart from this, land use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	Land use appears unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	More buildings have been developed northeast of the Project area. Apart from this, land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0318)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0318)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0318)

ADL is known to be present within soils near major roadways in operation prior to 1980, when

lead was discontinued as a gasoline additive in the State of California. Road 136 has been in place at the current location since the late 1930s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not likely due to the lower classification of Road 136 and evidence of disking, grading, and other soil movement activities associated with farming near the road. Additionally, soils adjacent to the roadway will not be disturbed as part of construction activities. No impacts to ADL are anticipated. No further analysis for ADL is recommended.

Groundwater Data Information (Bridge Number 46C0318)

The Project is located within the San Joaquin Valley groundwater basin and the Tule subbasin. West-flowing Tule River, Deer Creek and the White River are the major drainages in the subbasin, which empty into the Tulare lakebed. The total storage capacity of this subbasin is estimated to be 14,600,000 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0318)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0318)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no sites on or within 1 mile of the Project area.

4.15 Bridge Number 46C0330

4.15.1 Bridge Number 46C0330 Historic Topographic Maps

Dokken Engineering obtained the USGS Ivanhoe and Exeter quadrangles for years 1926, 1950, 1952, 1969, 2012, 2015, 2018, and 2021 from EDR (see **Appendix A**). A review of the 1926 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include Cottonwood Creek, the Friant-Kern Canal, the Wutchumna Ditch, Twin Buttes, Bacon Hill and Colvin Mountain. Cottonwood Creek and the Wachumna Ditch are present in all topographic maps and their alignments do not appear to have been altered. There is some herbaceous riparian vegetation on the banks of Cottonwood Creek within the Project area. The Friant-Kern Canal was created between 1926 and 1950 to provide

irrigation to nearby agricultural fields, and its alignment has not been altered. Road 180 is also present in all topographic maps and its alignment has not been altered. Local roads such as Avenue 344, Road 172, and Avenue 352 are also present in all topographic maps and their alignments have not been altered. Additionally, the Atchison, Topeka and Santa Fe Railway is present to north of the Project area in all historic topographic maps until 2012. This railway has since been abandoned and rails and ties associated with these tracks have been removed. See section 4.16.2 for more information on historic aerials.

Table 4.45 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.42 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☒
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☐
Vegetation	☒	☒

4.15.2 Bridge Number 46C0330 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.46 – Non-Standard Sources**.

Table 4.43 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0330)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.47 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.44 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of Cottonwood Creek and adjacent undeveloped and agricultural land. Road 180 and bridge are present and used for through traffic. The Atchison, Topeka and Santa Fe Railway is present north of the Project area. There are also residential buildings associated with the agricultural fields north and south of the Project area and a business north of the Project area.	USDA: 1"=500'
1940	Land use appeared unchanged since the 1937 photograph.	USDA: 1"=500'
1952	Agricultural operations expanded between 1940 and 1952, with undeveloped land south of the Project area converted into agricultural fields. Apart from this, land use appeared unchanged since the 1940 photograph.	USDA: 1"=500'
1963	All undeveloped land surrounding the Project area has been converted to agriculture. Apart from this, land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1969	Land use appeared unchanged since the 1963 photograph.	USGS: 1"=500'
1977	Land use appeared unchanged since the 1969 photograph.	USGS: 1"=500'
1984	Land use appeared unchanged since the 1977 photograph.	USDA: 1"=500'
1994	Land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	Land use appeared unchanged since the 1999 photograph.	USDA/NAIP: 1"=500'
2009	Land use appeared unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0330)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0330)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0330)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Road 180 has been in place at the current location since the late 1930s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of Road 180 and evidence of disking, grading, and other soil movement activities

associated with farming near the road. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0330)

The Project is located within the San Joaquin Valley groundwater basin and the Kaweah subbasin. Groundwater flows southwest from the eastern boundary of Tulare County toward the western boundary of the County. The total storage capacity of this subbasin is anticipated to be 14,600,00 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (California DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0330)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0330)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no active sites on or within 1 mile of the Project area. There is one closed LUST cleanup site approximately 1 mile northeast of the Project area. However, this site has been closed for over 25 years and is not anticipated to introduce hazardous waste into the Project area.

4.16 Bridge Number 46C0403

4.16.1 Bridge Number 46C0403 Historic Topographic Maps

Dokken Engineering obtained the USGS Exeter quadrangle for years 1926, 1950, 1952, 1969, 2012, 2015, 2018, and 2021 from EDR (see **Appendix A**). A review of the 1926 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include Crocker Cut, Deep Creek, Kaweah River, Johnson Slough, Saint John's River, Ketchum Ditch, and Pennebaker Ditch. The alignments of these waterways do not appear to have been altered over time. There are some mature riparian trees along the banks of Cottonwood Creek downstream and upstream of the Project area. Avenue 304 is present in all topographic maps and its alignment has not been altered. Local roadways such as Road 180 and Avenue 296 are also present in all topographic maps. The Southern Pacific Railroad, located north of the Project area, is present in all topographic maps and still exists there

currently. See section 4.17.2 for more information on historic aerials.

Table 4.48 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.45 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☒
Buildings	☐	☒
Wells	☐	☒
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☒
Vegetation	☒	☒

4.16.2 Bridge Number 46C0403 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.49 – Non-Standard Sources**.

Table 4.46 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0403)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.50 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.47 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1934	The Project area consists primarily of Crocker Cut and adjacent undeveloped and agricultural land. Avenue 304 and bridge are present and used for through traffic. Deep Creek is present south of the Project area and the Kaweah River is present north of the Project area.	USGS: 1"=500'
1937	Land use appeared unchanged since the 1934 photograph.	USDA: 1"=500'
1952	Between 1937 and 1952, agricultural operations expanded, with undeveloped plots of land north and south of the Project area converted to agriculture. Apart from this, land use appeared unchanged since the 1937 photograph.	USDA: 1"=500'
1969	Between 1952 and 1969, the riparian vegetation on the banks of Deep Creek was decimated and converted into agricultural lands. The mature riparian vegetation on the banks of the Crocker Cut and Kaweah River was also destroyed and converted to agricultural fields. Apart from this, land use appeared unchanged since the 1959 photograph.	USGS: 1"=500'
1977	Land use appeared unchanged since the 1969 photograph.	USGS: 1"=500'
1984	Land use appeared unchanged since the 1977 photograph.	USDA: 1"=500'
1994	More undeveloped land surrounding the Project area was converted to agriculture. Apart from this, land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	Land use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	Land use appeared unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0403)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0403)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0403)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Road 180 has been in place at the current location since the late 1930s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not likely due to the lower classification

of Road 180 and evidence of disking, grading, and other soil movement activities associated with farming near the road. Additionally, soils adjacent to the roadway will not be disturbed as part of construction activities. No impacts to ADL are anticipated. No further analysis for ADL is recommended.

Groundwater Data Information (Bridge Number 46C0403)

The Project is located within the San Joaquin Valley groundwater basin and the Kaweah subbasin. Groundwater flows southwest from the eastern boundary of Tulare County toward the western boundary of the County. The total storage capacity of this subbasin is anticipated to be 14,600,00 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (California DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0403)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0403)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no sites on or within 1 mile of the Project area.

4.17 Bridge Number 46C0408

4.17.1 Bridge Number 46C0408 Historic Topographic Maps

Dokken Engineering obtained the USGS Exeter and Visalia quadrangles for years 1926, 1927, 1949, 1952, 1950, 1969, 2012, 2015, 2018, and 2021 from EDR (see **Appendix A**). A review of the 1926 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include Mill Creek, Oakes Ditch, Packwood Creek, Cameron Creek, Saint John's River and various irrigation canals. The alignment of Mill Creek was altered between 1927 and 1952. Road 152 is present in all historic topographic maps and its alignment has not been altered. California SR-198 is also present south of the Project area in all topographic maps. Between 1950 and 1969, on- and off-ramps were constructed along SR-198. California SR-216 is also present in all topographic maps, north of the Project area. Between 1969 and 2012, the town of Visalia expanded, with more residential homes and roads built to the east of the Project area. Mineral King Ranch is also present northeast of the Project area in all

historic topographic maps until 2012. See section 4.18.2 for more information on historic aerials.

Table 4.51 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.48 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☒
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☐
Vegetation	☒	☒

4.17.2 Bridge Number 46C0408 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.52 – Non-Standard Sources**.

Table 4.49 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0408)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.53 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.50 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of Mill Creek and adjacent agricultural land. Road 152 and bridge are present and used for through traffic.	USDA: 1"=500'
1952	Between 1937 and 1952, the eastern portion of Mill Creek was realigned to a straighter alignment. Road 152 was also realigned to a straighter alignment. Apart from this, land use appeared unchanged since the 1937 photograph.	USDA: 1"=500'
1969	Land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1977	Land use appeared unchanged since the 1969 photograph.	USGS: 1"=500'
1984	Between 1987 and 1984, the Visalia Sales yard south of the Project area was created and began expanding. Apart from this, land use appears unchanged since the 1977 photograph.	USDA: 1"=500'
1994	More buildings were constructed south of the Project area. Apart from this, land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	Land use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	Land use appeared unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	The Visalia Sales Yard, south of the Project area has further expanded. Apart from this, land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0408)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0408)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0408)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Road 152 has been in place at the current location since the late 1930s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of Road 152 and evidence of disking, grading, and other soil movement activities associated with farming near the road. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing

of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0408)

The Project is located within the San Joaquin Valley groundwater basin and the Kaweah subbasin. Groundwater flows southwest from the eastern boundary of Tulare County toward the western boundary of the County. The total storage capacity of this subbasin is anticipated to be 14,600,00 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (California DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0408)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were no sites within or adjacent to the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0408)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no active sites on or within 1 mile of the Project area. There is one closed cleanup program site at Dunn's Sand Inc. located approximately 0.60 mile southeast of the Project area. However, this site has been closed for over 12 years and it is not anticipated to introduce hazardous waste into the Project area.

4.18 Bridge Number 46C0420

4.18.1 Bridge Number 46C0420 Historic Topographic Maps

Dokken Engineering obtained the USGS Visalia and Monson quadrangles for years 1927, 1949, 1950, 1969, 2012, 2015, 2018, and 2021 from EDR (see **Appendix A**). A review of the 1927 through 2021 topographic maps indicate that the land surrounding the Project area is similar to the current setting, a rural area used for agriculture purposes.

Features shown in the historic topographic maps include the Saint John's River, Modoc Ditch, Wutchumna Ditch, and various other unnamed irrigation canals used to water the surrounding agricultural fields. These water features are present in all topographic maps. The Saint John's River contains some riparian vegetation and appears to have been realigned between 1927 and 1949. Modoc Ditch and Wutchumna Ditch, however, were realigned between 1950 and 1969. Furthermore, between 1969 and 2012, residential development within the City of Visalia expanded, with a large neighborhood built south of the Project area. Between 2012 and 2021, this neighborhood expanded further, with more local roadways and homes built in the area. Road 108

is present in all topographic maps and its alignment has not been altered over time. See section 4.20.2 for more information on historic aerials.

Table 4.57 – Property Features lists property features within and immediately adjacent to the Project area identified on the 2021 USGS map.

Table 4.51 - Property Features

Feature	On Subject Properties?	On Adjacent Properties?
Roads/Pavement	☒	☒
Railroad Tracks	☐	☐
Buildings	☐	☒
Wells	☐	☐
Tanks	☐	☐
Man-made Lakes and Levees	☐	☒
Streams/Rivers/Coastal Features	☒	☒
Landfills/Disposal Operations	☐	☐
Mines/Tailing Piles/Mine Dump	☐	☐
Wetlands (Marsh/Swamp/Bog)	☐	☒
Vegetation	☒	☒

4.18.2 Bridge Number 46C0420 Non-Standard Source Review

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail. ASTM provides for the use of additional environmental records sources when they are readily available. The additional environmental records that were reviewed for the ISA are shown in **Table 4.58 – Non-Standard Sources**.

Table 4.52 - Non-Standard Sources

Non-Standard Source	Reviewed for this ISA	Source Reference
Historical Aerial Photographs	☒	EDR Aerial Photographs
Fire Insurance Maps	☒	Sanborn Library, LLC
Local Street Directories	☐	
Soil Surveys	☒	NRCS – Web Soil Survey
Geologic Maps	☐	
Oil and Gas Production Maps	☐	
Naturally-Occurring Asbestos Maps	☒	CGS, Open File Report 2000-19
Groundwater Maps	☐	
Groundwater Databases	☐	
Building Department Records	☐	
Zoning/Land Use Records	☐	
Historical Society Records	☐	
Personal Interviews	☐	
Regulatory Agency Files	☐	
Other (describe):	☒	Department of Toxic Substances Control, EnviroStor Database; State of California Regional Water Quality Control Board, Geotracker Database

Historic Aerial Photography (Bridge Number 46C0420)

A review of the readily available historical aerial photographs indicates that land use within the Project area, and that of surrounding properties, has been rural and used for agricultural purposes for multiple decades. **Table 4.59 – Significant Aerial Photograph Changes** provides a summary of the significant features/changes observed on the subject aerial photographs:

Table 4.53 - Significant Aerial Photograph Changes

Year	Observations	Source: Scale
1937	The Project area consists primarily of Saint John's River and adjacent undeveloped and agricultural land. Road 108 and bridge are present and used for through traffic. There are agricultural fields present northeast and south of the Project area.	USDA: 1"=500'
1952	The thick, mature riparian vegetation on the banks of the Saint John's River was decimated and converted into agricultural fields. The Saint John's River channel was also widened and straightened between 1937 and 1952. Agricultural operations also expanded between 1937 and 1952, with undeveloped land converted into agricultural fields. Apart from this, land use appeared unchanged since the 1937 photograph.	USDA: 1"=500'
1969	Agriculture continued expanding, with more undeveloped land converted into fields. Apart from this, land use appeared unchanged since the 1952 photograph.	USGS: 1"=500'
1977	Land use appeared unchanged since the 1969 photograph.	USGS: 1"=500'
1984	The Saint John's River was widened on the western side of the Road 108 bridge. Apart from this, land use appears unchanged since the 1977 photograph.	USDA: 1"=500'
1994	New residential buildings added north of the Project area. Apart from this, land use appeared unchanged since the 1984 photograph.	USGS/DOQQ: 1"=500'
2006	Land use appeared unchanged since the 1994 photograph.	USDA/NAIP: 1"=500'
2009	A water reservoir was built in support of the agricultural field north of the Project area. Apart from this, land use appears unchanged since the 2006 photograph.	USDA/NAIP: 1"=500'
2012	Land use appeared unchanged since the 2009 photograph.	USDA/NAIP: 1"=500'
2016	Land use appeared unchanged since the 2012 photograph.	USDA/NAIP: 1"=500'
2020	Land use appeared unchanged since the 2016 photograph.	USDA/NAIP: 1"=500'

The EDR Aerial Photo Decade Package of aerial photographs provided by EDR is presented in **Appendix A**.

Sanborn Fire Insurance Map (Bridge Number 46C0420)

A search of the Sanborn Map files by EDR indicated that no fire insurance maps of the subject Project area were available.

Naturally Occurring Asbestos Maps (Bridge Number 46C0420)

NOA can occur in serpentine rock. The most common forms of NOA minerals are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas likely to Contain Naturally Occurring Asbestos" (CGS Open-file Report 2000-19, 2000) indicated that NOA was not mapped on, or in the near vicinity of the Project area.

Aerially Deposited Lead (Bridge Number 46C0420)

ADL is known to be present within soils near major roadways in operation prior to 1980, when lead was discontinued as a gasoline additive in the State of California. Road 108 has been in place at the current location since the late 1930s, according to historic aerial photography. Concentrations of ADL in excess of regulatory limits are not expected due to the lower classification of Road 108 and evidence of disking, grading, and other soil movement activities

associated with farming near the road. However, non-hazardous levels of ADL may be present. As such, preparation of a lead compliance plan is recommended for handling, removing and disposing of unregulated earth material.

Groundwater Data Information (Bridge Number 46C0420)

The Project is located within the San Joaquin Valley groundwater basin and the Kaweah subbasin. Groundwater flows southwest from the eastern boundary of Tulare County toward the western boundary of the County. The total storage capacity of this subbasin is anticipated to be 14,600,00 af to a depth of 300 feet and 94,100,000 af to the base of fresh groundwater (DWR, 2004). The proposed improvements will be designed to have a negligible effect on the existing ground water table.

Department of Toxic Substances Control, EnviroStor Database (Bridge Number 46C0420)

A review of the Department of Toxic Substances Control EnviroStor Database indicated that there were three sites adjacent to the Project area. The first site was an evaluation at Lowrey Ranch Elementary School in which it was found that neither a release of hazardous material nor the presence of a naturally occurring hazardous material which would pose a threat to public health or the environment under unrestricted land use was indicated at the site. Therefore, further environmental investigation of this site is not required, and a No Further Action determination was made for the site by the Department of Toxic Substances Control (DTSC) in 2019. The second site is a school investigation at the Shannon Ranch Property in which it was found that neither a release of hazardous material nor the presence of a naturally occurring hazardous material which would pose a threat to public health or the environment under unrestricted land use was indicated at the site. Therefore, further environmental investigation of this site is not required, and a No Further Action determination was made for the site by the DTSC in 2008. The third site is a school cleanup at the Visalia K-12 Education Complex which contained pesticides in shallow soils at several locations. A Removal Action Workplan and a Removal Action Completion Report were approved by the DTSC in 2018, and no further action is required. These three sites do not have potential to introduce hazardous waste into the Project area.

State of California Regional Water Quality Control Board, Geotracker Database (Bridge Number 46C0420)

A review of the State of California Regional Water Quality Control Board Geotracker Database indicated that there were no sites on or within 1 mile of the Project area.

5 Reconnaissance of the Subject Properties and Vicinity

5.1 Bridge Number 46C0036

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.1 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.1 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	White paint along Bridge #46C0036 on Road 168 and along the

Observation	Observed on Subject Properties	Location
		creek debris/rubble
Other (describe):	☐	

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0036 to contain structural concrete containing asbestos and lead based paint.

Based on site reconnaissance, **Table 5.2 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.2 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	

Observation	Observed on Adjacent Property	Location
Building with Potential for Asbestos or Lead Based Paint	☒	Residential
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated wood	☒	Wood powerline poles

There is a treated wood powerline pole directly adjacent to the southeastern corner of the bridge and a second wood powerline pole with a transformer located approximately 0.2 mile northeast of the bridge structure. Furthermore, there are several residential buildings located approximately 0.10 mile northeast and southeast of the bridge structure. These buildings will not be impacted by construction activities and will be protected in place. These poles will be protected in place and will not be disturbed by Project activities. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.2 Bridge Number 46C0058

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.3 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.3 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☐	Bridge #46C0059 on Drive 60; paint striping along bridge
Other (describe):	☐	

Although Bridge #46C0058 contains yellow pavement striping, which could contain lead and heavy metals, it will not be impacted by Project activities. Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for the Bridge #46C0058 to contain structural concrete containing asbestos.

Based on site reconnaissance, **Table 5.4 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.4 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated wood	☒	Wood fence with potentially treated wood adjacent to the bridge structure

Although there is a potentially treated wood fence directly adjacent to the Project boundaries, it will be protected in place and will not be disturbed by Project activities. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.3 Bridge Number 46C0059

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are

included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.3 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.5 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0059 on Drive 60; paint striping along bridge
Other (describe):	☐	

Although Bridge #46C0059 contains yellow pavement striping, which could contain lead and heavy metals, it will not be impacted by Project activities. Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for the Bridge #46C0059 to contain structural concrete containing asbestos.

Based on site reconnaissance, **Table 5.4 – Adjacent Property Observations** summarizes the

observations of properties adjacent to the Subject Properties:

Table 5.6 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated wood	☒	Wood fence with potentially treated wood adjacent to the bridge structure

Although there is a potentially treated wood fence directly adjacent to the Project boundaries, it will be protected in place and will not be disturbed by Project activities. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.4 Bridge Number 46C0087

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.5 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.7 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0087 on Avenue 120
Other (describe):	☐	

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for the Bridge #46C0087 to contain structural concrete containing asbestos.

Based on site reconnaissance, **Table 5.6 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.8 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☒	Quarry structures - Deer Creek Rock and Asphalt is 0.05 mile south of the Project area.
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated Wood	☒	Wood powerline poles

Although there are treated wood powerlines with transformers southeast of the existing bridge structure, they will be protected in place and will not be disturbed by Project activities. Additionally, Deer Creek Rock and Asphalt is located approximately 0.05 mile south of the Project area and contains piles of imported fill. However, no fill will be used for the Project and Deer Creek Rock and Asphalt will not be disturbed by Project activities. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.5 Bridge Number 46C0106

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.7 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.9 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0106 on Road 144, paint striping on bridge
Other (describe): Potential PCB's	☒	Pole-mounted transformer within Project area

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0106 to contain structural concrete containing asbestos and lead based paint.
- Potential for PCB's associated with existing pole-mounted electrical transformers.

Based on site reconnaissance, **Table 5.8 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.10 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☒	Residential buildings
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated wood	☒	Wood powerline poles; one with transformer

Although there are treated wood powerlines near the northeast and southeast corners of the bridge structure, they will be protected in place and will not be disturbed by Project activities. Furthermore, there are several residential buildings located approximately 0.12 mile northeast of

the bridge structure. There is also an agricultural building located 0.14 miles northwest of the bridge structure. These buildings will not be impacted by construction activities and will be protected in place. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.6 Bridge Number 46C0108

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.9 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.11 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	

Observation	Observed on Subject Properties	Location
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #4C0108 over Avenue 88; paint striping on bridge
Other (describe):	☐	

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #4C0108 to contain structural concrete containing asbestos and lead based paint.

Based on site reconnaissance, **Table 5.10 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.12 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated wood	☒	Wood powerline pole

Although there is a treated wood powerline pole near the northwest corner of the existing bridge structure, it will be protected in place and will not be disturbed by Project activities. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.7 Bridge Number 46C0202

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are

included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.15 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.13 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0202 on M112
Other (describe):	☐	

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0202 to contain structural concrete containing asbestos.

Based on site reconnaissance, **Table 5.16 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.14 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated Wood	☐	

There are no potential REC's adjacent to the Project boundaries.

5.8 Bridge Number 46C0204

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.17 – Subject Property Observations** summarizes the

observations of the Subject Properties within the Project area.

Table 5.15 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0204 on M112 and red paint on bridge girders
Other (describe):	☐	

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0204 to contain structural concrete containing asbestos and lead based paint on bridge girders.

Based on site reconnaissance, **Table 5.18 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.16 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☒	Residential buildings
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated Wood	☒	Wood powerline pole

Although there is a treated wood powerline directly adjacent to the Project boundaries, it will be protected in place and will not be disturbed by Project activities. Furthermore, there are several residential buildings located approximately 0.10 mile southeast of the bridge structure. These buildings will not be impacted by construction activities and will be protected in place. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.9 Bridge Number 46C0205

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence

of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.19 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.17 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0205 on M56; paint striping on bridge
Other (describe):	☐	

Although Bridge #46C0205 contains yellow pavement striping, which could contain lead and heavy metals, it will not be impacted by Project activities. Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0205 to contain structural concrete containing asbestos.

Based on site reconnaissance, **Table 5.20 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.18 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☒	Residential buildings
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated Wood Debris	☐	

Quail Valley Recreational Village is approximately 0.07 miles east of the bridge structure and contains residential structures. The Tyler Creek Fire Station is also 0.09 miles southwest of the bridge structure. These buildings will not be impacted by construction activities and will be protected in place. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.10 Bridge Number 46C0226

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence

of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.21 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.19 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0226 on Avenue 428
Other (describe):	☐	

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0226 to contain structural concrete containing asbestos.

Based on site reconnaissance, **Table 5.22 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.20 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated Wood Debris	☐	

There are no potential REC's adjacent to the Project boundaries.

5.11 Bridge Number 46C0269

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.23 – Subject Property Observations** summarizes the

observations of the Subject Properties within the Project area.

Table 5.21 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0226 over Road 80; paint striping on bridge
Other (describe):	☒	Debris and litter throughout the creek
Other (describe): Treated wood	☒	Wooden bridge rails

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0269 to contain structural concrete containing asbestos.
- Potential for Bridge #46C0403 to contain structural concrete containing asbestos and lead based paint.
- Potential for treated wood debris associated with the bridge railings.

Based on site reconnaissance, **Table 5.24 – Adjacent Property Observations** summarizes the

observations of properties adjacent to the Subject Properties:

Table 5.22 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated Wood	☒	Wood powerline pole

Although there is a treated wood powerline near the southeastern corner of the existing bridge, it will be protected in place and will not be disturbed by Project activities. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.12 Bridge Number 46C0309

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence

of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.25 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.23 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0309 on Avenue 220
Other (describe):	☐	

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for the Bridge #46C0309 to contain structural concrete containing asbestos.

Based on site reconnaissance, **Table 5.26 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.24 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☒	Residential buildings
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated Wood	☒	Treated wood fence posts and wood powerline poles with transformers; paint on nearby utility line

There is a fence with potentially treated wood posts along the northeastern edge of Avenue 220, which continues down the road past the bridge. There is also a wooden powerline with transformers near the orchards to the northeast of the Project area. There are additional wooden powerlines on the western side of the bridge, but they do not have transformers on them. Although there is potentially treated wood directly adjacent to the Project boundaries, it will be protected in place and will not be disturbed by Project activities. Furthermore, there are several residential buildings approximately 0.05 mile south of the bridge structure. These buildings will not be impacted by construction activities and will be protected in place. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.13 Bridge Number 46C0318

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.27 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.25 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0318 on Road 136; paint striping on bridge
Other (describe):	☐	

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0318 to contain structural concrete containing asbestos and lead based paint.

Based on site reconnaissance, **Table 5.28 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.26 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☒	Residential buildings
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated Wood	☒	Wood powerline poles, one with transformers

There are two wooden powerlines adjacent to the Project area. One is located in the northern of the existing bridge while the other is located approximately 0.3 mile south of the existing bridge and contains transformers. Although there are treated wood powerlines adjacent to the Project boundaries, they will be protected in place and will not be disturbed by Project activities. Furthermore, there is one residential home approximately 0.04 mile northeast of the bridge

structure. This building will not be impacted by construction activities and will be protected in place. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.14 Bridge Number 46C0330

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.29 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.27 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0330 on Road 180

Observation	Observed on Subject Properties	Location
Other (describe): Potential PCB's	☐	Pole-mounted transformer within the Project area

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0330 to contain structural concrete containing asbestos.
- Potential for PCB's associated with existing pole-mounted electrical transformers

Based on site reconnaissance, **Table 5.30 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.28 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☒	Residential/Agricultural buildings
Bridge with Potential ACM's or Lead Based Paint	☐	

Observation	Observed on Adjacent Property	Location
Other (describe): Treated Wood	☒	Wood powerline poles

Although there are treated wood powerline poles with transformers near the northeast and northwest corners of the bridge structure, they will be protected in place and will not be disturbed by Project activities. Furthermore, Sierra Eagle Packer Inc. has some buildings approximately 0.10 mile northeast of the bridge structure. These buildings will not be impacted by construction activities and will be protected in place. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.15 Bridge Number 46C0403

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.31 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.29 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	

Observation	Observed on Subject Properties	Location
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0403 on Avenue 304; paint striping on bridge
Other (describe):	☐	

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0403 to contain structural concrete containing asbestos and lead based paint.

Based on site reconnaissance, **Table 5.32 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.30 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	

Observation	Observed on Adjacent Property	Location
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☒	Residential/Agricultural buildings
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated Wood	☒	Wood powerline poles

Although there are treated wood powerline poles near the northeast and northwest corners of the bridge structure, they will be protected in place and will not be disturbed by Project activities. Furthermore, there are residential buildings associated with the agricultural fields on parcels adjacent to the Project area. These buildings will not be impacted by construction activities and will be protected in place. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.16 Bridge Number 46C0408

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.33 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.31 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	

Observation	Observed on Subject Properties	Location
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0408 on Road 152; paint striping on bridge
Other (describe):	☐	

Although Bridge #46C0408 contains yellow pavement striping, which could contain lead and heavy metals, it will not be impacted by Project activities. Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0408 to contain structural concrete containing asbestos.

Based on site reconnaissance, **Table 5.34 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.32 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	

Observation	Observed on Adjacent Property	Location
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☒	Residential/Agricultural buildings
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated Wood	☒	Wood powerline poles

Although there are treated wood powerline poles near the northeast and southeast corners of the bridge structure, they will be protected in place and will not be disturbed by Project activities. Furthermore, there are residential buildings associated with the agricultural fields on parcels adjacent to the Project area. These buildings will not be impacted by construction activities and will be protected in place. Therefore, there are no potential REC's adjacent to the Project boundaries.

5.17 Bridge Number 46C0420

Dokken Engineering conducted the site reconnaissance on March 18, 2024. The weather on that day was a clear sky in the morning, which did not limit the observations of potential REC's.

Dokken Engineering walked all accessible areas within the Project boundaries to look for evidence of RECs and structures that may include ACMs. Photographs documenting the reconnaissance are included in **Appendix B** and a copy of the Caltrans ISA Checklist is presented in **Appendix C**. Based on the reconnaissance, **Table 5.37 – Subject Property Observations** summarizes the observations of the Subject Properties within the Project area.

Table 5.33 - Subject Property Observations

Observation	Observed on Subject Properties	Location
Bare Soil with Stains	☐	
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☐	
Bridge with Potential ACM's or Lead Based Paint	☒	Bridge #46C0420 on Road 108; paint striping on bridge
Other (describe):	☐	

Based on the site reconnaissance, potential REC's within the Project boundaries include the following:

- Potential for Bridge #46C0420 to contain structural concrete containing asbestos and lead based paint.

Based on site reconnaissance, **Table 5.38 – Adjacent Property Observations** summarizes the observations of properties adjacent to the Subject Properties:

Table 5.34 - Adjacent Property Observations

Observation	Observed on Adjacent Property	Location
Bare Soil with Stains	☐	

Observation	Observed on Adjacent Property	Location
Soil Stockpile or Imported Fill	☐	
Pavement with Stains	☐	
Loading Docks	☐	
Rail Line/Spur	☐	
Hazardous Materials Storage	☐	
Petroleum Hydrocarbon Storage	☐	
Aboveground Tanks	☐	
Underground Tanks	☐	
Solid Waste Storage	☐	
Liquid Waste Storage	☐	
Air Emission Controls	☐	
On-Site Disposal (non-sewage)	☐	
On-Site Sewage Disposal	☐	
Municipal Water Supply Connection	☐	
Domestic Well	☐	
Industrial Well	☐	
Agricultural Well	☐	
Groundwater Monitoring Well	☐	
Odor	☐	
Building with Potential for Asbestos or Lead Based Paint	☒	Residential buildings
Bridge with Potential ACM's or Lead Based Paint	☐	
Other (describe): Treated Wood	☒	Wood powerline pole

Although there are treated wood powerline poles near the northern and southern corners of the bridge structure, they will be protected in place and will not be disturbed by Project activities. Furthermore, there are residential buildings associated with the agricultural fields on parcels adjacent to the Project area. These buildings will not be impacted by construction activities and will be protected in place. Therefore, there are no potential REC's adjacent to the Project boundaries.

6 Initial Site Assessment Findings and Conclusions

This report presents results of the ISA for properties associated with the Project. This ISA was prepared in general accordance with the ASTM International Standard E 1527-21. Based on this ISA, no evidence of RECs or AULs within the Project boundaries were found, except those described in **Table 6.1 – REC or AUL Evidence**.

Table 6.1 - REC or AUL Evidence

Description of REC Evidence Found	Description of Associated AUL	Bridge Number															
		#46C0036	#46C0058	#46C0059	#46C0087	#46C0106	#46C0108	#46C0202	#46C0204	#46C0205	#46C0226	#46C0269	#46C0309	#46C0318	#46C0330	#46C0403	#46C0408	#46C0420
The structural elements of the bridge, including concrete, was potentially formed with asbestos containing material (ACMs), if it was constructed before 1989. As the structures within the Project area predates 1989, any structural concrete to be disturbed by the Project would require testing for ACMs.	Caltrans 2023 SSP Section 14-11.16	•		•	•	•	•	•	•		•	•		•	•	•	•	
Road shoulders along roadways contains non-hazardous levels of aerially-deposited lead (ADL).	Caltrans 2023 SSP Section 7-1.02K(6)(j)(iii)		•	•	•	•		•	•	•	•	•	•		•		•	•
Pavement Striping and paint along the roadway and in the bridge may contain potential lead and heavy metals.	Caltrans 2023 Standard Specifications Section 14-11.12 and/or Section 14-11.13	•				•	•		•			•		•		•		•
The Project area contains pressure treated wood posts which could potentially be disturbed during construction. Any treated wood encountered would be required to be disposed of as a hazardous waste.	Caltrans 2023 SSP 14-11.14											•						
Utility pole-mounted transformers and electrical equipment along the roadway contains potential PCB.	Caltrans 2023 Standard Specifications Section 14-11.15					•									•			

7 Recommendations

The scope of an ISA is limited to anecdotal and visual evidence of potential RECs and does not include verification of RECs based upon environmental testing. Based on the governmental records search, aerial photograph and topographic map review and visual site survey, the following actions are recommended to verify the presence/extent of RECs and evaluate the potential for remediation during the PS&E phase of the Project:

- It is recommended that an ACM inspection/survey is conducted by a Certified Asbestos Consultant or by a Certified Site Surveillance Technician working under a Certified Asbestos Consultant. At least 10 working days prior to the commencement of abatement work, notification submissions shall be submitted to the NESHAP. Abatement of ACM should be conducted by contractors certified to perform such work and in accordance with state and federal regulations. Waste management issues for ACM are regulated under CCR Title 22 and the NESHAP. Section 14-11.16 ASBESTOS-CONTAINING CONSTRUCTION MATERIALS IN BRIDGES of the 2023 Caltrans SSP, or the latest version of this special provision at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure ACM is properly managed and removed from the Project site.
- ADL is commonly associated with transportation construction due to emissions from vehicles powered by lead gasoline. Due to low classification of the roadways present, it is assumed that ADL is present in unregulated earth materials within the planned construction area. Section 7-1.02K(6)(j)(iii) "Unregulated Earth Material Containing Lead" of the 2023 Caltrans SSP, or the latest version of this special provision at the time of construction, will be included in the plan specifications to be implemented by the contractor. A lead compliance plan will be prepared by the contactor and may address soil, paint, markings, etc.
- There is a potential that the proposed Project could result in the removal of yellow thermoplastic pavement markings and other types or colors of street or municipal markings containing lead-based paint from the existing roadways and bridges. If such markings are affected as a result of the project, such markings will be collected, tested, and/or disposed of in accordance with applicable regulations. Section 14-11.12 "REMOVAL OF YELLOW TRAFFIC STRIPE AND PAVEMENT MARKING WITH HAZARDOUS WASTE RESIDUE" of the 2023 Caltrans Standard Specifications, or the latest version of this specification at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure any hazardous waste from yellow thermoplastic pavement markings from the roadway are properly disposed of. Section 14-11.13

"DISTURBANCE OF EXISTING PAINT SYSTEMS ON BRIDGES" of the 2023 Caltrans Standard Specifications, or the latest version of this specification at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure any hazardous waste from yellow thermoplastic pavement markings from the bridge are properly disposed of.

- Any chemically treated wood must be treated as TWW and disposed of as hazardous waste. For the TWW, the DTSC regulations §66261.9.5 provide alternative management standards for TWW. Caltrans 2023 SSP for TWW, SSP 14-11.14, is based on DTSCs AMS regulations. This SSP directs the Contractor to follow the AMS including providing training to all personnel that may come in contact with TWW. This training must include, at a minimum, safe handling, sorting and segregating, storage, labeling (including date), and proper disposal methods.

- Any leaking transformers observed during the course of the project should be considered a potential PCB hazard. A detailed inspection of individual electrical transformers was not conducted for this ISA. However, should leaks from electrical transformers (that will either remain within the construction limits or will require removal and/or relocation) be encountered during construction, the transformer fluid should be sampled and analyzed by qualified personnel for detectable levels of PCB's. Should PCBs be detected, the transformer should be removed and disposed of in accordance with Title 22, Division 4.5 of the California Code of Regulations and any other appropriate regulatory agency. Any stained soil encountered below electrical transformers with detectable levels of PCB's should also be handled and disposed of in accordance with Title 22, Division 4.5 of the California Code of Regulations and any other appropriate regulatory agency. Section 14-11.15 DISPOSAL OF ELECTRICAL EQUPIMENT REQUIRING SPECIAL HANDLING of the 2023 Caltrans Standard Specifications, or the latest version of this specification at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure electrical transformers are properly handled and disposed of.

- As is the case for any Project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during Project construction. Contaminated soils can be encountered at any depth of excavation. If soils contaminated by hazardous waste are discovered during construction, proper hazardous waste handling and emergency procedures under 40 CFR § 262 and Division 4.5 of Title 22 CA Code of Regs shall be followed. The specific methods and protocol for determining if a soil is contaminated are contained in **Appendix D** – Caltrans Hazardous Procedures for Construction.

- For any previously unknown hazardous waste/material encountered during construction, the procedures outlined in the appropriate ASTM standard shall be followed.

If the Project Area is anticipated to change (due to a change in the proposed Project or staging area), further investigation for potential hazardous waste generators would be required to determine their impact to the revised Project limits.

8 Limitations

During the performance of the ISA for this Project, all readily available materials pertaining to the Project site were collected and reviewed to prepare this document. This assessment is not a full-scale environmental site investigation to prove that the Project site is environmentally devoid of hazardous or toxic materials. Information and data were provided by presumably competent third parties with knowledge about the site and surrounding areas. The presence of radioactive materials and biological hazards was not specifically investigated.

This ISA consists of professional opinions and recommendations made in accordance with generally accepted environmental principles and practices. The conclusions are based upon an evaluation of the information gathered and general observations of conditions prevalent at the Project site during the site visit. This ISA does not otherwise provide any implied or expressed guarantees regarding the characteristics or conditions of environmental media at the Project site.

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APPENDIX A

Records Review

(Records review of each bridge location is included as a separate attachment)

EDR Radius Map

EDR Sanborn Map

EDR Historic Aerials

EDR Historic Topo Maps

EDR City Directory

Geotracker and Envirostor Results

APPENDIX B

Site Reconnaissance Site Photographs

Bridge #46C0036



Photo 1. Representative view of Road 168 as it crosses over Bridge #46C0036, taken facing southwest (March 2024).



Photo 2. Representative view of Bridge #46C0036 and white paint on debris within TID Canal, taken facing east (March 2024).

Bridge #46C0058



Photo 3. Representative view of Drive 60 as it crosses over Bridge #46C0058, taken facing southeast (April 2022).



Photo 4. Representative view of underneath Bridge #46C0058 and debris/rubble in Cross Creek, taken facing southwest (March 2024).

Bridge #46C0059



Photo 3. Representative view of Drive 60 as it crosses over Bridge #46C0059, taken facing southeast (April 2022).



Photo 4. Representative view of underneath Bridge #46C0059 and debris/rubble in Cross Creek, taken facing southwest (March 2024).

Bridge #46C0087



Photo 5. Representative view of Avenue 120 as it crosses over bridge #46C0087, taken facing northwest (March 2024).



Photo 6. Representative view of the quarry structure near bridge #46C0087, taken facing south (March 2024).

Bridge #46C0106



Photo 7. Representative view of Road 144 as it crosses over bridge #46C0106, taken facing south (March 2024).



Photo 8. Representative view of bridge #46C0106 and Deer Creek, taken facing southeast (March 2024).

Bridge #46C0108



Photo 9. Representative view of Avenue 88 as it crosses over bridge #46C0108, taken facing west (March 2024).



Photo 10. Representative view of bridge #46C0108 as well as vegetation under the bridge, taken facing northwest (March 2024).

Bridge #46C0202



Photo 15. Representative view of M-112 as it crosses over bridge #46C0202, taken facing northeast (March 2024).



Photo 16. Representative view of bridge #46C0202, as it passes over Deer Creek taken facing northeast (March 2024).

Bridge #46C0204



Photo 17. Representative view of bridge #46C0204 and Tyler Creek (March 2024).



Photo 18. Representative view of bridge #46C0204 and red paint on bridge girders (March 2024).

Bridge #46C0205



Photo 19. Representative view of M-56 as it crosses over bridge #46C0205, taken facing northeast (March 2024).



Photo 20. Representative view of bridge #46C0205, taken facing northwest (March 2024).

Bridge #46C0226



Photo 21. Representative view of Avenue 428 as it crosses over bridge #46C0226, taken facing northeast (April 2022).



Photo 22. Representative view of the Friant-Kern Canal, taken facing east (March 2024).

Bridge #46C0269



Photo 23. Representative view of Road 80 as it crosses over bridge #46C0269 with wood powerline pole in background, taken facing south (March 2024).



Photo 24. Representative view of bridge #46C0269 wood bridge rails, taken facing south (March 2024).

Bridge #46C0309



Photo 25. Representative view of Avenue 220 as it crosses over bridge #46C0309, taken facing east (March 2024).



Photo 26. Representative view of bridge #46C0309 and Lewis Creek, taken facing north (March 2024).

Bridge #46C0318



Photo 27. Representative view of Road 136 as it crosses over bridge #46C0318, taken facing southeast (March 2024).



Photo 28. Representative view of bridge #46C0318, taken facing northeast (March 2024).

Bridge #46C0330



Photo 29. Representative view of Road 180 as it crosses over bridge #46C0330 featuring wood powerline poles with transformers in background, taken facing north (March 2024).



Photo 30. Representative view of bridge #46C0330 and Cottonwood Creek, taken facing north (March 2024).

Bridge #46C0403



Photo 31. Representative view of Avenue 304 as it crosses over bridge #46C0403, taken facing northeast (March 2024).



Photo 32. Representative view of bridge #46C0403, taken facing north (March 2024).

Bridge #46C0408



Photo 33. Representative view of Road 152 as it crosses over bridge #, taken facing north (March 2024).



Photo 34. Representative view of bridge #46C0408, taken facing northeast (March 2024).

Bridge #46C0420



Photo 37. Representative view of Road 108 as it crosses over bridge #46C0420, taken facing south (March 2024).



Photo 38. Representative view of bridge #46C0420 as it passes over the Saint John's River, taken facing west (March 2024).

APPENDIX C

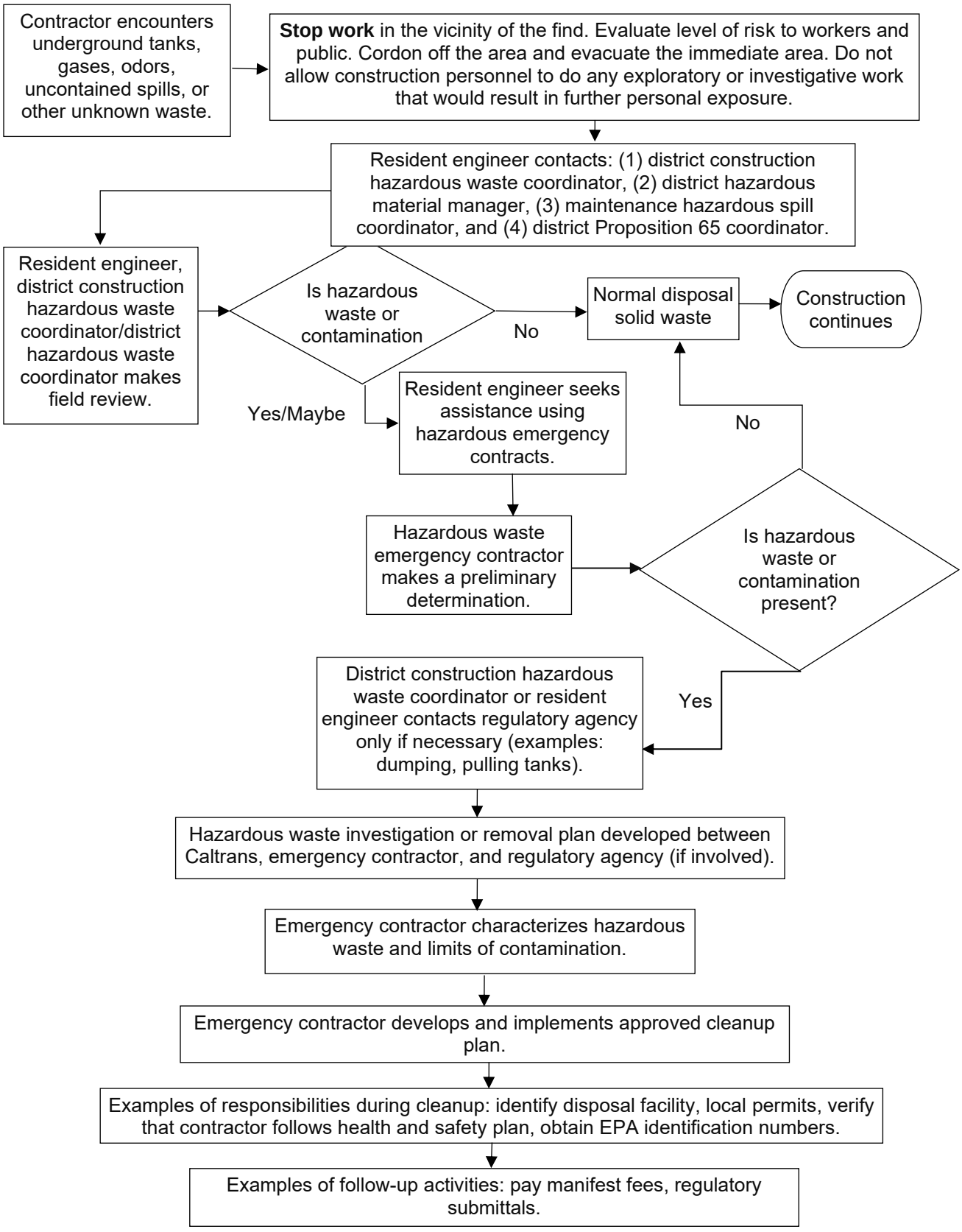
Caltrans Initial Site Assessment (ISA) Checklists

(ISA Checklists for each bridge location are included as a separate attachment)

APPENDIX D

Caltrans Hazardous Procedures for Construction

Figure 7-1.1. Unknown Hazards Procedure



ATTACHMENT "D"

Water Quality Assessment Report

Bridge Preventive Maintenance Program Group 5 Project



Water Quality Assessment Report

Bridge Preventive Maintenance Program Group 5 Project

Tulare County, California

District 6 – TUL

BPMPL-5946(169)

November 2024

STATE OF CALIFORNIA

Caltrans

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Water Quality Assessment Report

Bridge Preventive Maintenance Program Group 5 Project

Tulare County, California

District 6 – TUL

BPMPL-5946(169)

November 2024

STATE OF CALIFORNIA

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Statement of Compliance: Produced in compliance with National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) requirements, as appropriate, to meet the level of analysis and documentation that has been determined necessary for this project.

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Appendix A – Map Figures
Appendix B – FEMA FIRMette Maps
Appendix C – NRCS Soil Reports

List of Abbreviated Terms

§	Section
AGR	Agricultural Supply
ASBS	Areas of Special Biological Significance
BMPs	Best Management Practices
BPMP	Bridge Preventative Maintenance Program
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
COI	Change of Information
COLD	Cold Freshwater Habitat
County	Tulare County
CVFPB	Central Valley Flood Protection Board
CWA	Clean Water Act
DF	Designated Floodway
Dokken	Dokken Engineering
DSA	Disturbed Soil Area
EFH	Essential Fish Habitat
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FRSH	Freshwater Replenishment
GWR	Ground Water Recharge
HBP	Highway Bridge Program
IND	Industrial Service Supply
LEDPA	least environmentally damaging practicable alternative
MS4s	Municipal Separate Storm Sewer Systems
MUN	Municipal and Domestic Supply
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
OHWM	Ordinary High-water mark
POW	Hydropower Generation
PRDs	Project Registration Documents
PRO	Industrial Process Supply

Project	Tulare County BPMP – Group 5 Project
QPE	Qualifying Precipitation Event
QSD	Qualified Storm Water Pollution Prevention Plan Developer
RARE	Rare, Threatened, or Endangered Species
REC-1	Water Contract Recreation
REC-2	Non-Contact Water Recreation
RL	Risk Level
ROW	Right of Way
RWQCB	Regional Water Quality Control Board
SMARTS	Stormwater Multiple Application and Report Tracking System
SPWN	Spawning, Reproduction, and/or Early Development
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCE	Temporary Construction Easement
TID	Tule Irrigation District
TMDLs	Total Maximum Daily Loads
U.S.	United States
U.S. EPA	U.S. Environmental Protection Agency
USACE	United States Army Corps of Engineers
USGS	United States Geographic Survey
WARM	Warm Freshwater Habitat
WDID	Waste Discharge Identification
WDRs	Waste Discharge Requirements
WILD	Wildlife Habitat
WPCP	Water Pollution Control Plan
WQAR	Water Quality Assessment Report

Summary

Tulare County (County), in cooperation with the California Department of Transportation (Caltrans), proposes to perform maintenance on seventeen bridges as part of the Tulare County Bridge Preventative Maintenance Program (BPMP) – Group 5 Project (Project). The Project area includes bridge locations throughout western Tulare County.

The purpose of the Water Quality Assessment Report (WQAR) is to fulfill the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), and to provide information, to the extent possible, for National Pollution Discharge Elimination System (NPDES) permitting. The document includes a discussion of the proposed Project, the physical setting of each Project area, and the regulatory framework with respect to water quality; it also provides data on surface and groundwater resources and the water quality of these waters within the Project area, describes water quality impairments and beneficial uses, and identifies potential water quality impacts/benefits associated with each proposed Project. The document then recommends avoidance and/or minimization measures to reduce potentially adverse impacts.

Eleven surface water features are within the Project area. These are listed as Waterbodies in **Table 1**, with one bridge each associated with nine individual waterbodies. Cross Creek is traversed by two bridges and Deer Creek is traversed by six bridges. The surface waters that cross Bridge #46C0036, #46C0204, #46C0226, #46C0309, #46C0330, and #46C0403, are not 303(d) listed and considerations for TMDL's are not necessary (Caltrans, 2024). The remaining bridge locations, which cross Cross Creek, Deer Creek, Elk Bayou, Mill Creek, and St. Johns River, cross a surface water that is 303(d) listed.

The proposed Project would implement preventative maintenance measures and would not replace or widen the existing bridges. However, a concrete apron will be installed at bridge #46C0330. This activity would increase impervious surface by approximately 0.06 acres, which would contribute to a slight increase in storm water runoff. Activities at the remaining bridge locations would not increase impervious surfaces. Temporary Best Management Practices (BMPs), including practices for erosion control, would be implemented during construction-related activities.

The following permits will be obtained for the proposed Project prior to construction: Section 404 Nationwide Permit 3 from the United States (U.S.) Army Corps of Engineers (USACE), Section 401 Water Quality Certification from RWQCB, National Pollutant Discharge Elimination System (NPDES) Permit from the Regional Water Quality Control Board (RWQCB), and Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW). Additionally, bridge locations #46C0058, #46C0059, #46C0269, #46C0330, and #46C0420 occur within Regulated Streams and/or Designated Floodways that are regulated by the Central Valley Flood Protection Board (CVFPB). A CVFPB encroachment permit will be necessary to complete Project activities at these locations. Any further avoidance or minimization measures from regulatory permitting would be incorporated into the Project, and adherence to the requirements set forth in these permits will further minimize impacts to water quality and aquatic resources.

Due to the number of bridges included within this Project, Chapters 3 (Affected Environment) will be organized into common waterbodies, shown in **Table 1** below:

Table 1. Common Waterbodies

Waterbody	Bridge Number
Cottonwood Creek	46C0**330**
Crocker Cut	46C0**403**
Cross Creek	46C0**058**
	46C0**059**
Deer Creek	46C0**318**
	46C0**106**
	46C0**108**
	46C0**087**
	46C0**202**
	46C0**205**
Elk Bayou	46C0**269**
Friant-Kern Canal	46C0**226**
Lewis Creek	46C0**309**
Mill Creek	46C0**408**
Saint Johns River	46C0**420**
TID Canal	46C0**036**
Tyler Creek	46C0**204**

1. Introduction

1.1 Approach to Water Quality Assessment

The purpose of the WQAR is to fulfill the requirements of NEPA and CEQA, and to provide information for NPDES permitting. The document includes a discussion of the proposed Project, the general environmental setting of the Project area, and the regulatory framework with respect to water quality. It also provides data on surface water and groundwater resources within the Project area and the water quality of these waters, describes water quality impairments and beneficial uses, identifies potential water quality impacts/benefits associated with the proposed Project, and recommends avoidance and/or minimization measures for potentially adverse impacts.

1.2 Project Description

Tulare County, in cooperation with the Caltrans, proposes to perform maintenance on seventeen bridges throughout various locations within the County (**Appendix A: Figure 1. Project Vicinity and Figure 2. Project Location**). A summary of the seventeen bridges, including bridge number and location, that are included in the Project is listed in the table below.

The County is responsible for the maintenance of 359 bridges within the boundaries of Tulare County. In 2015, the County developed a BPMP, that includes five category groups of maintenance activities, with the following objectives: maintain the existing bridge inventory in a structurally safe and serviceable condition; correct minor structural defects; repair deficiencies early in a bridge's life prior to encountering major, more costly rehabilitation, reconstruction, or replacement; and extend the service life of existing bridges. Group 5 includes scour countermeasures (streambed degradation or localized scour), which is often the highest priority, and the repair, restoration, and strengthening of structural elements.

The purpose of the Project is to extend the service life of seventeen bridges within the County that are considered to be in generally good condition. Preventative maintenance activities are needed to provide improved safety and operations on each facility.

1.2.1 Build Alternative

The proposed Project would implement preventive maintenance measures primarily consisting of scour protection repairs and other miscellaneous work including but not limited to deck treatment, spall repair, structural connection repairs, joint repairs, bridge bearing repairs, and overlay (asphalt concrete) removal. Erosion control will be placed where necessary and disturbed areas will be revegetated. A summary of specific work items per bridge is included in the table below (**Appendix A: Figure 3. Project Features**):

Table 2. Proposed Work per Bridge Location

Bridge Number	Facility Carried/ Intersection	Location	Work Description
46C0036	Rd. 168/Tulare Irrigation District (TID) Canal	0.1 mi N of SR 198	• Clear debris/rubble in TID Canal

Bridge Number	Facility Carried/ Intersection	Location	Work Description
			• Grout exposed piles and place grout bags in front of piers •
46C0058	D60 / Cross Creek	2.05 mi S of AVE 352	• Partially grouted RSP along the whole creek width
46C0059	D60 / Cross Creek	1.95 mi S of AVE 352	• Clear debris/rubble in Cross Creek • South abutment rubble to be removed and replaced with properly sized RSP • Drop structure downstream of bridge • Grout exposed piles at abutments • Partially grouted riprap along full length of channel
46C0087	M120 / Deer Creek	0.5 mi E of RD 272	• Grout exposed pier piles and place cut-off walls at piers • Partially grouted riprap at abutments and piers • Methacrylate deck treatment • Roadway approach work
46C0106	Road 144 / Deer Creek	0.1 mi S of AVE 72	• Grout exposed pier piles and place partially grouted riprap around piers • Methacrylate deck treatment • Roadway approach work
46C0108	Avenue 88 / Deer Creek	0.2 mi E of RD 176	• Place partially grouted riprap around piers • Methacrylate deck treatment • Clear debris within Deer Creek
46C0202	M112 / Deer Creek	5.86 mi SE of M120	• Replace left rotated wingwall • Add cut-off walls to both abutment footings
46C0204	M112 / Tyler Creek	0.3 mi N of M56	• Place downdrains around wingwalls • Repaint areas where the paint system is damaged or no longer effective
46C0205	SR56 (Hot Springs Rd.)/Deer Creek	16.4 mi E of M109	• Cut-off wall at abutment 1
46C0226	Avenue 428 / Friant Kern Canal	0.4 mi E of RD 144	• Methacrylate deck treatment • Reset bearings at abutment 4 • Remove AC from sliding steel plate joint to allow for joint movement • Place RSP or turf reinforcement mat at abutments
46C0269	Road 80 / Elk Bayou	1.1 mi N of AVE 160	• Remove asphalt concrete surfacing (and re-stripe deck) • Place RSP at piers and abutments • Replace bridge rail
46C0309	Avenue 220 / Lewis Creek	0.25 mi E of RD 244	• Grout and place cut-off walls at abutments

Bridge Number	Facility Carried/ Intersection	Location	Work Description
46C0318	Road 136 / Deer Creek	0.6 mi S of AVE 78	• Place partially grouted riprap at piers • Clear debris within Deer Creek • Deck treatment – Polyester concrete overlay
46C0330	Road 180 / Cottonwood Creek	0.4 mi N of AVE 352	• Place RSP along channel and around wingwalls • Clear debris within Cottonwood Creek • Roadway approach work
46C0403	Avenue 304 / Crocker Cut	0.2 mi E of RD 180	• Construct cut-off wall along downstream • Remove AC at both approaches and along bridge
46C0408	Road 152 / Mill Creek	0.4 mi N of SR 198	• Place partially grouted riprap at piers • Replace or add additional grout bags at upstream portions of abutments
46C0420	Road 108 / Saint Johns River	0.75 mi S of AVE 328	• Grout exposed piles • Place partially grouted riprap along full channel width • Methacrylate deck treatment • Place RSP within Saint Johns River

Temporary road closures and detours will take place at select bridge sites. The anticipated duration of the road closures will be approximately 4-6 hours depending upon access needs of residents and available detour options. Temporary construction easements (TCEs) will likely be needed on a limited basis to accommodate the construction of the proposed preventative maintenance activities. Partial and full right-of-way (ROW) takes are not anticipated. Construction at all bridge locations is expected to be completed in approximately 12 months.

The Project is federally funded through the Highway Bridge Program (HBP), as such it requires compliance with both NEPA and CEQA. The lead agency for the CEQA compliance is the County, and the lead agency for the NEPA compliance is Caltrans.

1.2.2 No Build Alternative

Under the No-Build Alternative, preventative maintenance activities would not occur at the 17 bridge locations throughout the County. As such, the service life of each bridge would not be extended, and safety and operations would not be improved.

2. Regulatory Setting

2.1 Federal Laws and Requirements

Clean Water Act

In 1972 Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the U.S. from any point source unlawful unless the discharge is in compliance with a NPDES permit. Known today as the Clean Water Act (CWA), Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit program. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.

- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S., to obtain certification from the State that the discharge will comply with other provisions of the act. (Most frequently required in tandem with a Section 404 permit request, see below).

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. The Federal Environmental Protection Agency delegated to the California State Water Resources Control Board (SWRCB) the implementation and administration of the NPDES program in California. The SWRCB established nine RWQCBs. The SWRCB enacts and enforces the Federal NPDES program and all water quality programs and regulations that cross Regional boundaries. The nine RWQCBs enact, administer and enforce all programs, including NPDES permitting, within their jurisdictional boundaries. Section 402(p) requires permits for discharges of stormwater from industrial, construction, and Municipal Separate Storm Sewer Systems (MS4s).

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S, including wetlands. This permit program is administered by the USACE.

The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are also two types of Individual permits: Standard Individual permit and Letter of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE’s Individual permits. For Standard Individual permit, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency’s (U.S. EPA) Section 404 (b)(1) Guidelines (U.S. EPA Code of Federal Regulations (CFR) 40 Part 230) and whether permit approval is in the public interest. The 404(b)(1) Guidelines were developed

by the U.S. EPA in conjunction with USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only when there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA), to the proposed discharge that would have less effects on waters of the U.S., and not have any other significant adverse environmental consequences. Per Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures have been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4.

2.2 State Laws and Requirements

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to waters of the State. Waters of the State include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The SWRCB and RWQCBs are responsible for establishing the water quality standards as required by the CWA and regulating discharges to protect beneficial uses of water bodies. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions, and then set standards necessary to protect these uses. Consequently, the water quality standards developed for particular water body segments are based on the designated use and vary depending on such use. Water body segments that fail to meet standards for specific pollutants are included in a Statewide List in accordance with CWA Section 303(d). If a Regional Board determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-source point controls (NPDES permits or Waste Discharge Requirements), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed. The SWRCB implemented the requirements of CWA Section 303(d) through Attachment D of the Caltrans Statewide MS4 (Order No. 2022-0033-DWQ NPDES No. CAS000003), as it includes specific TMDLs for which Caltrans is named a responsible party.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollution Discharge Elimination System Program

Municipal Separate Storm Sewer Systems

§402(p) of the CWA requires the issuance of NPDES permits for five categories of stormwater dischargers, including MS4s. The U.S. EPA defines an MS4 as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying stormwater."

The Central Valley RWQCB adopted a Region-wide MS4 Permit on 23 June 2016. Phase I MS4 permittees shall enroll under the Region-wide MS4 Permit as their current Individual permits expire and Phase II MS4 Permittees may choose to enroll. The County would submit a Notice of Intent (NOI) to obtain coverage under the General Permit for Discharges from Municipal Separate Storm Sewer Systems. The Central Valley RWQCB would review the NOI and determine if the County qualifies for coverage under the General Order. The County would then be assigned a General Order Number and a NPDES Permit Number.

Construction General Permit

The Construction General Permit (CGP) (NPDES No. CAS000002, SWRCB Order No. 2022-0057-DWQ, was adopted on September 8, 2022) and effective on September 1, 2023. The permit regulates stormwater discharges from construction sites which result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development.

- For all projects subject to the CGP, the applicant is required to hire a Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer (QSD) to develop and implement an effective SWPPP. A QSP may be hired as well to assist in field work. All Project Registration Documents (PRDs), including the SWPPP, Risk Level (RL) Determinations, Site map and post-construction treatment documents are required to be uploaded into the SWRCB's on-line Stormwater Multiple Application and Report Tracking System (SMARTS). A Waste discharge Identification (WDID) number will be issued within 10 business days after the State Waterboard receives a complete NOI package.

- The 2022 CGP requires post-construction treatment permit registration documents to be submitted in SMARTS with the NOI to include: (1) An attachment or web-source containing the NPDES MS4 post-construction requirements and (2) the post-construction plans and calculations (Preliminary post-construction plans and calculations may be submitted as a Permit Registration Document, as long as the approved plans and calculations are submitted within 14 days of approval by the municipal stormwater permittee, through a Change of Information (COI) in SMARTS). Additionally, a COI in SMARTS must be submitted for any revisions to post-construction plans and calculations prior to submitting the Notice of Termination (NOT).

Waivers from CGP Coverage

Projects that disturb over 1.0 acre but less than 5 acres of soil, may qualify for waiver of CGP coverage. This occurs whenever the Rainfall Erosivity, (R) in the Revised Universal Soil Loss Equation is less than 5. When the R factor is below the numeric value of 5, projects can be waived

from coverage under the CGP, and are instead covered by the Caltrans Statewide MS4 permit. Refer to the CGP, Attachment D1, Risk Determination Worksheet of the CGP, link provided in Section 6.

In accordance with the SWMP, a Water Pollution Control Plan (WPCP) is necessary for construction of a Caltrans project not covered by the CGP.

Construction activity that results in soil disturbances of less than one acre is subject to this CGP if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop a SWPPP, to implement soil erosion and pollution prevention control measures, and to obtain coverage under the CGP.

Risk Level Inspection and Sampling Requirements

The CGP contains a risk-based permitting approach by establishing three levels of risk possible for a construction site. Risk levels are determined during the planning, design, and construction phases, and are based on project risk of generating sediments and receiving water risk of becoming impaired. Requirements apply according to the RL determined, with additional monitoring and reporting requirements for higher risk projects with detailed requirements listed in Attachment D of the CGP. Requirements include:

- Visual inspections weekly, prior to Qualifying Precipitation Events (QPEs), during QPEs (every 24 hours) and post QPEs. A qualifying Storm Event (QPE) is defined as a forecasted 50% probability of precipitation of 0.5" or more within a 24-hour period and continues on subsequent 24-hour periods when 0.25 inches or more is forecast.

- RL 2 and 3 projects have sampling requirement for pH and Turbidity.

Additionally, sampling for Numeric Action Levels (NALs) and Numeric Effluent Limits (NELs) is required for all risk level projects for TMDL-related non-visible pollutants listed in Attachment H of the CGP, if there is a discharge due to failure to implement a BMP, a container spill or leak, or a BMP breach or malfunction.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project will be in compliance with State water quality standards. The most common federal permit triggering 401 Certification is a CWA Section 404 permit, issued by USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may prescribe a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act). WDRs may specify the inclusion of additional project features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

2.3 Regional and Local Requirements

The general objective for all waters of the Central Valley RWQCB is as follows:

The antidegradation directives of §13000 of the Water Code and State Water Board Resolution No. 68-16 ("Statement of Policy With Respect to Maintaining High Quality Waters in California") require that high quality waters of the State shall be maintained "consistent with the maximum benefit to the people of the State." The RWQCB applies these directives when issuing a permit, or in an equivalent process, regarding any discharge of waste which may affect the quality of surface or ground waters in the region.

Implementation of this policy to prevent or minimize surface and ground water degradation is a high priority for the RWQCB. In nearly all cases, preventing pollution before it happens is much more cost-effective than cleaning up pollution after it has occurred. Once degraded, surface water is often difficult to clean up when it has passed downstream. Likewise, cleanup of ground water is costly and lengthy due, in part, to its relatively low assimilative capacity and inaccessibility. The prevention of degradation is, therefore, an important strategy to meet the policy's objectives.

The RWQCB will apply Resolution No. 68-16 in considering whether to allow a certain degree of degradation to occur or remain. In conducting this type of analysis, the RWQCB will evaluate the nature of any proposed discharge, existing discharge, or material change therein, that could affect the quality of waters within the region. Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

Pursuant to this policy, a Report of Waste Discharge, or any other similar technical report required by the Board pursuant to Water Code §13267, must include information regarding the nature and extent of the discharge and the potential for the discharge to affect surface or ground water quality in the region. This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives. The extent of information necessary will depend on the specific conditions of the discharge. For example, use of best professional judgment and limited available information may be sufficient to determine that ground or surface water will not be degraded. In addition, the discharger must identify treatment or control measures to be taken to minimize or prevent water quality degradation.

2.4 Regulatory Permits Required

Regulatory permits are required prior to impacts to jurisdictional waters of the U.S or State. The Project includes 10 jurisdictional waters of the U.S. and State, such as Deer Creek, TID Canal, Crocker Cut, Cross Creek, Tyler Creek, Friant Kern Canal, Elk Bayou, Lewis Creek, Cottonwood Creek, Mill Creek, and the Saint Johns River. **Table 3** lists which regulatory permits required for each bridge location.

Table 3. Regulatory Permits Required per Bridge Location

Bridge Number	Aquatic Feature	CVFPB Jurisdiction[1]	Water of the State[2]	Waters of the U.S.[3]
46C0036	TID Canal	No	Yes	Yes
46C0058	Cross Creek	Yes	Yes	Yes
46C0059	Cross Creek	Yes	Yes	Yes

Bridge Number	Aquatic Feature	CVFPB Jurisdiction[1]	Water of the State[2]	Waters of the U.S.[3]
46C0087	Deer Creek	No	Yes	No
46C0106	Deer Creek	No	Yes	No
46C0108	Deer Creek	No	Yes	No
46C0202	Deer Creek	No	Yes	No
46C0204	Tyler Creek	No	Yes	No
46C0205	Deer Creek	No	Yes	No
46C0226	Friant Kern Canal	No	Yes	Yes
46C0269	Elk Bayou	Yes	Yes	Yes
46C0309	Lewis Creek	No	Yes	Yes
46C0318	Deer Creek	No	Yes	No
46C0330	Cottonwood Creek	Yes	Yes	Yes
46C0403	Crocker Cut	No	Yes	Yes
46C0408	Mill Creek	No	Yes	Yes
46C0420	Saint Johns River	Yes	Yes	Yes

[1] Permits through CVFPB.
[2] Permits through CDFW and RWQCB.
[3] Permit coverage through USACE.

Per **Table 3**, the following permits will be obtained for the proposed Project prior to construction: Section 404 Nationwide Permit 3 USACE, Section 401 Water Quality Certification from RWQCB, and Section 1602 Streambed Alteration Agreement from CDFW. Additionally, bridge locations #46C0058, #46C0059, #46C0269, #46C0330, and #46C0420 occur within Regulated Streams and/or Designated Floodways that are regulated by CVFPB. A CVFPB encroachment permit will be necessary to complete Project activities at these locations.

3. Affected Environment

This Affected Environment section describes the environmental characteristics within the proposed Project area. Population within the County is concentrated in cities such as Tulare, Visalia, and Porterville, and is directly correlated to land use. The Project is within Tulare County, which, according to the 2019 U.S. Census, has a total population of 466,195. The population has grown approximately 5.4% since 2010 (U.S. Census 2019). Population, land use, topography, hydrology including regionally and locally, groundwater hydrology, geology/soils, biological communities, water quality standards, and beneficial uses are discussed.

3.1 General Environmental Setting

All bridges included in the Project are located throughout Tulare County. The following sections will describe the general environmental setting of each bridge location is greater detail. Each bridge is grouped into common waterbodies.

3.1.1 Cottonwood Creek

Bridge #46C0330 carries County Road 180 across Cottonwood Creek and is located in the eastern extent of the Central Valley towards the base of the Sierra Nevada foothills, approximately 4 miles west of the City of Woodlake and 1 mile west of the base of Colvin Mountain. The topographic features in the Project vicinity of Bridge #46C0330 are characterized by the relatively flat aspect of its position towards the eastern edge of the Central Valley, near to the southern Sierra Nevada foothills. The Project area of Bridge #46C0330 contains one existing water feature, Cottonwood Creek. Groundwater is the main water supply in the area, with both urban and agricultural centers relying on its supply availability.

3.1.1.1 *Population and Land Use*

The population per square mile in the area surrounding Bridge #46C0330 is approximately 122 persons per square mile (U.S. Census 2019). Bridge #46C0330 is located in unincorporated Tulare County with a land use designation of Valley Agricultural, which includes agriculture fields within the Central Valley, associated agricultural infrastructure and rural residential homes (Tulare County 2020). The area surrounding Bridge #46C0330 is principally agricultural fields, with an agricultural facility approximately 0.1 miles away and the nearest residence at about ¼ mile.

3.1.1.2 *Topography*

Bridge #46C0330 is within the Ivanhoe United States Geological Survey (USGS) 7 ½ minute quadrangle (T17S & R26E, Section 21). The elevation within the Project site is approximately 390 to 402 feet above mean sea level.

3.1.1.3 *Hydrology*

3.1.1.3.1 Regional Hydrology

Bridge #46C0330 is within the Upper Kaweah watershed, which is within the Tulare-Buena Vista Lakes Hydrologic Region.

3.1.1.3.2 Local Hydrology

Precipitation and Climate

The area is characterized by a southern Central Valley-type climate with hot, dry summers, and mild wet winters. The average annual temperatures of the area range from a high of 75 degrees Fahrenheit to a low of 52 degrees Fahrenheit. The average annual precipitation is 10.93 inches (U.S. Climate Data 2024a).

Surface Water Features

Cottonwood Creek is located within the Project area of Bridge #46C0330 (**Appendix A: Figure 4. Vegetation Communities**). The creek originates approximately 19 miles northeast of Bridge #46C0330, at a higher elevation in the Sierra Nevada foothills, fed by Bull Creek and other tributaries. The creek runs for approximately 33 miles from the origin into the Central Valley, joining Cross Creek (USGS 2015). The creek supplies (feeds) no major water bodies but has a number of seasonal tributaries.

Areas of Special Biological Significance

According to the map provided by the SWRCB (SWRCB 2017), there are no Areas of Special Biological Significance (ASBS) within the Bridge #46C0330's Project limits.

Floodplains

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) designates the Bridge #46C0330's Project area as Zone A. Zone A indicates high risk flood areas, with a 1% annual chance of flooding (**Appendix B: FEMA FIRMette Map**). Bridge #46C0330 is located within a CVFPB Designated Floodway (DF) and is within 30 feet from a Regulated Stream (CVFPB 2024). Being located within a high-risk flood area, Bridge #46C0330 may require a CVFPB permit due to its location within a DF and within 30 feet of a Regulated Stream.

3.1.1.4 *Groundwater Hydrology*

Bridge #46C0330 is located within the Kaweah Groundwater Sub-basin. Cottonwood Creek flows from east to west within this groundwater basin. The Kaweah Groundwater Sub-basin is within the larger San Joaquin Valley Groundwater Basin (DWR 2019).

3.1.1.5 *Geology/Soils*

3.1.1.5.1 Soil Erosion Potential

Soil within the Project impact area of Bridge #46C0330 consists of Yettem sandy loam, 0 to 2 percent slopes (**Appendix C: NRCS Soil Resource Reports**). The erodibility factor (K-factor) for this area is 0.32, indicating medium textured soils with moderate runoff (USDA 2001). With implementation of **WQ-1** and **BIO-4**, erosion due to surface runoff is not anticipated.

3.1.1.6 *Biological Communities*

3.1.1.6.1 Aquatic Habitat

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken Engineering (Dokken) biologists Hanna Sheldon and Clare Favro to detect potential jurisdictional waters and map ordinary high-water mark (OHWM) of the jurisdictional aquatic resources present within the Biological Study Area (BSA) in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar 2008).

Field surveys determined that aquatic resources within the Project area of Bridge #46C0330 include Cottonwood Creek. Approximately 178 linear feet of Cottonwood Creek occurs within the Project area of Bridge #46C0330, at approximately 43- to 75-foot widths. Riparian or wetland habitats are not present within the Project area of Bridge #46C0330. See **Appendix A: Figure 4. Vegetation Communities** for more information.

Special Status Species

Dokken biologists prepared the Project's Natural Environment Study (NES), completing literature research and habitat assessments which concluded that the following special status wildlife species have potential of occurring within the BSA of Bridge #46C0330: Loggerhead shrike *(Lanius ludovicianus*). Measures to avoid impacts are noted in the NES.

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to document existing biological resources and survey for sensitive and protected species and/or their habitats. The surveys consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities. No special-status species were observed during the surveys.

Stream/Riparian Habitats

Bridge #46C0330 contains Cottonwood Creek, which contains seasonally wetted riverine habitat although lacks riparian habitat. The creek and adjacent ruderal habitat potentially provides limited habitat for wildlife species.

Fish Passage

Cottonwood Creek within the Project area of Bridge #46C0330 is outside of National Marine Fisheries Service (NMFS) jurisdiction and does not contain Essential Fish Habitat (EFH). Additionally, the Project area does not contain Critical Habitat for any fish species. Cottonwood Creek is seasonally wet and cannot support fish movement during the dry season, when the riverbed is dry and sandy. When the river channel is wetted, it has the potential to support aquatic plants, invertebrates, and small fish species. Within the BSA of Bridge #46C0330, Cottonwood Creek may support migration of some fish species during select times of the year; however, the creek lacks sufficient conditions to serve as an important regional fish migration passage.

3.1.2 Crocker Cut

Bridge #46C0403 carries County Avenue 304 across Crocker Cut and is located in the eastern extent of the Central Valley towards the base of the Sierra Nevada foothills, approximately 5 miles east of the City of Visalia and a little over 1 mile south of the Venice Hills. The topographic features in the Project vicinity of Bridge #46C0403 are characterized by the relatively flat aspect of its position towards the eastern edge of the Central Valley, near to the southern Sierra Nevada foothills. The Project area of Bridge #46C0403 contains one existing water feature, Crocker Cut. Groundwater is the main water supply in the area, with both urban and agricultural centers relying on its supply availability.

3.1.2.1 *Population and Land Use*

The population density surrounding Bridge #46C0403 is approximately 369 persons per square mile (U.S. Census 2019). Bridge #46C0403 is located in unincorporated Tulare County with a land use designation of Valley Agricultural, which includes agriculture fields within the Central Valley, associated agricultural infrastructure and rural residential homes (Tulare County 2020). The area surrounding Bridge #46C0403 is principally agricultural fields, with a nearby agricultural facility and the nearest residence at approximately 0.14 mile.

3.1.2.2 *Topography*

Bridge #46C0403 is within the Exeter USGS 7 ½ minute quadrangle (T18S & R26E, Section 21). The elevation within Bridge #46C0403 is approximately 377 to 385 feet above mean sea level.

3.1.2.3 *Hydrology*

3.1.2.3.1 Regional Hydrology

Bridge #46C0403 is within the Upper Kaweah watershed, which is within the Tulare-Buena Vista Lakes Hydrologic Region.

3.1.2.3.2 Local Hydrology

Precipitation and Climate

The area is characterized by a southern Central Valley-type climate with hot, dry summers, and mild wet winters. The average annual temperatures of the area range from a high of 75 degrees Fahrenheit to a low of 52 degrees Fahrenheit. The average annual precipitation is 10.93 inches (U.S. Climate Data 2024a).

Surface Water Features

Crocker Cut is located within the Project area of Bridge #46C0403 (**Appendix A: Figure 4. Vegetation Communities**). The feature originates approximately 0.6 miles northeast of Bridge #46C0403, branching off Kaweah River where flow is controlled by a weir. The cut runs for approximately 1.4 miles southwest further into the Central Valley, where it joins the Tule Irrigation District (TID) Canal. The creek supplies (feeds) no major water bodies and is without tributaries.

Areas of Special Biological Significance

According to the map provided by the SWRCB (SWRCB 2017), there are no ASBS within the Project limits.

Floodplains

FEMA FIRM designates the Project area of Bridge #46C0403 as Zone X. Zone X indicates areas outside of flood zones (**Appendix B: FEMA FIRMette Map**). Bridge #46C0403 is not located within CVFPB DF nor is it within 30 feet from a Regulated Stream (CVFPB 2020). Bridge #46C0403 would not require a CVFPB permit due to its location outside of a DF and Regulated Stream.

3.1.2.4 *Groundwater Hydrology*

Bridge #46C0403 is located within the Kaweah Groundwater Sub-basin. Crocker Cut flows from east to west within this groundwater basin. The Kaweah Groundwater Sub-basin is within the larger San Joaquin Valley Groundwater Basin (DWR 2019).

3.1.2.5 *Geology/Soils*

3.1.2.5.1 Soil Erosion Potential

Soil within the Project impact area of Bridge #46C0403 consists of Nord fine sandy loam, 0 to 2 percent slopes (**Appendix C: NRCS Soil Resource Reports**). The erodibility factor (K-factor) for this area is 0.24, indicating coarse textured soil with low runoff (USDA 2001). With implementation of **WQ-1** and **BIO-4**, erosion due to surface runoff is not anticipated.

3.1.2.6 *Biological Communities*

3.1.2.6.1 Aquatic Habitat

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to detect potential jurisdictional waters and map OHWM of the jurisdictional aquatic resources present within the BSA in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar 2008).

Field surveys determined that aquatic resources within the Project area of Bridge #46C0403 include Crocker Cut and riparian habitat. See **Appendix A: Figure 4. Vegetation Communities** for more information. Approximately 233 linear feet of Crocker Cut occurs within the Project area of Bridge #46C0403, at approximately 30- to 40-foot widths. The understory of this riparian habitat is largely comprised of willows (*Salix sp.*) and Himalayan blackberry (*Rubus armeniacus*). Overstory vegetation primarily consists of Fremont cottonwood (*Populus fremontii*) trees, eucalyptus (*Eucalyptus sp.*) trees, and native oaks (*Quercus sp.*).

Special Status Species

Dokken biologists prepared the Project's NES, completing literature research and habitat assessments which concluded that the following special status wildlife species have potential of occurring within the Project BSA of Bridge #46C0403: Loggerhead shrike (*Lanius ludovicianus*), Swainson's hawk (*Buteo swainsoni).* Measures to avoid impacts are noted in the NES.

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to document existing biological resources and survey for sensitive and protected species and/or their habitats. The surveys consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities. No special-status species were observed during the surveys.

Stream/Riparian Habitats

The Project area of Bridge #46C0403 contains Crocker Cut, which contains seasonally wetted riverine habitat. Crocker Cut potentially provides habitat for a number of wildlife species. In addition, the feature supports an area of riparian woodland corridor that provide habitat for wildlife. Within the BSA of Bridge #46C0403, Crocker Cut and riparian woodland are the key natural communities which currently have the potential to support plant and wildlife species particular to this area.

Fish Passage

Crocker Cut within the Project area of Bridge #46C0403 is outside of NMFS jurisdiction and does not contain EFH. Additionally, the Project area of Bridge #46C0403 does not contain Critical Habitat for any fish species. Crocker Cut is seasonally wet and cannot support fish movement during the dry season, when the riverbed is dry and sandy. When the river channel is wetted, it has the potential to support aquatic plants, invertebrates, and small fish species. Within the BSA of Bridge #46C0403, Crocker Cut may support migration of some fish species during select times of the year; however, the feature lacks sufficient conditions to serve as an important regional fish migration passage.

3.1.3 Cross Creek

Bridge #46C0058 and #46C0059 carry County Road D60 across Cross Creek. These bridges are located within proximity to each other and are located in the Central Valley, approximately 4 miles north of Goshen. The topographic features in the Project vicinity of Bridge #46C0058 and #46C0059 are characterized by the relatively flat aspect of its position towards mid Central Valley. The Project area of #46C0058 and #46C0059 contains one existing water feature, Cross Creek. Groundwater is the main water supply in the area, with both urban and agricultural centers relying on its supply availability.

3.1.3.1 *Population and Land Use*

The population density surrounding Bridge #46C0058 and #46C0059 is approximately 296 persons per square mile (U.S. Census 2019). Bridge #46C0058 and #46C0059 are located in unincorporated Tulare County with a land use designation of Valley Agricultural, which includes agriculture fields within the Central Valley, associated agricultural infrastructure and rural residential homes (Tulare County 2020). Bridge #46C0058 and #46C0059 are located within an approximately ¾-mile wide floodplain with the adjacent lands primarily agricultural fields. The nearest agricultural facility and nearest residence are approximately 1.2 miles and 2 miles, respectively.

3.1.3.2 *Topography*

Bridge #46C0058 and #46C0059 are within the Traver USGS 7 ½ minute quadrangle (T17S & R23E, Section 35). The elevation within the Project area of Bridge #46C0058 and #46C0059 is approximately 260 to 275 feet above mean sea level.

3.1.3.3 *Hydrology*

3.1.3.3.1 Regional Hydrology

Bridge #46C0058 and #46C0059 are within the Upper Kaweah watershed, which is within the Tulare-Buena Vista Lakes Hydrologic Region.

3.1.3.3.2 Local Hydrology

Precipitation and Climate

The area is characterized by a southern Central Valley-type climate with hot, dry summers, and mild wet winters. The average annual temperatures of the area range from a high of 75 degrees Fahrenheit to a low of 52 degrees Fahrenheit. The average annual precipitation is 10.93 inches (U.S. Climate Data 2024a).

Surface Water Features

Cross Creek is located within the Project area of Bridge #46C0058 and #46C0059 (**Appendix A: Figure 4. Vegetation Communities**). Cross Creek is contained within the Central Valley, originating approximately 3 miles east of Bridge #46C0058 and #46C0059. The creek supplies (feeds) no major water bodies.

Areas of Special Biological Significance

According to the map provided by the SWRCB (SWRCB 2017), there are no ASBS within the Project limits of Bridge #46C0058 and #46C0059.

Floodplains

FEMA FIRM designates the Project area of Bridge #46C0058 and #46C0059 as Zone A. Zone A indicates high risk flood areas, with a 1% annual chance of flooding (**Appendix B: FEMA FIRMette Map**). Bridge #46C0058 and #46C0059 are located within a CVFPB DF and is within 30 feet from a Regulated Stream (CVFPB 2024). Being located within a high-risk flood area, Bridge #46C0058 and #46C0059 may require a CVFPB permit due to its location within a DF and within 30 feet of a Regulated Stream.

3.1.3.4 *Groundwater Hydrology*

Bridge #46C0058 and #46C0059 are located within the Kaweah Groundwater Sub-basin. Cross Creek flows from east to west within this groundwater basin. The Kaweah Groundwater Sub-basin is within the larger San Joaquin Valley Groundwater Basin (DWR 2019).

3.1.3.5 *Geology/Soils*

3.1.3.5.1 Soil Erosion Potential

Soil within the Project area of Bridge #46C0058 and #46C0059 consists of Crosscreek-Kai association, 0 to 2 percent slopes (**Appendix C: NRCS Soil Resource Reports**). The erodibility factor (K-factor) for this area is 0.49, indicating high silt content and runoff rates/volumes (USDA 2001). With implementation of **WQ-1** and **BIO-4**, erosion due to surface runoff is not anticipated.

3.1.3.6 *Biological Communities*

3.1.3.6.1 Aquatic Habitat

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to detect potential jurisdictional waters and map OHWM of the jurisdictional aquatic resources present within the BSA in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar 2008).

Field surveys determined that aquatic resources within the Project area of Bridge #46C0058 and #46C0059 include Cross Creek. Riparian or wetland habitats are not present within the Project area of Bridge #46C0058 and #46C0059. See **Appendix A: Figure 4. Vegetation Communities** for more information.

Special Status Species

Dokken biologists prepared the Project's NES, completing literature research and habitat assessments which concluded that the following special status wildlife species have potential of occurring within the Project BSA of Bridge #46C0058 and #46C0059: California tiger salamander – central California DPS (*Ambystoma californiense pop. 1*), Western spadefoot (*Spea hammondii*), Coast horned lizard (*Phrynosoma blainvillii*), Northern California legless lizard (*Anniella pulchra*), Burrowing owl (*Athene cunicularia*), Loggerhead shrike (*Lanius ludovicianus*), San Joaquin coachwhip (*Masticophis flagellum ruddocki*), Swainson's hawk (*Buteo swainsoni*), Crotch bumble bee (*Bombus crotchii*), American badger (*Taxidea taxus*), San Joaquin kit fox (*Vulpes macrotis mutica*). Measures to avoid impacts are noted in the NES.

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to document existing biological resources and survey for sensitive and protected species and/or their habitats. The surveys consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities. No special-status species were observed during the surveys.

Stream/Riparian Habitats

Field surveys determined that aquatic resources within the Project area of Bridge #46C0058 and #46C0059 include Cross Creek. Riparian or wetland habitats are not present within the Project area of Bridge #46C0058 and #46C0059.

Fish Passage

Cross Creek within the Project area of Bridge #46C0058 and #46C0059 is outside of NMFS jurisdiction and does not contain EFH. Additionally, the Project area of Bridge #46C0058 and #46C0059 does not contain Critical Habitat for any fish species. Cross Creek is seasonally wet and cannot support fish movement during the dry season, when the riverbed is dry and sandy. When the river channel is wetted, it has the potential to support aquatic plants, invertebrates, and small fish species. Within the BSA of Bridge #46C0058 and #46C0059, Cross Creek may support migration of some fish species during select times of the year; however, the creek lacks sufficient conditions to serve as an important regional fish migration passage.

3.1.4 Deer Creek

Six bridge locations cross Deer Creek at various locations between the lower Central Valley to the upper foothills. Located in the Upper Deer-Upper White watershed, the bridge locations span from lower Deer Creek in the Central Valley at approximately 260 feet above mean sea level to upper Deer Creek in the upper Sierra Nevada Foothills at approximately 2,690 feet above mean sea level. Three bridge locations (Bridges #46C0318, #46C0106, and #46C0108) cross lower Deer Creek in the relatively flat agricultural lands of the Central Valley (**Table 4**). Two bridge locations are located along middle Deer Creek in primarily grazing lands of the Sierra Nevada foothills (Bridges #46C0087 and #46C0202) (**Table 4**). Bridge #46C0205 crosses upper Deer Creek higher in the foothills (**Table 4**).

The topographic features in the vicinity of each bridge location ranges from a relatively flat aspect for bridge locations along lower Deer Creek within the Central Valley to increasingly hilly for bridge locations further up Deer Creek in the foothills. Each of the bridge locations contain one existing water feature, Deer Creek. Groundwater is the main water supply in the areas, with both urban and agricultural centers relying on its supply availability.

Table 4. Deer Creek Bridge Locations

Bridge Number	Facility Carried	General Location	Specific Location
46C0318	Road 136	Central Valley/ Lower Deer Creek	Approximately 1.2 miles north of Earlimart
46C0106	Road 144	Central Valley/ Lower Deer Creek	Approximately 1.9 miles northeast of Earlimart
46C0108	Avenue 88	Central Valley/ Lower Deer Creek	Approximately 6.3 miles northeast of Earlimart
46C0087	M120	Foothills/ Middle Deer Creek	Approximately 4 miles southeast of Porterville
46C0202	M112	Foothills/ Middle Deer Creek	Approximately 10 miles northwest of California Hot Springs

46C0205	SR56 (Hot Springs Rd)	Foothills/Upper Deer Creek	Approximately 1.6 miles west of California Hot Springs

3.1.4.1 *Population and Land Use*

All bridge locations that cross Deer Creek are located in unincorporated Tulare County. The three bridge locations along lower Deer Creek (Bridges #46C0318, #46C0106, and #46C0108) occur in areas with a land use designation of Valley Agricultural, which includes agriculture fields within the Central Valley, associated agricultural infrastructure and rural residential homes (Tulare County 2020). The area surrounding these sites are primarily agricultural fields, with occasional agricultural facilities and residences. Population density in these areas range from approximately 47 to 54 persons per square mile (U.S. Census 2019; **Table 5**).

Two bridge locations (Bridges #46C0087 and #46C0202) occur along middle Deer Creek in areas with a land use designation of Foothill Agricultural. Typical allowed uses include orchards, vineyards and grazing lands, in addition to resource extraction, and agricultural facilities. Bridge #46C0087 is located at the lower edge of the foothills, with an adjacent quarry and nearby grazing areas. The nearest residence is 0.6 miles west, at the edge of agricultural fields of the Central Valley. Bridge #46C0202 occurs further up in the foothills in primarily grazing lands with no nearby residences or structures.

Still further up in the foothills, Bridge #46C0205 crosses upper Deer Creek in broad eastern portion of Tulare County subject to the Tulare General Plan Mountain Framework Plan (Tulare County 2020). Bridge #46C0205 is located in the Greater Western Divide South Half Plan (unadopted) area, for which the County will prepare land use plans. The Mountain Framework Plan provides guidance and restrictions for land use and residential, commercial and industrial use until which time the sub-area plan is adopted. Current land uses in the area surrounding the Project include low density residences and associated grazing areas in addition to an adjacent RV camping/recreational area.

Population density in the region containing the three bridge locations within the foothills is approximately 3 persons per square mile.

Table 5. Population and Land Use Information (Deer Creek Bridge Locations)

Bridge Number	Facility Carried	Land Use Designation	Regional Population Density (approx. persons/mile^2)
46C0318	Road 136	Valley Agricultural	54
46C0106	Road 144	Valley Agricultural	54
46C0108	Avenue 88	Valley Agricultural	47
46C0087	M120	Foothill Agricultural	3
46C0202	M112	Foothill Agricultural	3

46C0205	SR56 (Hot Springs Rd)	Mountain Framework Plan area/Great Western Divide South Half Plan (Unadopted)	3

3.1.4.2 *Topography*

The six bridge locations that cross Deer Creek span five USGS 7 ½ minute quadrangles, and range in elevation from approximately 257 feet to 2,698 feet as shown in **Table 6**. General topography ranges from the relatively flat aspect of the three bridges found in the Central Valley (Bridges #46C0318, #46C0106, and #46C0108), to increasingly mild to moderate sloped aspect of the bridges occurring increasingly higher in the foothills (Bridges #46C0087, #46C0202 and #46C0205, respectively).

Table 6. Topographic Information (Deer Creek Bridge Locations)

Bridge Number	Facility Carried	Watershed	USGS 7.5 Quad	Township/Range	Elevation Range
46C0318	Road 136	Lower Deer Creek	Pixley	T23S & R25E, Section 22	257-268 feet
46C0106	Road 144	Lower Deer Creek	Pixley	T23S & R25E, Section 23	270-285 feet
46C0108	Avenue 88	Lower Deer Creek	Sausalito School	T23S & R26E, Section 4	340-347 feet
46C0087	M120	Middle Deer Creek	Success Dam	T22S & R28E, Section 16	545-560 feet
46C0202	M112	Middle Deer Creek	Gibbon Peak	T23S & R29E, Section 3	875-880 feet
46C0205	SR56 (Hot Springs Rd)	Upper Deer Creek	Posey	T24S & R30E, Section 2	2,680-2,698 feet

3.1.4.3 *Hydrology*

3.1.4.3.1 Regional Hydrology

The proposed bridge locations that cross Deer Creek are within the Upper White-Upper Deer watershed, which is within the Tulare-Buena Vista Lakes Hydrologic Region.

3.1.4.3.2 Local Hydrology

Precipitation and Climate

The three bridge that cross Deer Creek within the Central Valley (Bridges #46C0318, #46C0106, and #46C0108) are in an area characterized by a southern Central Valley-type climate with hot, dry summers, and mild wet winters. The average annual temperatures range from a high of 75 degrees Fahrenheit to a low of 52 degrees Fahrenheit. The average annual precipitation is 10.93 inches (U.S. Climate Data 2024a). Bridge #46C0087, found at the eastern extent of the Central Valley and the base of the foothills, is in an area where average annual temperatures range from a high of 79 degrees Fahrenheit to a low of 52 degrees Fahrenheit. The average annual precipitation is 11.54 inches (U.S. Climate Data 2024b). The two bridge locations in the foothills are in an area characterized by a southern Sierra Nevada foothills type climate with warm, dry summers, and cold, rainy winters. The average annual temperatures of the area range from a high of 70 degrees Fahrenheit to a low of 38 degrees Fahrenheit. The average annual precipitation is 17.87 inches (U.S. Climate Data 2024c).

Surface Water Features

Deer Creek is located within the Project area of the six bridge locations (**Appendix A: Figure 4. Vegetation Communities**). Deer Creek originates in the Sierra Nevada Mountains at the approximate 7600 feet above mean sea level and is approximately 54 miles long (USGS 2015). The approximate distance downstream from the origin for each bridge location that cross Deer Creek is shown in **Table 7**:

Table 7. Distance from Stream Origin (Deer Creek Bridge Locations)

Bridge Number	Facility Carried	Distance Downstream from Stream Origin
46C0318	Road 136	49 miles
46C0106	Road 144	48 miles
46C0108	Avenue 88	43 miles
46C0087	M120	30 miles
46C0202	M112	20 miles
46C0205	SR56 (Hot Springs Rd)	8 miles

The river supplies (feeds) no major water bodies but has a number of seasonal tributaries.

Areas of Special Biological Significance

According to the map provided by the SWRCB (SWRCB 2017), there are no ASBS within any of the bridge locations that cross Deer Creek.

Floodplains

FEMA FIRM designates all the bridge locations that cross Deer Creek as Zone A except for Bridge #46C0205 which is designated as Zone X. Zone A indicates high risk flood areas, with

a 1% annual chance of flooding while Zone X indicates areas outside of flood zones (**Appendix B: FEMA FIRMette Map**). No bridge locations that cross Deer Creek are located within a CVFPB DF nor are they within 30 feet from a Regulated Stream (CVFPB 2020). Although most Deer Creek bridge locations are located within a high-risk flood area, these bridge locations would not require a CVFPB permit due to their location outside of a DF and Regulated Stream.

3.1.4.4 *Groundwater Hydrology*

The three bridge locations that cross Deer Creek within the Central Valley and lower Foothill, are located within the Tule Groundwater Sub-basin. Deer Creek, from the remaining two bridge locations higher in the foothills, flows eventually into this sub-basin, from east to west, with Bridge #46C0202 located approximately 5 miles from the sub-basin, and 46C0205, 18 miles. Tule Groundwater Sub-basin is within the larger San Joaquin Valley Groundwater Basin (DWR 2019).

3.1.4.5 *Geology/Soils*

3.1.4.5.1 Soil Erosion Potential

Soil types within the bridge locations that cross Deer Creek, as well as erodibility (K-factors) and erosion potential are shown in **Table 8**. With implementation of **WQ-1** and **BIO-4**, erosion due to surface runoff is not anticipated.

Table 8. Soils Information (Deer Creek Bridge Locations)

Bridge Number	Soil Map Unit Name	K-Factor	K-Factor Indication	Erosion Potential
46C0318	Akers-Akers, saline-Sodic, complex, 0 to 2 percent slopes (31.0%), Riverwash (69.0%)	0.37	Medium-textured soils	Moderate
46C0106	Riverwash (97.9%), Tujunga loamy sand, 0 to 2 percent slopes (2.1%)	0.37	Medium-textured soils	Moderate
46C0108	Colpien loam, 0 to 2 percent slopes (5.7%), Nord fine sandy loam, 0 to 2 percent slopes (13.1%), Riverwash (81.1%)	0.37	Medium-textured soils	Moderate
46C0087	Cibo-Rock outcrop complex, 15 to 50 percent slopes (24.8%), Riverwash (75.2%)	0.24	Coarse-textured soils	Low
46C0202	Blasingame-Rock outcrop complex, 9 to 50 percent slopes	0.2	Coarse-textured soils	Low
46C0205	Auberry sandy loam, 9 to 15 percent slopes	0.2	Coarse-textured soils	Low

3.1.4.6 *Biological Communities*

3.1.4.6.1 Aquatic Habitat

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to detect potential jurisdictional waters and map OHWM of the jurisdictional aquatic resources present within the BSA in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar 2008).

Field surveys determined that aquatic resources within the Project area were limited to Deer Creek at Bridge locations #46C0318 and #46C0108. Aquatic resources at Bridge #46C0108 and #46C0087 included Deer Creek and riparian habitat. See **Appendix A: Figure 4. Vegetation Communities** for more information. The understory of riparian habitat is largely comprised of willows (*Salix sp.*) and Himalayan blackberry (*Rubus armeniacus*). Within the San Joaquin Valley, overstory vegetation primarily consists of Fremont cottonwood (*Populus fremontii*) trees, eucalyptus (*Eucalyptus sp.*) trees, and native oaks (*Quercus sp.*).

Aquatic resources at Bridge location #46C0202 and #46C0205 included Deer Creek and riparian habitat. See **Appendix A: Figure 4. Vegetation Communities** for more information. The understory of riparian habitat is largely comprised of willows (*Salix sp.*) and Himalayan blackberry (*Rubus armeniacus*). Since these locations occur at higher elevations, riparian habitat also includes trees such as western sycamore (*Platanus racemosa*) and white alder (*Alnus rhombifolia*).

Table 9. Aquatic Habitat Extent (Deer Creek Bridge Locations)

Bridge Number	Creek Length in Project Area (linear feet)	Creek Width Range in Project Area (feet)	Riparian Habitat Present?	General Location
46C0318	170	39-82	No	Valley
46C0106	195	45-66	No	Valley
46C0108	275	32-48	Yes	Valley
46C0087	165	31-83	Yes	Valley
46C0202	164	31-38	Yes	Foothills
46C0205	188	12-25	Yes	Foothills

Special Status Species

Dokken biologists prepared the Project's NES, completing literature research and habitat assessments. Conclusions of special status wildlife species with potential of occurring within the Project's BSA are shown in **Table 10**. Measures to avoid impacts are noted in the NES.

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to document existing

biological resources and survey for sensitive and protected species and/or their habitats. The surveys consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities. No special-status species were observed during the surveys.

Table 10. Special Status Species with Potential to Occur (Deer Creek Bridge Locations)

Bridge Number	Wildlife Species	Plant Species
46C0318	Bakersfield legless lizard (*Anniella grinnelli*), Western spadefoot (*Spea hammondii*), Loggerhead shrike (*Lanius ludovicianus*), Swainson's hawk (*Buteo swainsoni*)	Brittlescale (*Atriplex depressa*), Earlimart orach (*Atriplex cordulata var. erecticaulis*), Heartscale *(Atriplex cordulata var. cordulata*), Lesser saltscale (*Atriplex minuscula*)
46C0106	Bakersfield legless lizard (*Anniella grinnelli*), Loggerhead shrike (*Lanius ludovicianus*)	None
46C0108	Bakersfield legless lizard (*Anniella grinnelli*), Loggerhead shrike (*Lanius ludovicianus*)	None
46C0087	Bakersfield legless lizard (*Anniella grinnelli*), Coast horned lizard (*Phrynosoma blainvillii*), Western pond turtle (*Actinemys marmorata*), Loggerhead shrike (*Lanius ludovicianus*), Swainson's hawk (*Buteo swainsoni*)	None
46C0202	Coast horned lizard (*Phrynosoma blainvillii*), Northern California legless lizard (*Anniella pulchra*), Loggerhead shrike (*Lanius ludovicianus*), Pallid bat (*Antrozous pallidus*)	None
46C0205	Foothill yellow-legged frog – south Sierra DPS (*Rana boylii pop. 5*), Western pond turtle (*Actinemys marmorata*), Loggerhead shrike (*Lanius ludovicianus*), Pallid bat (*Antrozous pallidus*)	None

Stream/Riparian Habitats

Each bridge location contains Deer Creek, which contains seasonally wetted riverine habitat. Bridge #46C0318 and #46C0106 lack riparian habitat but still provide potential habitat for wildlife. Alkali soils in Bridge #46C0318's BSA provide potential habitat for a number of special status plant species discussed above. The remaining bridge locations that cross Deer Creek provide ample riparian woodland that provide robust habitat for wildlife. Within the Project BSA's, Deer Creek and riparian woodland are the key natural communities which currently have the potential to support plant and wildlife species particular to this area.

Fish Passage

Deer Creek within each bridge location is outside of NMFS jurisdiction and does not contain EFH. Additionally, the Project area does not contain Critical Habitat for any fish species. Deer Creek is seasonally wet and cannot support fish movement during the dry season, when the riverbed is dry and sandy. When the river channel is wetted, it has the potential to support aquatic plants, invertebrates, and small fish species. Within the BSA, Deer Creek may support migration of some fish species during select times of the year; however, the creek lacks sufficient conditions to serve as an important regional fish migration passage.

3.1.5 Elk Bayou

Bridge #46C0269 carries County Road 80 across Elk Bayou and is located in the Central Valley, approximately 7 miles southwest of the City of Tulare. The topographic features in the Project vicinity of Bridge #46C0269 are characterized by the relatively flat aspect of its position towards mid Central Valley. The Project area of Bridge #46C0269 contains one existing water feature, Elk Bayou. Groundwater is the main water supply in the area, with both urban and agricultural centers relying on its supply availability.

3.1.5.1 *Population and Land Use*

The population density surrounding the Bridge #46C0269 is approximately 315 persons per square mile (U.S. Census 2019). Bridge #46C0269 is located in unincorporated Tulare County with a land use designation of Valley Agricultural, which includes agriculture fields within the Central Valley, associated agricultural infrastructure and rural residential homes (Tulare County 2020). The area surrounding Bridge #46C0269 is principally agricultural fields with scattered agricultural facilities. Residences are sparse with the nearest at approximately 0.4 mile.

3.1.5.2 *Topography*

Bridge #46C0269 is within the Taylor Weir USGS 7 ½ minute quadrangle (T21S & R24E, Section 17). The elevation within the Project area of Bridge #46C0269 is approximately 218 to 232 feet above mean sea level. Surrounding area is relatively flat.

3.1.5.3 *Hydrology*

3.1.5.3.1 Regional Hydrology

Bridge #46C0269 is within the Upper Tule watershed, which is within the Tulare-Buena Vista Lakes Hydrologic Region.

3.1.5.3.2 Local Hydrology

Precipitation and Climate

The area is characterized by a southern Central Valley-type climate with hot, dry summers, and mild wet winters. The average annual temperatures of the area range from a high of 75 degrees Fahrenheit to a low of 52 degrees Fahrenheit. The average annual precipitation is 10.93 inches (U.S. Climate Data 2024a).

Surface Water Features

Elk Bayou is located within the Project area of Bridge #46C0269 (**Appendix A: Figure 4. Vegetation Communities**). Elk Bayou is contained within the Central Valley, originating approximately 12.2 miles northeast of Bridge #46C0269, at the confluence of Inside Creek and Outside Creek. The bayou runs for approximately 12.8 miles from its origin before joining Tule River (USGS 2015). The river supplies (feeds) no major water bodies but has a few seasonal tributaries.

Areas of Special Biological Significance

According to the map provided by the SWRCB (SWRCB 2017), there are no ASBS within the Project limits of Bridge #46C0269.

Floodplains

FEMA FIRM designates the Project area of Bridge #46C0269 as Zone A. Zone A indicates high risk flood areas, with a 1% annual chance of flooding (**Appendix B: FEMA FIRMette Map**). Bridge #46C0269 is not located within a CVFPB DF, however it is within 30 feet from a Regulated Stream (CVFPB 2024). Being located within a high-risk flood area, Bridge #46C0269 may require a CVFPB permit due to its location within 30 feet of a Regulated Stream.

3.1.5.4 *Groundwater Hydrology*

Bridge #46C0269 is located within the Kaweah Groundwater Sub-basin. Elk Bayou flows from east to west within this groundwater basin. The Kaweah Groundwater Sub-basin is within the larger San Joaquin Valley Groundwater Basin (DWR 2019).

3.1.5.5 *Geology/Soils*

3.1.5.5.1 Soil Erosion Potential

Soil within the Project area of Bridge #46C0269 consists of Biggriz-Biggriz, saline-Sodic, complex, 0 to 2 percent slopes (**Appendix C: NRCS Soil Resource Reports**). The erodibility factor (K-factor) for this area is 0.37, indicating medium-textured soils with moderate runoff (USDA 2001). With implementation of **WQ-1** and **BIO-4**, erosion due to surface runoff is not anticipated.

3.1.5.6 *Biological Communities*

3.1.5.6.1 Aquatic Habitat

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to detect potential jurisdictional waters and map OHWM of the jurisdictional aquatic resources present within the BSA of Bridge #46C0269 in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar 2008).

Field surveys determined that aquatic resources within the Project area of Bridge #46C0269 include Elk Bayou. Approximately 157 linear feet of Elk Bayou occurs within the Project area of Bridge #46C0269, at approximately 35- to 75-foot widths. Riparian or wetland habitats are not

present within the Project area of Bridge #46C0269. See **Appendix A: Figure 4. Vegetation Communities** for more information.

Special Status Species

Dokken biologists prepared the Project's NES, completing literature research and habitat assessments which concluded that the following special status wildlife species have potential of occurring within the BSA of Bridge #46C0269: Western spadefoot (*Spea hammondii*), Coast horned lizard (*Phrynosoma blainvillii*), Northern California legless lizard (*Anniella pulchra*), Loggerhead shrike (*Lanius ludovicianus*), Swainson's hawk (*Buteo swainsoni*). The following special status plant species have potential of occurring within the Project's BSA: Brittlescale (*Atriplex depressa*), Earlimart orach (*Atriplex cordulata var. erecticaulis*), Heartscale (*Atriplex cordulata var. cordulata*), Lesser saltscale (*Atriplex minuscula*). Measures to avoid impacts are noted in the NES.

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to document existing biological resources and survey for sensitive and protected species and/or their habitats. The surveys consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities. No special-status species were observed during the surveys.

Stream/Riparian Habitats

The Project area of Bridge #46C0269 contains Elk Bayou, which contains seasonally wetted riverine habitat although lacks riparian habitat. The bayou and adjacent ruderal habitat potentially provides limited habitat for wildlife species. However, the alkali soils found in the upland areas adjacent to Elk Bayou provide potential habitat to a number of special status plant species noted above, as well as other species particular to this area.

Fish Passage

Elk Bayou within the Project area of Bridge #46C0269 is outside of NMFS jurisdiction and does not contain EFH. Additionally, the Project area of Bridge #46C0269 does not contain Critical Habitat for any fish species. Elk Bayou is seasonally wet and cannot support fish movement during the dry season, when the riverbed is dry and sandy. When the river channel is wetted, it has the potential to support aquatic plants, invertebrates, and small fish species. Within the BSA of Bridge #46C0269, Elk Bayou may support migration of some fish species during select times of the year; however, the bayou lacks sufficient conditions to serve as an important regional fish migration passage.

3.1.6 Friant-Kern Canal

Bridge #46C0226 carries County Avenue 428 across the Friant-Kern Canal and is located in the eastern extent of the Central Valley less than a mile west of the base of the Sierra Nevada foothills, approximately 2.5 miles northeast of Orosi and 5 miles southeast of the City of Orange Grove. The topographic features in the Project vicinity of Bridge #46C0226 are characterized by the gently sloping aspect of its position towards the eastern edge of the Central Valley, near to

the southern Sierra Nevada foothills. The Project area of Bridge #46C0226 contains one existing water feature, the Friant-Kern Canal. Groundwater is the main water supply in the area, with both urban and agricultural centers relying on its supply availability.

3.1.6.1 *Population and Land Use*

The population per square mile in the area surrounding Bridge #46C0226 is approximately 246 people (U.S. Census 2019). Bridge #46C0226 is located in unincorporated Tulare County with a land use designation of Valley Agricultural, which includes agriculture fields within the Central Valley, associated agricultural infrastructure and rural residential homes (Tulare County 2020). The area surrounding the Bridge #46C0226 is principally agricultural fields. Medium density residences begin about 0.5 miles west of Bridge #46C0226 with houses north of East Orosi. The nearest residence is approximately 0.3 mile to the west.

3.1.6.2 *Topography*

Bridge #46C0226 Project site is within the Stokes Mountain USGS 7 ½ minute quadrangle (T16S & R25E, Section 3). The elevation within the Project area of Bridge #46C0226 is approximately 438 to 442 feet above mean sea level.

3.1.6.3 *Hydrology*

3.1.6.3.1 Regional Hydrology

Bridge #46C0226 is within the Upper Kaweah watershed, which is within the Tulare-Buena Vista Lakes Hydrologic Region.

3.1.6.3.2 Local Hydrology

Precipitation and Climate

The area is characterized by a southern Central Valley-type climate with hot, dry summers, and mild wet winters. The average annual temperatures of the area range from a high of 75 degrees Fahrenheit to a low of 52 degrees Fahrenheit. The average annual precipitation is 10.93 inches (U.S. Climate Data 2024a).

Surface Water Features

The Friant-Kern Canal is located within the Project area of Bridge #46C0226 (**Appendix A: Figure 4. Vegetation Communities**). The Friant-Kern Canal is contained within the Central Valley, originating approximately 49 miles north of the Bridge #46C0226, at the Friant Dam of Millerton Lake in Fresno County, which is fed by the San Joaquin River and other tributaries. The canal runs for approximately 153 miles from its origin where it joins a canal system near the Kern River east of Bakersfield in Kern County (USGS 2015). The river supplies (feeds) no major water bodies and has no tributaries.

Areas of Special Biological Significance

According to the map provided by the SWRCB (SWRCB 2017), there are no ASBS within the Project limits of Bridge #46C0226.

Floodplains

FEMA FIRM designates the Project area of Bridge #46C0226 as Zone X. Zone X indicates areas outside of flood zones (**Appendix B: FEMA FIRMette Map**). Bridge #46C0226 is not located within a CVFPB DF nor is it within 30 feet from a Regulated Stream (CVFPB 2020). Bridge #46C0226 would not require a CVFPB permit due to its location outside of a DF and Regulated Stream.

3.1.6.4 *Groundwater Hydrology*

Bridge #46C0226 is located within the Kings Groundwater Sub-basin. Friant-Kern Canal flows from east to west within this groundwater basin. The Kings Groundwater Sub-basin is within the larger San Joaquin Valley Groundwater Basin (DWR 2019).

3.1.6.5 *Geology/Soils*

3.1.6.5.1 Soil Erosion Potential

Soil within the Project area of Bridge #46C0226 consists Porterville clay, 0 to 2 percent slopes (58.9%), Water (41.4% (**Appendix C: NRCS Soil Resource Reports**). The erodibility factor (K-factor) for this area is 0.32, indicating medium-textured soil with moderate runoff (USDA 2001). With implementation of **WQ-1** and **BIO-4**, erosion due to surface runoff is not anticipated.

3.1.6.6 *Biological Communities*

3.1.6.6.1 Aquatic Habitat

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to detect potential jurisdictional waters and map OHWM of the jurisdictional aquatic resources present within the BSA in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar 2008).

Field surveys determined that aquatic resources within the Project area of Bridge #46C0226 include Friant-Kern Canal. Approximately 155 linear feet of Friant-Kern Canal occurs within the Project area of Bridge #46C0226, at approximately 110-foot width. Riparian or wetland habitats are not present within the Project area of Bridge #46C0226. See **Appendix A: Figure 4. Vegetation Communities** for more information.

Special Status Species

Dokken biologists prepared the Project's NES, completing literature research and habitat assessments which concluded that the following special status wildlife species have potential of occurring within the BSA of Bridge #46C0226: Loggerhead shrike *(Lanius ludovicianus*). Measures to avoid impacts are noted in the NES.

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to document existing biological resources and survey for sensitive and protected species and/or their habitats. The surveys consisted of a general assessment of biological conditions of the Project site, with special

attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area. Methodology involved walking meandering transects throughout the BSA of Bridge #46C0226 and recording observed vegetation and wildlife species as well as categorizing existing habitat communities. No special-status species were observed during the surveys.

Stream/Riparian Habitats

The Project area of Bridge #46C0226 contains Friant-Kern Canal, which contains perennial riverine habitat although lacks riparian habitat. The canal and adjacent ruderal habitat potentially provides limited habitat for wildlife species.

Fish Passage

Friant-Kern Canal within the Project area of Bridge #46C0226 is outside of NMFS jurisdiction and does not contain EFH. Additionally, the Project area of Bridge #46C0226 does not contain Critical Habitat for any fish species. Within the BSA of Bridge #46C0226, Friant-Kern Canal may support migration of some fish species; however, the controlled and segmented aspect of water flow in the canal result in lack of sufficient conditions to serve as an important regional fish migration passage.

3.1.7 Lewis Creek

Bridge #46C0309 carries County Avenue 220 across Lewis Creek and is located in the eastern extent of the Central Valley less than a mile west of the base of the Sierra Nevada foothills, approximately 3 miles southeast of the City of Linsey. The topographic features in the Project vicinity are characterized by the gently sloping aspect of its position towards the eastern edge of the Central Valley, near to the southern Sierra Nevada foothills. The Project area of Bridge #46C0309 contains one existing water feature, Lewis Creek. Groundwater is the main water supply in the area, with both urban and agricultural centers relying on its supply availability.

3.1.7.1 *Population and Land Use*

The population density surrounding the Project area of Bridge #46C0309 is approximately 334 persons per square mile (U.S. Census 2019). Bridge #46C0309 is located in unincorporated Tulare County with a land use designation of Valley Agricultural, which includes agriculture fields within the Central Valley, associated agricultural infrastructure and rural residential homes (Tulare County 2020). Bridge #46C0309 is located in an area of undeveloped floodplain, generally 500-700 feet in width, beyond which is mostly agricultural fields, although open space and grazing lands of the foothills begin about ¼ mile to the east. Residences are mixed with agricultural fields at a low to medium density, with the nearest located adjacent to Bridge #46C0309.

3.1.7.2 *Topography*

Bridge #46C0309 is within the Lindsay USGS 7 ½ minute quadrangle (T20S & R27E, Section 14). The elevation within the Project area of Bridge #46C0309 is approximately 465 to 470 feet above mean sea level.

3.1.7.3 *Hydrology*

3.1.7.3.1 Regional Hydrology

Bridge #46C0309 is within the Upper Tule watershed, which is within the Tulare-Buena Vista Lakes Hydrologic Region.

3.1.7.3.2 Local Hydrology

Precipitation and Climate

The area is characterized by a southern Central Valley-type climate with hot, dry summers, and mild wet winters. The average annual temperatures of the area range from a high of 79 degrees Fahrenheit to a low of 52 degrees Fahrenheit. The average annual precipitation is 11.54 inches (U.S. Climate Data 2024b).

Surface Water Features

Lewis Creek is located within the Project area of Bridge #46C0309 (**Appendix A: Figure 4. Vegetation Communities**). Lewis Creek is contained within the Central Valley, originating approximately 11 miles east of Bridge #46C0309, in the Sierra Nevada Foothills. The creek runs for approximately 22 miles from its origin before joining a canal system northeast of Lindsay in the Central Valley (USGS 2015). The river supplies (feeds) no major water bodies but has a number of seasonal tributaries.

Areas of Special Biological Significance

According to the map provided by the SWRCB (SWRCB 2017), there are no ASBS within the Project limits of Bridge #46C0309.

Floodplains

FEMA FIRM designates the Project area of Bridge #46C0309 as Zone A. Zone A indicates high risk flood areas, with a 1% annual chance of flooding (**Appendix B: FEMA FIRMette Map**). Bridge #46C0309 is not located within a CVFPB DF nor is it within 30 feet from a Regulated Stream (CVFPB 2020). Although located within a high-risk flood area, the Project would not require a CVFPB permit due to its location outside of a DF and Regulated Stream.

3.1.7.4 *Groundwater Hydrology*

Bridge #46C0309 is located within the Kaweah Groundwater Sub-basin. Lewis Creek flows from east to west within this groundwater basin. The Kaweah Groundwater Sub-basin is within the larger San Joaquin Valley Groundwater Basin (DWR 2019).

3.1.7.5 *Geology/Soils*

3.1.7.5.1 Soil Erosion Potential

Soil within the Project area of Bridge #46C0309 consists of Pits (**Appendix C: NRCS Soil Resource Reports**). The erodibility factor (K-factor) for this area is 0.32, indicating medium-textured soil with moderate runoff (USDA 2001). With implementation of **WQ-1** and **BIO-4**, erosion due to surface runoff is not anticipated.

3.1.7.6 *Biological Communities*

3.1.7.6.1 Aquatic Habitat

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to detect potential jurisdictional waters and map OHWM of the jurisdictional aquatic resources present within the BSA in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar 2008).

Field surveys determined that aquatic resources within the Project area of Bridge #46C0309 include Lewis Creek and riparian habitat. See **Appendix A: Figure 4. Vegetation Communities** for more information. Approximately 155 linear feet of Lewis Creek occurs within the Project area, at approximately 11- to 21-foot widths. The understory of the riparian habitat is largely comprised of willows (*Salix sp.*) and Himalayan blackberry (*Rubus armeniacus*). Overstory vegetation primarily consists of Fremont cottonwood (*Populus fremontii*) trees, eucalyptus (*Eucalyptus sp.*) trees, and native oaks (*Quercus sp.*).

Special Status Species

Dokken Engineering biologists prepared the Project's Natural Environment Study NES), completing literature research and habitat assessments which concluded that the following special status wildlife species have potential of occurring within the BSA of Bridge #46C0309: Western spadefoot (*Spea hammondii*), Coast horned lizard (*Phrynosoma blainvillii*), Northern California legless lizard (*Anniella pulchra*), Loggerhead shrike (*Lanius ludovicianus*), Swainson's hawk (*Buteo swainsoni*), San Joaquin kit fox (*Vulpes macrotis mutica*). Measures to avoid impacts are noted in the NES.

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to document existing biological resources and survey for sensitive and protected species and/or their habitats. The surveys consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities. No special-status species were observed during the surveys.

Stream/Riparian Habitats

The Project area of Bridge #46C0309 contains Lewis Creek which contains seasonally wetted riverine habitat. The creek potentially provides habitat for a number of wildlife species. In addition, the river supports an area of riparian woodland corridor that provides habitat for wildlife. Within the BSA of Bridge #46C0309, Lewis Creek and riparian woodland are the key natural communities which currently have the potential to support plant and wildlife species particular to this area.

Fish Passage

Lewis Creek within the Project area of Bridge #46C0309 is outside of NMFS jurisdiction and does not contain EFH. Additionally, the Project area of Bridge #46C0309 does not contain Critical Habitat for any fish species. Lewis Creek is seasonally wet and cannot support fish movement

during the dry season, when the riverbed is dry and sandy. When the river channel is wetted, it has the potential to support aquatic plants, invertebrates, and small fish species. Within the BSA of Bridge #46C0309, Lewis Creek may support migration of some fish species during select times of the year; however, the creek lacks sufficient conditions to serve as an important regional fish migration passage.

3.1.8 Mill Creek

Bridge #46C0408 carries County Road 152 across Mill Creek and is located in the Central Valley, approximately a half mile east of the City of Visalia. The topographic features in the Project vicinity of Bridge #46C0408 are characterized by the relatively flat aspect of its position in the Central Valley. The Project area of Bridge #46C0408 contains one existing water feature, Mill Creek. Groundwater is the main water supply in the area, with both urban and agricultural centers relying on its supply availability.

3.1.8.1 *Population and Land Use*

The population density surrounding Bridge #46C0408 is approximately 1,035 persons per square mile (U.S. Census 2019). Bridge #46C0408 is located in unincorporated Tulare County with a land use designation of Urban Reserve, a holding designation with properties remaining zoned as agricultural or open space until deemed appropriate for development. Present zoning is consistent with the adjacent Valley Agricultural, which includes agriculture fields within the Central Valley, associated agricultural infrastructure and rural residential homes (Tulare County 2020). Bridge #46C0408 is surrounded with agricultural fields, a few agricultural facilities, and four residences within ¼-mile. Dense residential neighborhoods of Visalia begin 0.5 miles to the west.

3.1.8.2 *Topography*

Bridge #46C0408 is within the Exeter USGS 7 ½ minute quadrangle (T18S & R25E, Section 26). The elevation within the Project area of Bridge #46C0408 is approximately 347 to 356 feet above mean sea level.

3.1.8.3 *Hydrology*

3.1.8.3.1 Regional Hydrology

Bridge #46C0408 is within the Upper Kaweah watershed, which is within the Tulare-Buena Vista Lakes Hydrologic Region.

3.1.8.3.2 Local Hydrology

Precipitation and Climate

The area is characterized by a southern Central Valley-type climate with hot, dry summers, and mild wet winters. The average annual temperatures of the area range from a high of 75 degrees Fahrenheit to a low of 52 degrees Fahrenheit. The average annual precipitation is 10.93 inches (U.S. Climate Data 2024a).

Surface Water Features

Mill Creek is located within the Project area of Bridge #46C0408 (**Appendix A: Figure 4. Vegetation Communities**). The feature originates approximately 0.8 miles east of Bridge #46C0408, branching off Kaweah River. The creek is contained within the Central Valley and runs for approximately 3.5 miles southwest from its origin, where it joins Packwood Creek. The creek supplies (feeds) no major water bodies and is without tributaries.

Areas of Special Biological Significance

According to the map provided by the SWRCB (SWRCB 2017), there are no ASBS within the Project limits of Bridge #46C0408.

Floodplains

FEMA FIRM designates the Project area of Bridge #46C0408 as Zone X. Zone X indicates areas outside of flood zones (**Appendix B: FEMA FIRMette Map**). Bridge #46C0408 is not located within a CVFPB DF nor is it within 30 feet from a Regulated Stream (CVFPB 2020). Bridge #46C0408 would not require a CVFPB permit due to its location outside of a DF and Regulated Stream.

3.1.8.4 *Groundwater Hydrology*

Bridge #46C0408 is located within the Kaweah Groundwater Sub-basin. The Kaweah Groundwater Sub-basin is within the larger San Joaquin Valley Groundwater Basin (DWR 2019).

3.1.8.5 *Geology/Soils*

3.1.8.5.1 Soil Erosion Potential

Soil within the Project impact area of Bridge #46C0408 consists of Grangeville sandy loam, drained, 0 to 2 percent slopes (**Appendix C: NRCS Soil Resource Reports**). The erodibility factor (K-factor) for this area is 0.24, indicating medium-textured soil with moderate runoff (USDA 2001). With implementation of **WQ-1** and **BIO-4**, erosion due to surface runoff is not anticipated.

3.1.8.6 *Biological Communities*

3.1.8.6.1 Aquatic Habitat

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to detect potential jurisdictional waters and map OHWM of the jurisdictional aquatic resources present within the BSA in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar 2008).

Field surveys determined that aquatic resources within the Project area of Bridge #46C0408 include Mill Creek and riparian habitat. See **Appendix A: Figure 4. Vegetation Communities** for more information. Approximately 194 linear feet of Mill Creek occurs within the Project area of Bridge #46C0408, at approximately 14- to 20-foot widths. The understory of the riparian habitat is largely comprised of willows (*Salix sp.*) and Himalayan blackberry (*Rubus armeniacus*). Overstory vegetation primarily consists of Fremont cottonwood (*Populus fremontii*) trees, eucalyptus (*Eucalyptus sp.*) trees, and native oaks (*Quercus sp.*).

Special Status Species

Dokken biologists prepared the Project's NES, completing literature research and habitat assessments which concluded that the following special status wildlife species have potential of occurring within the BSA of Bridge #46C0408: Loggerhead shrike (*Lanius ludovicianus*), Swainson's hawk (*Buteo swainsoni*). Measures to avoid impacts are noted in the NES.

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to document existing biological resources and survey for sensitive and protected species and/or their habitats. The surveys consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities. No special-status species were observed during the surveys.

Stream/Riparian Habitats

The Project area of Bridge #46C0408 contains Mill Creek, which contains seasonally wetted riverine habitat. The ditch potentially provides habitat for a number of wildlife species. In addition, the ditch supports a riparian woodland corridor that provides habitat for wildlife. Within the BSA of Bridge #46C0408, Mill Creek and riparian woodland are the key natural communities which currently have the potential to support plant and wildlife species particular to this area.

Fish Passage

Mill Creek within the Project area of Bridge #46C0408 is outside of NMFS jurisdiction and does not contain EFH. Additionally, the Project area of Bridge #46C0408 does not contain Critical Habitat for any fish species. Oakes Ditch is seasonally wet and cannot support fish movement during the dry season, when the riverbed is dry and sandy. When the river channel is wetted, it has the potential to support aquatic plants, invertebrates, and small fish species. Within the BSA of Bridge #46C0408, Mill Creek may support migration of some fish species during select times of the year; however, the ditch lacks sufficient conditions to serve as an important regional fish migration passage.

3.1.9 Saint Johns River

Bridge #46C0420 carries County Road 108 across Saint Johns River and is located in the Central Valley, approximately a half mile north of the City of Visalia. The topographic features in the Project vicinity of Bridge #46C0420 are characterized by the relatively flat aspect of its position in the Central Valley. The Project area of Bridge #46C0420 contains one existing water feature, Saint Johns River. Groundwater is the main water supply in the area, with both urban and agricultural centers relying on its supply availability.

3.1.9.1 *Population and Land Use*

The population density surrounding Bridge #46C0420 is approximately 1,035 persons per square mile (U.S. Census 2019). Bridge #46C0420 is located in unincorporated Tulare County with a land use designation of Urban Reserve, a holding designation with properties remaining zoned as agricultural or open space until deemed appropriate for development. Present zoning is

consistent with the adjacent Valley Agricultural, which includes agriculture fields within the Central Valley, associated agricultural infrastructure and rural residential homes (Tulare County 2020). Bridge #46C0420 is surrounded with agricultural fields, associated agricultural facilities, and 3-5 residences within ¼-mile, with one adjacent to the project site. Dense residential neighborhoods of Visalia begin 0.6 miles to the south.

3.1.9.2 *Topography*

Bridge #46C0420 is within the Visalia USGS 7 ½ minute quadrangle (T18S & R24E, Section 11). The elevation within the Project site is approximately 310-325 feet above mean sea level.

3.1.9.3 *Hydrology*

3.1.9.3.1 Regional Hydrology

Bridge #46C0420 is within the Upper Kaweah watershed, which is within the Tulare-Buena Vista Lakes Hydrologic Region.

3.1.9.3.2 Local Hydrology

Precipitation and Climate

The area is characterized by a southern Central Valley-type climate with hot, dry summers, and mild wet winters. The average annual temperatures of the area range from a high of 75 degrees Fahrenheit to a low of 52 degrees Fahrenheit. The average annual precipitation is 10.93 inches (U.S. Climate Data 2024a).

Surface Water Features

Saint Johns River is located within the Project area of Bridge #46C0420 (**Appendix A: Figure 4. Vegetation Communities**). Saint Johns River originates approximately 19 miles east of the Project, where it branches off Kaweah River downstream from Lake Kaweah. The river is contained within the Central Valley, running approximately 26 miles in total before emptying into Cross Creek (USGS 2015). The river supplies (feeds) no major water bodies but has no tributaries.

Areas of Special Biological Significance

According to the map provided by the SWRCB (SWRCB 2017), there are no ASBS within the Project limits.

Floodplains

FEMA FIRM designates the Project area of Bridge #46C0420 as Zone AE. Zone AE indicates high risk flood areas, with a 1% annual chance of flood discharge contained in the levee structure (**Appendix B: FEMA FIRMette Map**). Bridge #46C0420 is located within a CVFPB DF, however it is not within 30 feet from a Regulated Stream (CVFPB 2024). Being located within a high-risk flood area, Bridge #46C0420 may require a CVFPB permit due to its location within a DF.

3.1.9.4 *Groundwater Hydrology*

Bridge #46C0420 is located within the Kaweah Groundwater Sub-basin. Saint Johns River flows from east to west within this groundwater basin. The Kaweah Groundwater Sub-basin is within the larger San Joaquin Valley Groundwater Basin (DWR 2019).

3.1.9.5 *Geology/Soils*

3.1.9.5.1 Soil Erosion Potential

Soil within the Project impact area of Bridge #46C0420 consists of Grangeville sandy loam, drained, 0 to 2 percent slopes (32.7%), Riverwash (67.3%) (**Appendix C: NRCS Soil Resource Reports**). The erodibility factor (K-factor) for this area is 0.24, indicating medium-textured soil with moderate runoff (USDA 2001). With implementation of **WQ-1** and **BIO-4**, erosion due to surface runoff is not anticipated.

3.1.9.6 *Biological Communities*

3.1.9.6.1 Aquatic Habitat

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to detect potential jurisdictional waters and map OHWM of the jurisdictional aquatic resources present within the BSA in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar 2008).

Field surveys determined that aquatic resources within the Project area of Bridge #46C0420 include Saint Johns River and riparian habitat. See **Appendix A: Figure 4. Vegetation Communities** for more information. Approximately 226 linear feet of Saint Johns River occurs within the Project area of Bridge #46C0420, at approximately 130- to 197-foot widths. The understory of the riparian habitat is largely comprised of willows (*Salix sp.*) and Himalayan blackberry (*Rubus armeniacus*). Overstory vegetation primarily consists of Fremont cottonwood (*Populus fremontii*) trees, eucalyptus (*Eucalyptus sp.*) trees, and native oaks (*Quercus sp.*).

Special Status Species

Dokken biologists prepared the Project's NES, completing literature research and habitat assessments which concluded that the following special status wildlife species have potential of occurring within the BSA of Bridge #46C0420: Loggerhead shrike (*Lanius ludovicianus*), Swainson's hawk (*Buteo swainsoni*). Measures to avoid impacts are noted in the NES.

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to document existing biological resources and survey for sensitive and protected species and/or their habitats. The surveys consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities. No special-status species were observed during the surveys.

Stream/Riparian Habitats

The Project area of Bridge #46C0420 contains Saint Johns River, which contains seasonally wetted riverine habitat. The river potentially provides habitat for a number of wildlife species. In addition, the river supports a riparian woodland corridor that provides habitat for wildlife. Within the BSA of Bridge #46C0420, Saint Johns River, and riparian woodland are the key natural communities which currently have the potential to support plant and wildlife species particular to this area.

Fish Passage

Saint Johns River within the Project area of Bridge #46C0420 is outside of NMFS jurisdiction and does not contain EFH. Additionally, the Project area of Bridge #46C0420 does not contain Critical Habitat for any fish species. Saint Johns River is seasonally wet and cannot support fish movement during the dry season, when the riverbed is dry and sandy. When the river channel is wetted, it has the potential to support aquatic plants, invertebrates, and small fish species. Within the BSA of Bridge #46C0420, Saint Johns River may support migration of some fish species during select times of the year; however, the river lacks sufficient conditions to serve as an important regional fish migration passage.

3.1.10 Tule Irrigation District Canal

Bridge #46C0036 carries County Road 168 across the TID Canal and is located in the eastern extent of the Central Valley towards the base of the Sierra Nevada foothills, approximately 2.5 miles east of the City of Visalia. The topographic features in the Project vicinity of Bridge #46C0036 are characterized by the relatively flat aspect of its position towards the eastern edge of the Central Valley, near to the southern Sierra Nevada foothills. The Project area of Bridge #46C0036 contains one existing water feature, TID Canal. Groundwater is the main water supply in the area, with both urban and agricultural centers relying on its supply availability.

3.1.10.1 *Population and Land Use*

The population density surrounding Bridge #46C0036 is approximately 369 persons per square mile (U.S. Census 2019). Bridge #46C0036 is located in unincorporated Tulare County with a land use designation of Valley Agricultural, which includes agriculture fields within the Central Valley, associated agricultural infrastructure and rural residential homes (Tulare County 2020). While agricultural fields generally surround Bridge #46C0036, about a dozen residences are within approximately ¼-mile of Bridge #46C0036, mostly near to the TID Canal upstream of the Bridge #46C0036.

3.1.10.2 *Topography*

Bridge #46C0036 is within the Exeter USGS 7 ½ minute quadrangle (T18S & R26E, Section 30). The elevation within the Project site of Bridge #46C0036 is approximately 375 to 440 feet above mean sea level.

3.1.10.3 *Hydrology*

3.1.10.3.1 Regional Hydrology

Bridge #46C0036 is within the Upper Kaweah watershed, which is within the Tulare-Buena Vista Lakes Hydrologic Region.

3.1.10.3.2 Local Hydrology

Precipitation and Climate

The area is characterized by a southern Central Valley-type climate with hot, dry summers, and mild wet winters. The average annual temperatures of the area range from a high of 75 degrees Fahrenheit to a low of 52 degrees Fahrenheit. The average annual precipitation is 10.93 inches (U.S. Climate Data 2024a).

Surface Water Features

TID Canal is located within the Project area of Bridge #46C0036 (**Appendix A: Figure 4. Vegetation Communities**). TID Canal originates approximately 6.5 miles northeast of Bridge #46C0036. The canal is contained within the Central Valley and runs for approximately 20 miles (USGS 2015). The canal supplies (feeds) no major water bodies but has no tributaries.

Areas of Special Biological Significance

According to the map provided by the SWRCB (SWRCB 2017), there are no ASBS within the Project limits of Bridge #46C0036.

Floodplains

FEMA FIRM designates the Project area of Bridge #46C0036 as Zone X. Zone X indicates areas outside of flood zones (**Appendix B: FEMA FIRMette Map**). The Project is not located within a CVFPB DF nor is it within 30 feet from a Regulated Stream (CVFPB 2020). Bridge #46C0036 would not require a CVFPB permit due to its location outside of a DF and Regulated Stream.

3.1.10.4 *Groundwater Hydrology*

Bridge #46C0036 is located within the Kaweah Groundwater Sub-basin. TID Canal flows from east to west within this groundwater basin. The Kaweah Groundwater Sub-basin is within the larger San Joaquin Valley Groundwater Basin (DWR 2019).

3.1.10.5 *Geology/Soils*

3.1.10.5.1 Soil Erosion Potential

Soil within the Project impact area of Bridge #46C0036 consists of Nord fine sandy loam, 0 to 2 percent slopes (**Appendix C: NRCS Soil Resource Reports**). The erodibility factor (K-factor) for this area is 0.2, indicating medium-textured soil with moderate runoff (USDA 2001). With implementation of **WQ-1** and **BIO-4**, erosion due to surface runoff is not anticipated.

3.1.10.6 *Biological Communities*

3.1.10.6.1 Aquatic Habitat

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to detect potential jurisdictional waters and map OHWM of the jurisdictional aquatic resources present within the BSA in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar 2008).

Field surveys determined that aquatic resources within the Project area of Bridge #46C0036 include TID Canal and riparian habitat. See **Appendix A: Figure 4. Vegetation Communities** for more information. Approximately 160 linear feet of TID Canal occurs within the Project area of Bridge #46C0036, at approximately 40- to 45-foot widths The understory of the riparian habitat is largely comprised of willows (*Salix sp.*) and Himalayan blackberry (*Rubus armeniacus*). Overstory vegetation primarily consists of Fremont cottonwood (*Populus fremontii*) trees, eucalyptus (*Eucalyptus sp.*) trees, and native oaks (*Quercus sp.*).

Special Status Species

Dokken biologists prepared the Project's NES, completing literature research and habitat assessments which concluded that the following special status wildlife species have potential of occurring within the BSA of Bridge #46C0036: Loggerhead shrike (*Lanius ludovicianus*), Swainson's hawk (*Buteo swainsoni*). Measures to avoid impacts are noted in the NES.

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to document existing biological resources and survey for sensitive and protected species and/or their habitats. The surveys consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities. No special-status species were observed during the surveys.

Stream/Riparian Habitats

The Project area of Bridge #46C0036 contains TID Canal, which contains seasonally wetted riverine habitat. The canal potentially provides habitat for a number of wildlife species. In addition, the canal supports a riparian woodland corridor that provides habitat for wildlife. Within the BSA of Bridge #46C0036, TID Canal and riparian woodland are the key natural communities which currently have the potential to support plant and wildlife species particular to this area.

Fish Passage

TID Canal within the Project area of Bridge #46C0036 is outside of NMFS jurisdiction and does not contain EFH. Additionally, the Project area of Bridge #46C0036 does not contain Critical Habitat for any fish species. TID Canal is seasonally wet and cannot support fish movement during the dry season, when the riverbed is dry and sandy. When the river channel is wetted, it has the potential to support aquatic plants, invertebrates, and small fish species. Within the BSA of Bridge #46C0036, TID Canal may support migration of some fish species during select times of the year;

however, the canal lacks sufficient conditions to serve as an important regional fish migration passage.

3.1.11 Tyler Creek

Bridge #46C0204 carries County Road M112 across Tyler Creek and is located in the upper Sierra Nevada Foothills, approximately 1.4 miles west of California Hot Springs. The topographic features in the Project vicinity of Bridge #46C0204 are characterized by the southern Sierra Nevada and its water features (which empty eventually into the Central Valley). The Project area of Bridge #46C0204 contains one existing water feature, Tyler Creek. Groundwater is the main water supply in the area. Tyler Creek, as one of the many streams running from the Sierra Nevada into the valley, contributes to this groundwater supply.

3.1.11.1 *Population and Land Use*

The population density surrounding Bridge #46C0204 is approximately 3 persons per square mile (U.S. Census 2019). Bridge #46C0204 is located in unincorporated Tulare County, in the broad eastern portion of Tulare County subject to the Tulare General Plan Mountain Framework Plan (Tulare County 2020), and is within the planning area for which the unadopted Greater Western Divide South Plan is intended. The Mountain Framework Plan provides guidance and restrictions for land use and residential, commercial and industrial use until which time the sub-area plan is adopted. Current land uses in the area surrounding Bridge #46C0204 include occasional residences and some associated foothill-agricultural fields. The nearest residence is approximately 350 feet from Bridge #46C0204.

3.1.11.2 *Topography*

Bridge #46C0204 is within the California Hot Springs USGS 7 ½ minute quadrangle (T23S & R30E, Section 35). The elevation within Bridge #46C0204 is approximately 2,587 to 2,590 feet above mean sea level.

3.1.11.3 *Hydrology*

3.1.11.3.1 Regional Hydrology

Bridge #46C0204 is within the Upper White-Upper Deer watershed, which is within the Tulare-Buena Vista Lakes Hydrologic Region.

3.1.11.3.2 Local Hydrology

Precipitation and Climate

The area is characterized by a southern Sierra Nevada foothills type climate with warm, dry summers, and cold, rainy winters. The average annual temperatures of the area range from a high of 70 degrees Fahrenheit to a low of 38 degrees Fahrenheit. The average annual precipitation is 17.87 inches (U.S. Climate Data 2024c).

Surface Water Features

Tyler River is located within the Project area of Bridge #46C0204 (**Appendix A: Figure 4. Vegetation Communities**). Tyler River originates approximately 7.8 miles east of the Project,

at a higher elevation in the Sierra Nevada Mountain. The river runs for approximately 8.3 miles from its origin before joining Deer Creek in the foothills (USGS 2015). The creek supplies (feeds) no major water bodies but has a number of seasonal tributaries.

Areas of Special Biological Significance

According to the map provided by the SWRCB (SWRCB 2017), there are no ASBS within the Project limits of Bridge #46C0204.

Floodplains

FEMA FIRM designates the Project area of Bridge #46C0204 as Zone X. Zone X indicates areas outside of flood zones (**Appendix B: FEMA FIRMette Map**). The Project is not located within a CVFPB DF nor is it within 30 feet from a Regulated Stream (CVFPB 2020). Bridge #46C0204 would not require a CVFPB permit due to its location outside of a DF and Regulated Stream.

3.1.11.4 *Groundwater Hydrology*

Bridge #46C0204 is located approximately 18 miles outside of the nearest groundwater basin, the Tule Groundwater Sub-basin. Tyler Creek flows from east to west and ultimately drains to this groundwater basin. The Tule Groundwater Sub-basin is within the larger San Joaquin Valley Groundwater Basin (DWR 2019).

3.1.11.5 *Geology/Soils*

3.1.11.5.1 Soil Erosion Potential

Soil within the Project impact area of Bridge #46C0204 consists of Auberry-Rock outcrop complex, 9 to 50 percent slopes (19.4%), Blasingame-Rock outcrop complex, 9 to 50 percent slopes (80.6%) (**Appendix C: NRCS Soil Resource Reports**). The erodibility factor (K-factor) for this area is 0.2, indicating coarse textured soil with low runoff (USDA 2001). With implementation of **WQ-1** and **BIO-4**, erosion due to surface runoff is not anticipated.

3.1.11.6 *Biological Communities*

3.1.11.6.1 Aquatic Habitat

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to detect potential jurisdictional waters and map OHWM of the jurisdictional aquatic resources present within the BSA of Bridge #46C0204 in accordance with the Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (Lichvar 2008).

Field surveys determined that aquatic resources within the Project area of Bridge #46C0204 include Tyler Creek and riparian habitat. See **Appendix A: Figure 4. Vegetation Communities** for more information. Approximately 157 linear feet of Tyler Creek occurs within the Project area of Bridge #46C0204, at approximately 12- to 16-foot widths. The understory of riparian habitat is largely comprised of willows (*Salix sp.*) and Himalayan blackberry (*Rubus armeniacus*). Since these locations occur at higher elevations, riparian habitat also includes trees such as western sycamore (*Platanus racemosa*) and white alder (*Alnus rhombifolia*).

Special Status Species

Dokken biologists prepared the Project's NES, completing literature research and habitat assessments which concluded that the following special status wildlife species have potential of occurring within the BSA of Bridge #46C0204: Foothill yellow-legged frog – south Sierra DPS (*Rana boylii pop. 5*), Western pond turtle (*Actinemys marmorata*), Loggerhead shrike (*Lanius ludovicianus*), Pallid bat (*Antrozous pallidus*). Measures to avoid impacts are noted in the NES.

Biological field surveys of the Project locations were conducted for the Project between April 11 and April 15, 2022 by Dokken biologists Hanna Sheldon and Clare Favro to document existing biological resources and survey for sensitive and protected species and/or their habitats. The surveys consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project area. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities. No special-status species were observed during the surveys.

Stream/Riparian Habitats

The Project area of Bridge #46C0204 contains Tyler Creek, which contains seasonally wetted riverine habitat. The creek potentially provides habitat for a number of wildlife species. In addition, the creek supports a large riparian woodland corridor that provide ample habitat for wildlife. Within the BSA of Bridge #46C0204, Tyler Creek and riparian woodland are the key natural communities which currently have the potential to support plant and wildlife species particular to this area.

Fish Passage

Tyler Creek within the Project area of Bridge #46C0204 is outside of NMFS jurisdiction and does not contain EFH. Additionally, the Project area of Bridge #46C0204 does not contain Critical Habitat for any fish species. Tyler Creek is seasonally wet and cannot support fish movement during the dry season, when the riverbed is dry and sandy. When the river channel is wetted, it has the potential to support aquatic plants, invertebrates, and small fish species. Within the BSA of Bridge #46C0204, Tyler Creek may support migration of some fish species during select times of the year; however, the river lacks sufficient conditions to serve as an important regional fish migration passage.

3.2 Water Quality Objective/Standards and Beneficial Uses

3.2.1 Surface Water Quality Objectives/Standards and Beneficial Uses

Water quality is most affected by land development, agriculture, grazing, and urban runoff. Constituents found urban runoff vary during storm events, from event to event within a given area, and from area to area within a given watershed. Variances can be the result of differences in rainfall intensity and occurrence, geographic features, the land use of the area, vehicle traffic, and the percentage of impervious surface. Furthermore, sediment runoff from construction sites without adequate erosion control measures can contribute sediments, pesticides, fertilizers, and other contaminants to receiving waters.

As required by the Porter-Cologne Act, the Central Valley RWQCB has developed water quality objectives for waters within their jurisdiction to protect the beneficial uses of those waters and

published them in a Basin Plan. The Tulare Lake Basin Plan also establishes implementation programs to achieve these water quality objectives and requires monitoring to evaluate the effectiveness of these programs. Water quality objectives must comply with the state anti-degradation policy (State Water Board Resolution No. 68-16), which generally restricts the reduction of water quality of surface or ground waters even though such a reduction in water quality might still allow the protection of the beneficial uses associated with the water prior to the quality reduction. The Central Valley RWQCB intends to maintain this quality with enforcement of the water quality objectives summarized in **Table 11** (Central Valley RWQCB 2018).

Table 11. Central Valley RWQCB Water Quality Objectives for Inland Surface Waters

Constituent	Water Quality Objective
Ammonia	Waters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia (NH3) to exceed 0.025 mg/l (as N) in receiving waters.
Bacteria	In waters designated REC-1, the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.
Biostimulatory Substances	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
Chemical Constituents	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The Regional Water Board will consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for detrimental levels of chemical constituents developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the State Water Board Division of Drinking Water Programs, the U.S. Food and Drug Administration, the National Academy of Sciences, the U. S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective. At a minimum, water designated MUN shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated MUN shall not contain lead in excess of 0.015 mg/l. The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. To ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.
Color	Waters shall be free of discoloration that causes nuisance or adversely affects beneficial uses.

<table>
<tr><th>Constituent</th><th>Water Quality Objective</th></tr>
<tr><td>Dissolved Oxygen</td><td>Waste discharges shall not cause the monthly median dissolved oxygen concentrations (DO) in the main water mass (at centroid of flow) of streams and above the thermocline in lakes to fall below 85 percent of saturation concentration, and the 95 percentile concentration to fall below 75 percent of saturation concentration. The DO in surface waters shall always meet or exceed the concentrations in Table 3-1 for the listed specific water bodies and the following minimum levels for all aquatic life:
Waters designated WARM 5.0 mg/l
Waters designated COLD or SPWN 7.0 mg/l
Where ambient DO is less than these objectives, discharges shall not cause a further decrease in DO concentrations.

TABLE 3-1 TULARE LAKE BASIN SPECIFIC DISSOLVED OXYGEN WATER QUALITY OBJECTIVES
<table>
<tr><td>Stream</td><td>Location</td><td>Min. DO (mg/l)</td></tr>
<tr><td>Kings River</td><td></td><td></td></tr>
<tr><td>Reach I</td><td>Above Kirch Flat</td><td>9</td></tr>
<tr><td>Reach II</td><td>Kirch Flat to Pine Flat Dam</td><td>9</td></tr>
<tr><td>Reach III</td><td>Pine Flat Dam to Friant-Kern</td><td>9</td></tr>
<tr><td>Reach IV</td><td>Friant-Kern to Peoples Weir</td><td>7</td></tr>
<tr><td>Reach V</td><td>Peoples Weir to Island Weir</td><td>7</td></tr>
<tr><td>Kaweah River</td><td>Lake Kaweah</td><td>7</td></tr>
<tr><td>Tule River</td><td>Lake Success</td><td>7</td></tr>
<tr><td>Kern River</td><td></td><td></td></tr>
<tr><td>Reach I</td><td>Above Lake Isabella</td><td>8</td></tr>
<tr><td>Reach II</td><td>Lake Isabella to Southern California Edison Powerhouse (KR-1)</td><td>8</td></tr>
</table></td></tr>
<tr><td>Floating Material</td><td>Waters shall not contain floating material, including but not limited to solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</td></tr>
<tr><td>Oil and Greases</td><td>Waters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.</td></tr>
<tr><td>pH</td><td>The pH of water shall not be depressed below 6.5, raised above 8.3, or changed at any time more than 0.3 units from normal ambient pH. In determining compliance with the above limits, the Regional Water Board may prescribe appropriate averaging periods provided that beneficial uses will be fully protected.</td></tr>
<tr><td>Pesticides</td><td>Waters shall not contain pesticides in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses. (For the purposes of this objective, the term pesticide is defined as any substance or mixture of substances used to control objectionable insects, weeds, rodents, fungi, or other forms of plant or animal life.) The Regional Water Board will consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for detrimental levels of chemical constituents developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the State Water Board Division of Drinking Water Programs, the U.S. Food and Drug Administration, the National Academy of Sciences, the U. S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective. At a minimum, waters designated MUN shall not contain concentrations of pesticide constituents in excess of the maximum contaminant levels (MCLs) specified in Table 64444-A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations, which is incorporated by reference into this plan. This incorporation-by-reference is prospective,</td></tr>
</table>

Constituent	Water Quality Objective
	including future changes to the incorporated provisions as the changes take effect. The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. To ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses, the Regional Water Board may apply limits more stringent than MCLs. In waters designated COLD, total identifiable chlorinated hydrocarbon pesticides shall not be present at concentrations detectable within the accuracy of analytical methods prescribed in Standard Methods for the Examination of Water and Wastewater, 18th Edition, or other equivalent methods approved by the Executive Officer.
Radioactivity	Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor which result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life. At a minimum, waters designated MUN shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 64442 of Section 64442 and Table 64443 of Section 64443 of Title 22, California Code of Regulations, which are incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect.
Salinity	Waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use of the water resources. "The only reliable way to determine the true or absolute salinity of a natural water is to make a complete chemical analysis. However, this method is time-consuming and cannot yield the precision necessary for accurate work" {Standard Methods for the Examination of Water and Wastewater, 18th Edition}. Conductivity is one of the recommended methods to determine salinity. The objectives for electrical conductivity in Table 3-2 apply to the water bodies specified. Table 3-3 specifies objectives for electrical conductivity at selected streamflow stations. Table 3-2 and Table 3-3 can be found in the Central Valley RWQCB 2018 Tulare Lake Basin Plan.
Sediment	The suspended sediment load and suspended sediment discharge rate of waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Settleable Material	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
Suspended Material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
Tastes and Odors	Waters shall not contain taste- or odor-producing substances in concentrations that cause nuisance, adversely affect beneficial uses, or impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to domestic or municipal water supplies.
Temperature	Natural temperatures of waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. Temperature objectives for COLD interstate waters, WARM interstate waters, and Enclosed Bays and Estuaries are as specified in the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California, including any revisions. (See Appendix 10.) Elevated temperature wastes shall not cause the temperature of waters designated COLD or WARM to increase by more than 5°F above natural receiving water temperature. In determining compliance with the above limits, the Regional Water Board may prescribe appropriate averaging periods provided that beneficial uses will be fully protected.

Constituent	Water Quality Objective
Toxicity	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. Compliance with this objective will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, biotoxicity tests of appropriate duration, or other methods as specified by the Regional Water Board. The Regional Water Board will also consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for toxic substances developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the State Water Board Division of Drinking Water Programs the U.S. Food and Drug Administration, the National Academy of Sciences, the U. S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective. The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors shall not be less than that for the same water body in areas unaffected by the waste discharge, or, when necessary, for other control water that is consistent with the requirements for "dilution water" as described in Standard Methods for the Examination of Water and Wastewater, 18th Edition. As a minimum, compliance shall be evaluated with a 96-hour bioassay. In addition, effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate; additional numerical receiving water quality objectives for specific toxicants will be established as sufficient data become available; and source control of toxic substances will be encouraged.
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits: • Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU. • Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent. • Where natural turbidity is equal to or between 50 and 100 NTUs, increases shall not exceed 10 NTUs. • Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent. In determining compliance with the above limits, the Regional Water Board may prescribe appropriate averaging periods provided that beneficial uses will be fully protected.
Source: Central Valley RWQCB 2018	

Under the Porter-Cologne Water Quality Control Act, the RWQCB is required to consider beneficial uses when instituting water quality objectives and described these beneficial uses as follows:

"Beneficial uses of the waters of the State that may be protected against quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves."

The RWQCB defines beneficial uses into two categories: consumptive uses corresponding to reduction and/or depletion of water supply and non-consumptive uses not associated with significantly depleting water supplies. **Table 12** identifies the beneficial uses of the surface waters that cross each bridge location included in the Project.

Table 12. Surface Water Beneficial Uses

Stream[1]	Bridge Number(s)	Surface Water Beneficial Uses Abbreviations[2]
551, 558 Valley Floor Waters	46C0036, 46C0058, 46C0059, 46C0087, 46C0106, 46C0108, 46C0226, 46C0269, 46C0309, 46C0318, 46C0330, 46C0403, 46C0408, 46C0420	AGR, IND, PRO, REC-1, REC-2, WARM, WILD, RARE, GWR
555 Other East Side Streams	46C0202, 46C0204	MUN, AGR, REC-1, REC-2, WARM, COLD, WILD, GWR
1. Surface water hydrologic units within the Tulare Lake Basin have been defined and numbered by the Department of Water Resources. Eastside streams are surface waters in hydrologic units 552, 553, 554, and 555. Valley floor waters are surface waters in hydrologic units 551, 557, and 558. All natural surface waters within the Basin have designated beneficial uses (See Table 2-1 in the Tulare Lake Basin Plan) (Central Valley RWQCB 2018). 2. See below for surface water beneficial use definitions.		

Municipal and Domestic Supply (MUN) - Uses of water for community, military, or individual water supply systems, including, but not limited to, drinking water supply.

Agricultural Supply (AGR) - Uses of water for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Industrial Service Supply (IND) - Uses of water for industrial activities that do not depend primarily on water quality, including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

Industrial Process Supply (PRO) -Uses of water for industrial activities that depend primarily on water quality.

Water Contact Recreation (REC-1) - Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

Non-Contact Water Recreation (REC-2) - Uses of water for recreational activities involving proximity to water, but where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Warm Freshwater Habitat (WARM) – Uses of water that support warm water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Cold Freshwater Habitat (COLD) - Uses of water that support cold water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Wildlife Habitat (WILD) - Uses of water that support terrestrial or wetland ecosystems, including, but not limited to, preservation and enhancement of terrestrial habitats or wetlands, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Rare, Threatened, or Endangered Species (RARE) - Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.

Ground Water Recharge (GWR) - Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.

3.2.2 List of Impaired Waters

The surface waters that cross Bridge #46C0036, #46C0204, #46C0226, #46C0309, #46C0330, and #46C0403, are not 303(d) listed and considerations for TMDL's are not necessary (Water Quality Planning Tool, 2024). The remaining bridge locations, listed in **Table 13**, cross a surface water that is 303(d) listed.

Table 13. Impaired Waterbodies

Bridge Number(s)	303(d) listed Waterbody	Pollutant, TMDL Status
46C0058, 46C0059	Cross Creek	Toxicity, TMDL required
46C0087, 46C0106, 46C0108, 46C0202, 46C0205, 46C0318	Deer Creek	Chlorpyrifos, TMDL required pH, TMDL required Toxicity, TMDL required
46C0269	Elk Bayou	Chlorpyrifos, TMDL required Oxygen (Dissolved), TMDL required pH, TMDL required Toxicity, TMDL required
46C0408	Mill Creek	Ammonia (Unionized), TMDL required Toxicity, TMDL required
46C0420	Kaweah River, Lower (includes St Johns River)	Toxicity, TMDL required
Source: Caltrans Water Quality Planning Tool 2024		

3.2.3 Groundwater Quality Objectives/Standards and Beneficial Uses

The key groundwater quality objective for the Central Valley RWQCB is to minimize the contaminants reaching any groundwater basin within the region. The goals are to control taste and odors, keep bacteriological, radioactive, chemical contaminants below the regulatory limits, and prohibit discharges of toxic wastes. **Table 14** below summarizes these water quality objectives for the region, as outlined by the Central Valley RWQCB.

Beneficial uses of groundwater in the Tulare Lake Basin Plan are considered as suitable or potentially suitable, at a minimum, for MUN and AGR (Central Valley RWQCB 2018).

Table 14. Central Valley RWQCB Water Quality Objectives for Groundwaters

Constituent	Water Quality Objective
Bacteria	In ground waters designated MUN, the concentration of total coliform organisms over any 7-day period shall be less than 2.2/100 ml.
Chemical Constituents	Ground waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The Regional Water Board will consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for detrimental levels of chemical constituents developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the State Water Board Division of Drinking Water Programs, the U.S. Food and Drug Administration, the National Academy of Sciences, the U. S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective. At a minimum, waters designated MUN shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated MUN shall not contain lead in excess of 0.015 mg/l. To ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.
Pesticides	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. At a minimum, waters designated MUN shall not contain concentrations of pesticide constituents in excess of the maximum contaminant levels (MCLs) specified in Table 64444-A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations, which is incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. More stringent objectives may apply if necessary to protect other beneficial uses.
Radioactivity	Radionuclides shall not be present in ground waters in concentrations that are deleterious to human, plant, animal, or aquatic life, or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life. At a minimum, ground waters designated MUN shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 64442 of Section 64442 and Table 64443 of Section 64443 of Title 22, California Code of Regulations, which are incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect.
Salinity	All ground waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use and management of water resources, except for those areas with specific beneficial use exceptions as listed in Table 2-3. No proven means exist at present that will allow ongoing human activity in the Basin and maintain

Constituent	Water Quality Objective
	ground water salinity at current levels throughout the Basin. Accordingly, the water quality objectives for ground water salinity control the rate of increase. The maximum average annual increase in salinity measured as electrical conductivity shall not exceed the values specified in Table 3-4 for each hydrographic unit shown on Figure 3-1, except for those areas with specific beneficial use exceptions as listed in Table 2-3. The average annual increase in electrical conductivity will be determined from monitoring data by calculation of a cumulative average annual increase over a 5-year period. Table 2-3, Table 3-4, and Figure 3-1 can be found in the Central Valley RWQCB 2018 Tulare Lake Basin Plan.
Tastes and Odors	Ground waters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
Toxicity	Ground waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s). The Regional Water Board will also consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for toxic substances developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the State Water Board Division of Drinking Water Programs, the U.S. Food and Drug Administration, the National Academy of Sciences, the U. S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
Source: Central Valley RWQCB 2018	

4. Environmental Consequences

4.1 Introduction

The proposed Project would implement preventative maintenance measures and would not replace or widen the existing bridges. However, a concrete apron will be installed at bridge #46C0330. This activity would increase impervious surface by approximately 0.06 acres, which would contribute to a slight increase in storm water runoff. Activities at the remaining bridge locations would not increase impervious surfaces. The proposed Project is anticipated to utilize existing storm drain facilities.

The Project will adhere to water quality standards maintained by the SWRCB for the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (NPDES No. CAS000002, SWRCB Order No. 2022-0057-DWQ). A CGP would be obtained prior to construction. Potential impacts would be mitigated through sediment, erosion, and non-storm water control methods that are required for compliance with the CGP. The documents required for CGP compliance, including the monitoring log, must be kept on-site during construction activities and will be made available upon request to representatives of the RWQCB.

4.2 Potential Impacts to Water Quality

Construction of the Project would add approximately 0.06 acres of new impervious surfaces at bridge #46C0330. This would result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, potentially generating additional sediment runoff during storm events which could degrade the quality of receiving waters. During storm events, sediment is transported via runoff to stormwater drainage systems. Absent controls, contaminated runoff waters could flow into the stormwater drainage systems that discharge into rivers, agricultural ditches, sloughs, and channels and ultimately could degrade the water quality of any of these water bodies.

Temporary impacts to stream channel habitat will result from equipment staging and construction access within the respective channels, and permanent impacts will primarily result from the placement of RSP around the existing bridge piers and abutments. In areas subject to high erosion and flooding, larger footprints of RSP will be placed and occasionally span the entire channel width. At locations #46C0309 and #46C0403, cut-off walls will be constructed along the existing bridge structures and will result in minor permanent impacts to the respective stream channels.

The Project is anticipated to temporarily impact a cumulative 1.22 acres and permanently impact a cumulative 0.76 acres of stream channel habitat (**Table 15. Stream Channel Habitat Impacts**; **Appendix A: Figure 5. Project Impacts**). To reduce impacts to stream channel habitat, avoidance and minimization measures **BIO-3**, **BIO-4**, and **BIO-5** will be implemented during Project construction.

Temporary impacts to riparian vegetation will result from equipment staging and construction access within the respective channels, and permanent impacts will primarily result from the placement of RSP around the existing bridge piers and abutments. At location #46C0205, a cut-off wall will be constructed along the existing bridge structure and will result in minor permanent impacts to riparian habitat. The Project is anticipated to temporarily impact a cumulative 0.54 acres and permanently impact a cumulative 0.06 acres of riparian habitat (**Table 16. Riparian**

Habitat Impacts; **Appendix A: Figure 5. Project Impacts**). To reduce impacts to riparian vegetation, avoidance and minimization measures **BIO-2** through **BIO-5** will be implemented during Project construction.

Lastly, the Project's compliance with State water quality and stormwater BMP's will ensure the Project further avoids and/or minimizes potential water quality impacts to the greatest extent practicable, such as measure **WQ-1**.

Table 15. Stream Channel Habitat Impacts

Bridge Number	Aquatic Feature	Impact Type	Area (acres)[1]
#46C0036	TID Canal	Temporary	0.07 acres
		Permanent	0.01 acres
#46C0058	Cross Creek	Temporary	0.07 acres
		Permanent	0.13 acres
#46C0059	Cross Creek	Temporary	0.09 acres
		Permanent	0.10 acres
#46C0087	Deer Creek	Temporary	0.06 acres
		Permanent	0.09 acres
#46C0106	Deer Creek	Temporary	0.09 acres
		Permanent	0.02 acres
#46C0108	Deer Creek	Temporary	0.05 acres
		Permanent	0.01 acres
#46C0202	Deer Creek	Temporary	0.06 acres
		Permanent	--
#46C0204	Tyler Creek	Temporary	0.03 acres
		Permanent	0.01 acres
#46C0205	Deer Creek	Temporary	0.05 acres
		Permanent	--
#46C0226	Friant Kern Canal	Temporary	0.11 acres
		Permanent	0.05 acres
#46C0269	Elk Bayou	Temporary	0.09 acres
		Permanent	0.11 acres
#46C0309	Lewis Creek	Temporary	0.02 acres
		Permanent	0.01 acres
#46C0318	Deer Creek	Temporary	0.07 acres
		Permanent	0.01 acres
#46C0330	Cottonwood Creek	Temporary	0.07 acres
		Permanent	0.07 acres
#46C0403	Crocker Cut	Temporary	0.08 acres
		Permanent	0.01 acres
#46C0408	Oakes Ditch	Temporary	0.03 acres
		Permanent	<0.01 acres
#46C0420	Saint Johns River	Temporary	0.03 acres
		Permanent	0.01 acres
Total		**Temporary**	**1.22 acres**
		Permanent	**0.76 acres**

[1] Impact area rounded to the nearest 0.01 acres for each project location. The cumulative total reflects the un-rounded total across all sites.

Table 16. Riparian Habitat Impacts

Bridge Number	Impact Type	Area (acres)[1]
#46C0036	Temporary	0.02 acres
	Permanent	--
#46C0087	Temporary	0.14 acres
	Permanent	0.03 acres
#46C0108	Temporary	0.05 acres
	Permanent	--
#46C0202	Temporary	0.07 acres
	Permanent	--
#46C0204	Temporary	0.12 acres
	Permanent	0.01 acres
#46C0205	Temporary	0.04 acres
	Permanent	<0.01 acres
#46C0309	Temporary	0.01 acres
	Permanent	--
#46C0403	Temporary	--
	Permanent	--
#46C0408	Temporary	0.02 acres
	Permanent	--
#46C0420	Temporary	0.06 acres
	Permanent	0.01 acres
Total	**Temporary**	**0.54 acres**
	Permanent	**0.06 acres**

[1] Impact area rounded to the nearest 0.01 acres for each project location. The cumulative total reflects the un-rounded total across all sites.

4.2.1 Long Term Impacts and Anticipated Changes to the Physical/Chemical Characteristics of the Aquatic Environment

4.2.1.1 *Currents, Circulation or Drainage Patterns*

The Project would implement preventative maintenance measures and would result in the addition of approximately 0.06 acres of impervious surface at bridge #46C0330. No change in currents, circulation, or drainage patterns are anticipated as a result of the Project as existing storm drain facilities will be utilized.

4.2.1.2 *Suspended Particulates (Turbidity)*

Turbidity refers to cloudiness of water quantified by the degree to which light traveling through a water column is scattered by the suspended organic and inorganic particles it contains. Turbidity in water bodies blocks light transmission and light penetration, increasing bacteria levels and reducing oxygen levels in the water. Sedimentation can result in increased turbidity. The proposed Project would implement preventative maintenance measures at various bridge locations and would not result in increased turbidity during operation.

4.2.1.3 *Oil, Grease, and Chemical Pollutants*

The Project would implement preventative maintenance measures and would not widen or increase capacity of any bridge. Since impervious surface would not be added on the roadways, which is the main source of oil, grease, and chemical pollutants, the Project would not release these pollutants into any waterbody during operation.

4.2.1.4 *Flood Control Functions*

A Location Hydraulic Study will be prepared and will address flood control functions.

4.2.2 Long Term Impacts and Anticipated Changes to the Biological Characteristics of the Aquatic Environment

The proposed preventative maintenance activities on each bridge are not anticipated to change the biological characteristics of the aquatic environment since permanent impacts to each waterbody and its associated riparian habitat will be minimal (see **Table 15** and **Table 16** above). Disturbance and potential impacts to sensitive habitats included in the Project would be minimized to the greatest extent practicable. Measures **WQ-1** and **BIO-2** through **BIO-5** are anticipated to minimize changes to the biological characteristics of the aquatic environment.

Four federally listed species have a low to moderate potential to occur within the Project's BSA: California tiger salamander, foothill yellow-legged frog, San Joaquin kit fox, and western pond turtle. With the inclusion of appropriate avoidance and minimization measures (listed in the Project's NES), no impacts to SJKF are anticipated to result from the Project. However, the Project may affect, but is not likely to adversely affect, California tiger salamander, foothill yellow-legged frog, and western pond turtle. Informal Section 7 consultation with the USFWS regarding impacts to these species is required.

Five state listed species have a low to moderate potential to occur within the Project's BSA: California tiger salamander, Crotch bumble bee, foothill yellow-legged frog, San Joaquin kit fox, and Swainson's hawk. With the inclusion of appropriate avoidance and minimization measures (listed in the Project's NES), no take of these species is anticipated to result from this Project. As such, consultation with CDFW under Section 2081, Incidental Take Permit, is not required.

With the implementation of **WQ-1** and **BIO-2** through **BIO-5** and measures listed in the Project's NES, long term impacts to the biological characteristics of the aquatic environment are not anticipated.

4.2.3 Long Term Impacts and Anticipated Changes to the Human Use Characteristics of the Aquatic Environment

All waterbodies included in the Project would continue to convey water through the region. Given the characteristics of this Project, and the existing conditions of each waterbody, existing and potential water supplies, water conservation, recreation, navigation, aesthetics, and other human uses are not likely to be adversely impacted as a result of the Project. Additionally, the Project is anticipated to have a positive impact on safety by implementing bridge preventative maintenance activities on 17 bridges throughout the County.

4.2.4 Short Term Impacts During Construction

4.2.4.1 *Physical/Chemical Characteristics of the Aquatic Environment*

Construction-related activities associated with the Project would include disturbances to the ground surface from earthwork. Materials used during construction-related activities of the Project (e.g., concrete curing compounds) could have chemicals that are potentially harmful to water quality. Accidents or improper use of these materials could result in the release of contaminants into the environment, including the any of the waterbodies included in the Project. Additionally, oil

and other petroleum products used to maintain and operate construction-related equipment could be accidentally released. Such potential short-term impacts would be avoided and minimized through measure **WQ-1, BIO-3,** and **BIO-4**. Construction-related areas would be protected to prevent items from entering the waterway.

4.2.4.2 *Biological Characteristics of the Aquatic Environment*

Temporary disturbances to the aquatic environment related to construction may occur, such as increased noise, dust, and trash, which could impact the quality of aquatic habitat within the Project area of each bridge location. These impacts would be short term and have been addressed through measures noted in the NES. In addition, the temporary impacts to stream channel habitat and riparian habitat, would be mitigated for as outlined in the NES and the area would be allowed to return to pre-construction conditions following the completion of work.

4.2.4.3 *Human Use Characteristics of the Aquatic Environment*

No short-term impacts to the human use characteristics of the aquatic environment are anticipated.

4.3 Cumulative Impacts

Although the Project includes 17 bridge locations, Project activities will be minimal and will result in approximately 0.06 acres of impervious surface at bridge #46C0330. Activities at the remaining bridge locations would not increase impervious surfaces. Therefore, cumulative impacts regarding potential runoff are not anticipated. Additionally, with implementation of the measures listed below, other potential cumulative impacts such as increases in water temperature, litter, or invasive species are not anticipated.

The Project anticipates both permanent and temporary impacts to stream channel habitat at all bridge locations and riparian habitat within a few bridge locations. However, the proposed Project has been designed to minimize all permanent and temporary impacts to the maximum extent practicable through the use of BMPs and implementation of regulatory permit conditions. Additionally, biological and special-status species measures stated within the NES and final permits would be incorporated to minimize and avoid impacts to these biological characteristics.

5. Avoidance and Minimization Measures

WQ-1: The construction contractor will adhere to the SWRCB Order No. 2022-0057-DWQCAS000002. This is required for short-term construction related water quality impacts. As part of this Permit requirement, a SWPPP or Water Pollution Control Plan (if ground disturbance is less than 1 acre) will be prepared prior to construction consistent with the requirements of the RWQCB. This SWPPP/Water Pollution Control Plan will incorporate all applicable BMPs to ensure that adequate measures are taken during construction to minimize impacts to water quality.

The following measures are taken from the NES and are labeled as seen in the NES to maintain consistency throughout Project documents:

BIO-2: All vegetation removal will be minimized to the greatest extent feasible. When possible, vegetation removal will be accomplished with the use of hand tools. Trees and shrubs will be trimmed rather than removed unless absolutely necessary for Project activities. Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.

BIO-3: Prior to the start of construction activities, the Project limits within environmentally sensitive areas (stream channel, riparian habitat, special-status species habitat) will be marked with high visibility Environmentally Sensitive Area (ESA) fencing or staking to ensure construction will not further encroach into sensitive resources.

BIO-4: BMPs will be incorporated into Project construction to minimize impacts on the environment including erosion and the release of pollutants (e.g. oils, fuels):

- Exposed soils and material stockpiles would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities;
- All construction roadway areas would be properly protected to prevent excess erosion, sedimentation, and water pollution;
- Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants must remain outside of jurisdictional waters and adjacent riparian habitat;
- Equipment used in and around jurisdictional waters must be in good working order and free of dripping or leaking contaminants;
- Any necessary equipment washing must occur where the water cannot flow into water bodies;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life will be prevented from contaminating the soil or entering jurisdictional waters;

- All erosion control measures and storm water control measures would be properly maintained until the site has returned to a pre-construction state;
- All construction materials would be hauled off-site after completion of construction;
- A chemical spill kit must be kept onsite and available for use in the event of a spill;
- Upon completion of construction activities, any temporary barriers to surface water flow must be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

BIO-5: Following the completion of construction, all sensitive natural areas disturbed by Project activities would be re-graded as to decompact the soils and seeded with a California native hydroseed mix to allow the site to return to pre-construction conditions.

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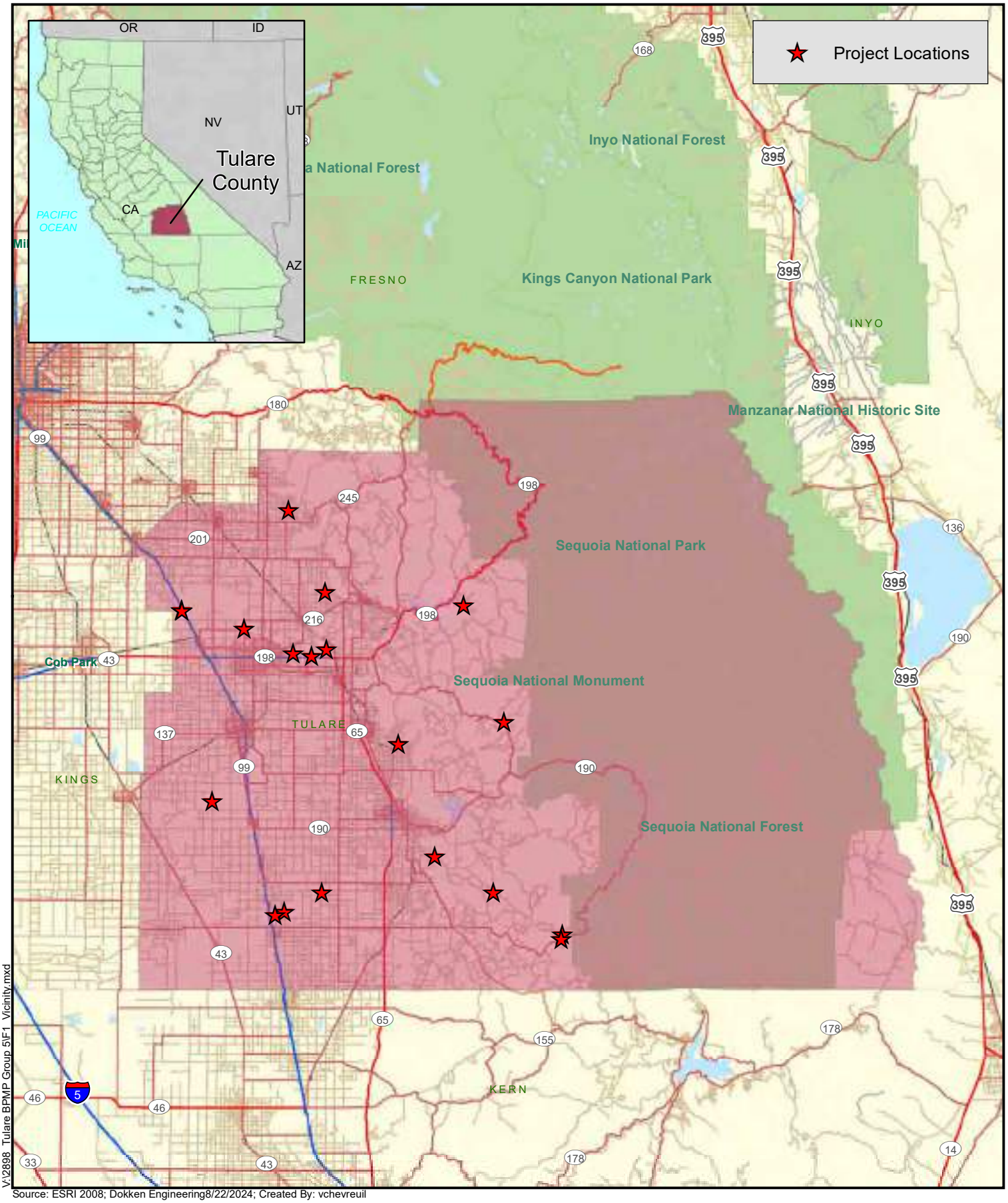
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Appendix A. Map Figures



Source: ESRI 2008; Dokken Engineering8/22/2024; Created By: vchevreuil

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0 10 20 30 40 Miles

FIGURE 1
Project Vicinity

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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



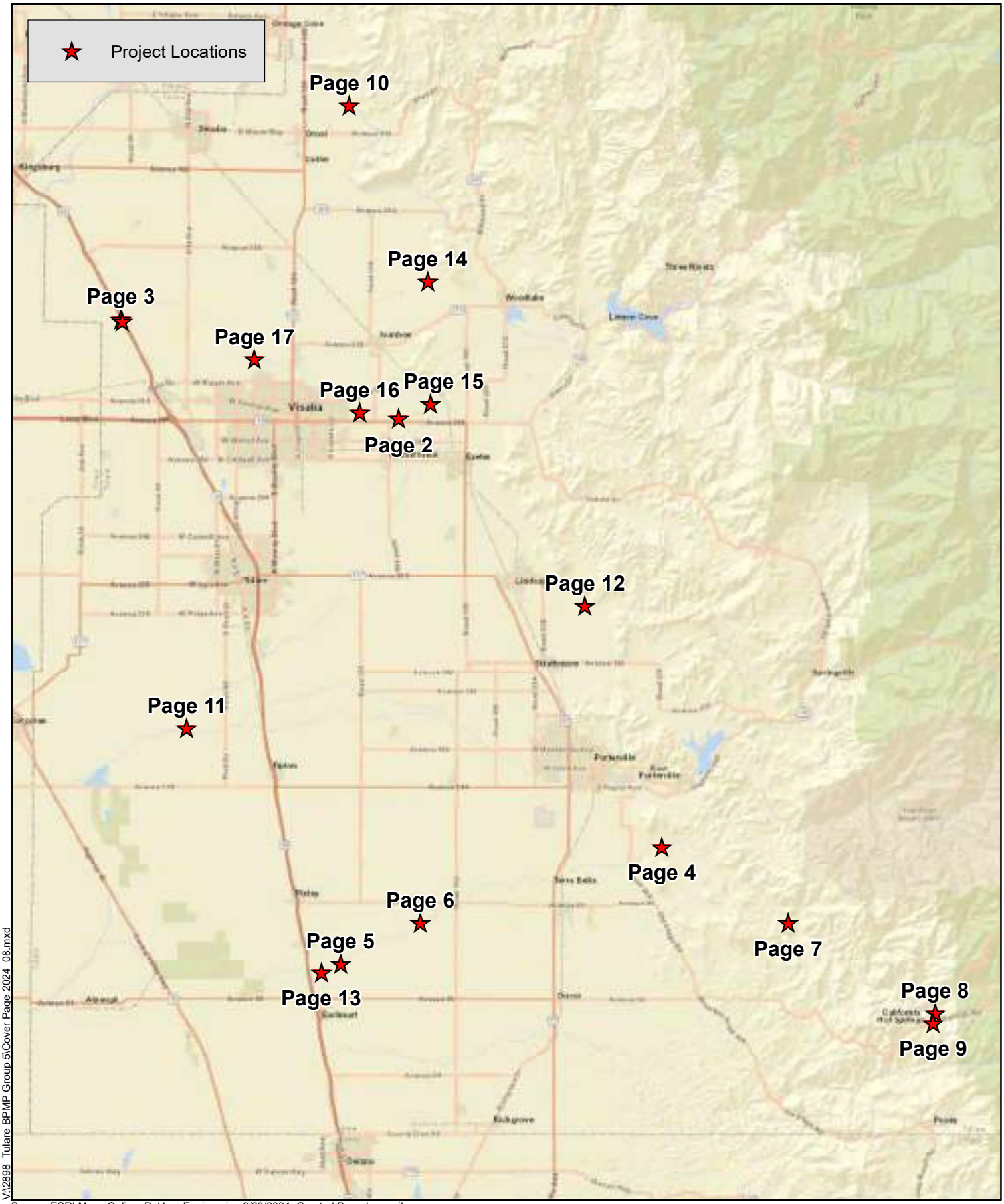
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Source: ESRI World Street Maps Online; Dokken Engineering 8/22/2024; Created By: vchevreuil

0 5 10 15 20 Miles

FIGURE 2
Project Location

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Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 8/23/2024; Created By: vchevreuil

0 5 10 15 Miles

FIGURE 3
Project Features
Page 1 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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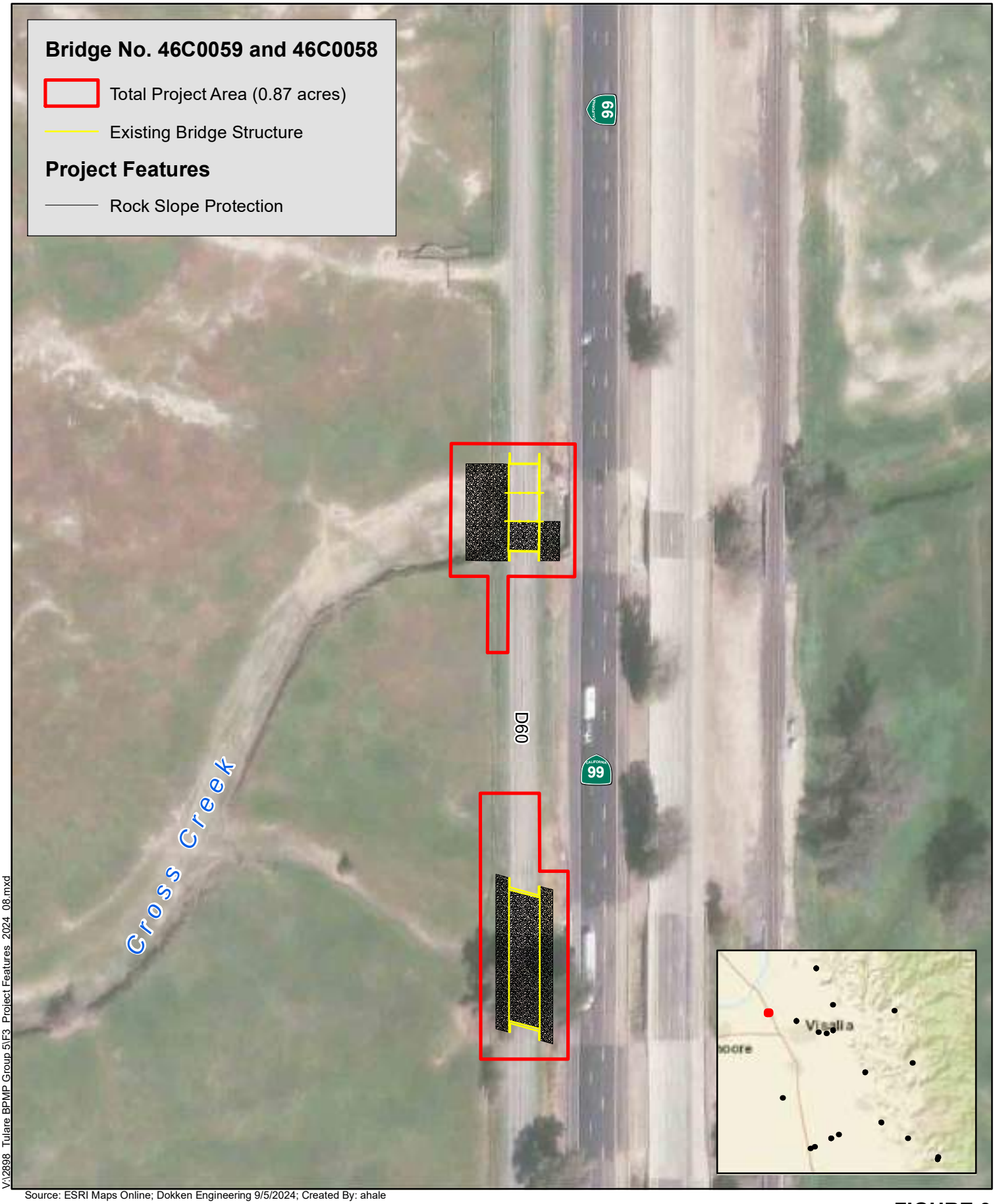
Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 2 of 17

BPMPL-5946(169)
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Tulare County, California



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Source: ESRI Maps Online; Dokken Engineering 9/5/2024; Created By: ahale

1 inch = 125 feet

0 75 150 Feet

FIGURE 3
Project Features
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 4 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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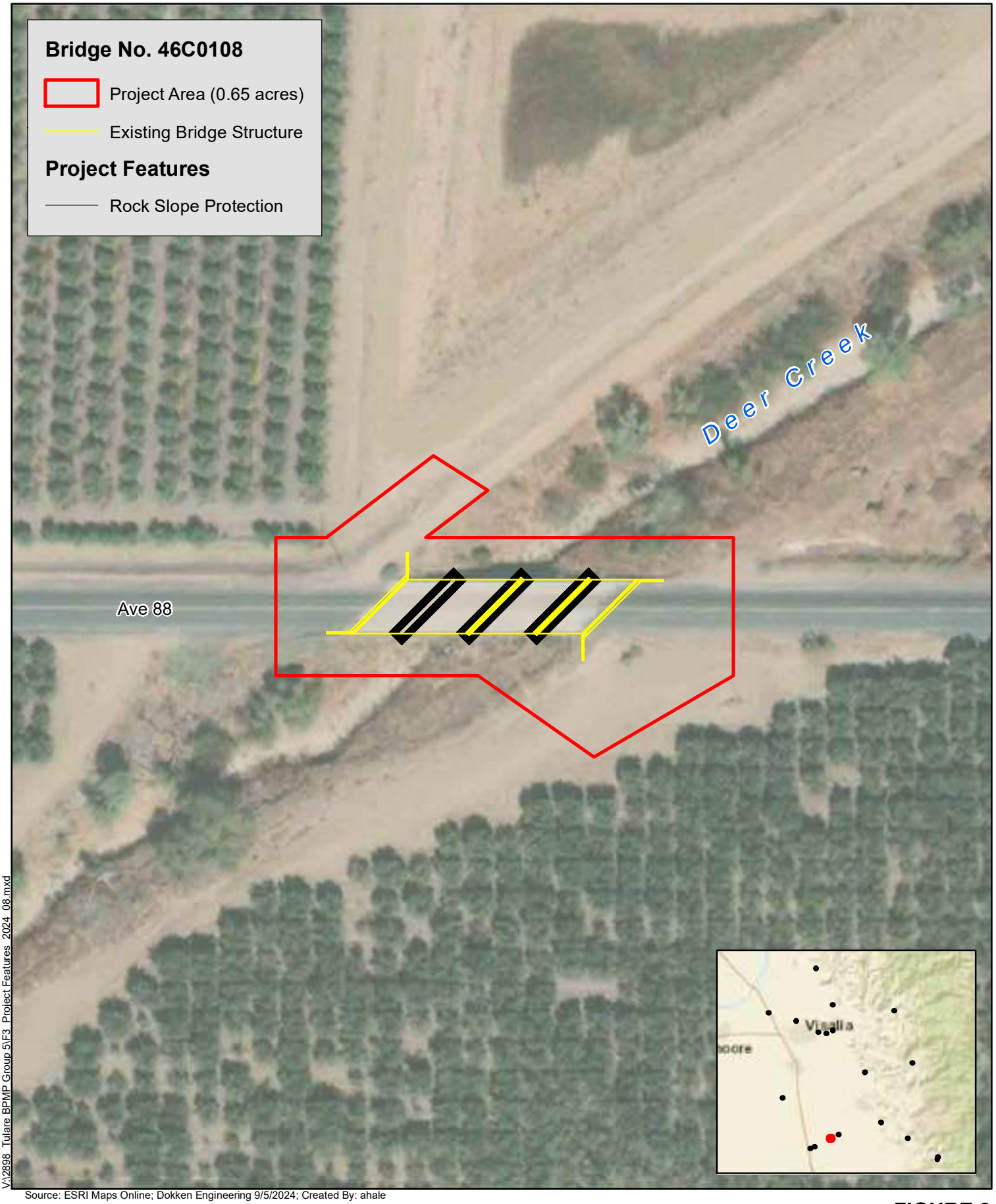
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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 5 of 17

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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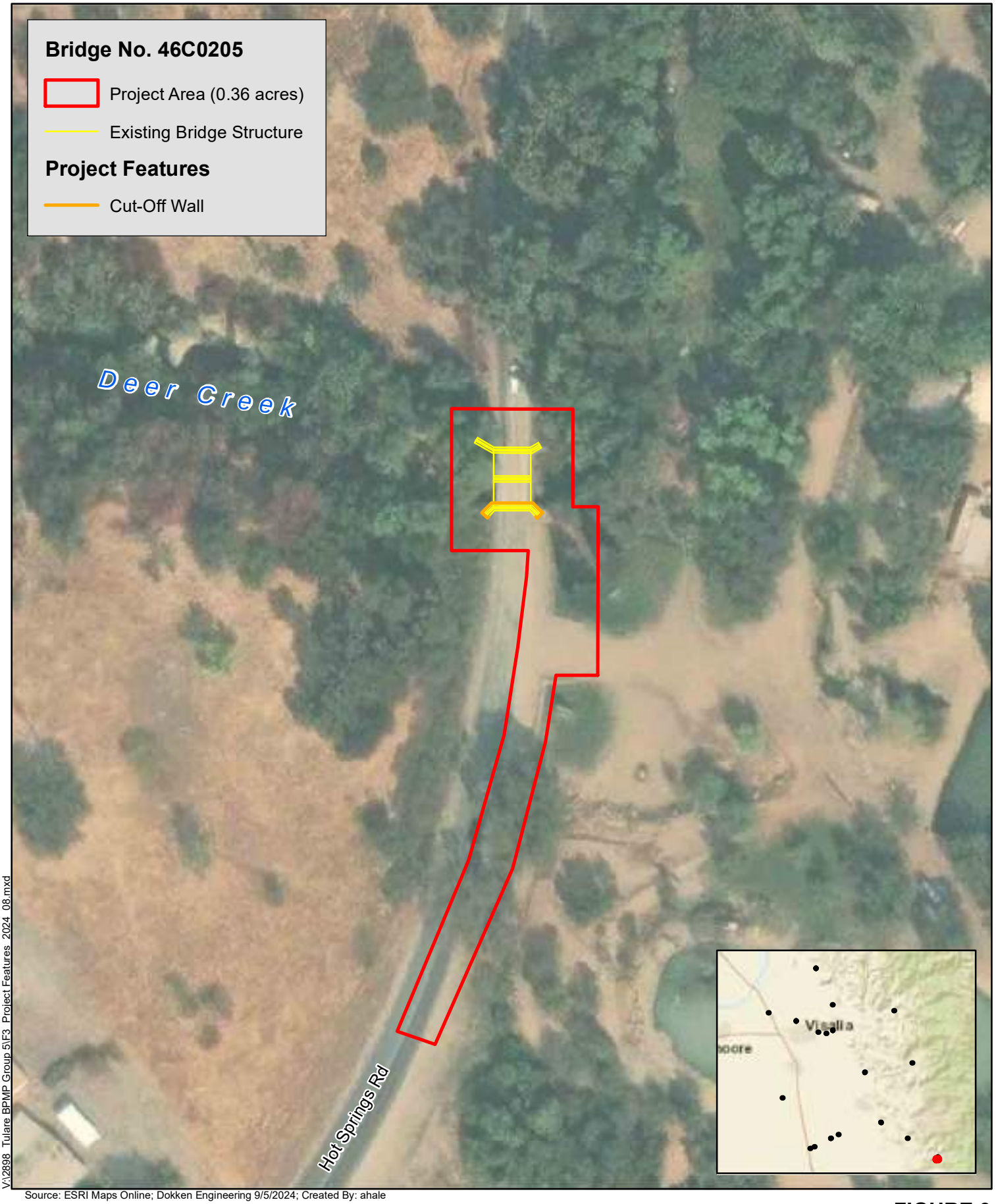
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FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

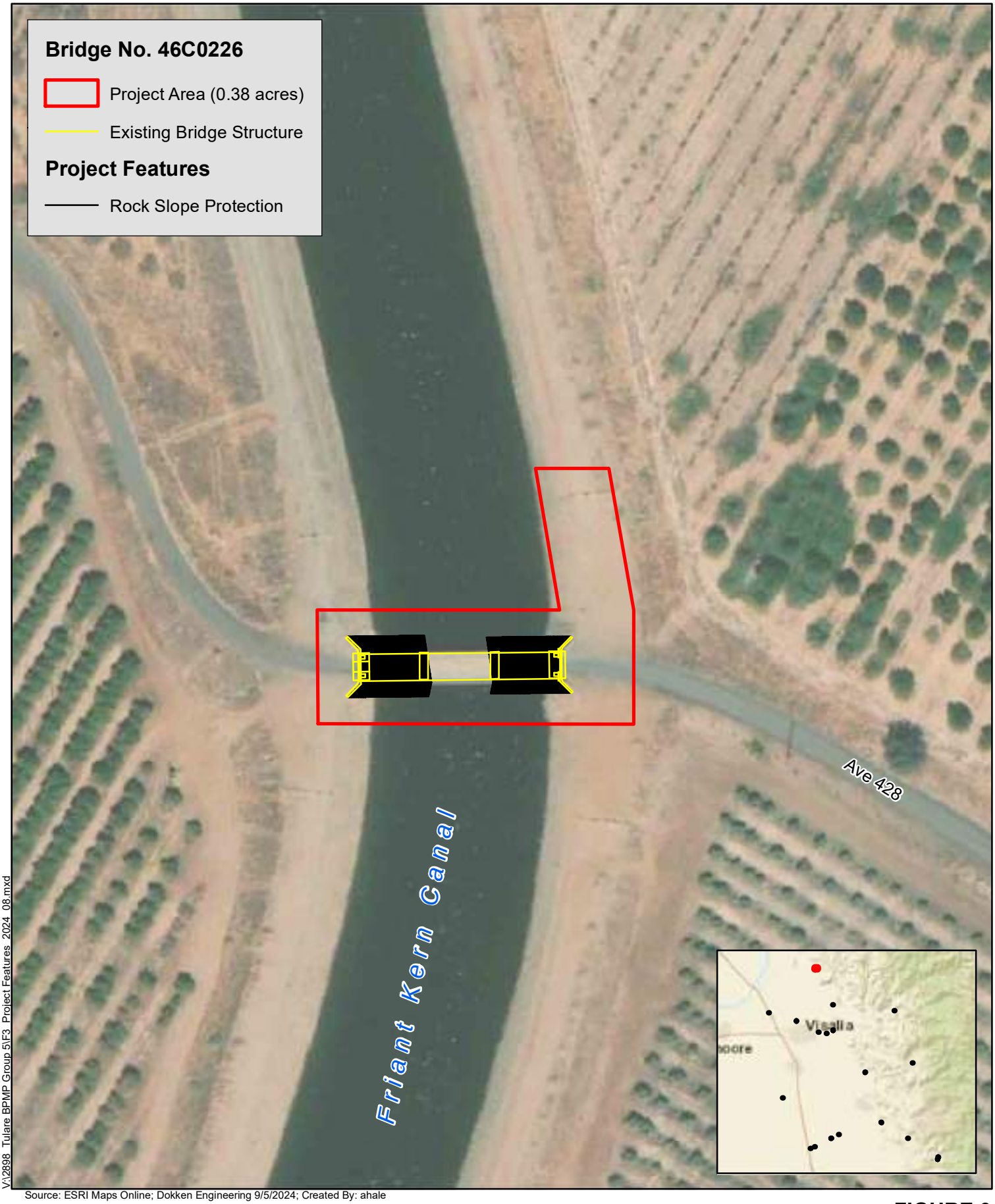


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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
Page 9 of 17
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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features
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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
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Tulare County, California



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1 inch = 75 feet

0 75 150 Feet

FIGURE 3
Project Features

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



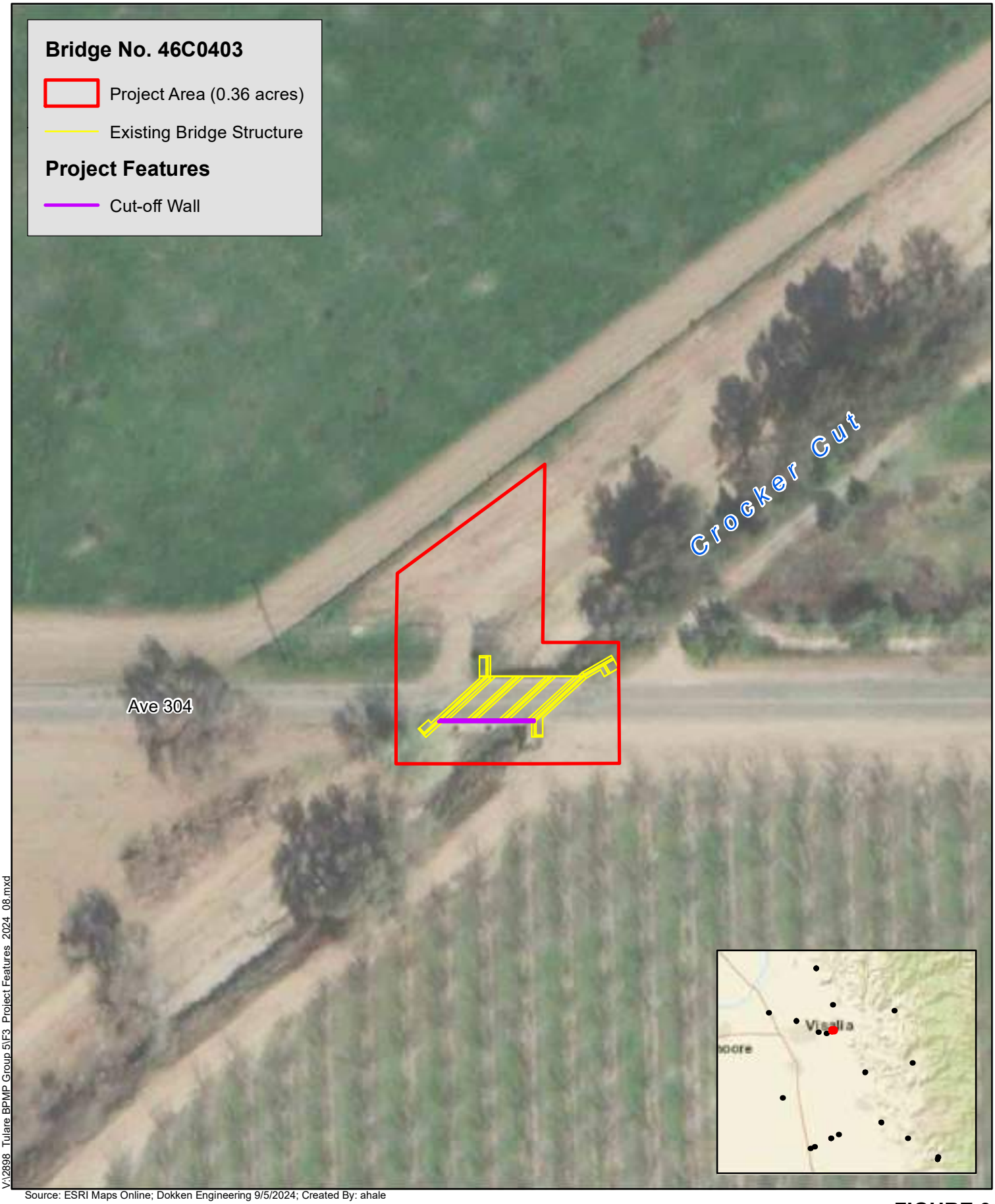
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FIGURE 3
Project Features
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Tulare County, California



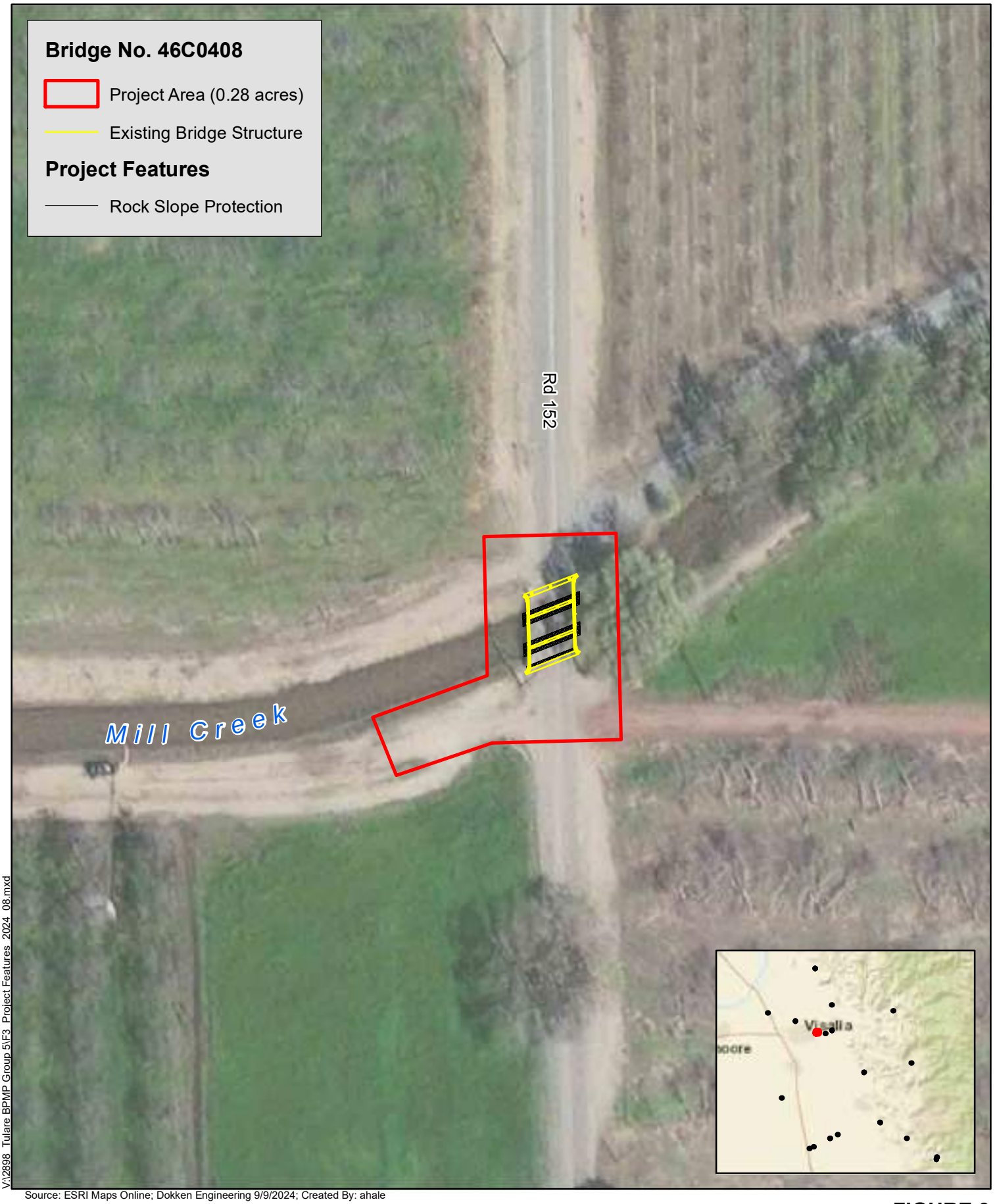
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FIGURE 3
Project Features
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Tulare County, California



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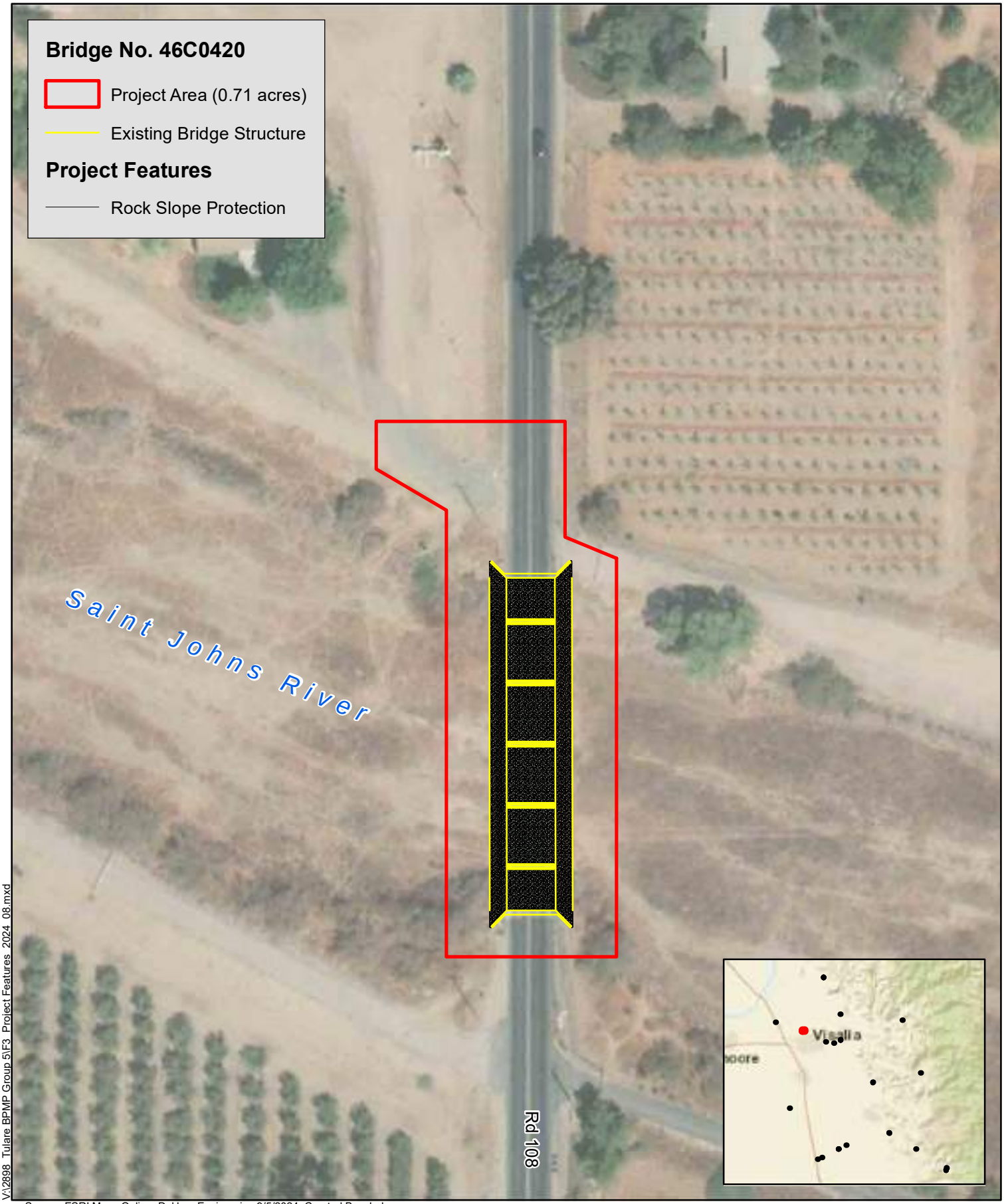
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FIGURE 3
Project Features

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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



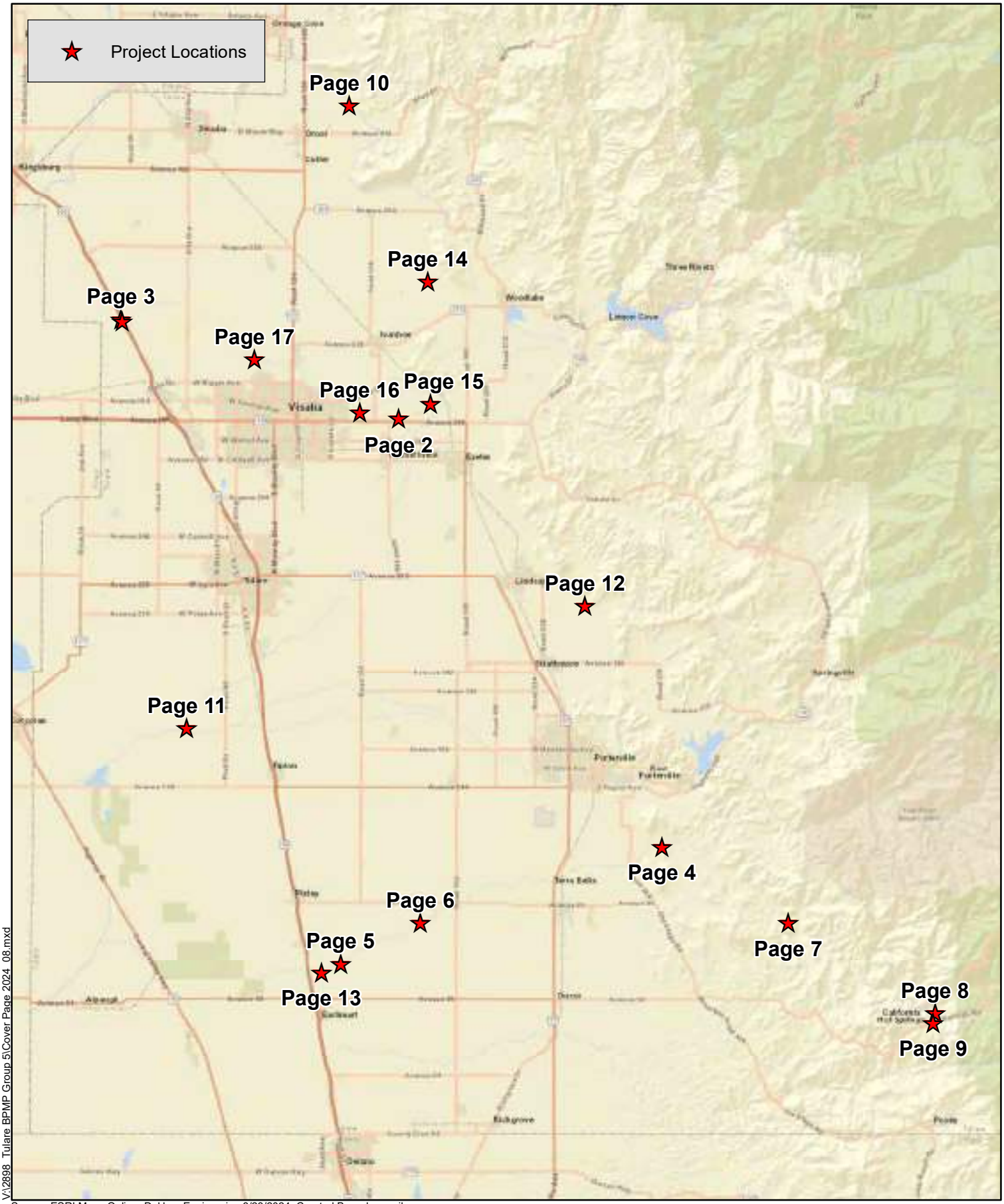
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FIGURE 3
Project Features
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California

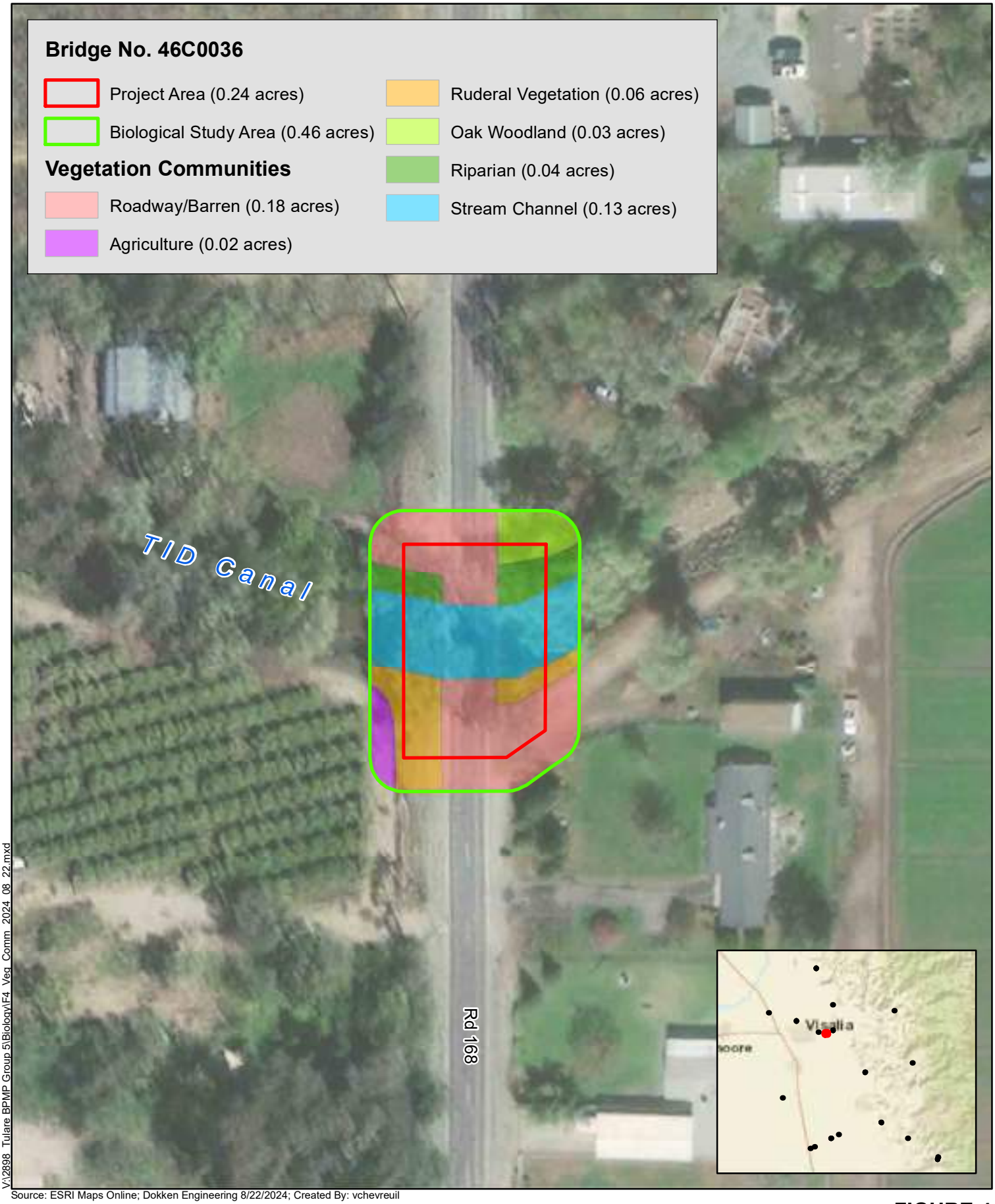


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FIGURE 4
Vegetation Communities
Page 1 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



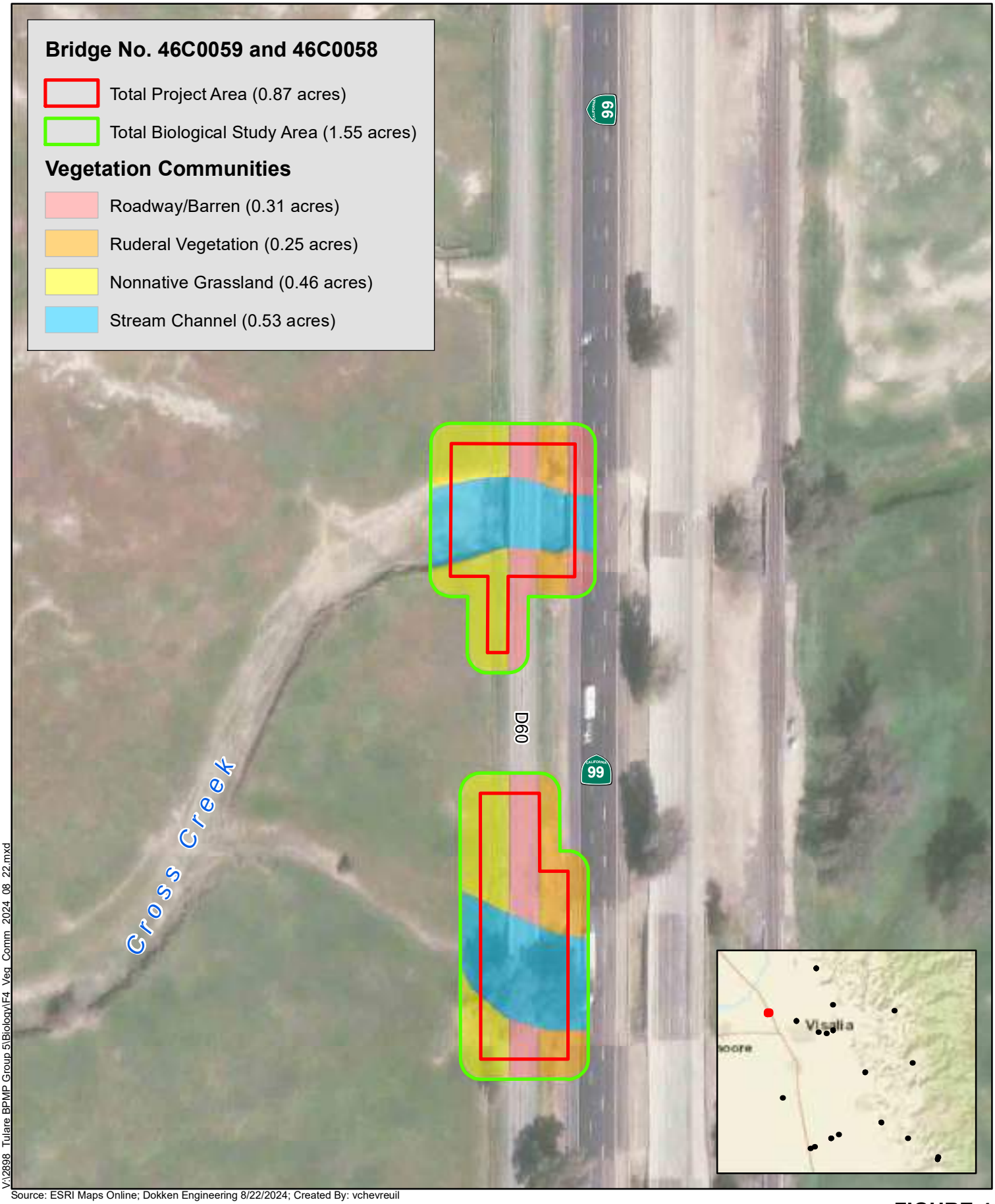
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1 inch = 75 feet

0 75 150 Feet

FIGURE 4
Vegetation Communities
Page 2 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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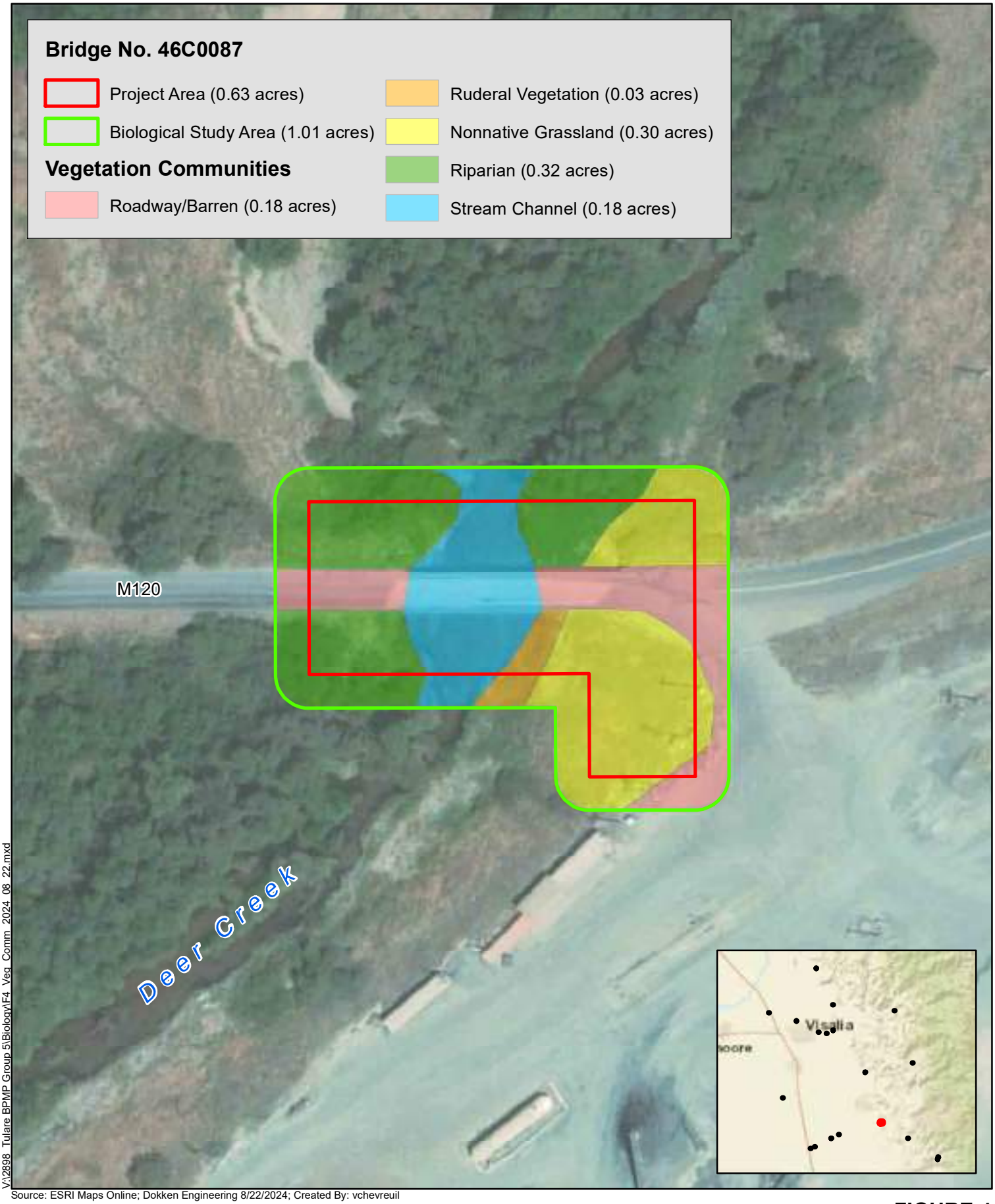
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1 inch = 125 feet

0 125 250 375 Feet

FIGURE 4
Vegetation Communities

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



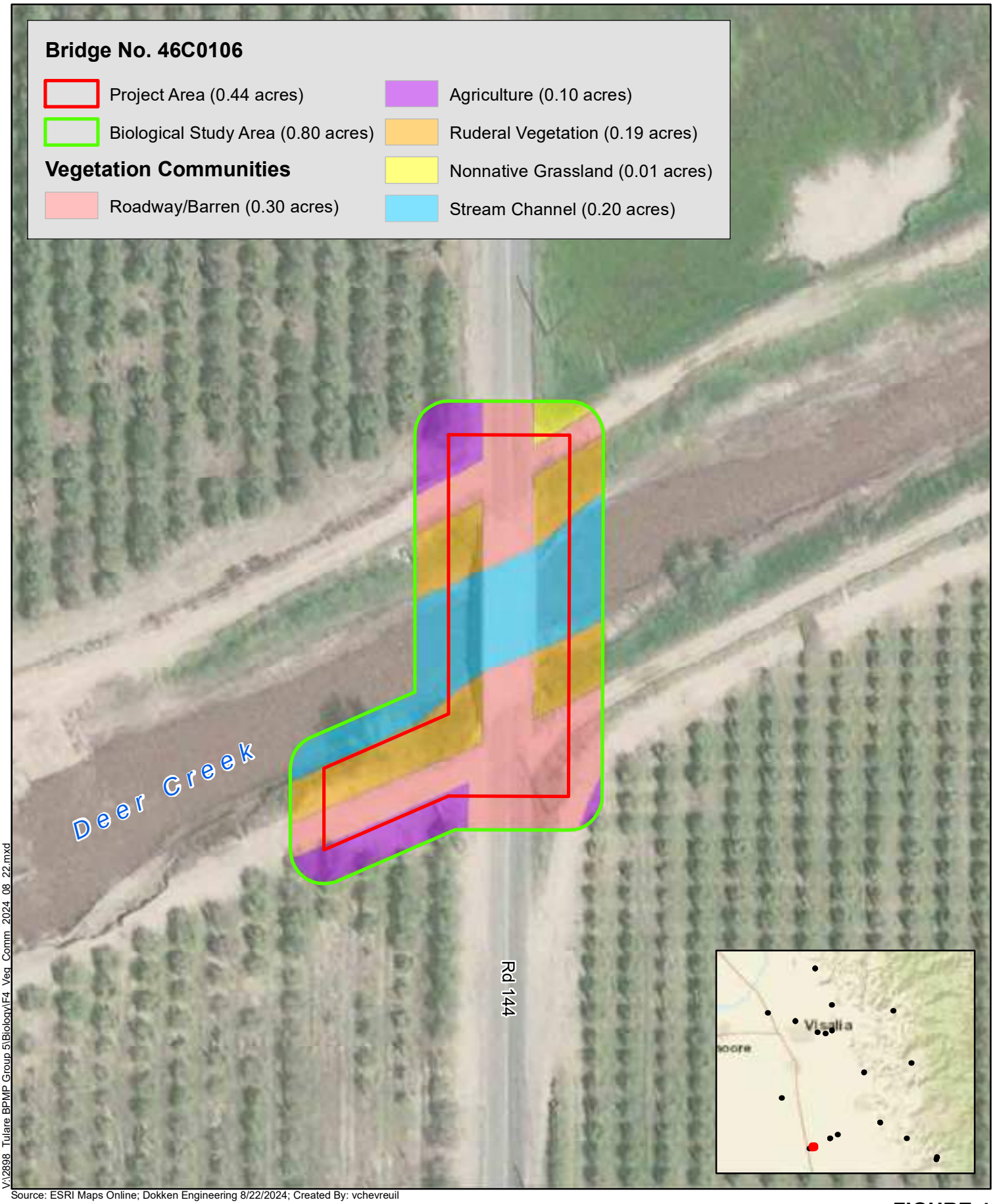
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Source: ESRI Maps Online; Dokken Engineering 8/22/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 4
Vegetation Communities
Page 4 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



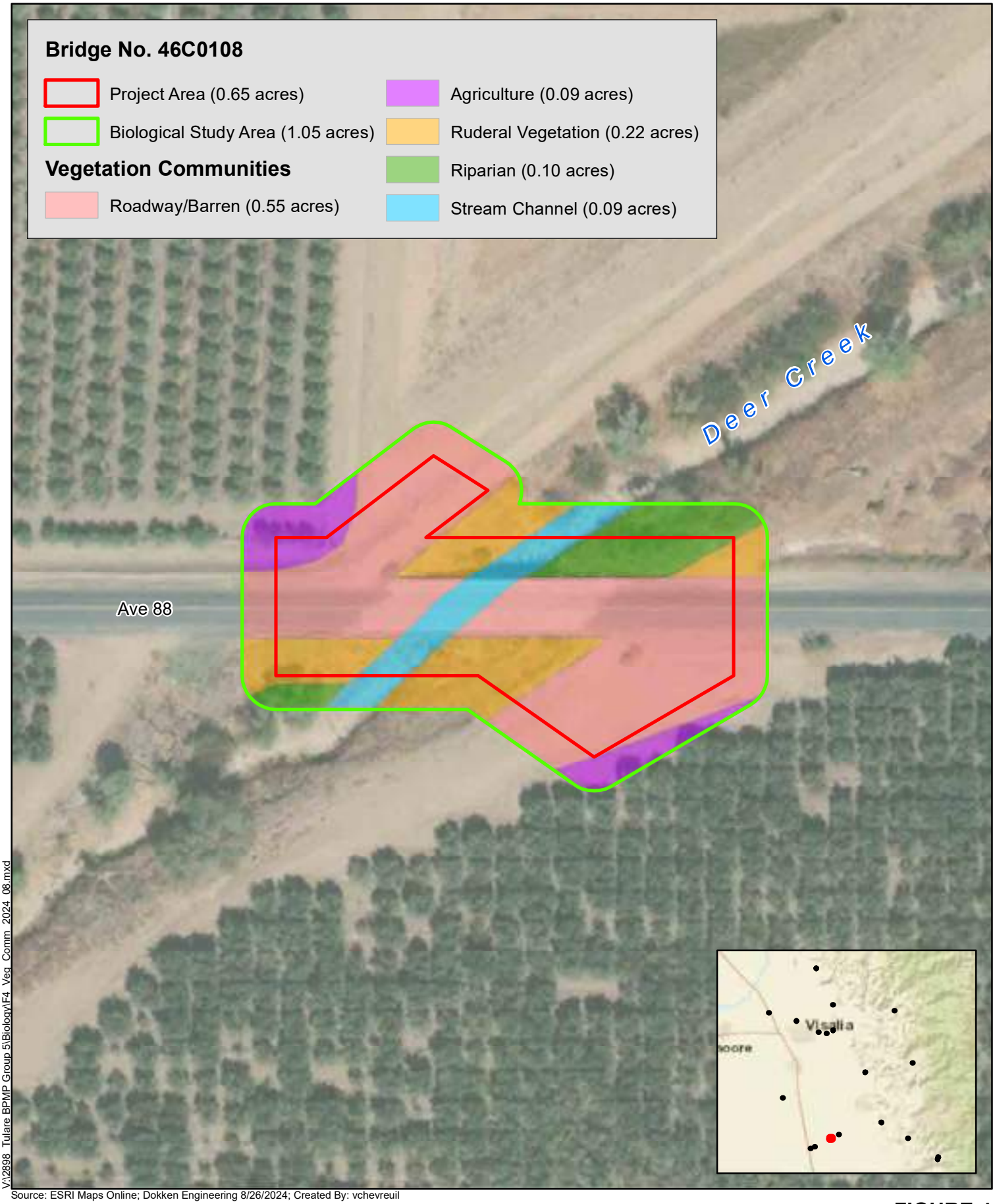
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Source: ESRI Maps Online; Dokken Engineering 8/22/2024; Created By: vchevreuil

1 inch = 75 feet

0 75 150 Feet

FIGURE 4
Vegetation Communities
Page 5 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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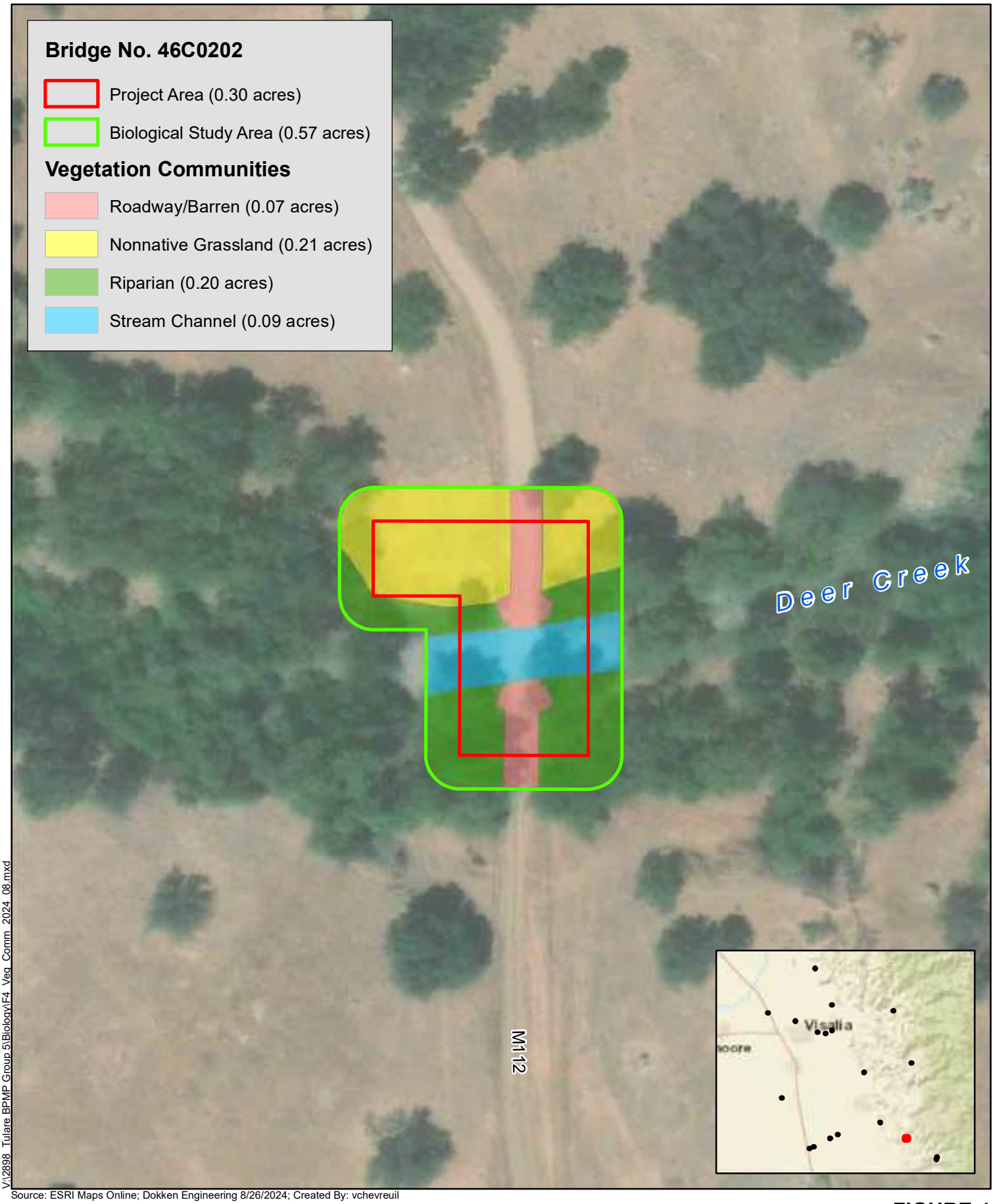
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Tulare County, California



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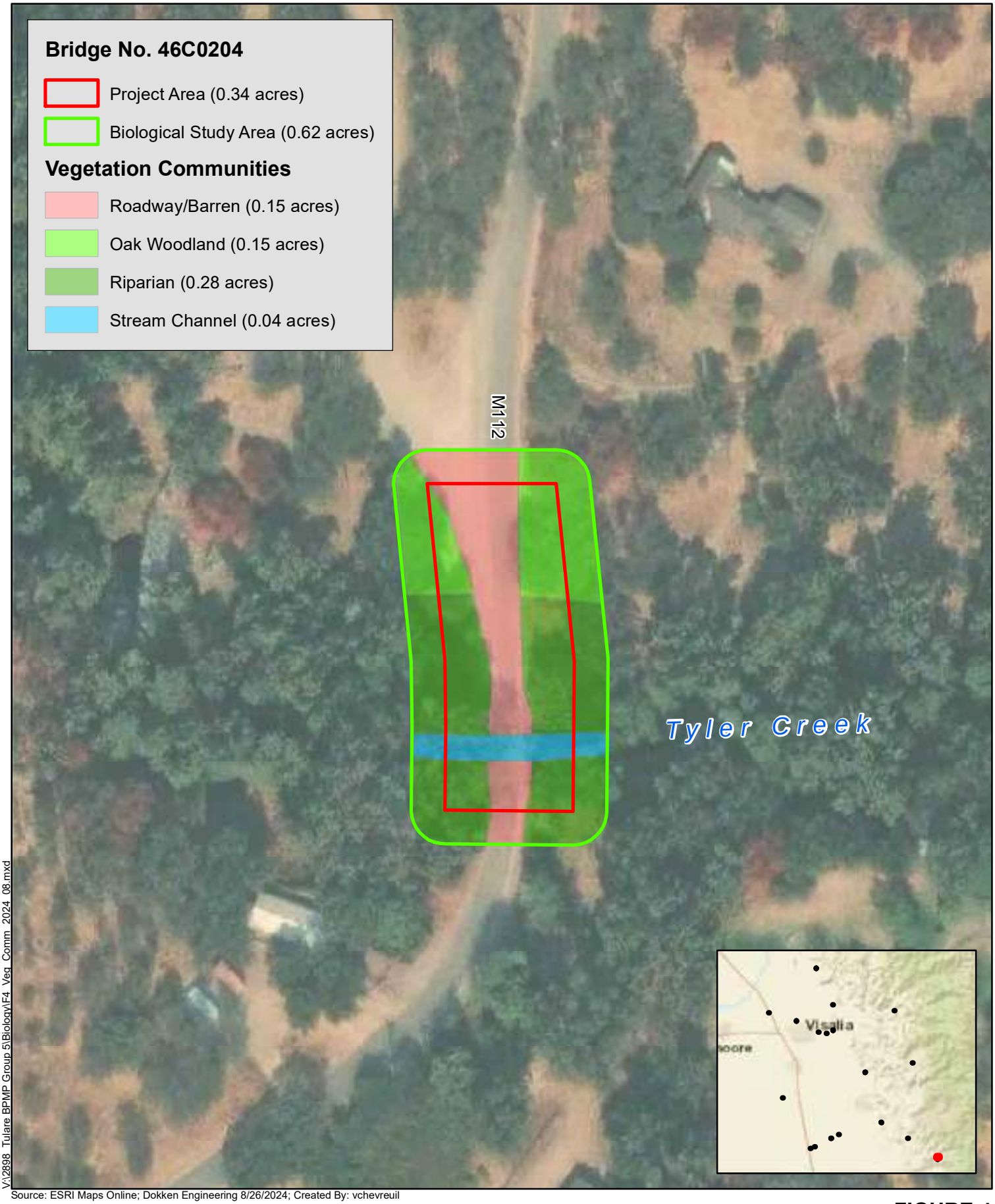
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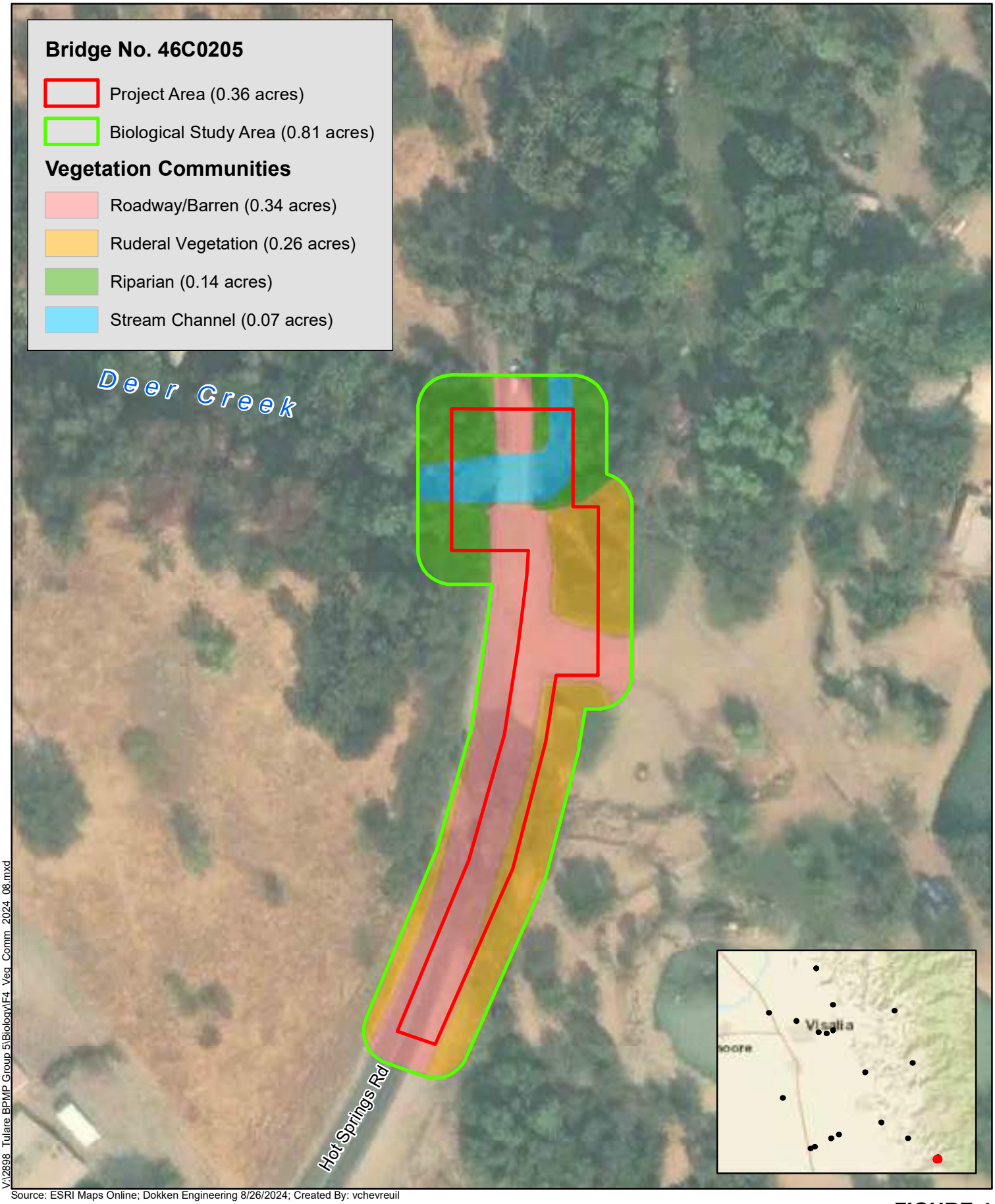
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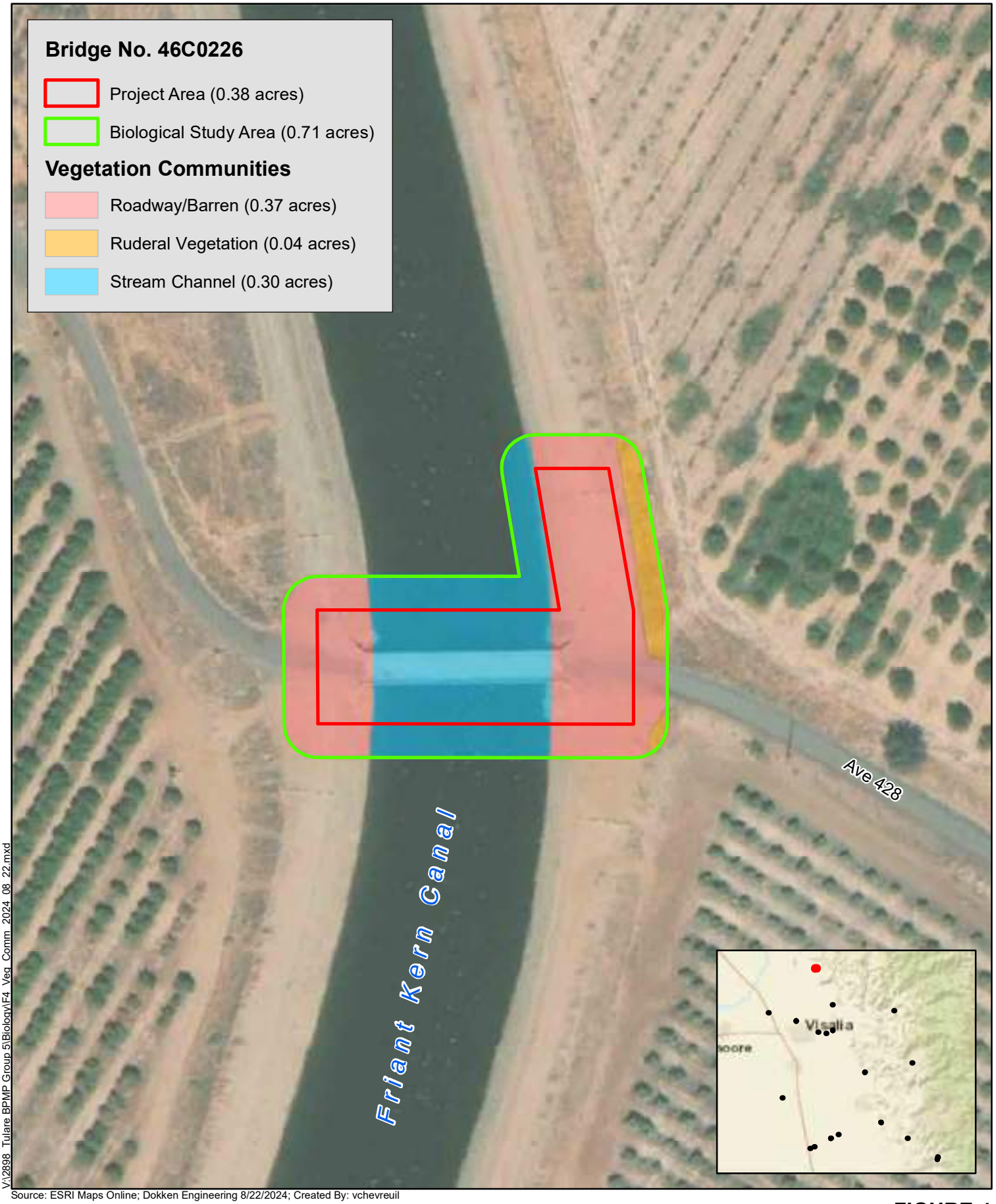
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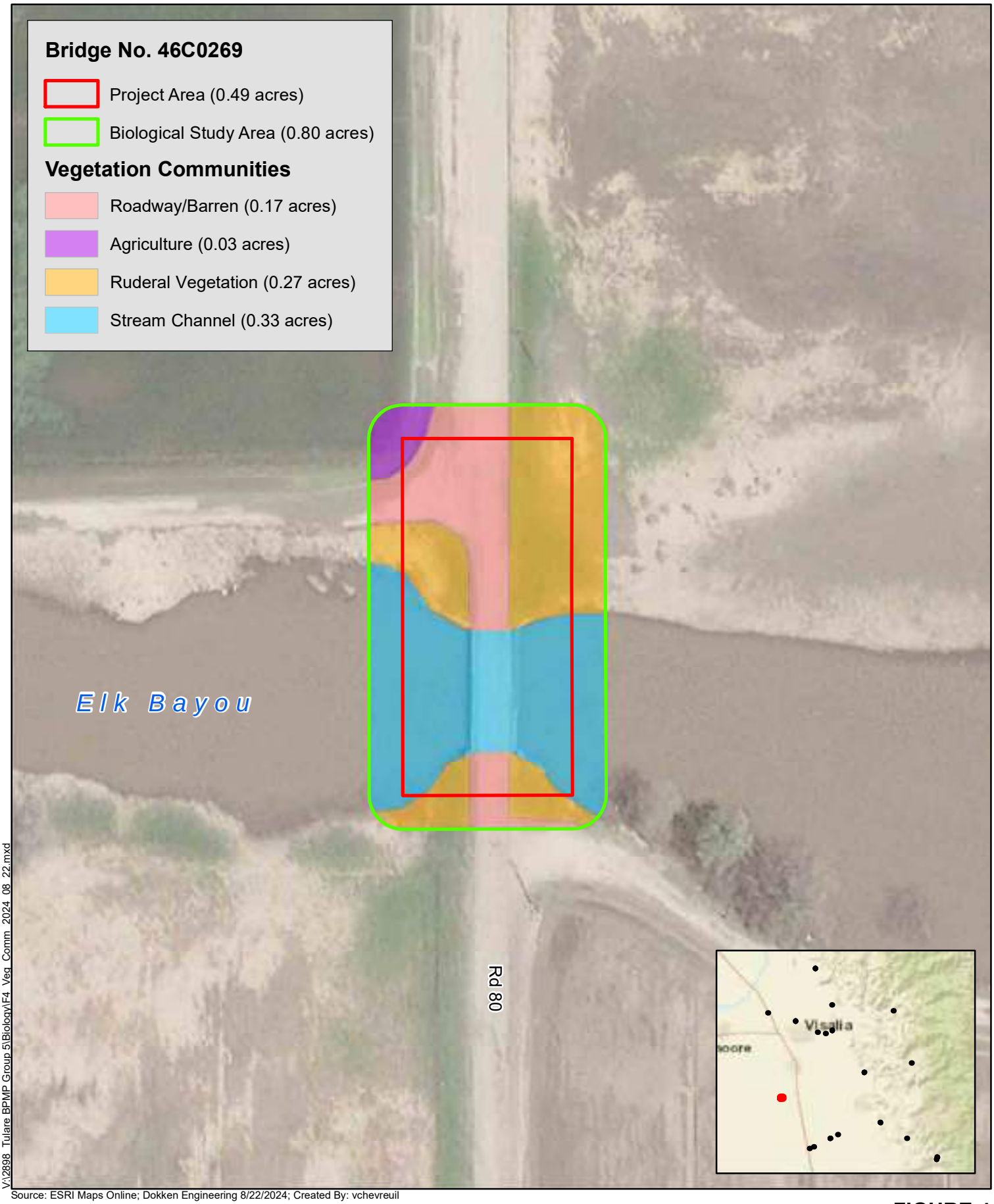
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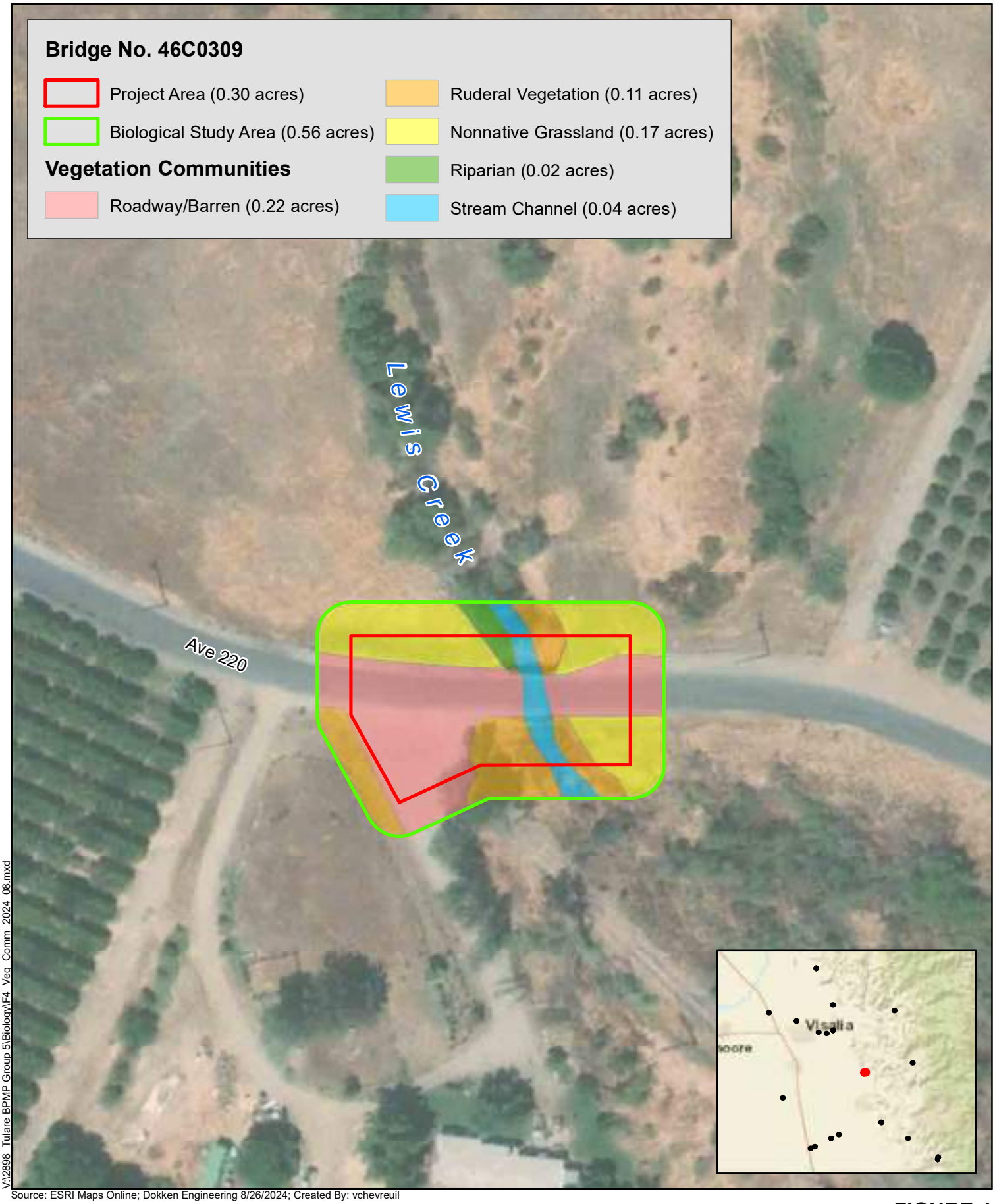
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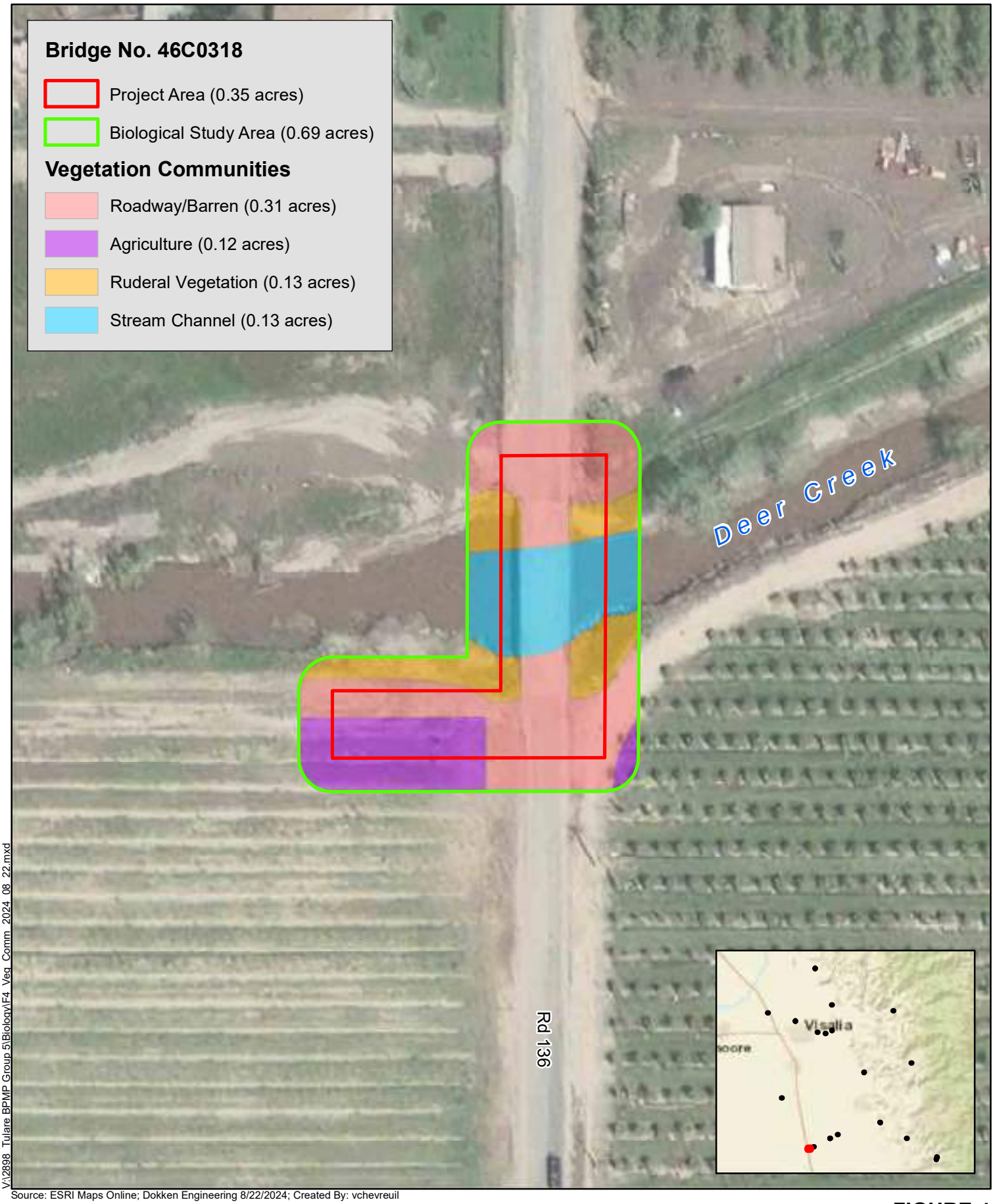
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FIGURE 4
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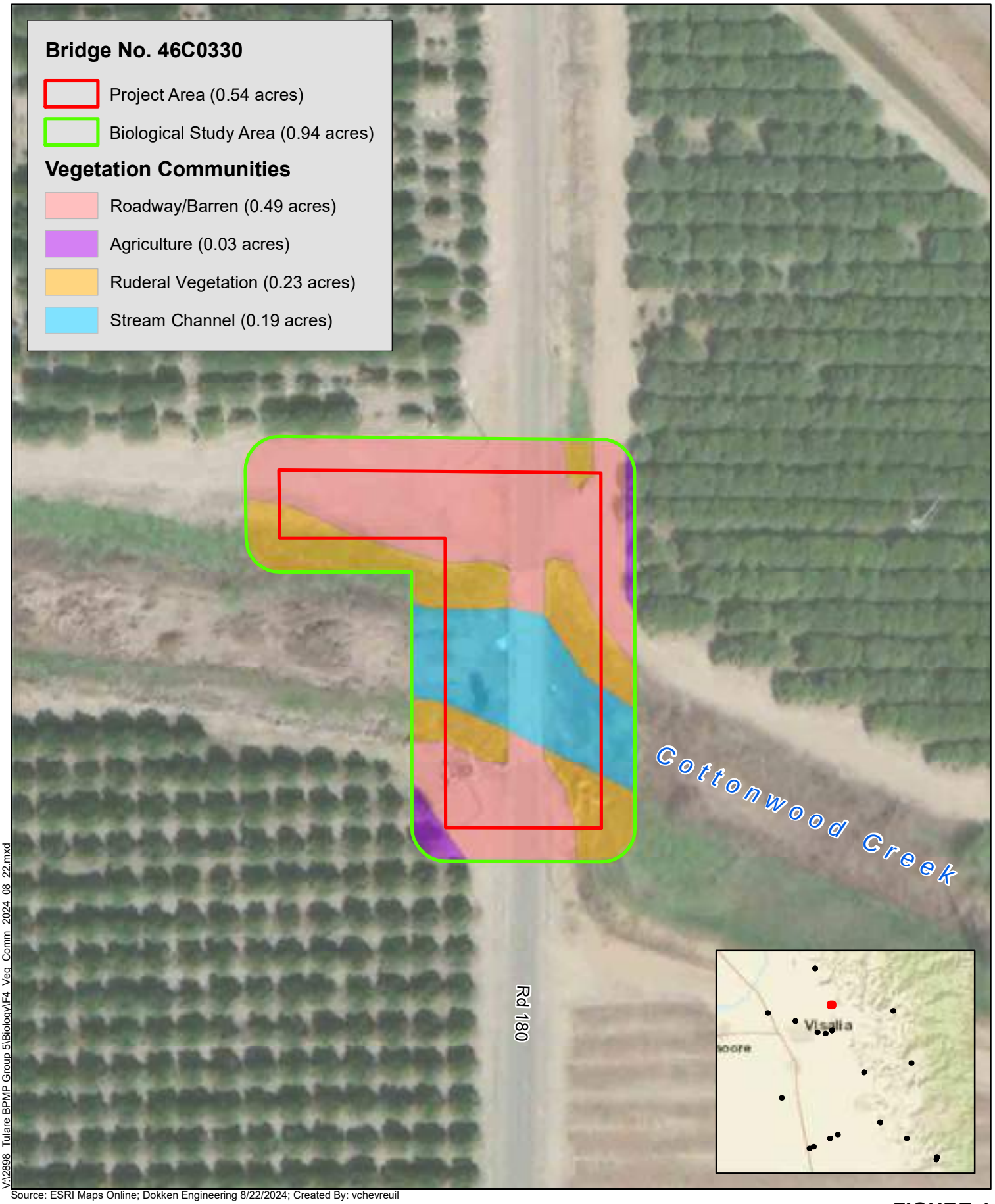
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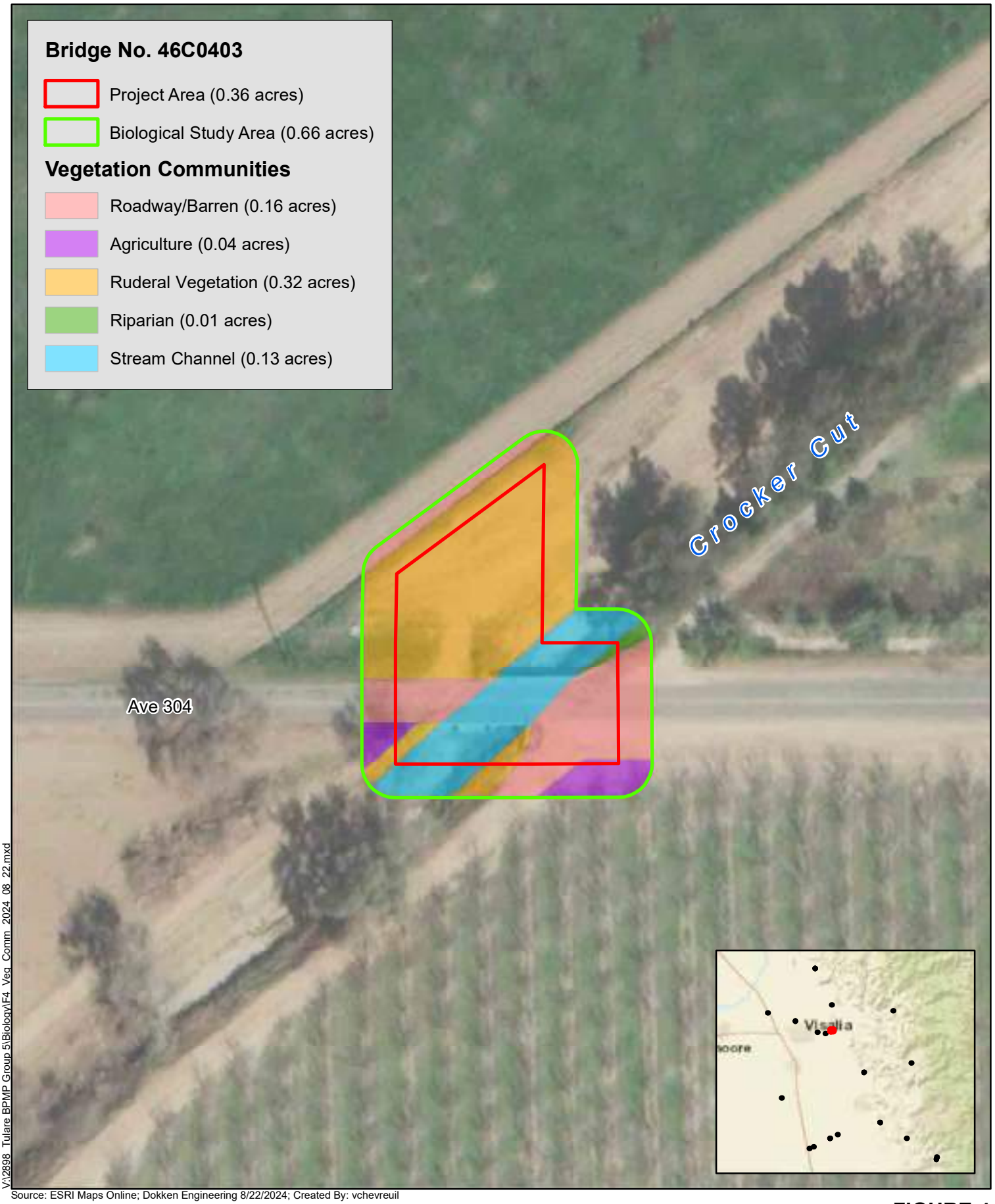
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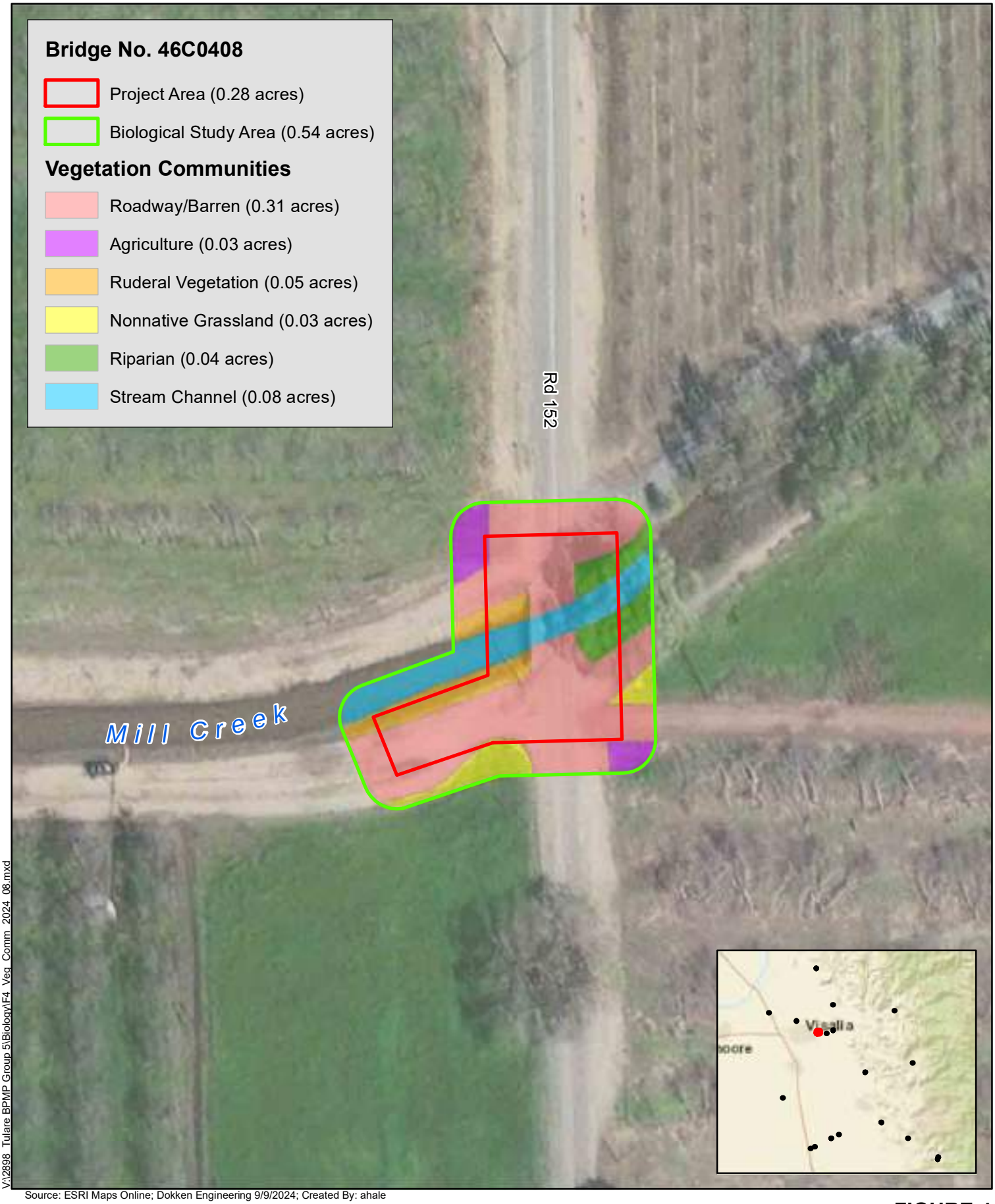
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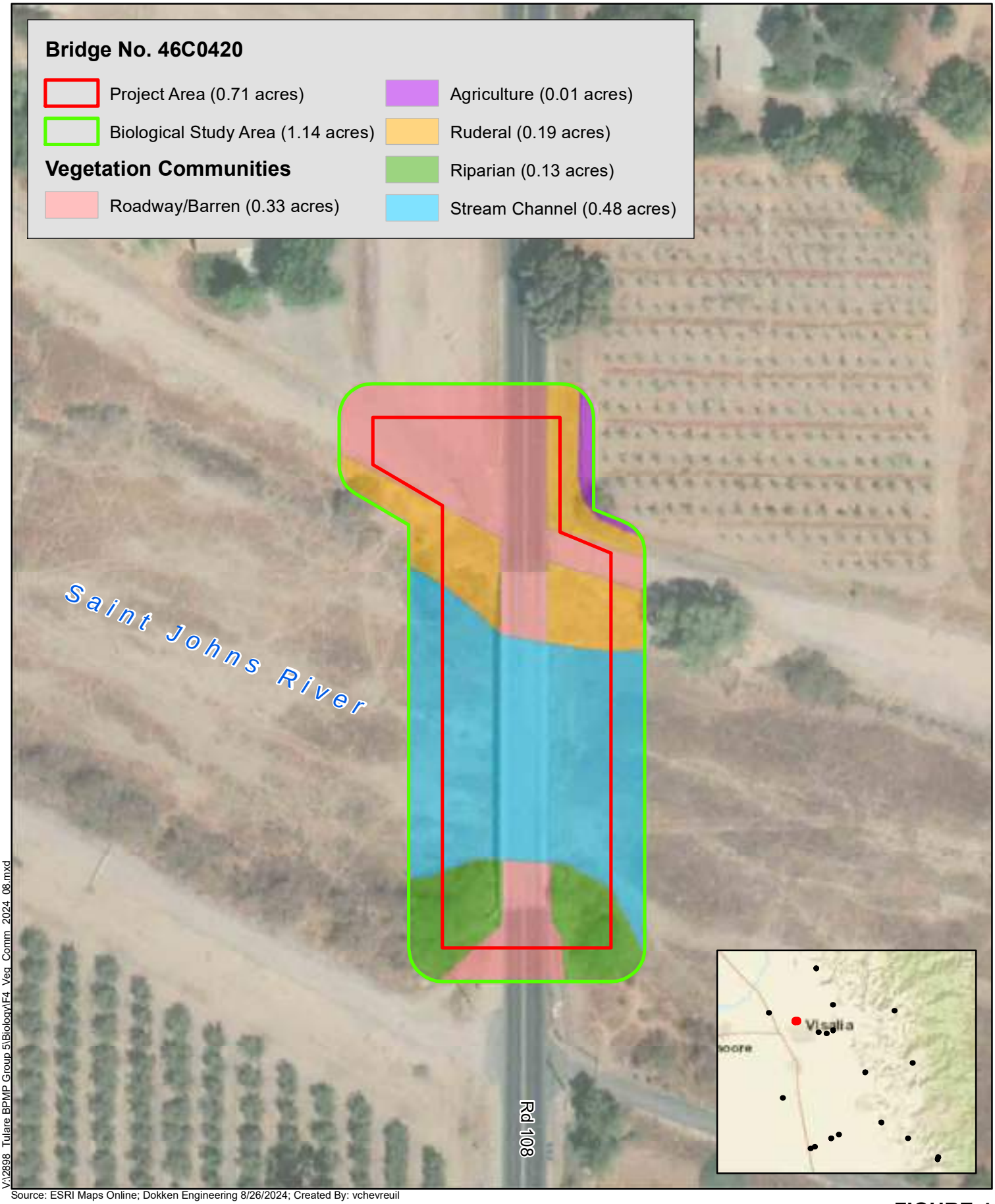
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1 inch = 75 feet

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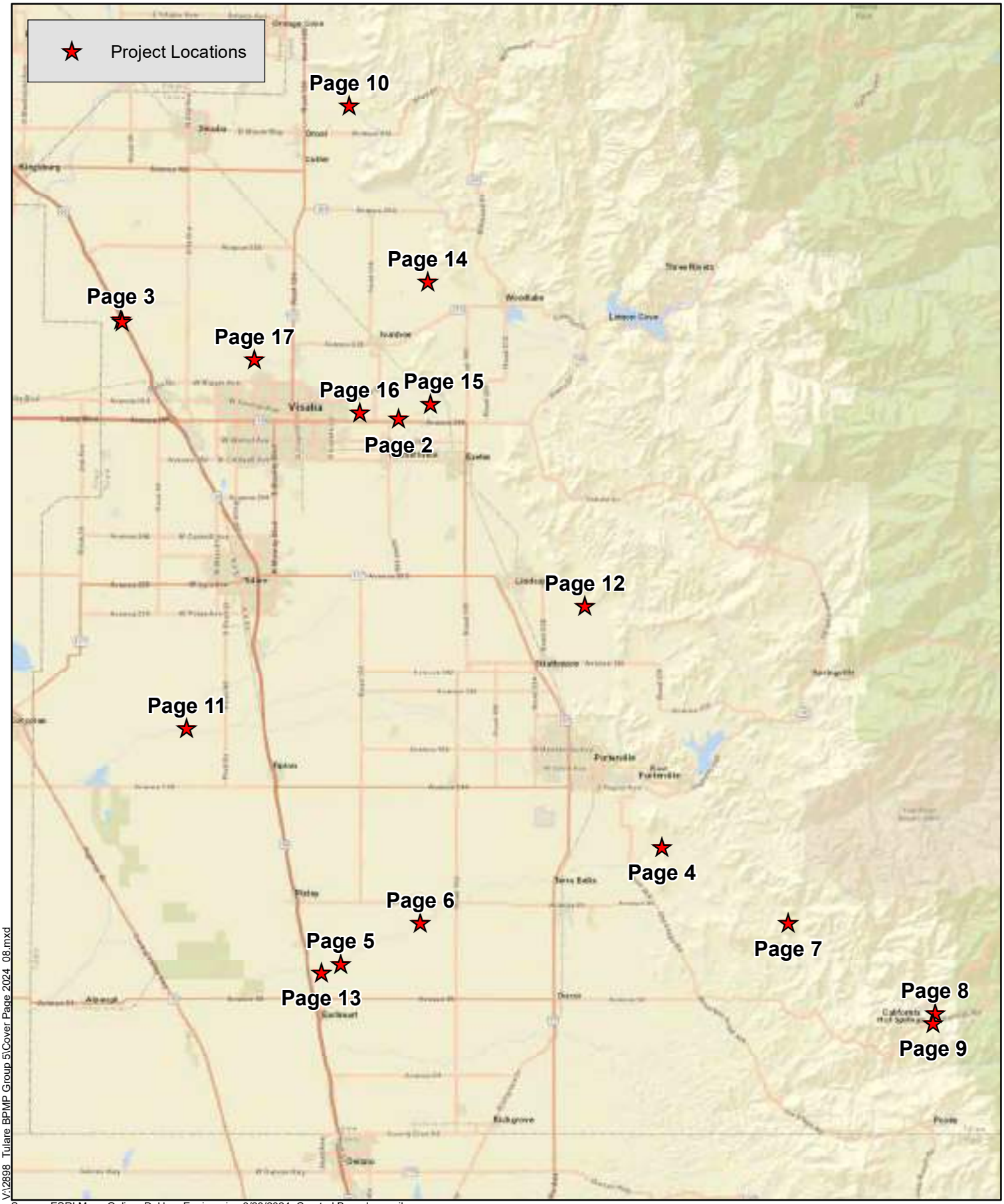
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1 inch = 75 feet

0 75 150 Feet

FIGURE 4
Vegetation Communities
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BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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FIGURE 5
Project Impacts
Page 1 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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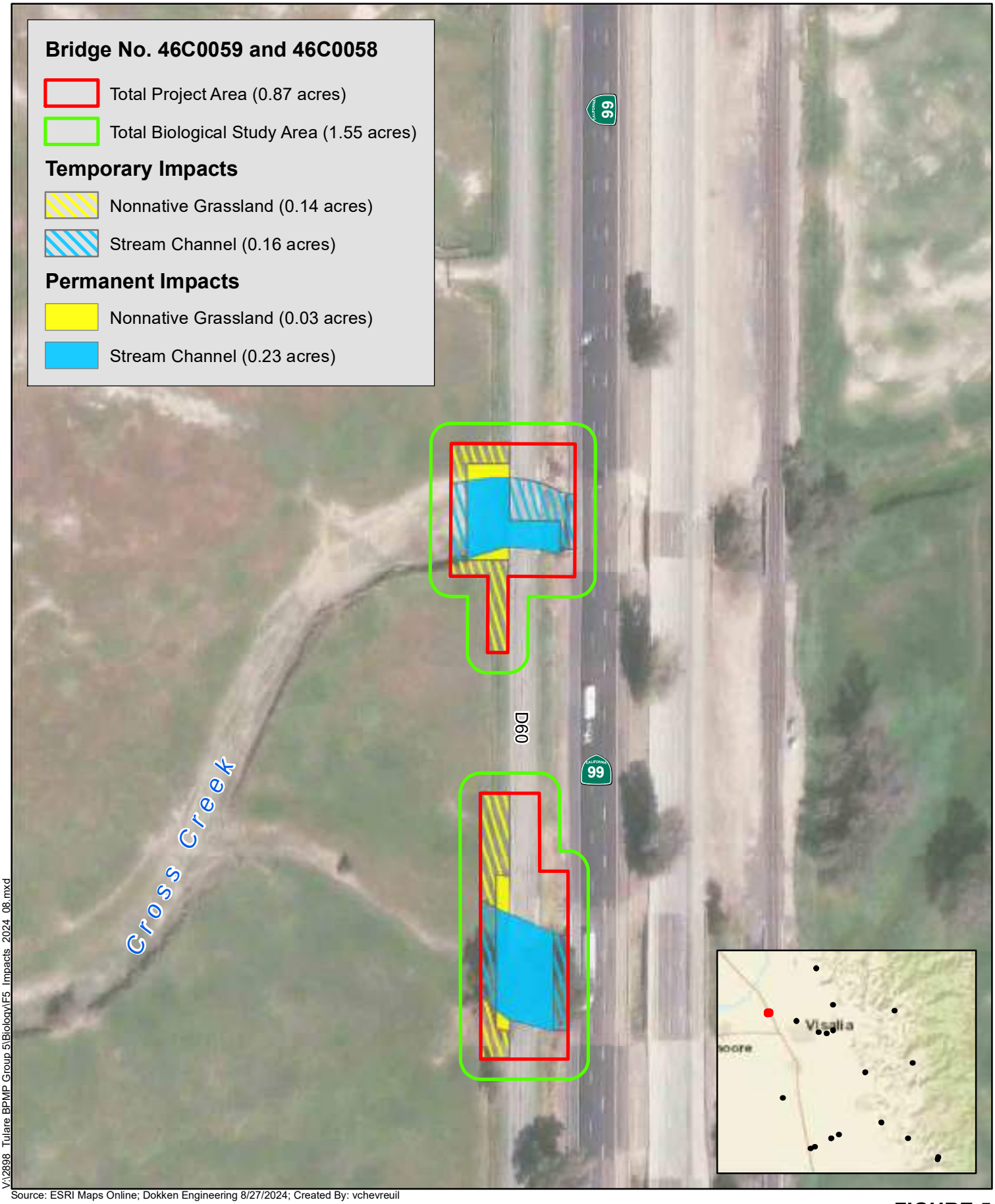
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1 inch = 75 feet

0 75 150 Feet

FIGURE 5
Project Impacts
Page 2 of 17

BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



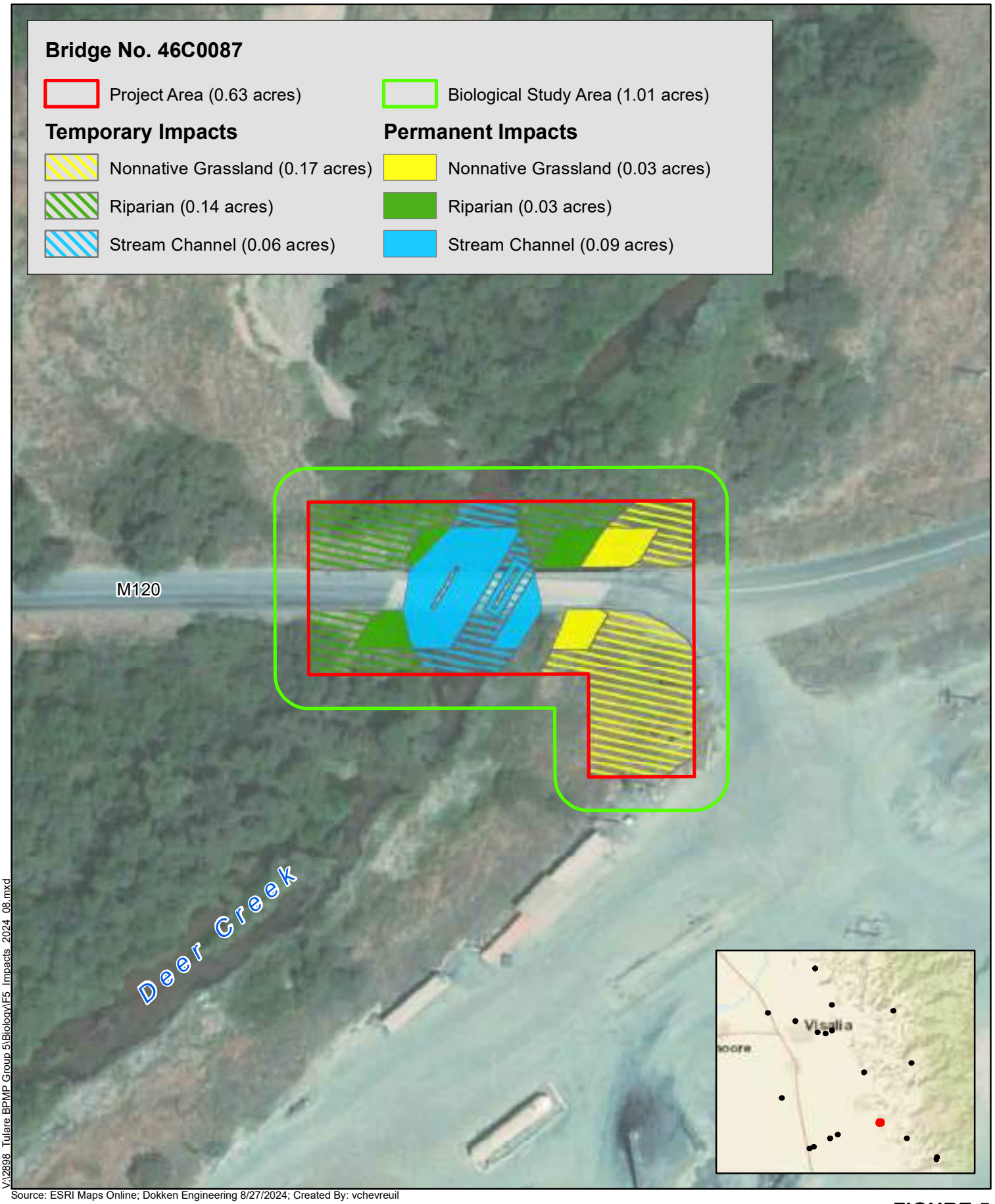
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Source: ESRI Maps Online; Dokken Engineering 8/27/2024; Created By: vchevreuil

1 inch = 125 feet

0 75 150 Feet

FIGURE 5
Project Impacts
Page 3 of 17
BPMPL-5946(169)
Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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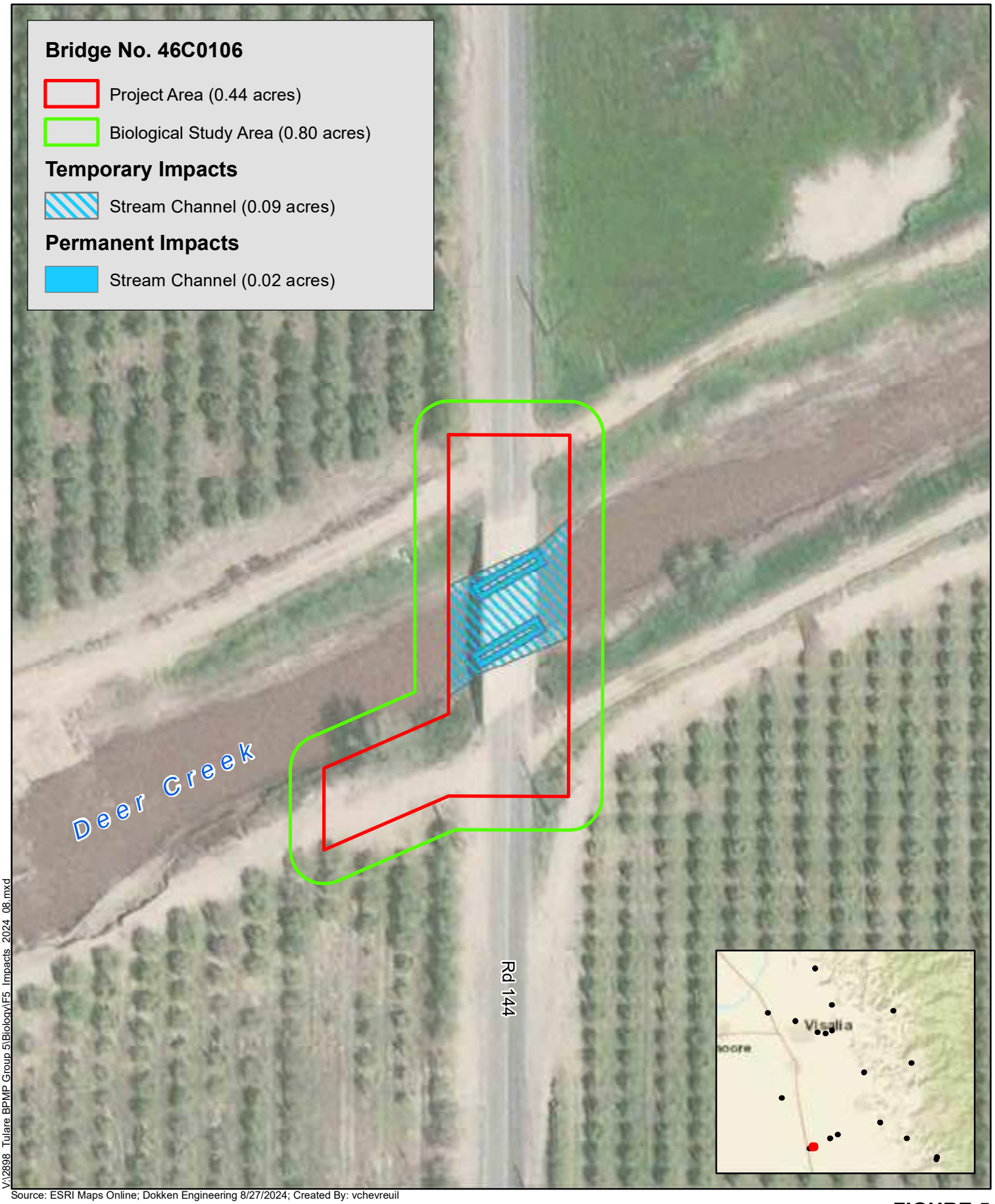
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1 inch = 75 feet

0 75 150 Feet

FIGURE 5
Project Impacts
Page 4 of 17

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Tulare County Bridge Preventative Maintenance Program - Group 5 Project
Tulare County, California



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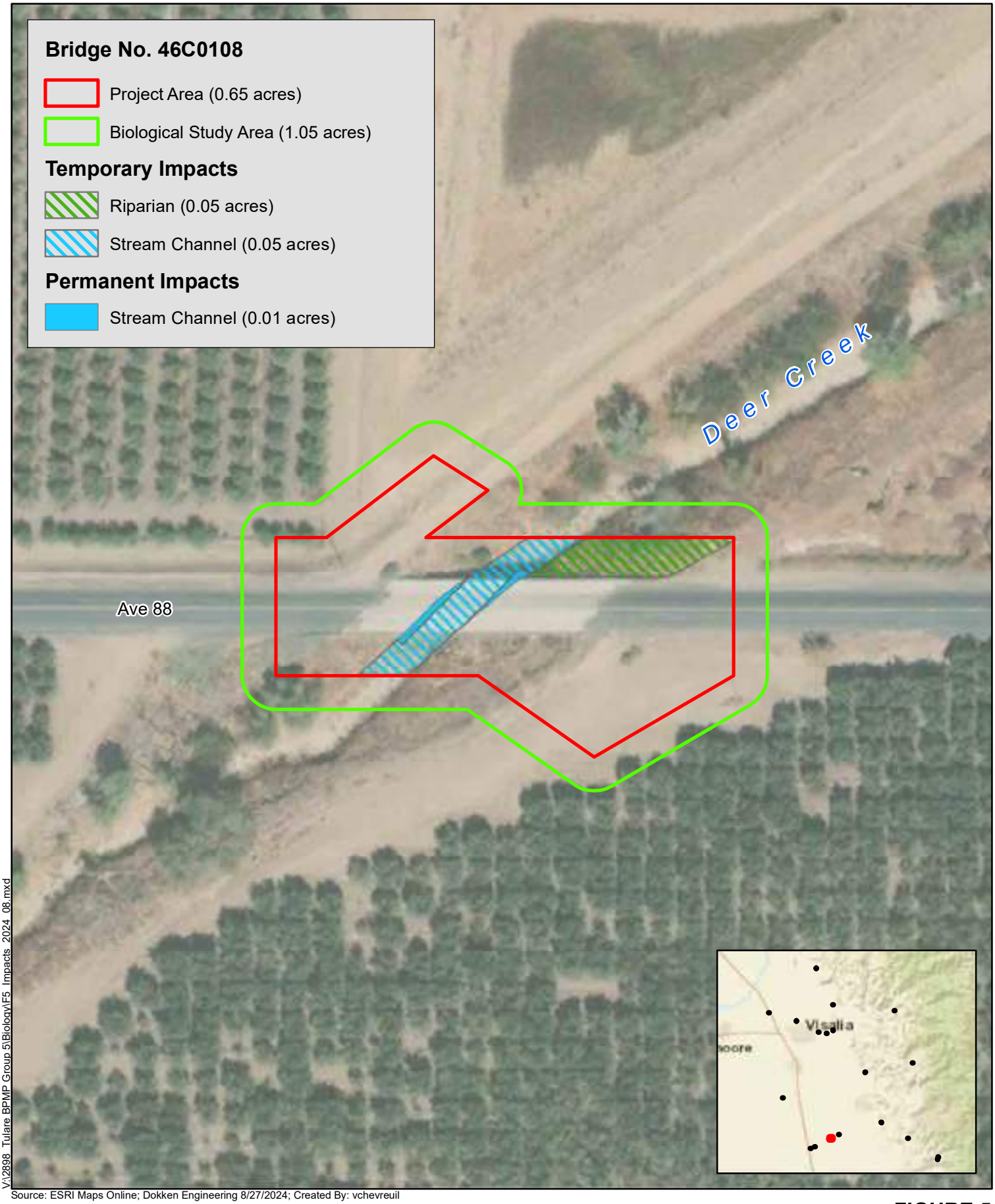
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1 inch = 75 feet

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FIGURE 5
Project Impacts
Page 5 of 17

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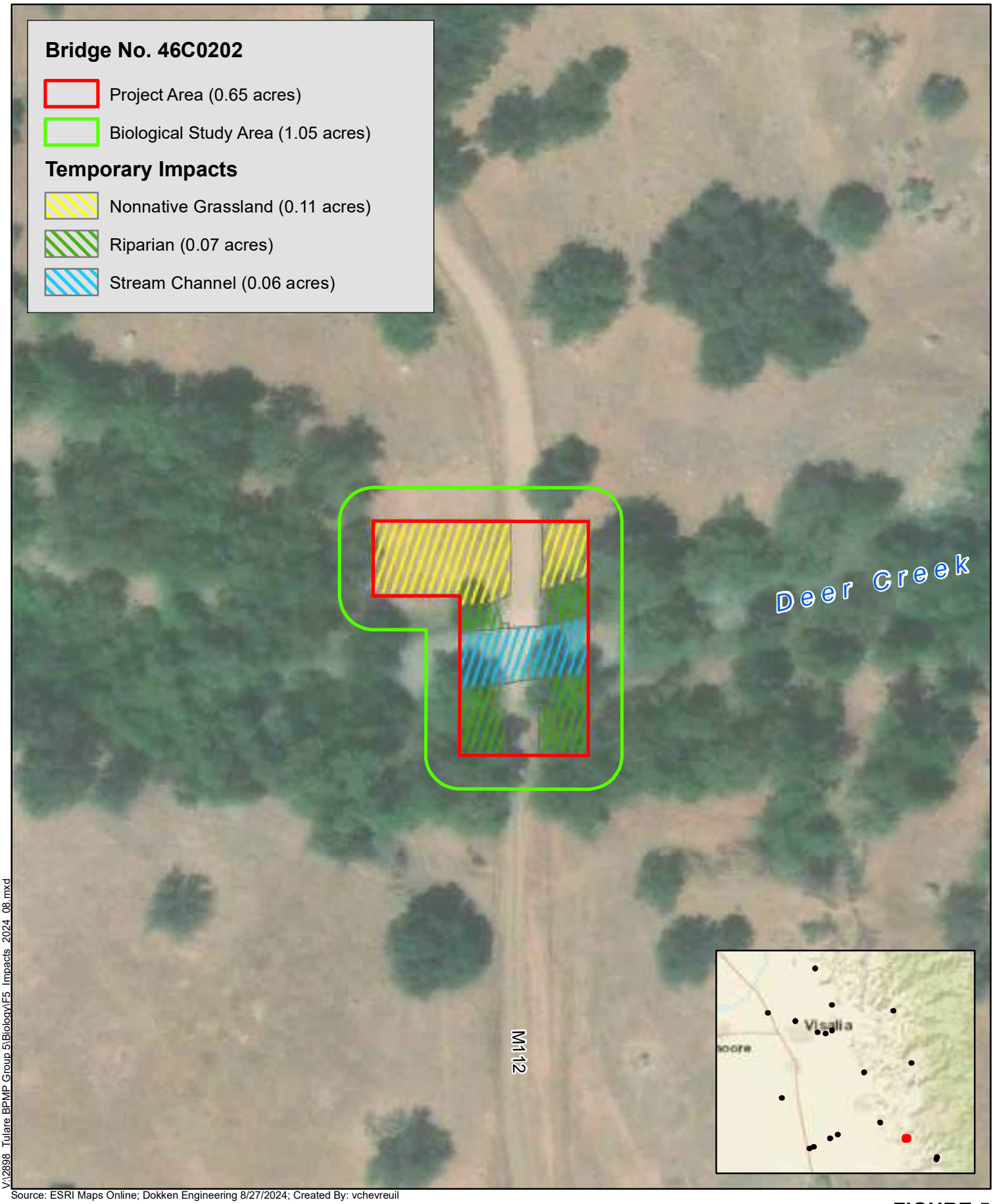
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FIGURE 5
Project Impacts
Page 6 of 17

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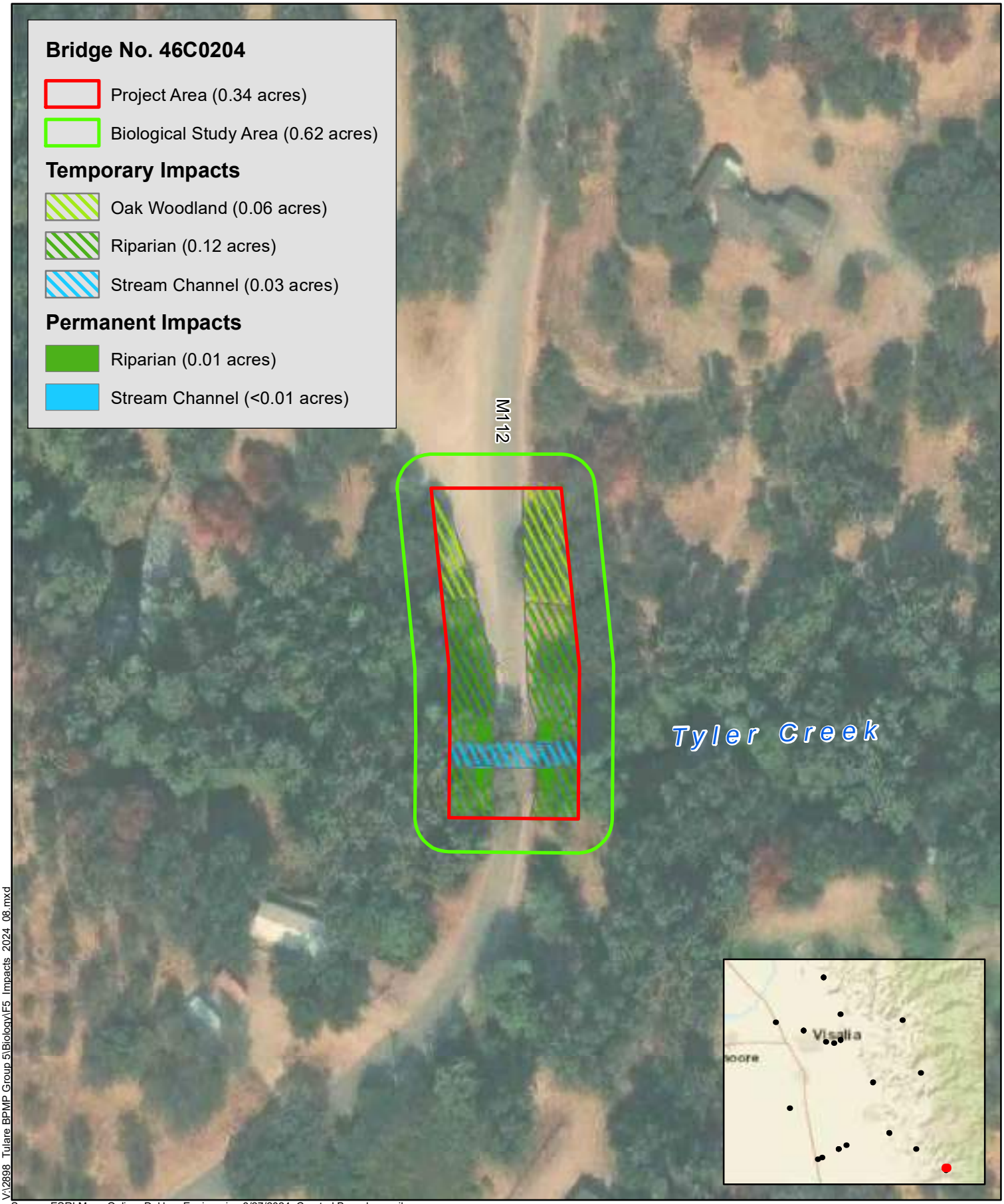
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FIGURE 5
Project Impacts
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BPMPL-5946(169)
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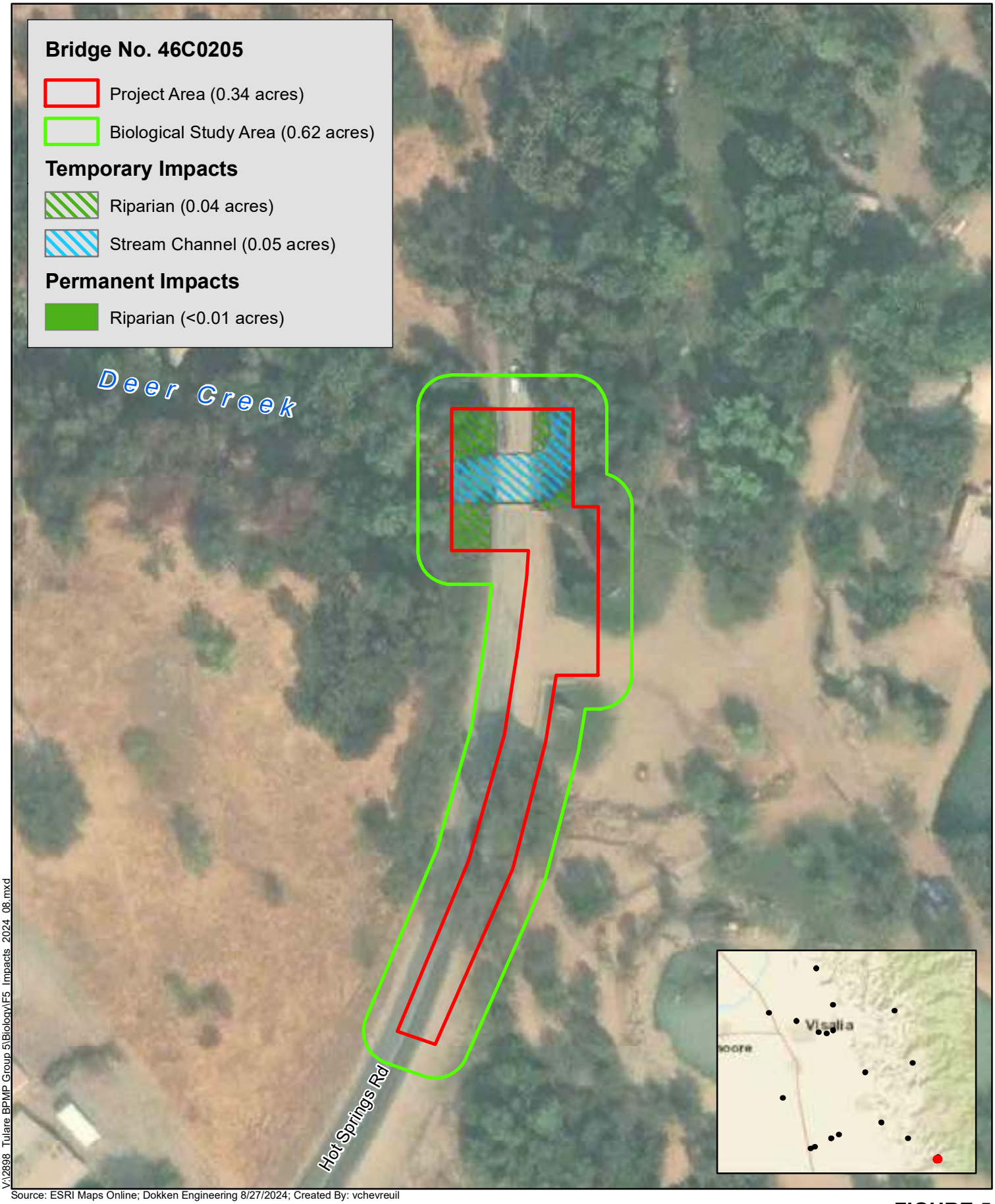
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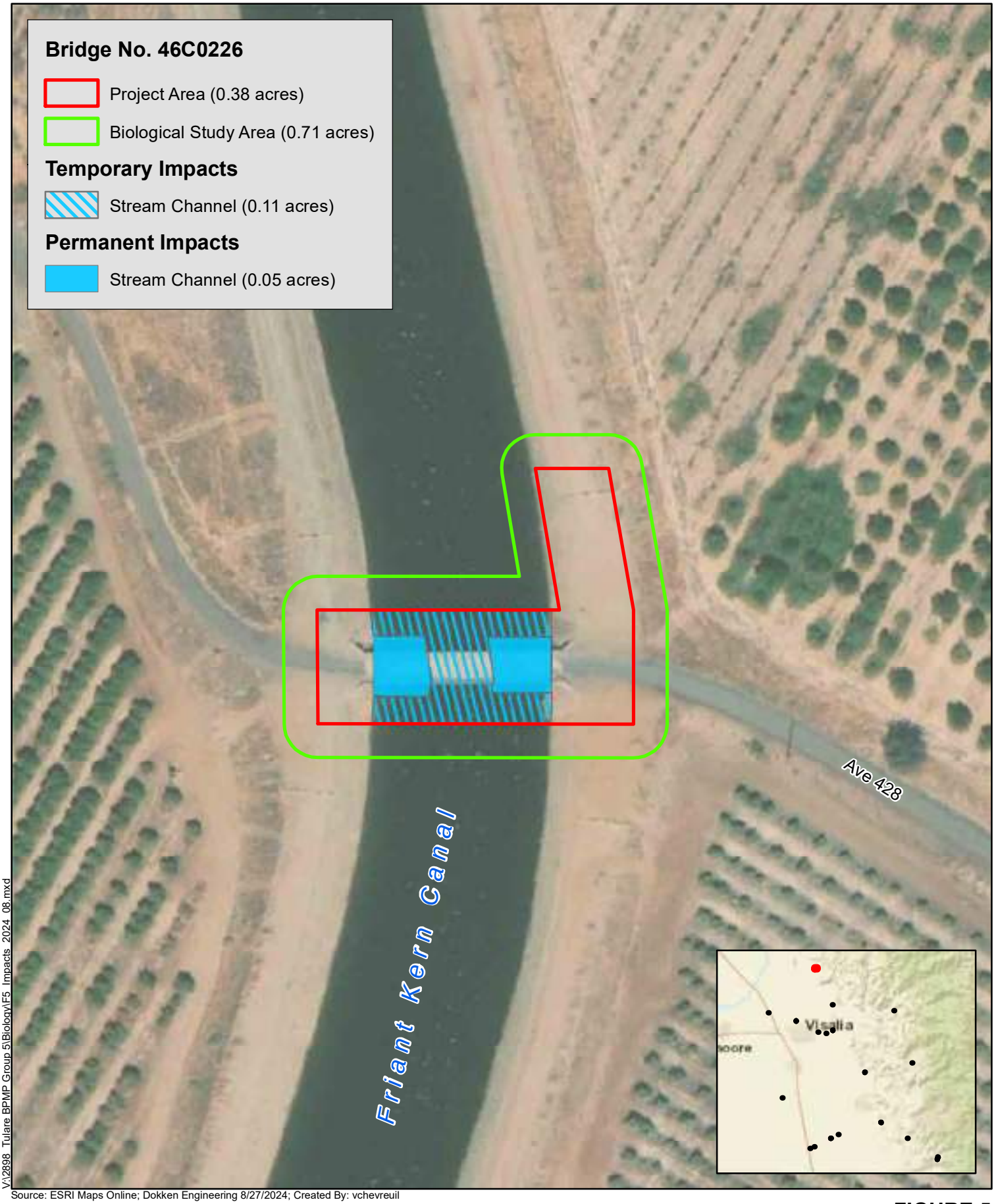
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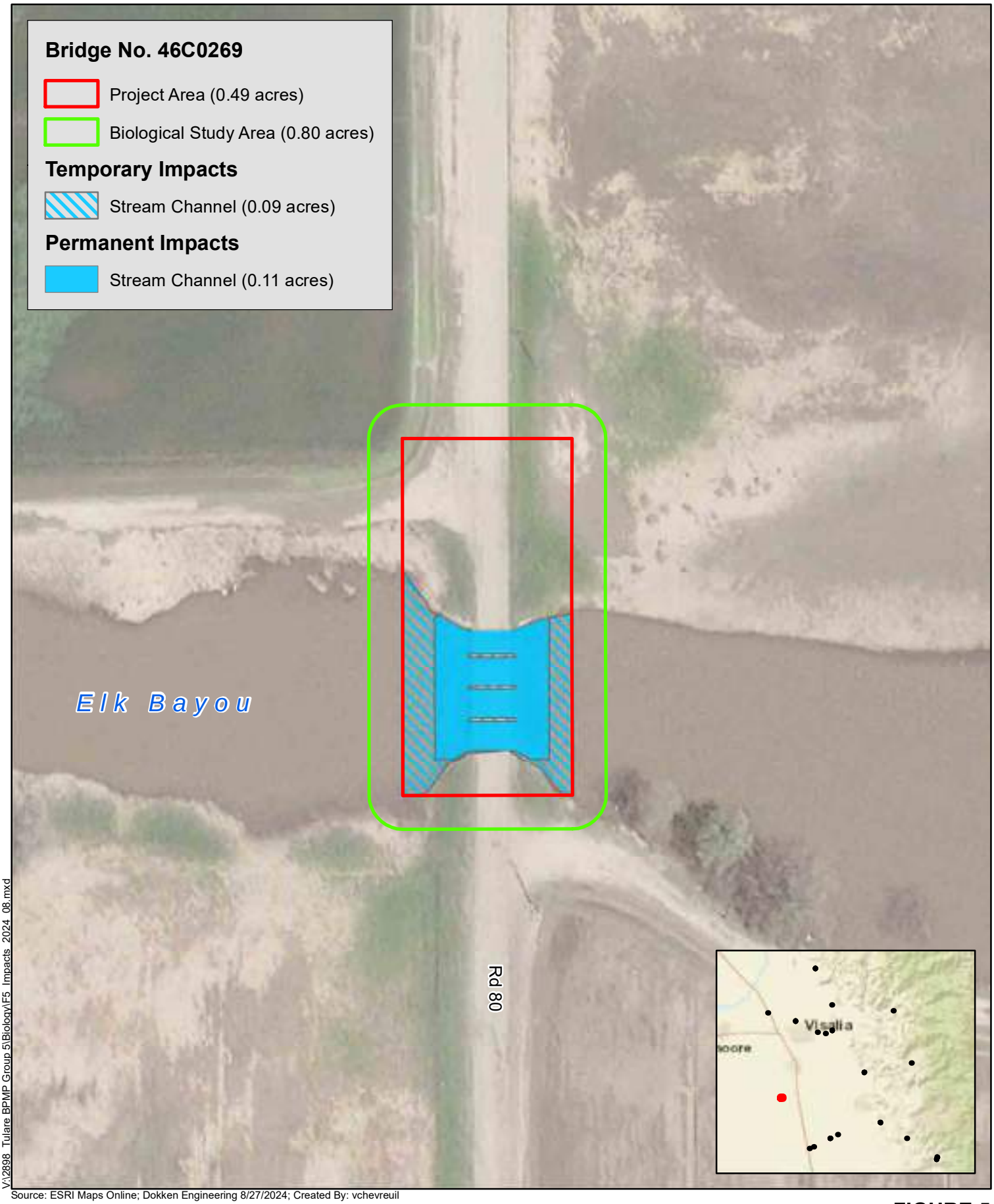
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Page 11 of 17
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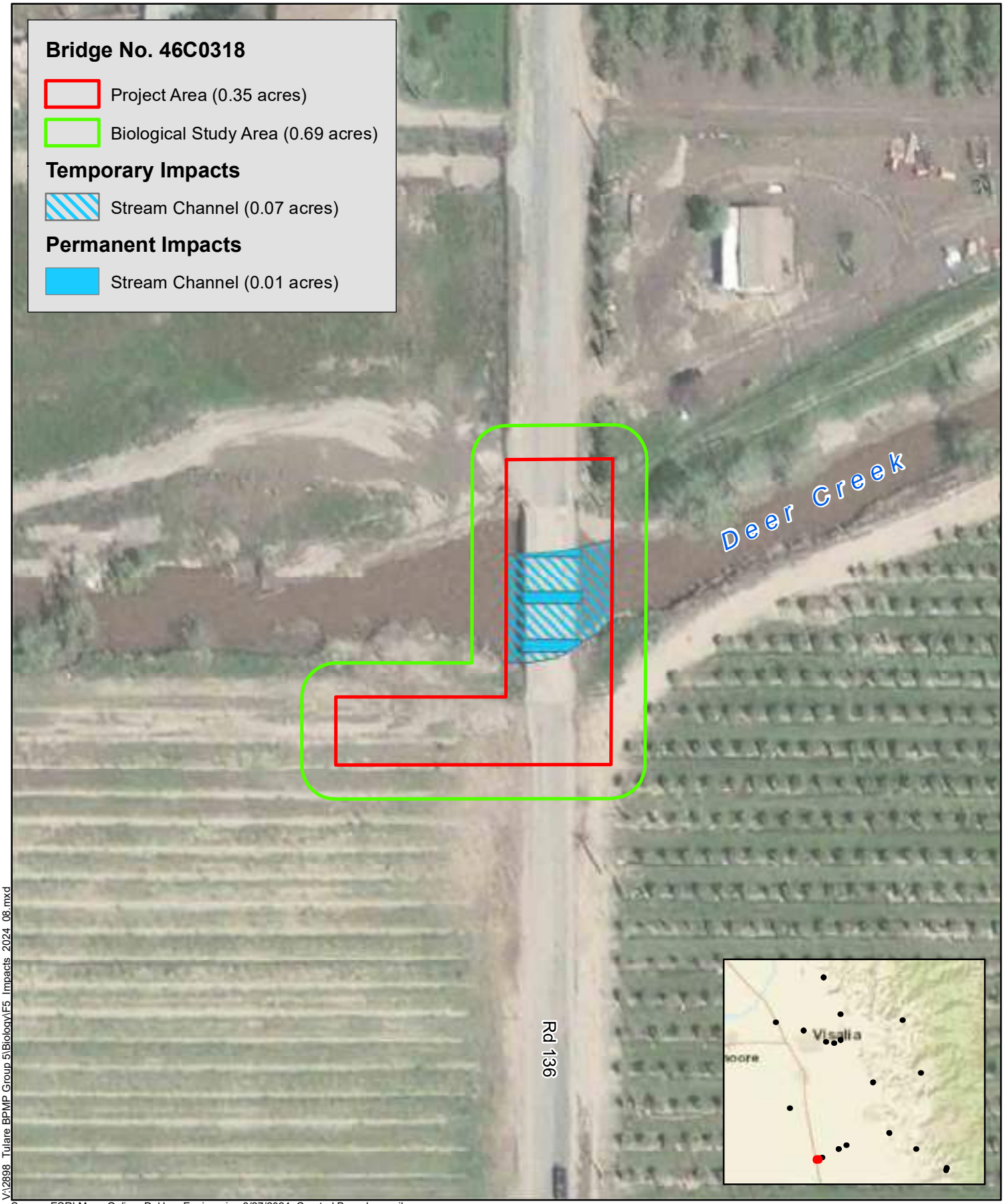
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Page 12 of 17
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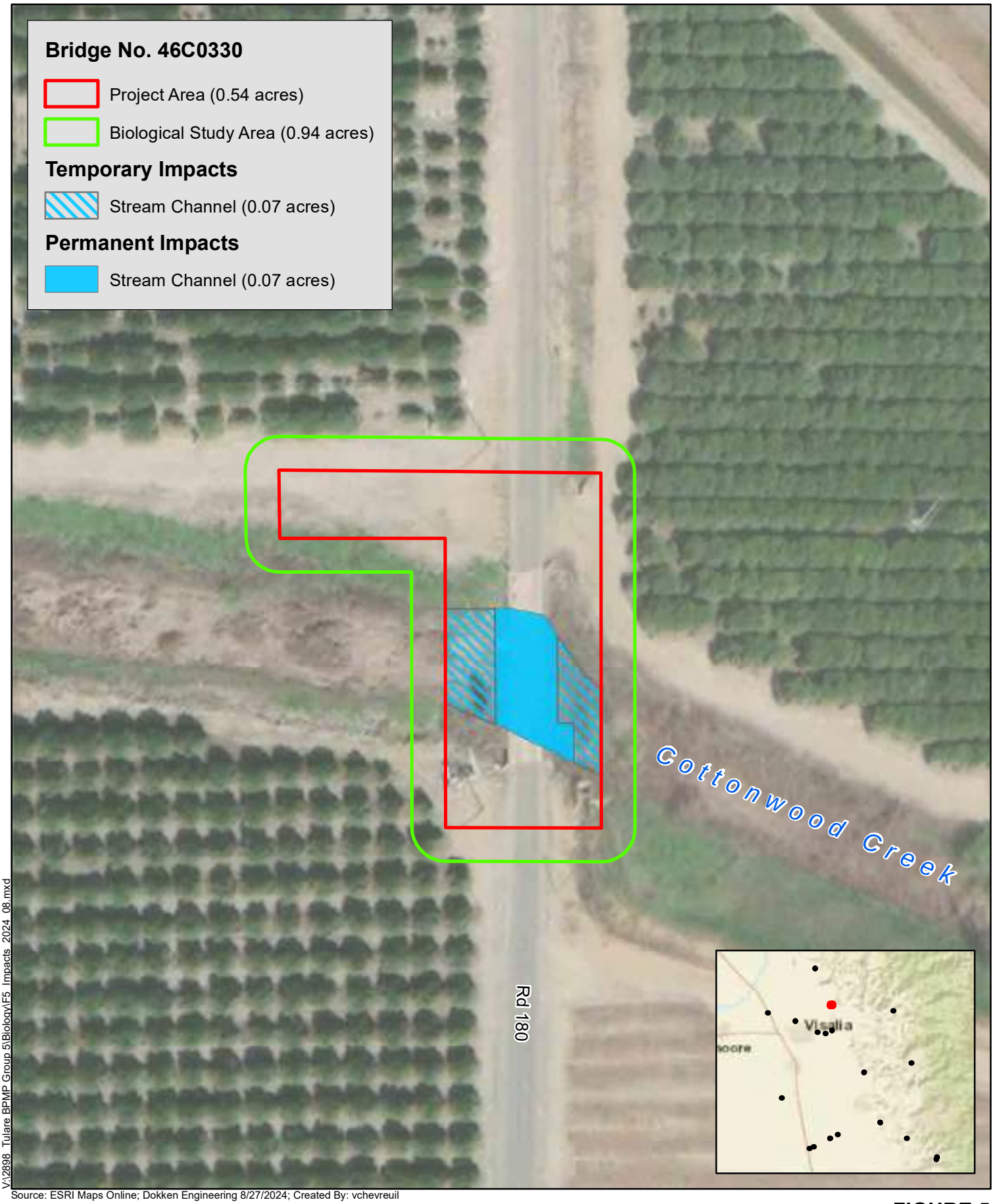
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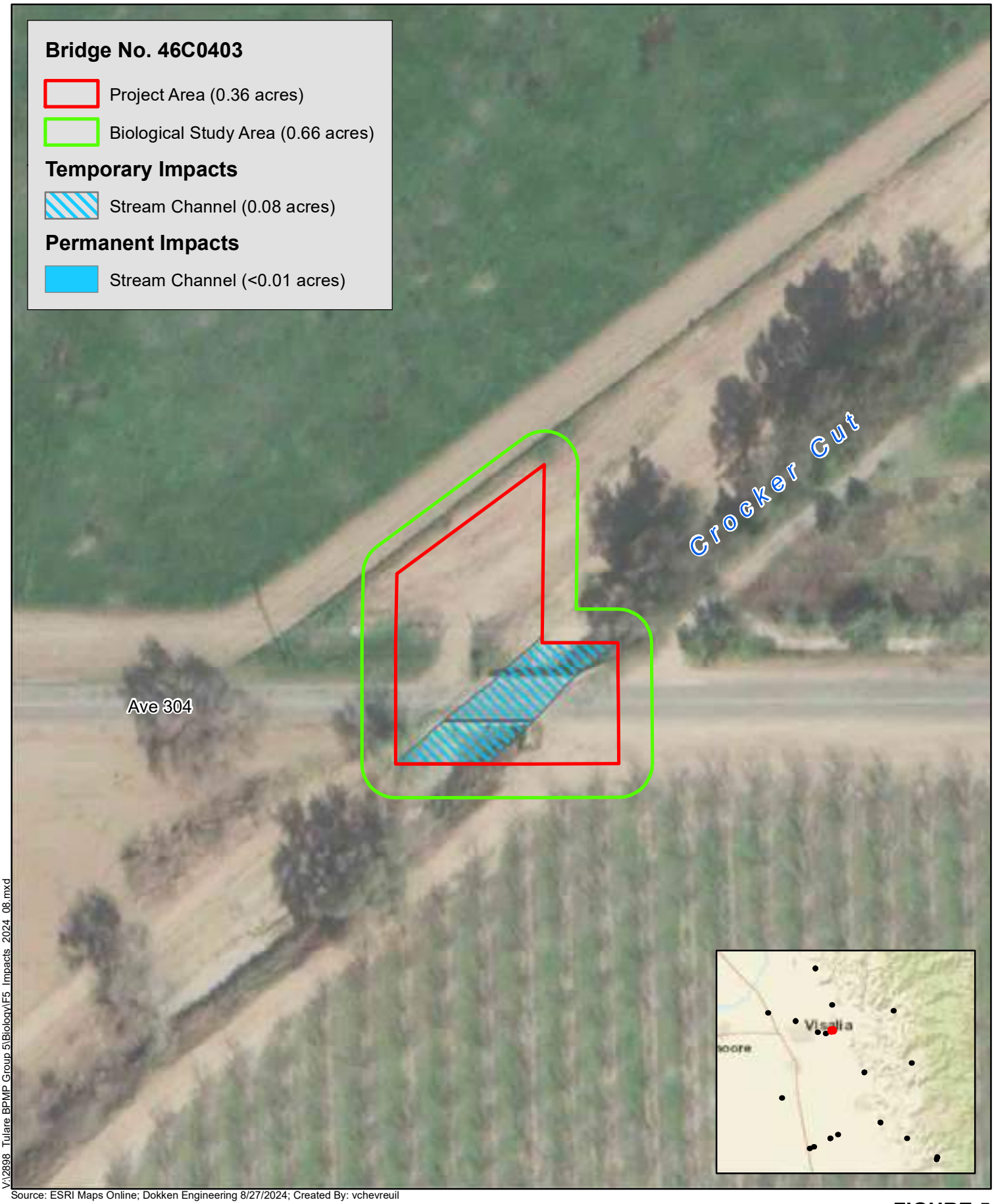
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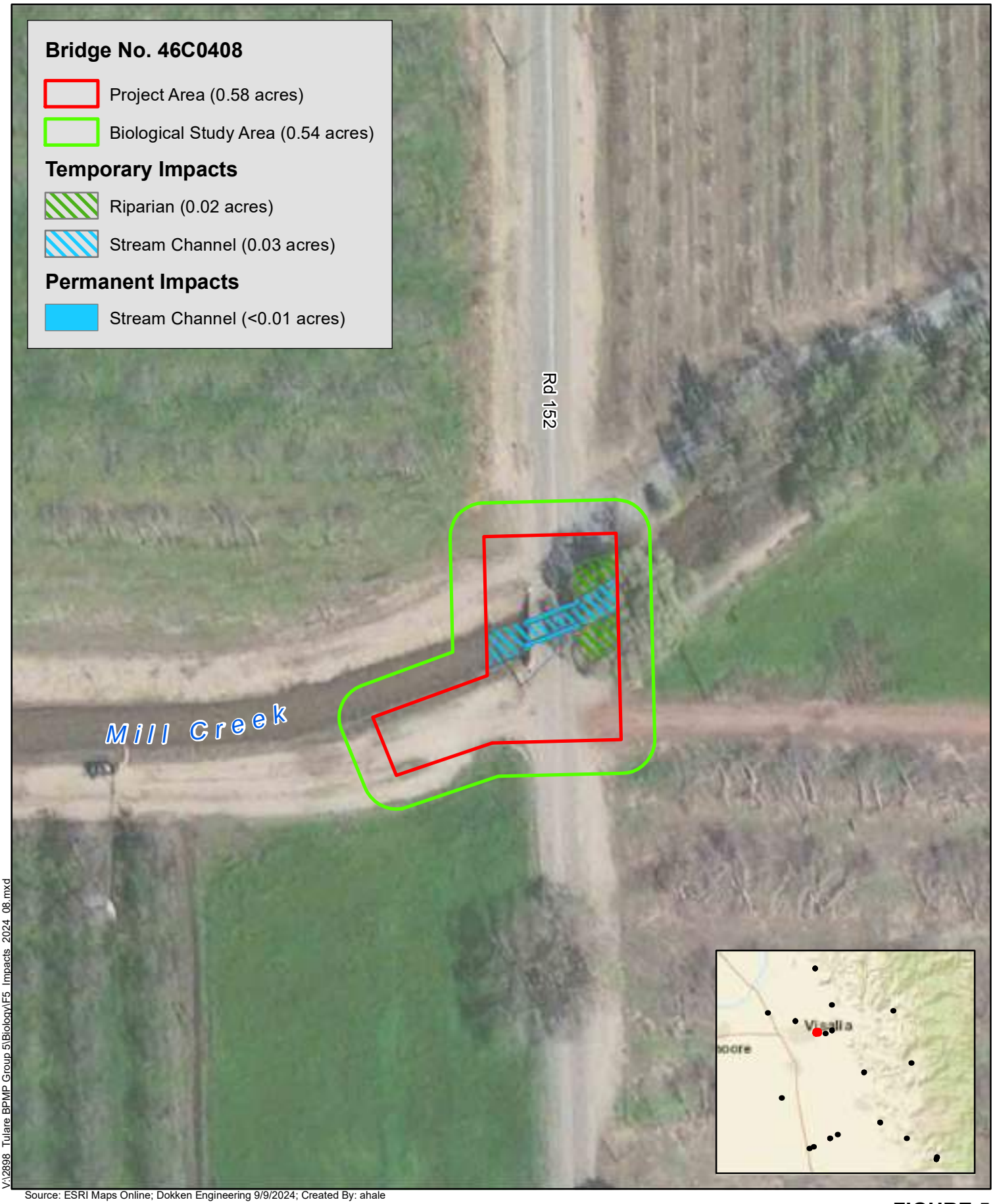
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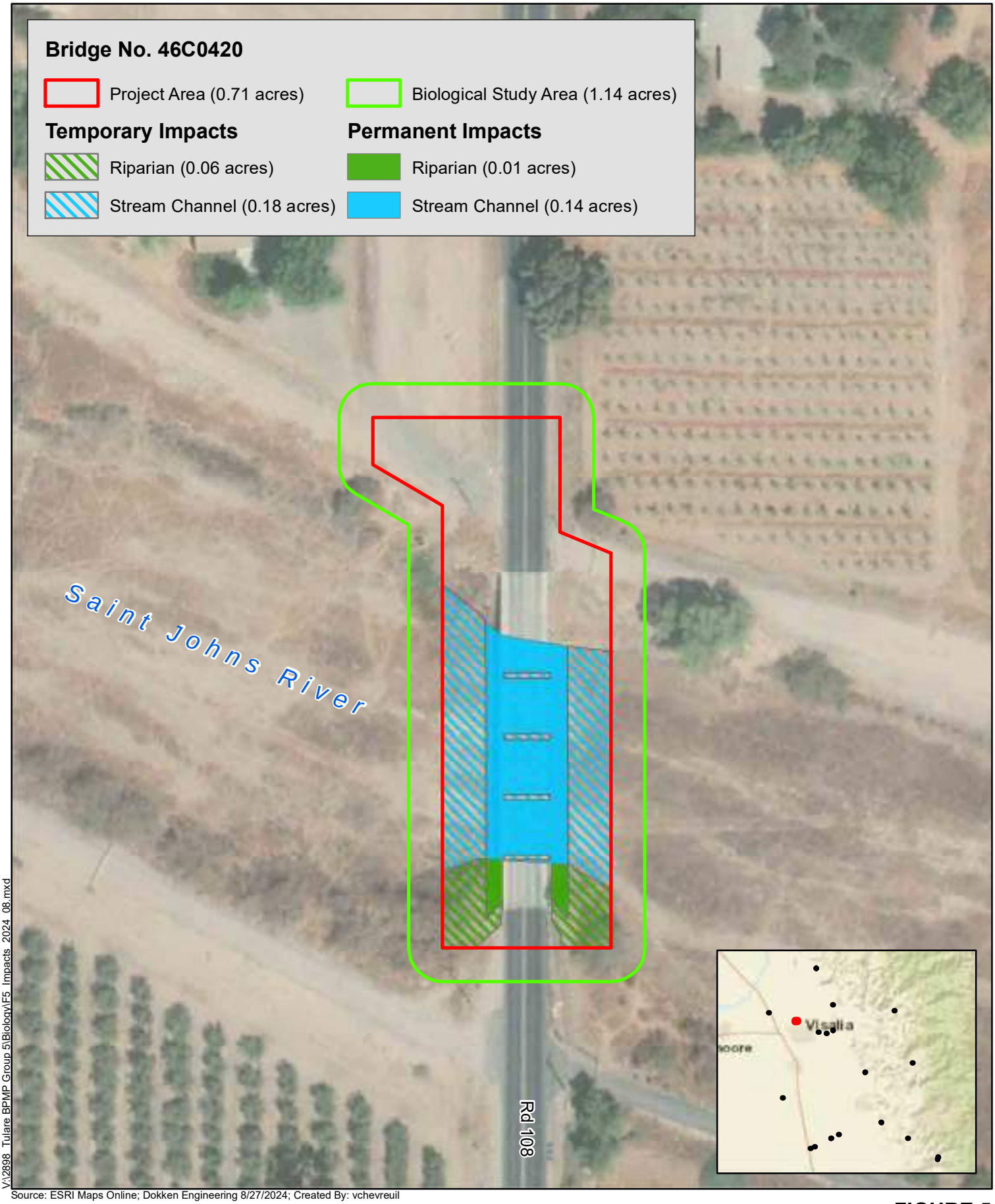
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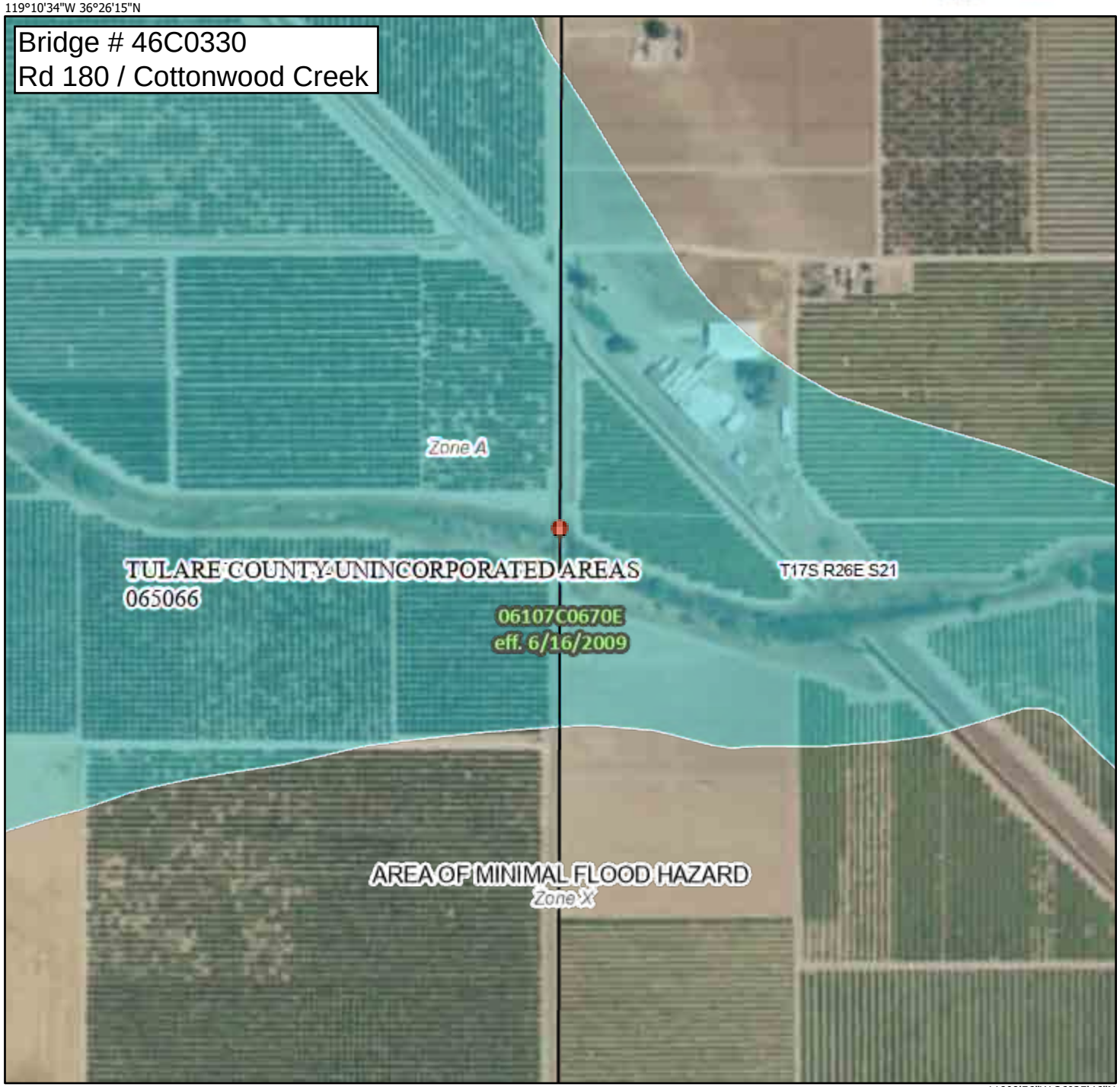
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FIGURE 5
Project Impacts
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BPMPL-5946(169)
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Appendix B. FEMA FIRM Map

National Flood Hazard Layer FIRMette



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

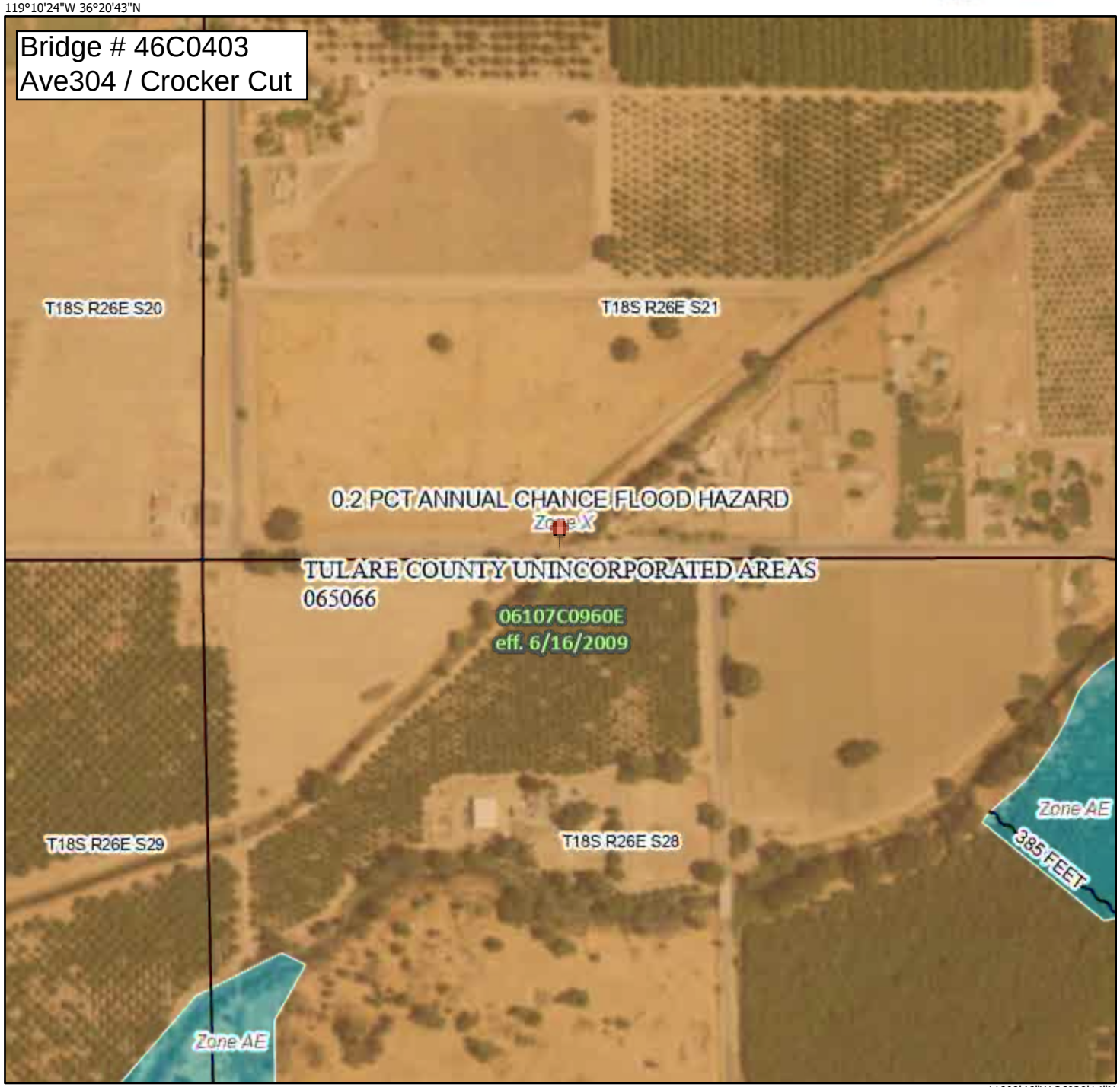
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/27/2024 at 4:46 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

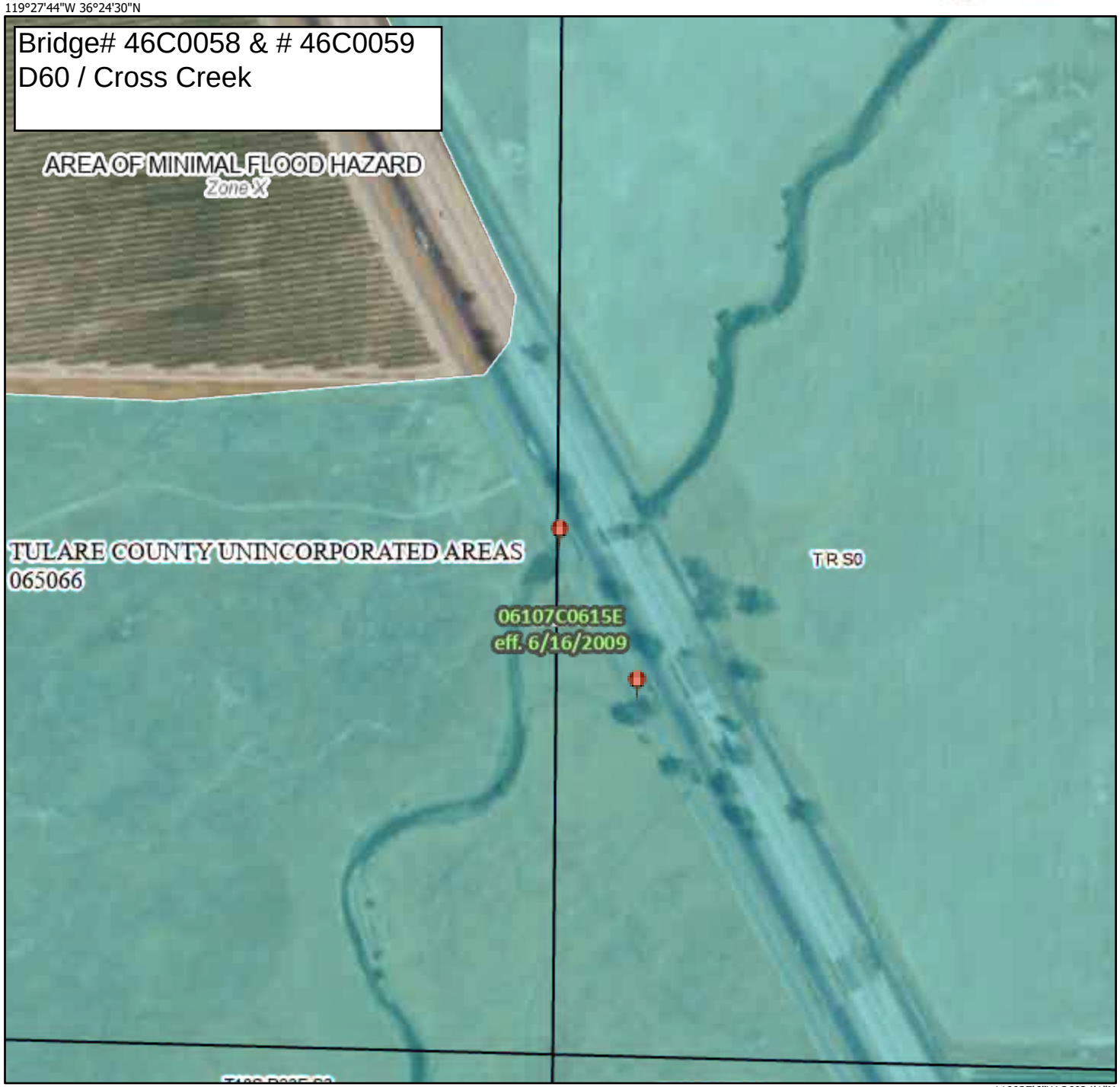
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 6:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 6:50 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 7:05 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 7:07 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

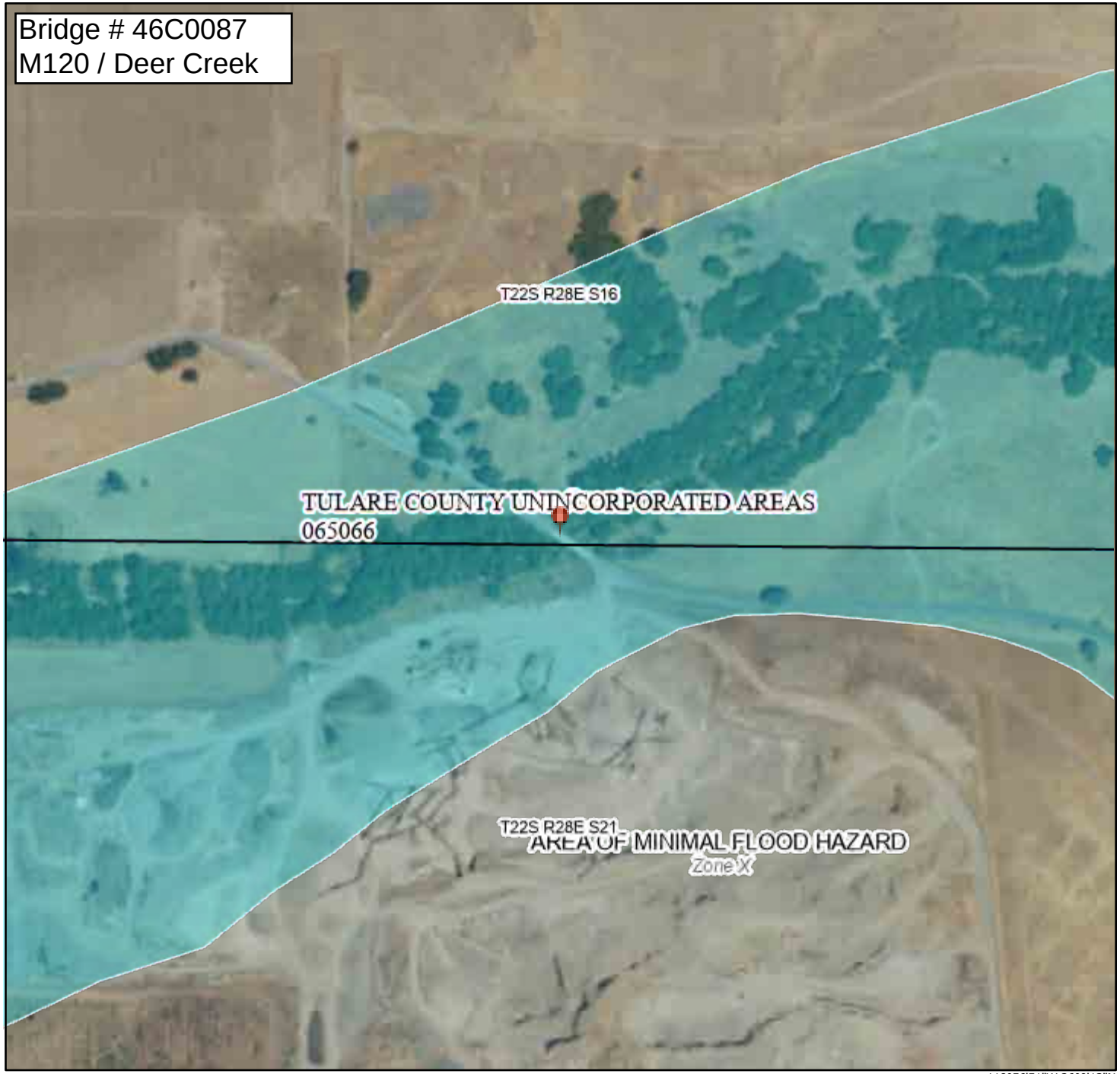
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 7:17 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

118°57'29"W 36°0'42"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

118°56'51"W 36°0'13"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 7:53 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- **SPECIAL FLOOD HAZARD AREAS**
  - Without Base Flood Elevation (BFE) *Zone A, V, A99*
  - With BFE or Depth *Zone AE, AO, AH, VE, AR*
  - Regulatory Floodway
- **OTHER AREAS OF FLOOD HAZARD**
  - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
  - Future Conditions 1% Annual Chance Flood Hazard *Zone X*
  - Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
  - Area with Flood Risk due to Levee *Zone D*
- **OTHER AREAS**
  - NO SCREEN Area of Minimal Flood Hazard *Zone X*
  - Effective LOMRs
  - Area of Undetermined Flood Hazard *Zone D*
- **GENERAL STRUCTURES**
  - Channel, Culvert, or Storm Sewer
  - Levee, Dike, or Floodwall
- **OTHER FEATURES**
  - 20.2 Cross Sections with 1% Annual Chance
  - 17.5 Water Surface Elevation
  - Coastal Transect
  - Base Flood Elevation Line (BFE)
  - Limit of Study
  - Jurisdiction Boundary
  - Coastal Transect Baseline
  - Profile Baseline
  - Hydrographic Feature
- **MAP PANELS**
  - Digital Data Available
  - No Digital Data Available
  - Unmapped

N

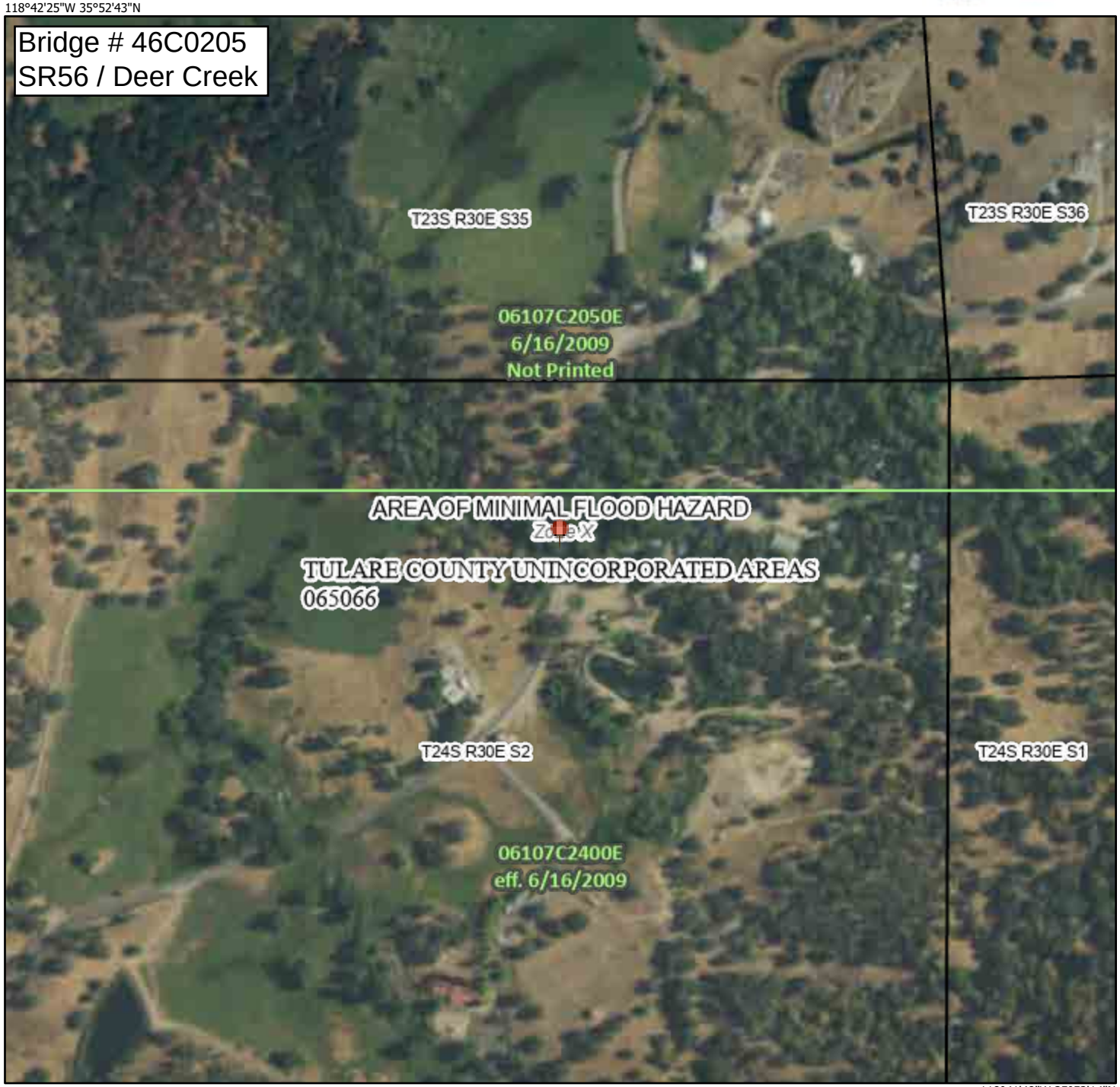
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 8:02 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 9:15 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/15/2024 at 1:09 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette

FEMA

119°14'58"W 36°34'11"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

119°14'21"W 36°33'43"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

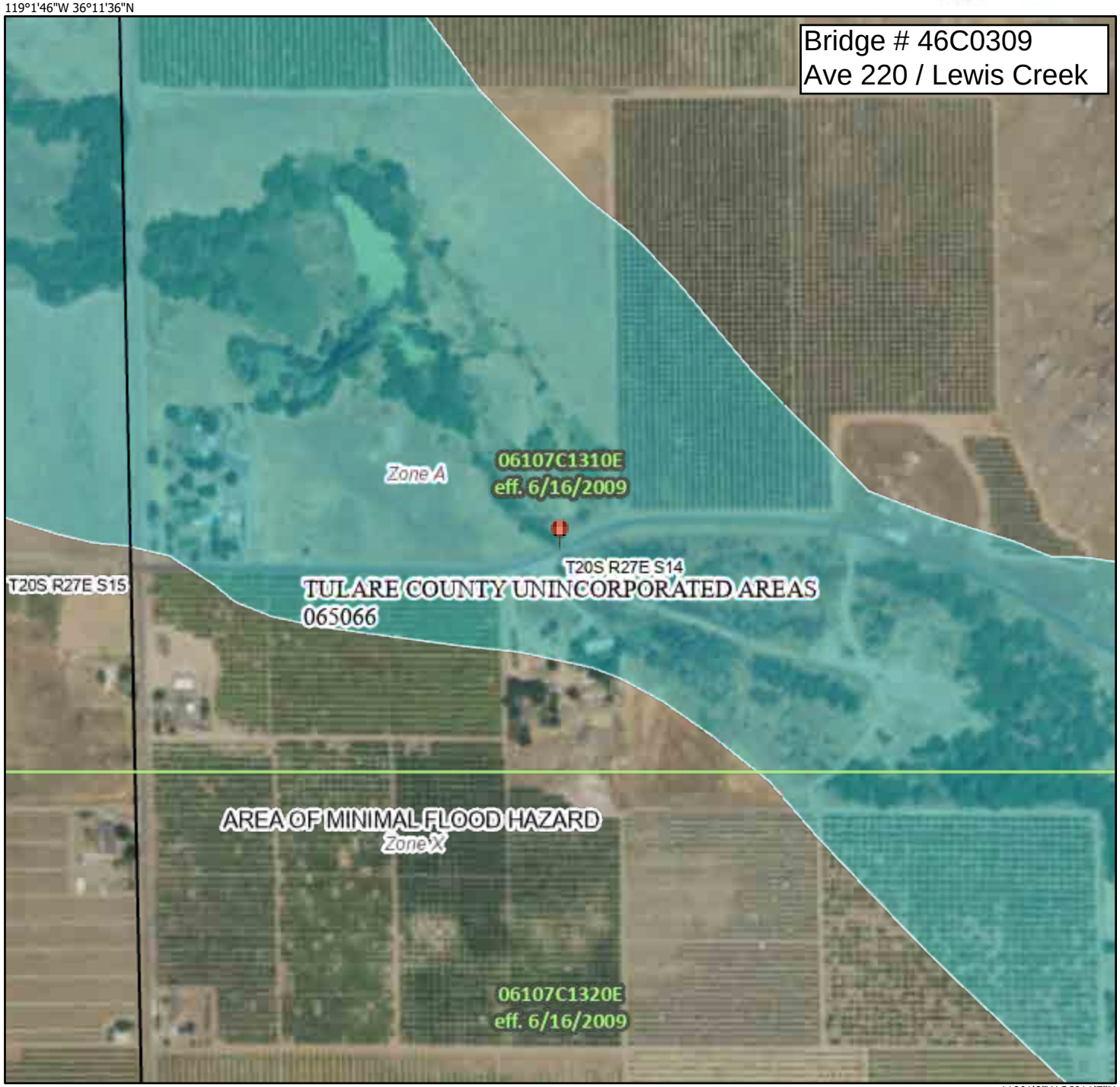
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 9:21 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/15/2024 at 12:30 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

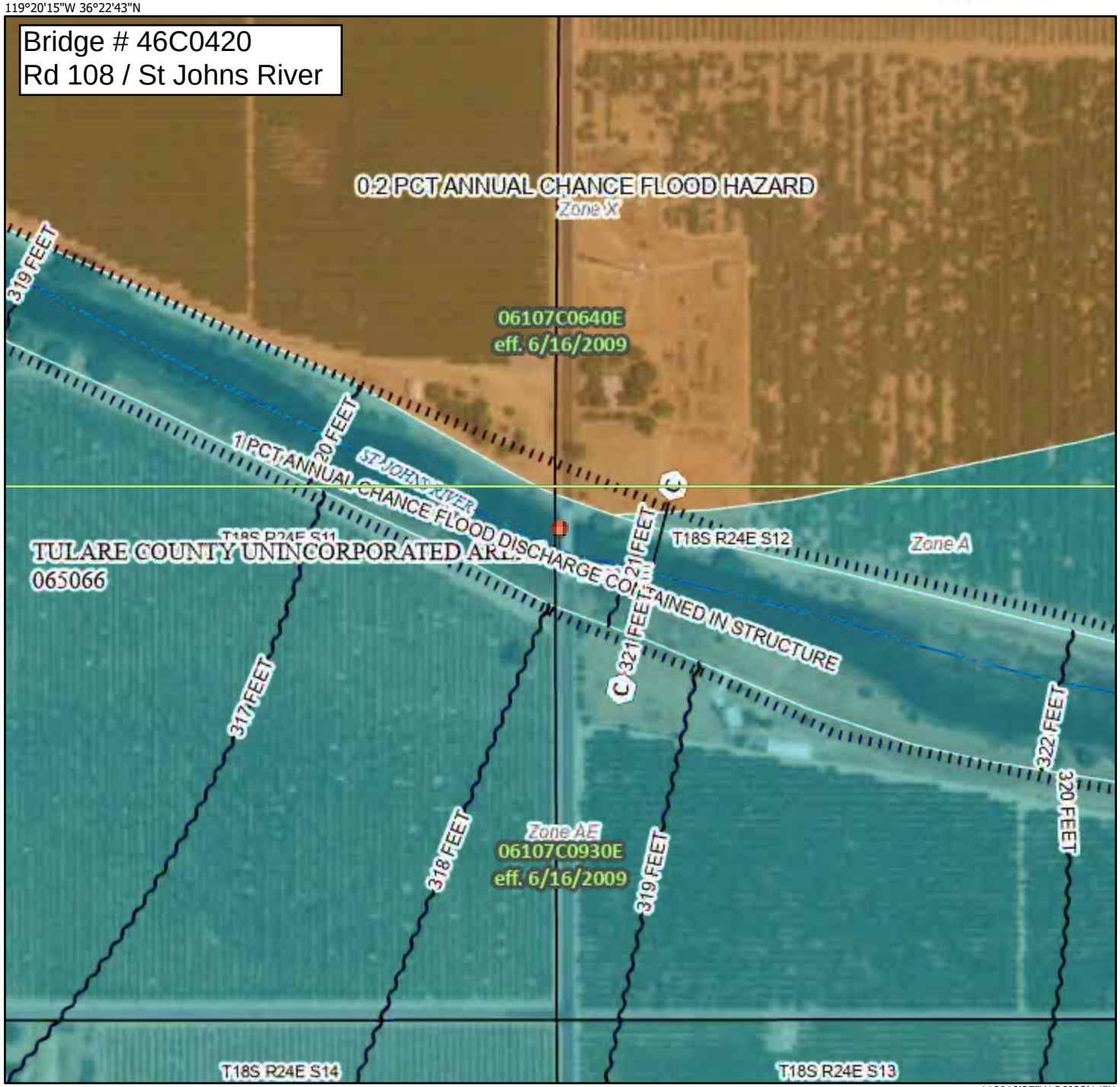
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This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 9:28 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

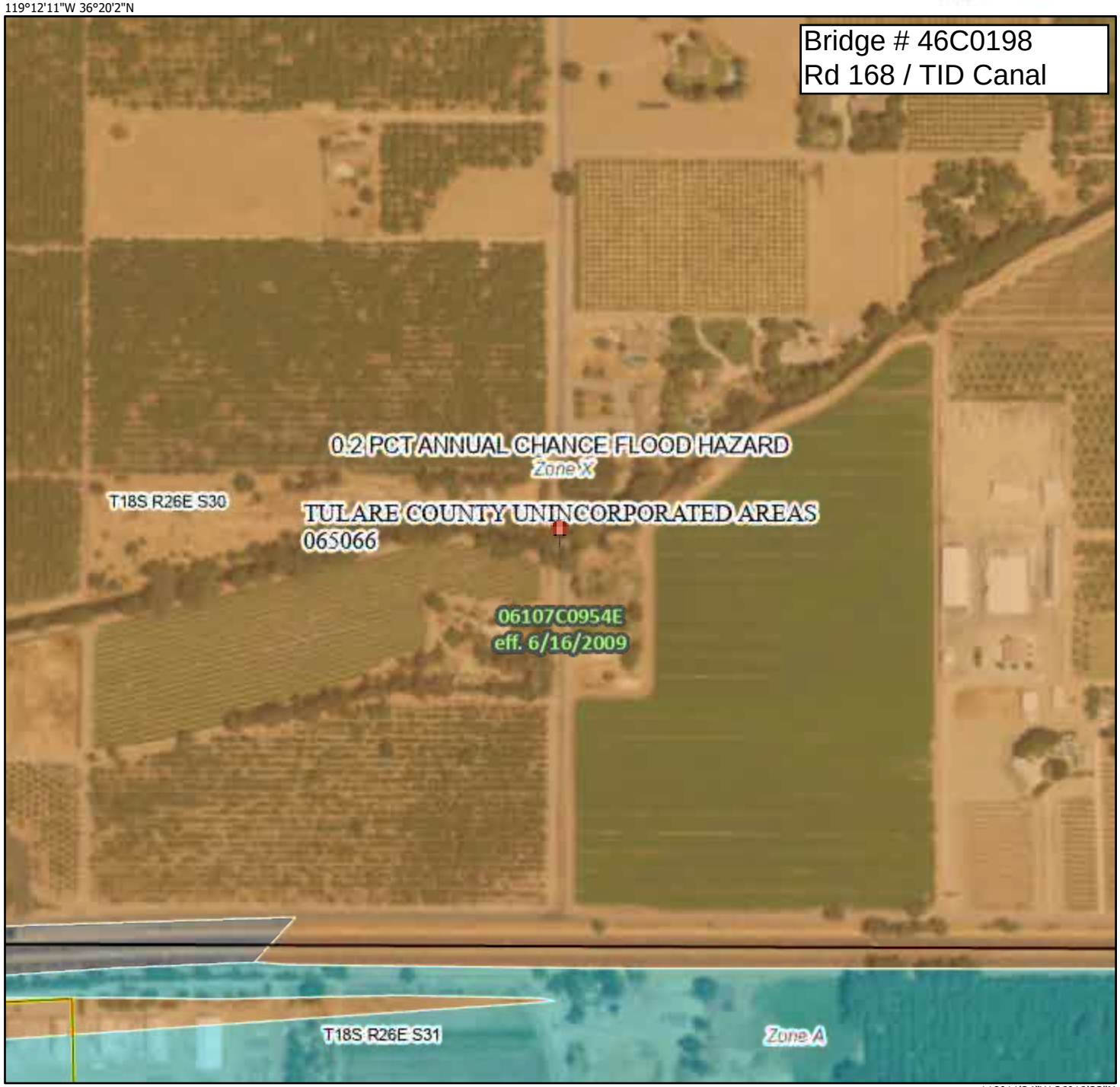
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 10:18 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette

FEMA

119°12'11"W 36°20'2"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

119°11'34"W 36°19'33"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

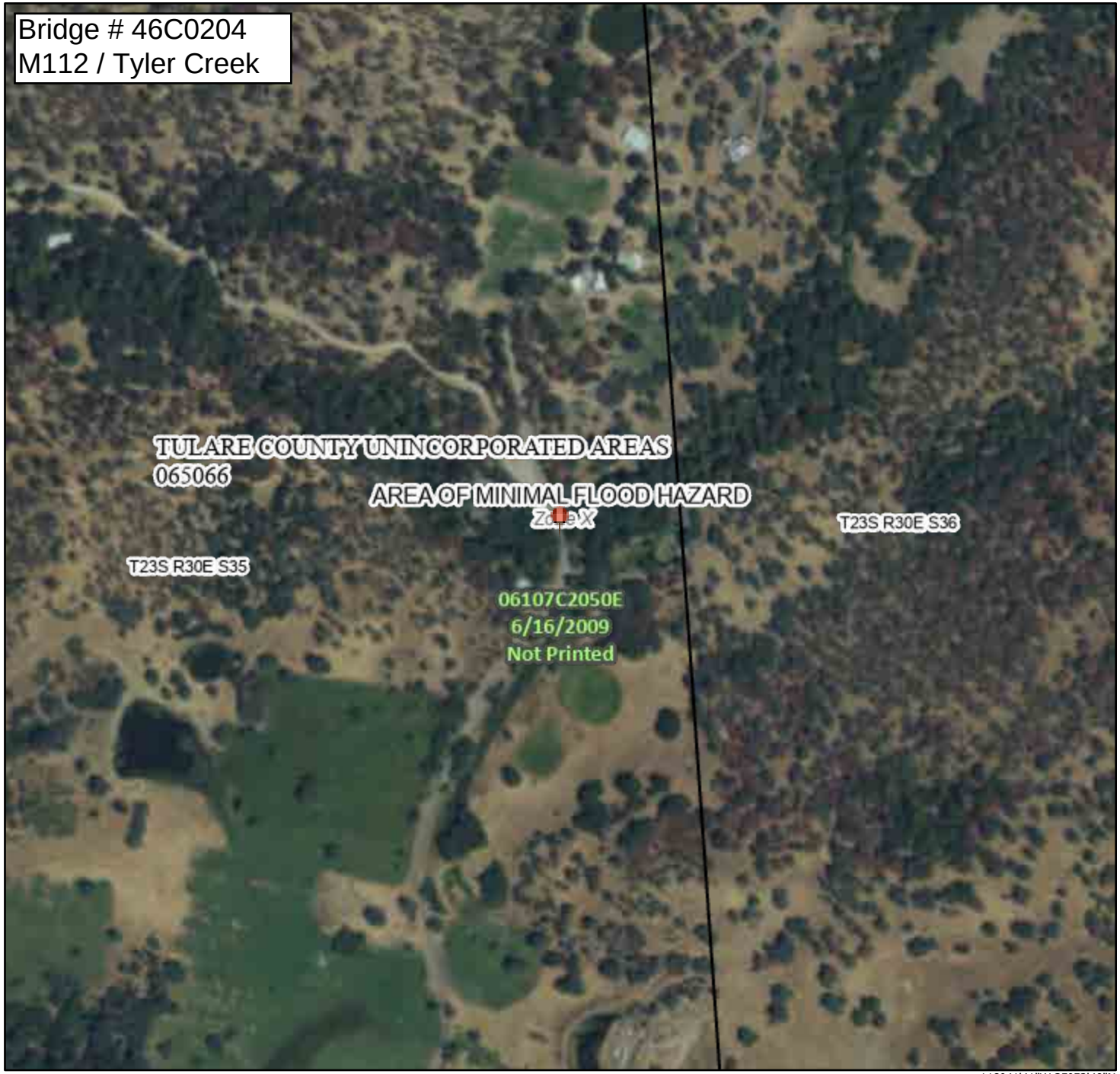
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/15/2024 at 1:06 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette

FEMA

118°42'18"W 35°53'9"N



118°41'41"W 35°52'40"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
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OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/13/2024 at 9:46 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix C. NRCS Soil Report



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
176	Yettem sandy loam, 0 to 2 percent slopes	0.4	100.0%
Totals for Area of Interest		**0.4**	**100.0%**



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
130	Nord fine sandy loam, 0 to 2 percent slopes	0.5	100.0%
Totals for Area of Interest		**0.5**	**100.0%**

Custom Soil Resource Report
Soil Map



Map Scale: 1:360 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 5 10 20 30

Feet: 0 15 30 60 90

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
109	Crosscreek-Kai association, 0 to 2 percent slopes	0.3	100.0%
Totals for Area of Interest		**0.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
109	Crosscreek-Kai association, 0 to 2 percent slopes	0.8	100.0%
Totals for Area of Interest		**0.8**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

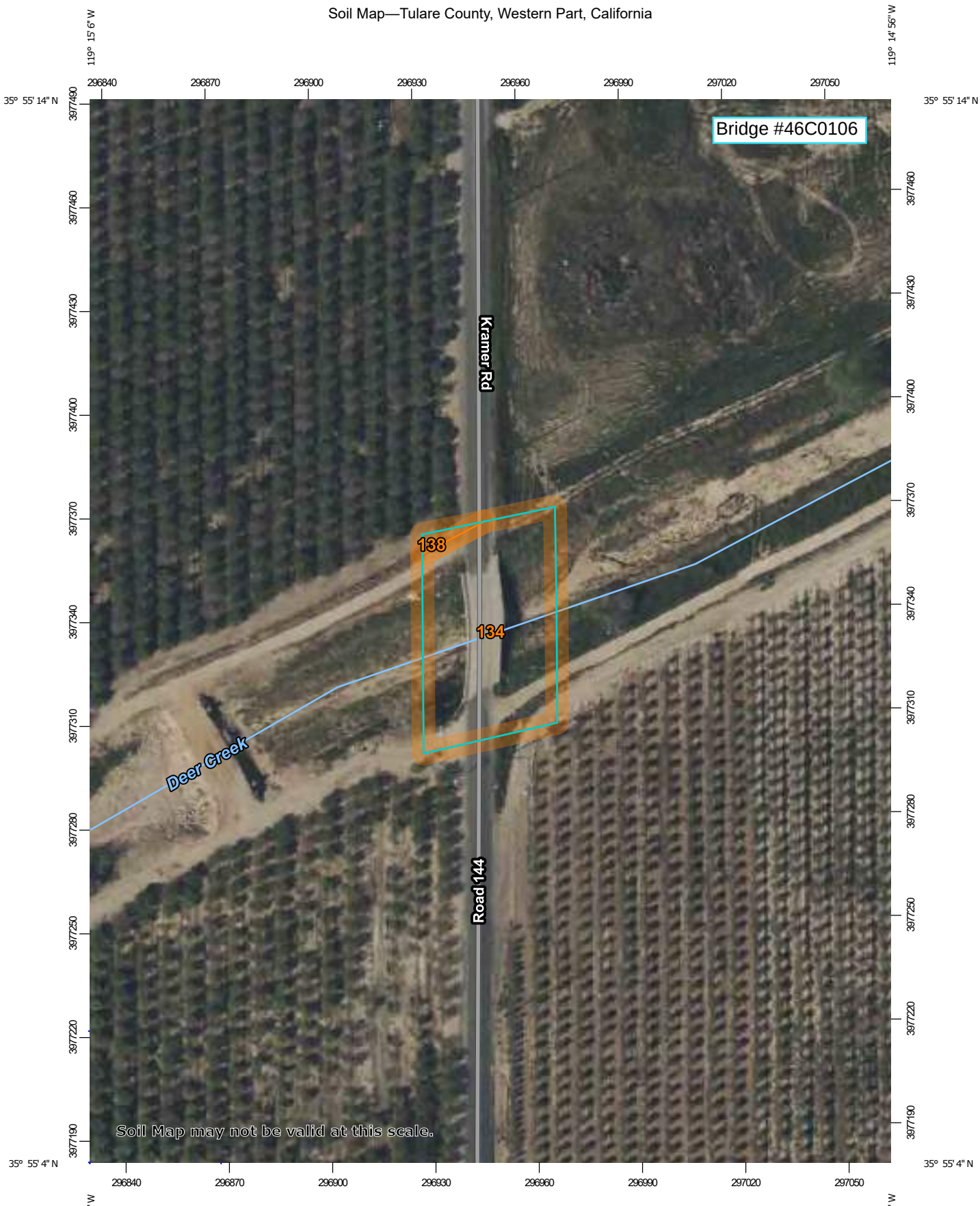
Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
101	Akers-Akers, saline-Sodic, complex, 0 to 2 percent slopes	0.1	31.0%
134	Riverwash	0.2	69.0%
Totals for Area of Interest		**0.4**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

0 20 40 80 120 Meters

0 50 100 200 300 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
134	Riverwash	0.6	97.9%
138	Tujunga loamy sand, 0 to 2 percent slopes	0.0	2.1%
Totals for Area of Interest		**0.6**	**100.0%**

Soil Map—Tulare County, Western Part, California



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
108	Colpien loam, 0 to 2 percent slopes	0.0	5.7%
130	Nord fine sandy loam, 0 to 2 percent slopes	0.1	13.1%
134	Riverwash	0.5	81.1%
Totals for Area of Interest		**0.7**	**100.0%**



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

0 20 40 80 120 Meters

0 50 100 200 300 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
115	Cibo-Rock outcrop complex, 15 to 50 percent slopes	0.1	24.8%
151	Riverwash	0.4	75.2%
Totals for Area of Interest		**0.5**	**100.0%**



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
108	Blasingame-Rock outcrop complex, 9 to 50 percent slopes	0.5	100.0%
Totals for Area of Interest		**0.5**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
101	Auberry sandy loam, 9 to 15 percent slopes	0.7	100.0%
Totals for Area of Interest		**0.7**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Biggriz-Biggriz, saline-Sodic, complex, 0 to 2 percent slopes	0.4	100.0%
Totals for Area of Interest		**0.4**	**100.0%**



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

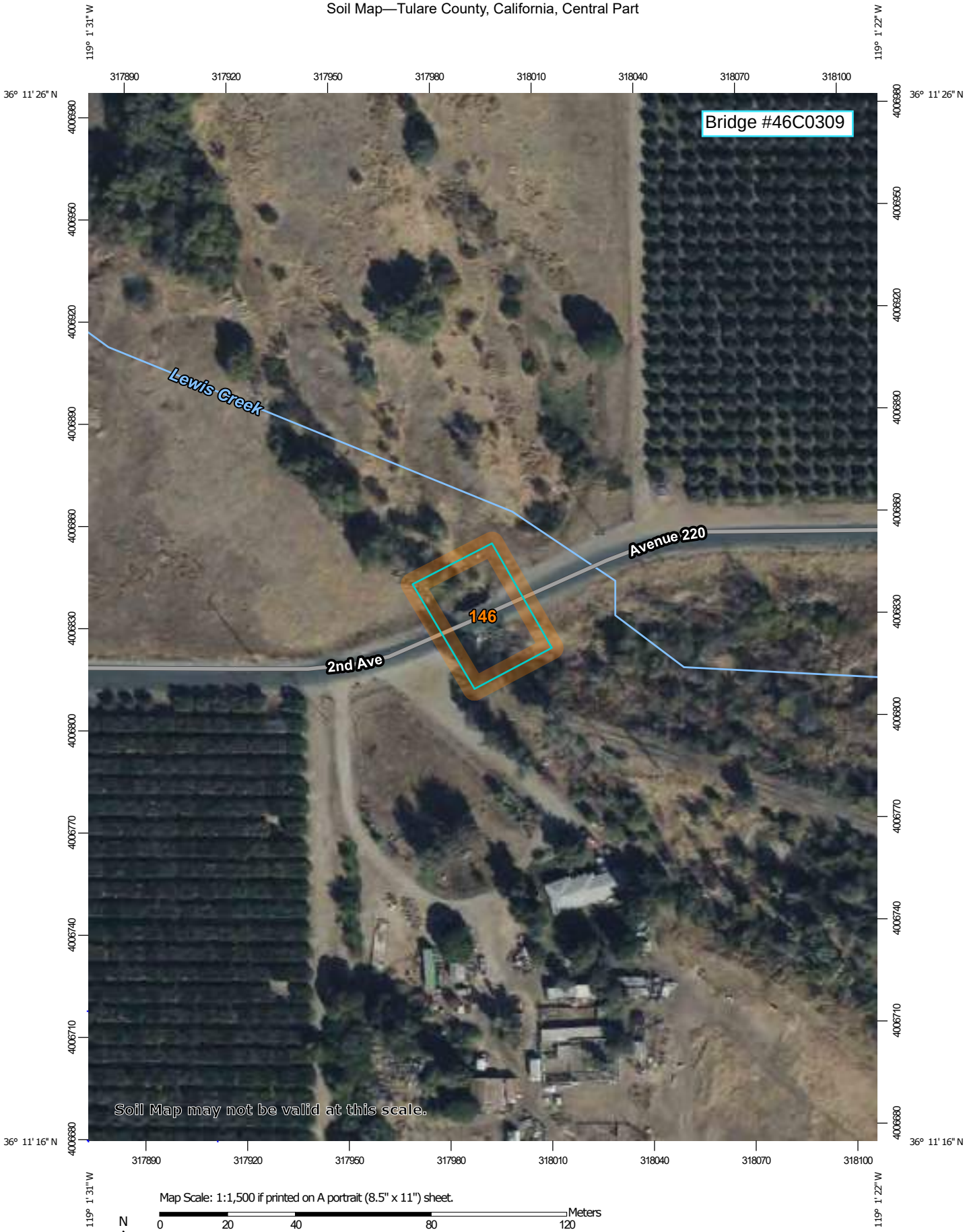
Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
147	Porterville clay, 0 to 2 percent slopes	0.2	58.9%
W	Water	0.2	41.1%
Totals for Area of Interest		**0.4**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

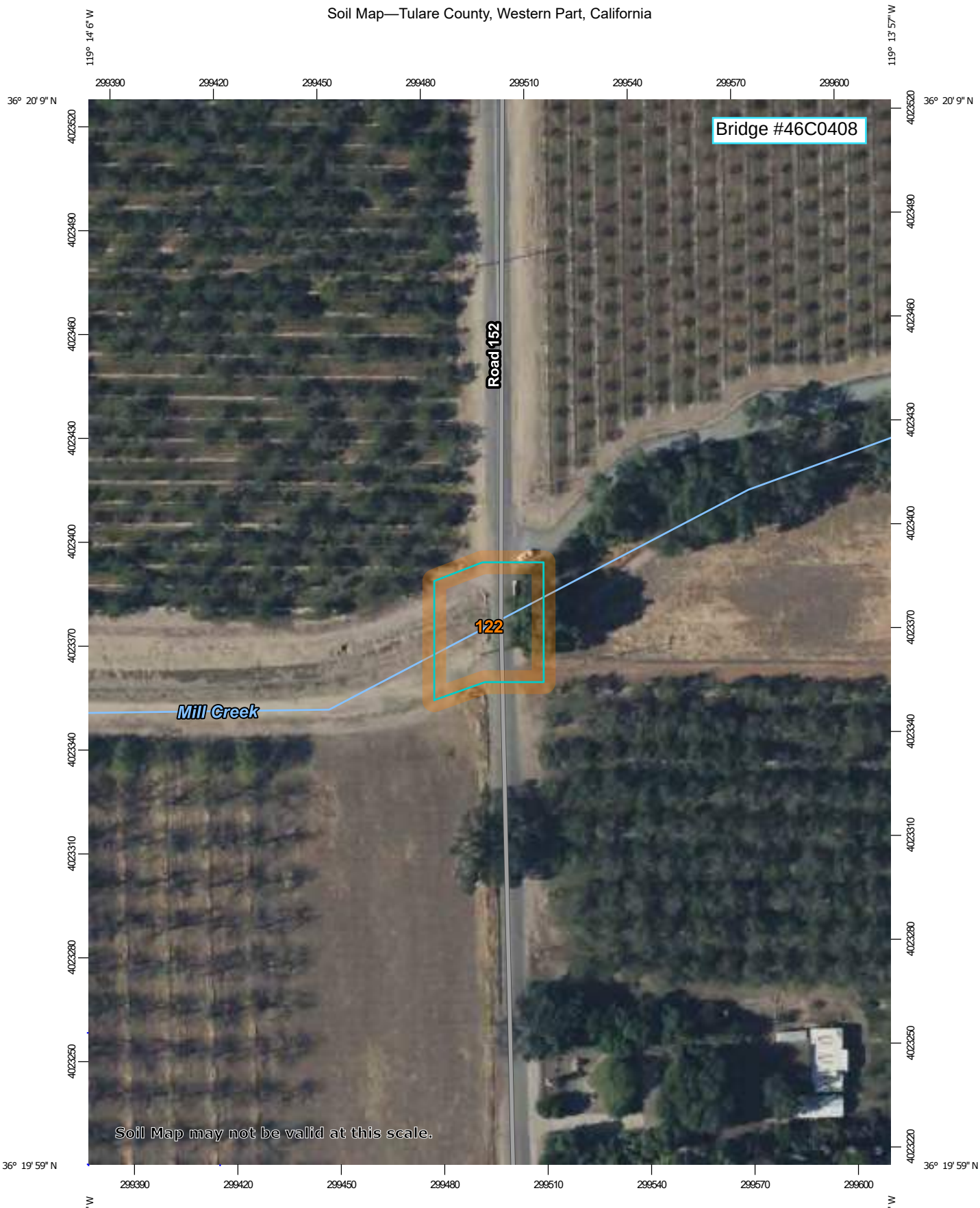
Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
146	Pits	0.2	100.0%
Totals for Area of Interest		**0.2**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
122	Grangeville sandy loam, drained, 0 to 2 percent slopes	0.3	100.0%
Totals for Area of Interest		**0.3**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
122	Grangeville sandy loam, drained, 0 to 2 percent slopes	0.8	32.7%
134	Riverwash	1.6	67.3%
Totals for Area of Interest		**2.4**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
130	Nord fine sandy loam, 0 to 2 percent slopes	0.7	100.0%
Totals for Area of Interest		**0.7**	**100.0%**



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
104	Auberry-Rock outcrop complex, 9 to 50 percent slopes	0.1	19.4%
108	Blasingame-Rock outcrop complex, 9 to 50 percent slopes	0.4	80.6%
Totals for Area of Interest		**0.5**	**100.0%**

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Tulare County, Western Part, California
Survey Area Data: Version 17, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 16, 2022—May 30, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Appendix C. Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program							
Mitigation Measure		**Applicable Bridges**	**Timing**	**Responsible Party**	**Verification of Compliance**		
					Initials	**Date**	**Remarks**
AESTHETICS							
See mitigation measures BIO-2 through BIO-5							
BIOLOGICAL RESOURCES							
General							
BIO-1	Every individual working on the Project must attend a biological awareness training session delivered by the Project Biologist. This training program will include information regarding the sensitive habitats and special-status species occurring or potentially occurring within the Project area, and the importance of avoiding impacts to these species and their habitat.	All	During construction	County of Tulare			
BIO-2	All vegetation removal will be minimized to the greatest extent feasible. When possible, vegetation removal will be accomplished with the use of hand tools. Trees and shrubs will be trimmed rather than removed unless absolutely necessary for Project activities. Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.	All	During construction	County of Tulare/ Contractor			
BIO-3	Prior to the start of construction activities, the Project limits within environmentally sensitive areas (stream channel, riparian habitat, special-status species habitat) will be marked with high visibility Environmentally Sensitive Area (ESA) fencing or staking to ensure	All	Prior to start of construction	County of Tulare/ Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	construction will not further encroach into sensitive resources.						
BIO-4	BMPs will be incorporated into Project construction to minimize impacts on the environment including erosion and the release of pollutants (e.g. oils, fuels): • Exposed soils and material stockpiles would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities; • All construction roadway areas would be properly protected to prevent excess erosion, sedimentation, and water pollution; • Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants must remain outside of jurisdictional waters and adjacent riparian habitat; • Equipment used in and around jurisdictional waters must be in good working order and free of dripping or leaking contaminants; • Any necessary equipment washing must occur where the water cannot flow into water bodies; • Raw cement, concrete or concrete washings, asphalt, paint or other	All	During construction	Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life will be prevented from contaminating the soil or entering jurisdictional waters; • All erosion control measures and storm water control measures would be properly maintained until the site has returned to a pre-construction state; • All construction materials would be hauled off-site after completion of construction; • A chemical spill kit must be kept onsite and available for use in the event of a spill; • Upon completion of construction activities, any temporary barriers to surface water flow must be removed in a manner that would allow flow to resume with the least disturbance to the substrate.						
BIO-5	Following the completion of construction, all sensitive natural areas disturbed by Project activities would be re-graded as to decompact the soils and seeded with a California native hydroseed mix to allow the site to return to pre-construction conditions.	All	After completion of construction	County of Tulare/ Contractor			
BIO-6	The County will mitigate for permanent impacts to stream channel and/or riparian habitat in coordination with	All	After completion	County of Tulare			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	permitting agencies (USACE, CDFW and/or RWQCB), as appropriate for location-specific impacts. The preferred mitigation method is payment of mitigation bank credits, payment to an in-lieu fee program, and/or enhancement/restoration of riparian habitat at an offsite location.		of construction				
BIO-7	To minimize and avoid potential effects to local wildlife: • All food-related trash must be disposed into closed containers and must be removed from the Project area daily. Construction personnel must not feed or otherwise attract wildlife to the Project area. • The contractor must not apply rodenticide or herbicide within the Project area during construction. • If any wildlife is encountered during the course of construction, said wildlife will be allowed to leave the construction area unharmed.	All	After completion of construction	Contractor			
BIO-8	Prior to vegetation removal or initial ground disturbance during the nesting bird season (February 1–September 30) a pre-construction nesting bird survey must be conducted by a Project Biologist prior to the start of work. The nesting bird survey must include the Project area plus a 300-foot buffer. Within 2 weeks of the nesting bird survey, all vegetated areas that are designated for removal must be	All	Prior to start and during construction	County of Tulare/ Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	cleared by the contractor or a supplemental nesting bird survey is required. A minimum 100-foot no-disturbance buffer will be established around any active nest of migratory birds and a minimum 300-foot no-disturbance buffer will be established around any nesting raptor species. The contractor must immediately stop work in the buffer area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the Project Biologist and in coordination with wildlife agencies) in the buffer area until a Project Biologist determines the young have fledged. A reduced buffer can be established if determined appropriate by the Project Biologist.						
BIO-9	If work on the bridge structure will occur during the nesting bird seasons (February 1–September 30) a nesting bird exclusion plan will be developed and will be installed prior to the nesting season and/or prior to nests becoming active (once eggs are laid in the nest). The use of netting is prohibited due to the risk of entanglement. Exclusion devices will be maintained in good working order throughout construction.	All	Prior to start and during construction	County of Tulare/ Contractor			
Rare Plants							

<table>
<tr><th colspan="8">Mitigation Monitoring and Reporting Program</th></tr>
<tr><th colspan="2" rowspan="2">Mitigation Measure</th><th rowspan="2">Applicable Bridges</th><th rowspan="2">Timing</th><th rowspan="2">Responsible Party</th><th colspan="3">Verification of Compliance</th></tr>
<tr><th>Initials</th><th>Date</th><th>Remarks</th></tr>
<tr><td>BIO-10</td><td>During the spring/summer blooming season prior to initial ground disturbance activities, focused botanical surveys will be conducted by the Project Biologist for the following species:<table><tr><th>Species of Interest</th><th>Blooming Period</th></tr><tr><td>Brittlescale (Atriplex depressa)</td><td>April-October</td></tr><tr><td>Earlimart orach (Atriplex cordulata var. erecticaulis)</td><td>August-September</td></tr><tr><td>Heartscale (Atriplex cordulata var. cordulata)</td><td>April-October</td></tr><tr><td>Lesser saltscale (Atriplex miniscula)</td><td>May-October</td></tr></table>A minimum of three surveys will be conducted following methodology of the CDFW (2018) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. If individuals or populations of the above species are observed within the Project footprint during this survey, a 5-foot buffer around the rare plant population will be marked with high-visibility Environmentally Sensitive Area (ESA) fencing. If the population and/or specimen cannot be feasibly avoided during construction, the Project biologist will relocate individual(s) and/or collect seeds to relocate to ensure the continued existence of the local population.</td><td>46C0269
46C0318</td><td>Prior to construction</td><td>County of Tulare</td><td></td><td></td><td></td></tr>
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Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
American Badger							
BIO-11	Prior to any ground disturbing activity, the Project Biologist will conduct pre-construction clearance survey for American Badger den sites within open, herbaceous habitat located within the Project footprint and an approximate 100-foot buffer, as feasibly accessible. These surveys will be conducted no less than 14 days and no more than 30 days prior to the start of ground disturbing activities. If an occupied maternity den (typically found February 15–July 1) is identified within the survey area the Project Biologist will establish an appropriate no-work buffer, determined based on location of the den and proposed activities. If non-maternity dens are found and cannot be avoided during construction activities, they will be monitored for badger activity. If the Project Biologist determines that dens may be occupied, passive den exclusion measures will be implemented for three to five days to discourage the use of these dens prior to initiating Project activities.	46C0058 46C0059	Prior to start and during construction	County of Tulare/ Contractor			
Bakersfield Legless Lizard							
BIO-12	Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for Bakersfield legless lizard within the	46C0087 46C0106 46C0108 46C0318	Prior to start and during construction	County of Tulare/ Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	Project footprint. If a Bakersfield legless lizard is observed during construction, work will be halted within 50 feet of the individual and the lizard will be allowed to leave on its own volition or will be relocated outside of the Project area by the Project Biologist.						
Burrowing Owl							
BIO-13	Prior to any ground disturbing activity, the Project Biologist will conduct protocol-level nesting season surveys for burrowing owl within suitable habitat located in the Project footprint and/or extending 500 feet from the boundary of the Project footprint, where access is available. Protocol nesting season surveys will be conducted between April and July prior to construction in accordance with guidelines in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). Occupied burrowing owl burrows that will be directly affected by ground disturbing activities will be relocated in accordance with CDFW's Staff Report on Burrowing Owl Mitigation (CDFW 2012). To the extent feasible, the Project Biologist will establish 600-foot no-work buffers around occupied burrowing owl burrows in the Project area during the nesting season (February 1–September 30). If the no-work buffer is not feasible and occupied burrows will be relocated	46C0058 46C0059	Prior to start and during construction	County of Tulare			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	during the nesting season, relocation will occur after the Project Biologist has determined that the juveniles from the occupied burrows are foraging independently and are capable of independent survival.						
California Tiger Salamander – Central California DPS							
BIO-14	The Project Biologist(s), approved by USFWS, will conduct a visual encounter pre-construction survey of the Project area for California tiger salamander (CTS) immediately prior to Project activities. The surveys will pay particular attention to detecting burrows and other crevices and cover sites that could be used as refugia by the species, that are within the direct impact area.	46C0058 46C0059	Prior to start of construction	County of Tulare			
BIO-15	Prior to the start of work, and immediately following pre-construction surveys, temporary silt fencing (or other types of fencing materials that will not entangle the species), will be installed around the limits of the Project footprint to preclude construction equipment, vehicles, and personnel from encroaching on areas outside of these limits (i.e., ESAs such as aquatic features and undeveloped uplands), and to prevent CTS in outside areas from entering the work zones. Installation of this exclusion fencing will focus on where work areas abut suitable upland habitats. Fencing will include one-way escape funnels or ramps placed at regular	46C0058 46C0059	Prior to start and during construction	Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	intervals (every 5-10 feet) to allow any individuals that become trapped inside the fenced area to leave, but not re-enter the Project footprint. Fencing will measure 12 inches above ground and will be buried at least 6 inches below the ground to prevent individuals from attempting to burrow or move under the structure. The exclusion fencing will be well maintained throughout the course of construction and will be removed following Project completion.						
BIO-16	To avoid inadvertent entrapment of CTS during construction: • Plastic mono-filament netting (erosion control matting) or similar material that could trap CTS or other wildlife must not be used. Acceptable substitutes include jute, coconut coir matting or tackified hydroseeding compounds. • All excavated, steep-walled holes or trenches greater than 6 inches deep must be covered at the end of the day or contain at least one escape ramp made of earth fill or wooden planks. All holes must be inspected by the Project Biologist or on-site inspector at the beginning of each workday and before the holes and trenches are filled. Anything stored within the holes or trenches overnight must	46C0058 46C0059	Prior to start and during construction	County of Tulare/ Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	be inspected for CTS before being moved. • All construction pipes, culverts, or similar structures that are stored on the construction site for one or more overnight periods will be capped or sealed with tape (or similar materials) or stored at least 3 ft. above ground level. They will be inspected thoroughly for CTS before being buried, capped, or otherwise used. If an individual is discovered during this inspection, the Project Biologist(s) will be notified immediately. If at any time a CTS is discovered within the project footprint, all project work will immediately cease and the Project Biologist(s) will contact USFWS and CDFW for next steps.						
BIO-17	The Project Biologist(s) or on-site inspector will perform daily clearance sweeps under equipment, trucks, and other materials prior to commencement of work. In the event that a CTS is observed, the vehicles/equipment will not be moved until the individual has vacated the area of its own accord. The Project Biologist(s) will be present on-site to monitor for the species during the installation, replacement, and removal of all exclusion fencing.	46C0058 46C0059	Prior to start and during construction	County of Tulare/ Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	Additionally, when onsite, the Project Biologist(s) will inspect the fencing for damage, to report any required remedial actions, and to clear the fenced area. Furthermore, this individual(s) will be present on-site during initial ground-disturbing and vegetation removal activities (i.e., clearing, grubbing, grading, excavating, filling, etc.).						
BIO-18	No construction activities will be conducted in upland habitat areas where CTS may occur if: 1) it is raining, 2) there is a greater than 70 percent chance of rain based on the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service forecast on any given workday, or 3) a rain event greater than 0.25 inch has occurred within the past 48 hours. Following a rain event, the Project Biologist(s) will conduct visual encounter surveys for the species in all active work areas (including access roads and staging areas) prior to the resumption of construction activities and the use of access routes and staging areas.	46C0058 46C0059	During construction	County of Tulare/ Contractor			
BIO-19	If a water body will be temporarily dewatered by pumping, pump intakes will be screened with wire mesh no larger than 5 millimeters. The intake should be placed within a perforated bucket or other method that reduces suction to prevent CTS from entering the pump	46C0058 46C0059	During construction	Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	system. Pumped water will be managed in a matter that does not degrade water quality and, the water will be pumped back prior to the end of the Project, will be released back into the water body in a manner that does not cause erosion.						
Coast Horned Lizard/ Northern California Legless Lizard							
BIO-20	Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for the coast horned lizard and the northern California legless lizard within the Project footprint. If either lizard is observed during construction, work will be halted within 50 feet of the individual and the lizard will be allowed to leave on its own volition or will be relocated outside of the Project area by the Project Biologist.	46C0058 46C0059 46C0087 46C0202 46C0269 46C0309	Prior to start and during construction	County of Tulare/ Contractor			
Crotch's Bumble Bee							
BIO-21	Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction reconnaissance visual encounter survey for Crotch bumble bee within the Project footprint. The survey will be conducted between April and August when the Crotch bumble bee is more likely to be encountered. The survey will be conducted in accordance with the Photograph Only Survey protocol outlined in the Survey Protocols for the Rusty Patched Bumble Bee (USFWS 2019). If a Crotch bumble beehive or colony is presumed present within the Project footprint and is unavoidable, work	46C0058 46C0059	Prior to start of construction	County of Tulare			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	will halt and additional coordination with CDFW will occur to determine appropriate measures to avoid impacts to the species.						
Foothill Yellow-legged Frog – South Sierra DPS							
BIO-22	Prior to ground disturbing activities in areas of suitable FYLF habitat, the Project Biologist will inspect all areas where ground disturbing activity is anticipated. The Project Biologist will oversee all activities requiring significant ground disturbance and will have stop work authority.	46C0204 46C0205	Prior to start and during construction	County of Tulare			
BIO-23	Immediately prior to vegetation removal, the Project Biologist(s), approved by USFWS, will inspect all areas where ground disturbing activity is anticipated. The Project Biologist will oversee all vegetation clearing and grubbing and will have stop work authority. If mechanical vegetation removal is required, any low-growing vegetation will first be cleared by hand to provide the Project Biologist with a clear view of the ground surface prior to using mechanical equipment. Mechanical equipment will be staged and operated on previously disturbed surfaces to the greatest extent possible. If a foothill yellow-legged frog (FYLF) is spotted within an active work area the Project Biologist will immediately stop work activities. The individual will be allowed to leave the active work area on its own accord. If the individual does not	46C0204 46C0205	Prior to start and during construction	County of Tulare/ Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	leave the active work area, the Project Biologist will contact USFWS for further guidance. All construction crew members will allow wildlife enough time to escape during any clearing and grubbing activities.						
BIO-24	To avoid inadvertent entrapment of FYLF during construction: • Non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that FYLF are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials. • All excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each workday or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected each morning to ensure that no wildlife has become entrapped. All construction pipes, culverts, similar structures,	46C0204 46C0205	During construction	Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	construction equipment, and construction debris left overnight within FYLF habitat will be inspected for FYLF prior to being moved.						
BIO-25	Upon completion of construction activities, all barriers and exclusion fencing will be removed, with oversight from the Project Biologist.	46C0204 46C0205	After completion of construction	County of Tulare/ Contractor			
Pallid Bat							
BIO-26	If trees are planned for removal, trees will first be assessed by a Project Biologist familiar with the natural life history of pallid bat to determine if the trees designated for removal contain suitable roosting features. If any of the trees required for removal contain suitable roosting habitat and removal is planned to occur during the maternity season (April through August), then a Project Biologist will survey the trees immediately prior to removal for the presence of bats within the trees. If trees are found to support bat maternity colonies, the trees must be protected in place until the end of the maternity season (August 31). If bats are found occupying trees designated for removal outside of the maternity season (September-March) the tree(s) can be removed using a two-step process. The first step, conducted on the first day, will involve removal of all non-	46C0202 46C0204 46C0205	Prior to start of construction	County of Tulare/ Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	bat habitat trees and trimming of major branches of bat habitat trees. The objective of the first step in two-step tree removal is to alter the habitat such that it becomes unsuitable for bats without directly impacting individuals. The second step of tree removal will be conducted on the second day and will include close inspection of the tree by a Project Biologist and, if determined to be unoccupied, full removal of the tree.						
San Joaquin Coachwhip							
BIO-27	Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for San Joaquin coachwhip within the Project footprint. If a San Joaquin coachwhip is observed during construction, work will be halted within 50 feet of the individual and the snake will be allowed to leave on its own volition or will be relocated outside of the Project area by the Project Biologist.	46C0058 46C0059	Prior to start and during construction	County of Tulare/ Contractor			
San Joaquin Kit Fox							
BIO-28	Within 30 days prior to the start of any ground disturbing activity, the Project Biologist will conduct a pre-construction clearance survey for the San Joaquin Kit Fox (SJKF) within the Project footprint. The surveys will be conducted in accordance with USFWS San Joaquin Kit Fox Survey Protocol for the Northern Range (USFWS 1999b) between May 1 and September 30 for the purpose of	46C0058 46C0059 46C0309	Prior to start and during construction	County of Tulare			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	identifying potential SJKF dens. If any occupied or potential dens are found during pre-construction surveys, they will be flagged and a minimum 200-foot no-work buffer will be established around the den. If an active den is discovered within 200 feet of Project activities the Project Biologist will assume full-time monitoring and contact USFWS for further guidance. If an active den cannot be fully avoided Project activities will not commence until further guidance is provided from USFWS, or the Project Biologist determines the den is no longer active.						
BIO-29	The Project will implement USFWS Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS [1999] 2011) to minimize impacts on this species, including: • Disturbance to all kit fox dens will be avoided to the extent feasible. • Construction activities that occur within 200 feet of any occupied dens will cease within one-half hour after sunset and will not begin earlier than one-half hour before sunrise, to the extent feasible. • All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that are stored within the Project footprint	46C0058 46C0059 46C0309	Prior to start and during construction	County of Tulare/ Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	for one or more overnight periods will be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved. • If a SJKF is detected within an active Project area during construction, work will halt and the Project Biologist will be contacted. Work will not recommence until the SJKF has left the area by its own volition and the Project Biologist has deemed it safe.						
Swainson's Hawk							
BIO-30	If an active Swainson's hawk nest is observed during the pre-construction nesting bird survey, a no-work buffer will be established around the active nest, to be determined by the Project Biologist based on the type of work being completed, anticipated noise levels and equipment, location of nest, and evaluation of surrounding environment (e.g., urban vs. rural). After establishment of the no-work buffer Project activities may proceed at the discretion of the Project Biologist with full-time biological monitoring to ensure take avoidance. The Project Biologist will have stop work authority at any point if it is anticipated that continuation of Project activities will result in take of an active Swainson's hawk nest.	46C0036 46C0058 46C0059 46C0087 46C0106 46C0108 46C0226 46C0269 46C0309 46C0318 46C0403 46C0420	Prior to start and during construction	County of Tulare			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
Western Pond Turtle							
BIO-31	Prior to vegetation removal or in-water work, a Project Biologist must first inspect all areas where ground disturbing activity is anticipated. The Project Biologist will oversee all vegetation clearing and grubbing and will have stop work authority. If a western pond turtle is spotted within an active work area the Project Biologist will be contacted and work activities will immediately cease within 100 feet of the turtle. Work will not recommence until the turtle has left the Project site on its own volition.	46C0087 46C0108 46C0202 46C0226 46C0269 46C0309 46C0318 46C0403 46C0420	Prior to start and during construction	County of Tulare/ Contractor			
Western Spadefoot							
BIO-32	Prior to ground disturbing activities, the Project Biologist will conduct a pre-construction clearance survey for western spadefoot within the Project footprint. If a western spadefoot is observed during construction, work will halt in the immediate vicinity and will not recommence until the individual(s) has left the Project site on its own volition.	46C0058 46C0059 46C0106 46C0269 46C0309 46C0318	Prior to start and during construction	County of Tulare/ Contractor			
BIO-33	No construction activities will be conducted in upland habitat areas where western spadefoot may occur if: 1) it is raining, 2) there is a greater than 70 percent chance of rain based on the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service forecast on any given workday, or 3) a rain event greater than	46C0058 46C0059 46C0106 46C0269 46C0309 46C0318	During construction	County of Tulare/ Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	0.25 inch has occurred within the past 48 hours. Following a rain event, the Project Biologist(s) will conduct visual encounter surveys for the species in all active work areas (including access roads and staging areas) prior to the resumption of construction activities and the use of access routes and staging areas.						
BIO-34	To avoid inadvertent entrapment of western spadefoot during construction: • Non-entangling erosion control material will be used to reduce the potential for entrapment. Tightly woven fiber netting (mesh size less than 0.25 inch) or similar material will be used to ensure that western spadefoots are not trapped (no monofilament). Coconut coir matting and fiber rolls containing burlap are examples of acceptable erosion control materials. • All excavated steep-walled holes and trenches more than 6 inches deep will be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each workday or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches will be inspected each morning to ensure that no wildlife has become	46C0058 46C0059 46C0106 46C0269 46C0309 46C0318	During construction	Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		**Applicable Bridges**	**Timing**	**Responsible Party**	**Verification of Compliance**		
					Initials	**Date**	**Remarks**
	entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight within western spadefoot habitat will be inspected for western spadefoot prior to being moved.						
BIO-35	If water is present within the channel and de-watering or installation of a temporary diversion system is required, the Project Biologist will survey the channel and/or ponding water within 48 hours prior to in-water work. Additionally, the Project Biologist will be present to monitor initial in-water work and will have stop work authority if any life stage of western spadefoot is observed within the impact area. If western spadefoots eggs, tadpoles or froglets are discovered within ponding areas of the direct impact area the Project Biologist will contact USFWS for additional guidance and in-water work will not proceed until the species are relocated or naturally metamorph.	46C0058 46C0059 46C0106 46C0269 46C0309 46C0318	During construction	County of Tulare			
CULTURAL RESOURCES							
CR-1	If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find. Additional archaeological survey would be needed if Project limits are extended beyond the present survey limits.	All	During construction	County of Tulare/ Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
CR-2	Section 7050.5 of the California Health and Safety Code protect Native American burials, skeletal remains and grave goods, regardless of age and provide method and means for the appropriate handling of such remains. If an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, the following performance standards shall be met prior to implementing or continuing actions such as construction, which may result in damage to or destruction of human remains. In accordance with the California Health and Safety Code (HSC), if human remains are encountered during ground-disturbing activities, the City shall immediately halt potentially damaging excavation in the area of the remains and notify the Sacramento County Coroner and a professional archaeologist to determine the nature of the remains. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (HSC Section 7050.5[b]). If the human remains are of historic age and are determined to be not of Native American origin, the City will follow the provisions of the HSC Section 7000 (et	All	During construction	County of Tulare/ Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	seq.) regarding the disinterment and removal of non-Native American human remains. If the Coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (HSC Section 7050[c]). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. The responsibilities of the City for acting upon notification of a discovery of Native American human remains are identified in California PRC Section 5097.9 et seq.						
GEOLOGY/SOILS							
See mitigation measures BIO-4, WQ-1, and CR-1							
HAZARDS AND HAZARDOUS MATERIALS							
HAZ-1	Section 7-1.02K(6)(j)(iii) "Unregulated Earth Material Containing Lead" of the 2023 Caltrans SSP, or the latest version of this special provision at the time of construction, will be included in the plan specifications to be implemented by the contractor. A lead compliance plan will be prepared by the contactor and may address soil, paint, markings, etc.	46C0058 46C0059 46C0087 46C0106 46C0202 46C0204 46C0205 46C0226 46C0269 46C0309 46C0330	Prior to start of construction	Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
		46C0408 46C0420					
HAZ-2	At least 10 working days prior to the commencement of abatement work, notification submissions shall be submitted to the SJVUAPCD in accordance with NESHAP requirements.	All	Prior to start of construction	Contractor			
HAZ-3	All paints at the project site be treated as lead-containing for purpose of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. In accordance with Title 8, CCR, §1532.1(p), written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain lead-related work. Compliance and training requirements regarding construction activities where workers may be exposed to lead are presented in Title 8, CCR, §1532.1, subsections (e) and (l), respectively. The removal, transportation, placement, handling, and disposal of LBP must result in no visible dust.	46C0036 46C0106 46C0108 46C0204 46C0269 46C0318 46C0403 46C0420	Prior to start and during construction	Contractor			
HAZ-4	Yellow and white thermoplastic striping paint observed within the project limits generally has the potential to contain lead or chromium. Section 14-11.12 “REMOVAL OF YELLOW TRAFFIC STRIPE AND PAVEMENT MARKING WITH HAZARDOUS WASTE RESIDUE” of the 2023 Caltrans Standard Specifications, or the latest version of this specification	46C0036 46C0106 46C0108 46C0204 46C0269 46C0318 46C0403 46C0420	During construction	Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure any hazardous waste from yellow thermoplastic pavement markings from the roadway are properly disposed of. Section 14-11.13 "DISTURBANCE OF EXISTING PAINT SYSTEMS ON BRIDGES" of the 2023 Caltrans Standard Specifications, or the latest version of this specification at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure any hazardous waste from yellow thermoplastic pavement markings from the bridge are properly disposed of.						
HAZ-5	Any chemically treated wood must be treated as TWW and disposed of as hazardous waste. For the TWW, the DTSC regulations §66261.9.5 provide alternative management standards for TWW. Caltrans 2023 SSP for TWW, SSP 14-11.14, is based on DTSCs Alternative Management Standards regulations. This SSP directs the Contractor to follow the AMS including providing training to all personnel that may come in contact with TWW. This training must include, at a minimum, safe handling, sorting and segregating, storage, labeling (including date), and proper disposal methods.	46C0269	Prior to start and during construction	Contractor			
HAZ-6	Any leaking transformers observed during the course of the project should be	46C0106 46C0330	During construction	Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	considered a potential PCB hazard. Should leaks from electrical transformers (that will either remain within the construction limits or will require removal and/or relocation) be encountered during construction, the transformer fluid should be sampled and analyzed by qualified personnel for detectable levels of PCB's. Should PCBs be detected, the transformer should be removed and disposed of in accordance with Title 22, Division 4.5 of the California Code of Regulations and any other appropriate regulatory agency. Any stained soil encountered below electrical transformers with detectable levels of PCB's should also be handled and disposed of in accordance with Title 22, Division 4.5 of the California Code of Regulations and any other appropriate regulatory agency. Section 14-11.15 DISPOSAL OF ELECTRICAL EQUPIMENT REQUIRING SPECIAL HANDLING of the 2023 Caltrans Standard Specifications, or the latest version of this specification at the time of construction, will be included in the plan specifications to be implemented by the contractor to ensure electrical transformers are properly handled and disposed of.						
HAZ-7	As is the case for any Project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during Project construction.	All	During construction	Contractor			

Mitigation Monitoring and Reporting Program							
Mitigation Measure		Applicable Bridges	Timing	Responsible Party	Verification of Compliance		
					Initials	Date	Remarks
	Contaminated soils can be encountered at any depth of excavation. If soils contaminated by hazardous waste are discovered during construction, proper hazardous waste handling and emergency procedures under 40 CFR § 262 and Division 4.5 of Title 22 CA Code of Regs shall be followed. The specific methods and protocol for determining if a soil is contaminated are contained in Appendix D – Caltrans Hazardous Procedures for Construction.						
HYDROLOGY AND WATER QUALITY							
WQ-1	The construction contractor will adhere to the SWRCB Order No. 2022-0057-DWQCAS000002. This is required for short-term construction-related water quality impacts. As part of this Permit requirement, a SWPPP or Water Pollution Control Plan (if ground disturbance is less than 1 acre) will be prepared prior to construction consistent with the requirements of the RWQCB. This SWPPP/Water Pollution Control Plan will incorporate all applicable BMPs to ensure that adequate measures are taken during construction to minimize impacts to water quality.	All	Prior to start and during construction	Contractor			
TRIBAL CULTURAL RESOURCES							
See mitigation measures CR-1 and CR-2							