GIANELLA-MUIR SAFETY PROJECT

BUTTE COUNTY, CALIFORNIA
DISTRICT 3 – BUT – 32 (Post Miles 0.3 to 5.0)
03-4H880 / 0319000071

INITIAL STUDY

with Mitigated Negative Declaration

Prepared by the
State of California Department of Transportation

Caltrans®

June 2021

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GIANELLA-MUIR SAFETY PROJECT

Improve safety on State Route 32 in Butte County,
from post miles 0.3 to 5.0 in Chico.

INITIAL STUDY WITH

MITIGATED NEGATIVE DECLARATION

INITIAL STUDY with Mitigated Negative Declaration

Submitted Pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA

Department of Transportation

06/24/2021
Date of Approval

Mike Bartlett
Mike Bartlett, Office Chief - Marysville
North Region Environmental - District 3
California Department of Transportation
CEQA Lead Agency

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Mitigated Negative Declaration

Pursuant to: Division 13, California Public Resources Code

SCH Number: 2021040476

Project Description

The proposed project is located on State Route 32 (SR 32) in Butte County between Post Mile (PM) 0.3 at Gianella Road and PM 5.0 at Muir Avenue to improve safety of the traveling public. This project has been amended into the 2020 SHOPP, 2021/2022 fiscal year under the 20.XX.201.010, Safety Improvements Program. The project proposes to widen the existing shoulders to eight feet except at the nine (9) existing bridges, increase the left turn deceleration lane lengths, add intersection safety lighting, add shoulder and centerline rumble strips, improve the ride quality of the pavement, address poor condition culverts, install safety lighting, upgrade guardrail at existing bridges. If approved, construction of the project is expected to start in 2023.

Determination

Caltrans has prepared an Initial Study for this project and, following public review, has determined from this study that the proposed project would not have a significant impact on the environment for the following reasons:

The project would have no effect with regard to aesthetics, agricultural and forest resources, air quality, energy, geology and soils, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, tribal cultural resources, and wildfire.

The project would have less-than-significant impacts with regard to cultural resources, greenhouse gas emissions, hazards and hazardous materials, and utilities and service systems.

With the following mitigation measures incorporated, the project would have less-than-significant impacts with regard to biological resources.

- All directly impacted elderberry shrubs would be transplanted to a USFWS-approved mitigation bank**.**
- Caltrans proposes to mitigate for 0.0574 acres of riparian habitat at a ratio of 3:1, by purchasing 0.172 acres or 4.2 credits as part of the VELB mitigation.
- ESA fencing will be used to protect the remaining elderberry shrubs from indirect impacts.

Mike Bartlett

Mike Bartlett, Office Chief

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North Region Environmental - District 3
California Department of Transportation

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List of Abbreviated Terms

Abbreviation	Description
ARB	Air Resources Board
BMPs	Best Management Practices
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CH4	methane
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CRHR	California Register of Historical Resources
CRZ	Clear Recovery Zone
CTP	California Transportation Plan
CWA	Clean Water Act
EIR	Environmental Impact Report
EO	Executive Order
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
GHG	greenhouse gas
H_2S	hydrogen sulfide
IPCC	Intergovernmental Panel on Climate Change
IRRS	Interregional Road System
IS	Initial Study
LSAA	Lake or Streambed Alteration Agreement
MND	Mitigated Negative Declaration
MPO	Metropolitan Planning Organization
MS4s	Municipal Separate Storm Sewer Systems
N2O	nitrous oxide
NAHC	Native American Heritage Commission
ND	Negative Declaration
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide

Abbreviation	Description
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OHWM	Ordinary High Water Mark
PDT	Project Development Team
PM	particulate matter
PM	post mile
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	Public Resources Code
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SCS	Sustainable Communities Strategy
SF6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SLR	Sea Level Rise
SO_2	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMP	Traffic Management Plan
U.S. or US	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
VMT	Vehicle Miles Traveled
WDRs	Waste Discharge Requirements
WQOs	Water Quality Objectives

Chapter 1. Proposed Project

1.1. Project History

The California Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (CEQA). Caltrans proposes to improve safety along State Route 32 between post miles 0.3 to 5.0 in Butte County from Gianella Road to Muir Road. The total length of the project is 4.7 miles. Figure 1 indicates the project location and vicinity maps.

1.2. Project Description

The proposed project is located on State Route 32 (SR 32) in Butte County between Post Mile (PM) 0.3 at Gianella Road and PM 5.0 at Muir Avenue to improve safety of the traveling public. This project has been amended into the 2020 SHOPP, 2021/2022 fiscal year under the 20.XX.201.010, Safety Improvements Program. The project proposes to widen the existing shoulders to eight feet except at the nine (9) existing bridges, increase the left turn deceleration lane lengths, add intersection safety lighting, add shoulder and centerline rumble strips, improve the ride quality of the pavement, address poor condition culverts, install safety lighting, upgrade guardrail at existing bridges. If approved, construction of the project is expected to start in 2023.

Project Objectives

The potential need for safety improvements along this section of SR 32 was investigated by the Office of Traffic Safety. The record of traffic collisions indicates a need for safety improvements. A total of forty (40) collisions have been identified within the project limits for the period between January 1, 2015 and December 31, 2017 between PM 0.3 at Gianella Road and PM 5.0 at Muir Avenue. The collision data included three (3) collisions resulting in three (3) fatalities and seventeen (17) collisions resulting in thirty-six (36) injuries.

Table 1. Collision Summary for Highway 32

	Actual
Total Accident Rate (acc/mvm)	*0.59*
Fatal + Injury Accident Rate (acc/mvm)	*0.30*
Fatal Accident Rate (acc/mvm)	*0.045*

**acc/mvm= accidents/million vehicle miles*

Purpose

The purpose of the project is to improve safety and reduce the number and severity of collisions, enhance the safety for multiple modes of transportation including vehicles, bicycles, pedestrians and improve the turning movements for motorists. The project will also improve the ride quality of the pavement, and address culverts that are in poor condition.

Need

The district has recorded a total of forty (40) collisions within a three-year period from January 2015 to December 2017. Three (3) of the collisions resulted in three (3) fatalities and an additional seventeen (17) collisions resulted in thirty-six (36) injuries. Of the forty (40) total collisions, fourteen (14) were single vehicle collisions, and twenty-six (26) were multi vehicle collisions. A number of collisions involve running off the road, hitting a guardrail, or turns entering or exiting SR 32.

This section of SR 32 has substandard shoulder widths, inadequate lengths for the deceleration (turn pocket) lanes, and poor pavement conditions.

A lighting warrant analysis at the intersection of Hamilton Road, Meridian Road, and Muir Avenue with SR 32 indicates inadequate safety lighting.

Proposed Project

Caltrans proposes to improve safety along State Route 32 post miles 0.3 through 5.0 in Butte County from Gianella Road to Muir Road.

Introduction to Project Alternatives

There is one build alternative and one “No Build” alternative for this project.

Alternative 1: Build Alternative

The build alternative proposes safety improvements to reduce fatal collisions and reduce the severity of collisions. The build alternative proposes to widen shoulders, improve left turn deceleration lanes, construct a shoulder bypass area, improve access road entrances and connection, install safety lighting and signage, improve the ride quality of the pavement, address the poor condition of existing CMP culverts, install shoulder and centerline rumble strips, and upgrade guardrail systems and end treatments at bridge approaches to meet current standards. The build alternative proposes the following improvements:

1. Widen the existing shoulders to eight (8) feet except at the nine (9) existing bridges to improve errant vehicles recovery, reduce vehicle run-off-road accidents, and improve the safety and travel for bicycles.

2. Increase left turn deceleration lane lengths at Meridian Road to separate vehicles traveling at different speeds.

3. Construct a new shoulder bypass area at Pine Creek Unit access road Intersection to reduce backups from vehicles waiting to make a left turn.

4. Replace safety end treatments and construct anchor walls at the existing bridges to improve safety.

5. Install new Midwest Guardrail System at the existing bridges to meet MASH standards. This includes replacing the existing posts and raising the height of the existing Midwest Guardrail System at the Pine Creek Lagoon OC (Br No.120053) and the Pine Creek Overflow (Br No. 120051).

6. Add intersection safety lighting at Hamilton Nord Canal Highway, Meridian Road, and Muir Avenue to improve driver visibility.

7. Extend existing concrete box culverts and CMP pipe culverts to accommodate the eight (8) foot wide shoulders.

8. Install CIPP Lining in CMP pipe culverts that are in poor condition.

9. Cold plane the existing pavement and overlay with 0.2' RHMA-G and 0.1' RHMA-O to increase pavement smoothness and remove pavement roughness and irregularities to benefit the ride quality for all modalities of transportation.

10. Install shoulder and centerline rumble strips along both directions for the entire project to alert inattentive drivers of potential danger and also to improve safety for bicycles.

11. Install safety signage at all narrow bridge approaches.

12. Replace individual barriers with a continuous barrier at PM 2.34/PM 2.41 to improve safety.

13. Improve the levee access road entrances at Mud Creek.

14. Improve the public road connection at Meridian Road, which includes widening of the existing shoulders and increasing the curve radii of the turning movements.

15. Replace existing 18" CMP pipe culverts with new 24" CMP pipe culverts if shoulder widening results in culvert lengths exceeding 100 feet in length.

16. Remove existing trees within the clear recovery zone

While most of the work will be done within the state right of way, right of way acquisition is required to widen access road entrances at Mud Creek. Temporary Construction Easements (TCE) and permanent easements are also proposed to accommodate

culvert widening work and for contouring driveways to State Route 32. Areas with proposed TCEs and easements are shown on the Environmental Study Limit (ESL) layouts in Appendix B. In total, there will be four TCEs and five permanent easements. The ESL layouts show the proposed ESLs and the existing ESLs on the map. The proposed ESL was brought in to minimize the area where environmental needed to study and to reduce the impacts to biological resources. The environmental team studied the proposed ESL limits, except for cultural resources where the entire existing ESL was studied where permits to enter were granted.

Alternative 2 – No Build Alternative

This alternative would maintain the facility in its current condition and would have no impacts to environmental resources. The No Build alternative would not improve the safety of the roadway and would not meet the purpose and need to reduce the frequency and severity of collisions at this location

General Plan Description, Zoning, and Surrounding Land Uses

This segment of Butte-32 connects the City of Orland in Glenn County with the City of Chico in Butte County. The land around the project area is predominantly undeveloped agricultural land with orchards. The area has numerous irrigation channels and ditches used for irrigating the fields.

State Route (SR) 32, is a transitional, non-Interregional Road System (IRRS) route. The route is primarily a two-lane conventional highway connecting Interstate 5 (I-5) at Orland in Glenn County with SR 36 between Chester and Mill Creek in Tehama County. As an east/west highway, the route serves the City of Orland and the community of Hamilton City in Glenn County, and the City of Chico and the communities of Forest Ranch and Butte Meadows in Butte County. SR 32 is 48.6 miles in length and ranges in elevation from 150’ at its lowest point in Hamilton City to approximately 3800’at the Tehama County line. SR 32 provides for the only transit connection operating between Glenn and Butte Counties via Glenn Transit Service and Butte Regional Transit.

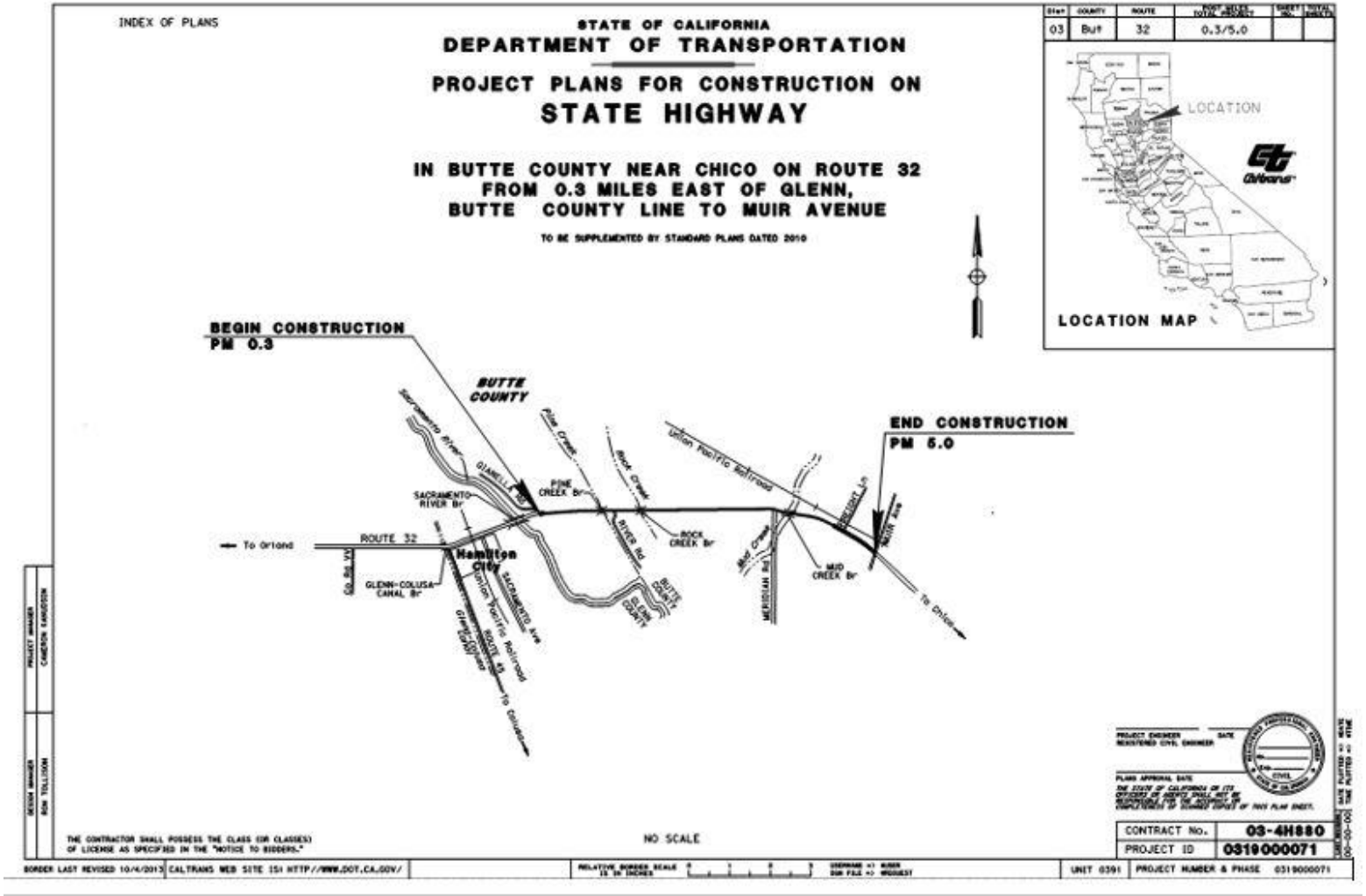
SR 32 is also classified as a bike accessible route. Bicycling has become an increasingly popular method of travel throughout the region. Many individuals are attracted to the energy savings, environmental benefits, and health advantages, while others who are not able to drive due to age or financial hardship use bicycles as a primary means of transportation. The valley areas of Glenn and Butte counties, including the SR 32 corridor, are particularly attractive to bicyclists and pedestrians due to the flat terrain. Bike Plans are in place in both Glenn and Butte Counties and identify the future enhancement of bike paths and trails within the SR 32 corridor.

Alternatives Considered but Eliminated from Further Consideration

No other alternatives for the Gianella-Muir Safety Project were considered. The Project Initiation Document (PID) only discusses the build alternative and the no build scenario.

1.3. Project Maps

Figure 1. Project Location Map



1.4. Permits and Approvals Needed

The following approvals are required for project construction:

Table 1. Agency Approvals

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service (USFWS)	Section 7 Formal Consultation for VELB	Biological Opinion (BO) received from USFWS on April 30, 2021.
State Historic Preservation Office (SHPO)	Cultural resources need SHPO concurrence to complete phase studies for a restricted access property	SHPO concurrence for phased studies received October 21, 2020.
California Transportation Commission (CTC)	CTC Vote for to approve funds	Following the approval of the FED, the California Transportation Commission will be required to vote to approve funding for the project.
U.S. Army Corp of Engineers	408 Permit	The design team is working to complete the permit application.
Central Valley Flood Protection Board	Encroachment Permit	The design team is working to complete the permit application.

1.5. Standard Measures and Best Management Practices Included in All Alternatives

Utilities and Emergency Services

UE-1: All emergency response agencies in the project area would be notified of the project construction schedule and would have access to State Route 32 throughout the construction period.

UE-2: Caltrans would coordinate with the utility providers before relocation of any utilities to ensure potentially affected utility customers would be notified of potential service disruptions before relocations.

Traffic and Transportation

TT-1: Pedestrian and bicycle access would be maintained during construction.

TT-2: The Contractor would be required to reduce any access delays to driveways or public roadways within or near the work zones.

TT-3: A Traffic Management Plan (TMP) would be applied to project.

Cultural Resources

CR-1: If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find in consultation with the State Historic Preservation Officer.

CR-2: If human remains were discovered, State Health and Safety Code § 7050.5 states that further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to CA Public Resources Code (PRC) § 5097.98, if the remains were thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendent (MLD).

At this time, the person who discovered the remains would contact the Environmental Senior and Professionally Qualified Staff so they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC § 5097.98 would be followed as applicable.

Water Quality and Stormwater Runoff

WQ-1: The project would comply with the Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order 2012-0011-DWQ), which became effective July 1, 2013, and the Construction General Permit (Order 2009-0009-DWQ).

Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) (per the Construction General Permit Order 2009-0009-DWQ) that includes erosion control measures and construction waste containment measures so that waters of the State are protected during and after project construction.

The SWPPP would identify the sources of pollutants that may affect the quality of stormwater; include construction site Best Management Practices (BMPs) to control sedimentation, erosion, and potential chemical pollutants; provide for construction materials management; include non-stormwater BMPs; and include routine inspections and a monitoring and reporting plan. All construction site BMPs would follow the latest edition of the *Storm Water Quality Handbooks: Construction Site BMPs Manual* to control and reduce the impacts of construction-related activities, materials, and pollutants on the watershed.

The project SWPPP would be continuously updated to adapt to changing site conditions during the construction phase.

Construction would likely require the following temporary construction site BMPs:

- Any spills or leaks from construction equipment (i.e., fuel, oil, hydraulic fluid, and grease) shall be cleaned up in accordance with applicable local, state, and/or federal regulations.
- During construction operations and under certain conditions, if groundwater is encountered, a land discharge permit may be required which contains conditions and specifies how clean/neutralized water can be discharged within the State's Right of Way
- Fiber rolls or silt fences would be installed.
- Existing vegetated areas would be maintained to the maximum extent practicable.
- Clearing, grubbing, and excavation would be limited to specific locations, as delineated on the plans, to maximize the preservation of existing vegetation.
- Vegetation reestablishment or other stabilization measures would be implemented on disturbed soil areas, per the Erosion Control Plan.
- Soil disturbing work would be limited during the rainy season.

WQ-2: The project would incorporate pollution prevention and design measures consistent with the 2003 Caltrans Storm Water Management Plan to meet Water Quality Objectives (WQOs). This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2012-0011-DWQ).

The project design would likely include the following permanent stormwater treatment BMPs:

- Vegetated surfaces would feature native plants and revegetation would use the seed mixture, mulch, tackifier, and fertilizer recommended in the Erosion Control Plan prepared for the project.
- Existing roadway and bridge drainage systems currently discharge stormwater to receiving waters through bridge deck drains and/or discharge to vegetated slopes adjacent to the highway facility. The current design for stormwater management, post construction, is to perpetuate existing drainage patterns. Stormwater will continue to sheet flow to vegetated slopes providing stormwater treatment in accordance with Caltrans NPDES Permit.

Hazardous Waste and Material

HW-1: Per Caltrans requirements, the contractor(s) would prepare a project-specific Lead Compliance Plan (CCR Title 8, § 1532.1, the "Lead in Construction" standard) to reduce worker exposure to lead-impacted soil. The plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.

HW-2: Low levels of aerially deposited lead from the historic use of leaded gasoline exist along roadways throughout California. The project would adhere to Caltrans' Standard Special Provision (SSP) Section 7-1.02K(6)(j)(iii) "Earth Material Containing Lead."

HW-3: Thermoplastic paint may contain lead of varying concentrations depending upon color, type, and year of manufacture. Traffic stripes would be removed and disposed of in accordance with Caltrans' SSP Section 36-4 "Residue Containing Lead from Paint and Thermoplastic".

HW-4: Treated Wood Waste may be generated from sign post and guardrail removal/reconstruction. This can be addressed with SSP 14-11.14 TREATED WOOD WASTE management in the construction contract.

Geology and Seismic/Topography

GS-1: The project would be designed to minimize slope failure, settlement, and erosion using recommended construction techniques and BMPS. New slopes should be revegetated to reduce erosion potential.

Biological Resources

B-1: 14-6.02 Species Protection: Valley Elderberry Longhorn Beetle (VELB) and all other birds and mammals.

B-2: 14-6.03 Bird Protection: Protect migratory and nongame birds, their occupied nests, and their eggs.

B-3: 14-6.05 Contractor-Supplied Biologist: Vegetation removal, Environmentally Sensitive Area (ESA) and silt fencing stability, and any other biological commitments for this project.

B-4: 14-6.07 Natural Resource Protection Plan (NRPP): The NRPP requires the use of a Contractor-Supplied Biologist. The Contractor gathers all the requirements from 14-6.02, Species Protection, and from the various PLACs into one document, and describes the implementation measures the Contractor would take to assure that the requirements are met. The Contractor-Supplied-Biologist would be on site in order to survey, monitor, and potentially remove any wildlife species from the project area.

B-5: 14-1.02 Environmentally Sensitive Area Fencing: To minimize permanent and temporary impacts to sensitive plant communities, environmentally sensitive areas would be established to prevent unplanned impacts to these resources. A standard special provision would be included in the construction contract to delineate the placement of orange mesh fencing to protect these sensitive resources.

1.6. Discussion of the NEPA Categorical Exclusion

This document contains information regarding compliance with the California Environmental Quality Act (CEQA) and other state laws and regulations. Separate environmental documentation to support a Categorical Exclusion determination has been prepared in accordance with the National Environmental Policy Act when federal funds have been applied to the project. When needed for clarity, or as required by CEQA, this document may contain references to federal laws and/or regulations (CEQA, for example, requires consideration of adverse effects on species identified as a candidate, sensitive, or special-status species by the United States National Marine Fisheries Service and the United States Fish and Wildlife Service—in other words, species protected by the Federal Endangered Species Act).

Chapter 2. CEQA Environmental Checklist

2.1. Environmental Factors Potentially Affected

The environmental factors listed below would be potentially affected by this project. Please see the CEQA checklist on the following pages for additional information.

Potential Impact Area	Impacted: Yes / No
Aesthetics	No
Agriculture and Forestry	No
Air Quality	No
Biological Resources	**Yes**
Cultural Resources	**Yes**
Energy	No
Geology/Soils	No
Greenhouse Gas Emissions	**Yes**
Hazards and Hazardous Materials	**Yes**
Hydrology/Water Quality	No
Land Use/Planning	No
Mineral Resources	No
Noise	No
Population/Housing	No
Public Services	No
Recreation	No
Transportation/Traffic	No
Tribal Cultural Resources	No
Utilities/Service Systems	**Yes**
Wildfire	No
Mandatory Findings of Significance	**Yes**

The CEQA Environmental Checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the project will indicate there are no impacts to a particular resource. A NO IMPACT answer in the last column of the checklist reflects this determination. The words “significant” and “significance” used throughout the checklist and this document are only related to potential impacts pursuant to CEQA.

The questions in the CEQA Checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project as well as standard measures that are applied to all or most Caltrans projects (such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions) are considered to be an integral part of the project and have been considered prior to any significance determinations documented in the checklist or document.

2.2. Project Impact Analysis Under CEQA for Initial Study

CEQA broadly defines "project" to include "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment" (14 CCR § 15378). Under CEQA, normally the baseline for environmental impact analysis consists of the existing conditions at the time the environmental studies began. However, it is important to choose the baseline that most meaningfully informs decision-makers and the public of the project's possible impacts. Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence. In addition, a lead agency may also use baselines consisting of both existing conditions and projected future conditions that are supported by reliable projections based on substantial evidence in the record. The CEQA Guidelines require a "statement of objectives sought by the proposed project" (14 CCR § 15124(b)).

CEQA requires the identification of each potentially "significant effect on the environment" resulting from the action, and ways to mitigate each significant effect. Significance is defined as *"Substantial or potentially substantial adverse change to any of the physical conditions within the area affected by the project"* (14 CCR § 15382). CEQA determinations are made prior to and separate from the development of mitigation measures for the project.

The legal standard for determining the significance of impacts is whether a "fair argument" can be made that a "substantial adverse change in physical conditions" would occur. The fair argument must be backed by substantial evidence including facts, reasonable assumption predicated upon fact, or expert opinion supported by facts. Generally, an environmental professional with specific training in a particular area of environmental review can make this determination.

Though not required, CEQA suggests Lead Agencies adopt thresholds of significance, which define the level of effect above which the Lead Agency will consider impacts to be significant, and below which it will consider impacts to be less than significant. Given the size of California and it's varied, diverse, and complex ecosystems, as a Lead Agency that encompasses the entire State, developing thresholds of significance on a

state-wide basis has not been pursued by Caltrans. Rather, to ensure each resource is evaluated objectively, Caltrans analyzes potential resource impacts based on their location and the effect of the potential impact on the resource as a whole in the project area. For example, if a project has the potential to impact 0.10 acre of wetland in a watershed that has minimal development and contains thousands of acres of wetland, then a "less than significant" determination would be considered appropriate. In comparison, if 0.10 acre of wetland would be impacted that is located within a park in a city that only has 1.00 acre of total wetland, then the 0.10 acre of wetland impact could be considered "significant."

If the action may have a potentially significant effect on any environmental resource (even with mitigation measures implemented), then an Environmental Impact Report (EIR) must be prepared. Under CEQA, the lead agency may adopt a negative declaration (ND) if there is no substantial evidence that the project may have a potentially significant effect on the environment (14 CCR § 15070(a)). A proposed negative declaration must be circulated for public review, along with a document known as an Initial Study. CEQA allows for a "mitigated negative declaration" in which mitigation measures are proposed to reduce potentially significant effects to less than significant (14 CCR § 15369.5).

Although the formulation of mitigation measures shall not be deferred until some future time, the specific details of a mitigation measure may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review. The lead agency must (1) commit itself to the mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or other similar process may be identified as mitigation if compliance would result in implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards (§15126.4(a)(1)(B)). Per CEQA, measures may also be adopted, but are not required, for environmental impacts that are not found to be significant (14 CCR § 15126.4(a)(3)). Under CEQA, mitigation is defined as avoiding, minimizing, rectifying, reducing, and compensating for any potential impacts (CEQA 15370).

Regulatory agencies may require additional measures beyond those required for compliance with CEQA. Though not considered "mitigation" under CEQA, these measures are often referred to in an Initial Study as "mitigation", Good Stewardship or Best Management Practices. These measures can also be identified after the Initial Study/Negative Declaration is approved.

CEQA documents must consider direct and indirect impacts of a project (CAL. PUB. RES. CODE § 21065.3). They are to focus on significant impacts (14 CCR § 15126.2(a)). Impacts that are less than significant need only be briefly described (14 CCR § 15128). All potentially significant effects must be addressed.

2.3. Aesthetics

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Have a substantial adverse effect on a scenic vista?	No	No	No	Yes
Would the project: b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No	No	No	Yes
Would the project: 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 a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	No	No	No	Yes
Would the project: d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No	No	No	Yes

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities" (CA Public Resources Code [PRC] Section 21001[b]).

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Visual Impact Assessment Memorandum dated August 24, 2020. Potential impacts to aesthetic resources are not anticipated. SR 32 in the project area is not a designated scenic highway, nor is it eligible to be listed as a scenic highway. Therefore, there will be no impact to any resources within a scenic state highway. There are also no scenic resources within the project area, so there will be no impact to any scenic vista.

The most visually noticeable aspect of the project will be the minimal loss of mature vegetation within the limit of disturbance, which includes access roads, staging areas and in the immediate vicinity of the project area. The vividness, intactness and unity of the project corridor will not be adversely affected by the proposed project features. In addition,

the project features will not be visually atypical and intrusive to the degree that the intactness and unity of the landscape will be compromised. Overall, the resource change will be low. The result of the road widening, upgrading existing culverts and installing five new culverts will be noticeable but their effects on the visual character and quality of their surroundings will be negligible. Therefore, these proposed elements would not constitute an adverse visual quality change in the environment. The existing visual character of the project site would not substantially change or be degraded.

The proposed project is not anticipated to produce glare, which may adversely affect day or nighttime views in the area. Installation of new lighting is anticipated on three intersections: Hamilton Road, Meridian Road and Muir Avenue. The proposed exterior lighting will be required to conform to the California Department of Transportation's (Caltrans) lighting specification guidelines. Therefore, the glare at the project locations would not substantially alter the existing characteristics of the project corridor.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.4. Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

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

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to agricultural and forest resources are not anticipated. The project will be contained to the existing Caltrans right of way where agricultural land is adjacent to the project with the exception of temporary construction easements (TCE) required for the extension of the culverts to accommodate the 8ft shoulders. Additional right-of-way will be acquired to relocate utility poles, however, these areas to be acquired will not convert farmlands. No forest land is in the vicinity of the project. The current layouts of proposed work in Appendix B does show the ESL outside of the Caltrans right of way, however only small TCEs will be needed and the work will otherwise be within Caltrans right of way. These TCEs will not have a permanent impact on agricultural resources. Temporary impacts are not anticipated due to the small area of the TCEs.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.5. Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with or obstruct implementation of the applicable air quality plan?	No	No	No	Yes
Would the project: 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?	No	No	No	Yes
Would the project: c) Expose sensitive receptors to substantial pollutant concentrations?	No	No	No	Yes
Would the project: d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No	No	No	Yes

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Air Quality and Energy Analysis Memorandum dated August 18, 2020. Potential impacts to air quality are not anticipated as the project would not change traffic volume, fleet mix, speed, or any other factor that would cause an increase in emissions relative to the no build alternative; therefore, this project would not cause an increase in operational emissions.

Construction activities are expected to increase traffic congestion in the area, resulting in increases in emissions from traffic during the delays. These emissions would be temporary and limited to the immediate area surrounding the construction site. Fugitive dust would also be generated during grading and construction operations. Construction emissions will be minimized by following Caltrans Standard Specifications that relate to air quality. A dust plan will also be developed by the contractor to reduce fugitive dust emissions.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.6. Biological Resources

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

Regulatory Setting

Wetlands and Other Waters

FEDERAL

Waters of the United States (including wetlands) are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. Include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. 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 allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that would have lesser

effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as the Federal Highway Administration (FHWA) and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

STATE

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs), and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved.

Sections 1600–1607 of the California Fish and Game Code (CFGC) require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement (LSAA) will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. 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. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Hydrology and Water Quality section for additional details.

Plant Species

The U.S. Fish and wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special-status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act

(CESA). Please see the Threatened and Endangered Species Section in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Sections 1900–1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000–21177.

Animal Species

Many state and federal laws regulate impacts to wildlife. The USFWS, National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service [NMFS]), and CDFW are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Acts. Species listed or proposed for listing as threatened or endangered are discussed in the following section. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NMFS candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

Threatened and Endangered Species

The primary federal law protecting threatened and endangered species is FESA: 16 United States Code (USC) Section 1531, et seq. See also 50 CFR Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as Federal Highway Administration (FHWA) (and Caltrans, as assigned), are required to consult with the USFWS and NMFS to ensure they are not

undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence, and/or documentation of a no effect finding. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an Incidental Take Permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Invasive Species

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999, directs the use of the State's invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

Environmental Setting

The Natural Environmental Study (NES) was completed on October 16, 2020. The purpose of the NES is to assess the environmental effects of the proposed project on natural resources and special-status species which have the potential to occur within the Biological Study Area (BSA).

Natural Communities

RUDERAL

A ruderal species is a plant species that is first to colonize disturbed lands. Ruderal vegetation within the study area is dominated by introduced grasses including wild oat (Avena fatua), ripgut brome (Bromus diandrus), Johnsongrass (Sorghum halepense) and Bermuda grass (Cynodon dactylon), as well as annual forbs including vetch (Vicia sp.). Ruderal species occur along the entire SR 32 corridor except for the riparian areas.

ANNUAL GRASSLAND

Annual non-native and invasive grasses have replaced most native grassland in California's Central Valley. Dominant species in these grasslands include, bromes, wild oat, Italian ryegrass (Lolium perenne), and many other grasses. Within the general project area, Annual Grassland is limited to a narrow strip within the Caltrans right-of-way and a 228-acre area within the Pine Creek Unit that was restored to native grasses in 2004.

RIVERINE

Riverine habitat in the BSA is defined as all wetlands and deep-water habitats contained within a channel. The sections of streams within the BSA are characterized by being small intermittent to perennial streams with a limited floodplain and narrow bands of riparian vegetation along the banks. Some portions lack true riparian vegetation and have freshwater emergent vegetation along the fringes or even extending across the channel. All the creeks and sloughs within the projects area flow from the north-northeast to the south-southwest across the BSA. Runoff from rainfall and irrigation is the primary source of water for the streams. Mud Creek is bordered by levees on both sides of the creek

VALLEY FOOTHILL RIPARIAN

Cottonwood, California sycamore and valley oak typically comprise the overstory of this habitat, with black walnut the most abundant within the project area. Subcanopy trees are white alder, boxelder and Oregon ash. The understory shrub layer includes wild grape, wild rose, blackberry, elderberry, poison oak, and willows. The herbaceous layer consists primarily of sedges, rushes, and grasses. In addition to the areas associated with the stream crossing, there is a narrow strip of riparian vegetation varying between 35 and 50 feet wide extending from the western bank of Pine Creek, along the north side of SR 32, for approximately 1625 feet.

DECIDUOUS ORCHARD

Deciduous orchards include trees, such as, almonds, apples, apricots, cherries, figs, nectarines, peaches, pears, pecans, pistachios, plums, pomegranates, prunes and walnuts. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth.

FARMLAND-CROPLAND

Vegetation in this habitat includes a variety of sizes, shapes, and growing patterns. Most croplands support annuals planted in spring and harvested during summer or fall. In many areas a second “winter” crop is planted after harvesting the first. (e.g. Wheat is planted in fall and harvested in late spring or early summer.)

Wetlands and Other Waters

A preliminary delineation of wetlands and waters of the U.S was conducted in the ESL by Caltrans biologists. Three jurisdictional waters were delineated within the Biological Study Area (BSA). The jurisdictional waters within the BSA are Pine creek (PM 1.39), Rock Creek (2.08), and Mud Creek (4.38). No in-water work or work within the bed, bank or channel is proposed. However, work is proposed adjacent to Waters of the U.S. Best management practices would be implemented to avoid temporary or permanent impacts to jurisdictional Waters of the U.S and the State.

Plant Species

The BSA contains a mix of native and invasive species. Cultivated plant species are also present within the BSA and a discussion of these plants can be found under natural communities. The plants present within the BSA include upland species (UPL) which generally occur in non-wetlands, facilitative species (FAC) which occur equally likely in wetlands and non-wetlands, facilitative upland species (FACU) which normally occur in non-wetlands but can be found in wetlands, and facilitative wetland species (FACW) which typically occur in wetlands but can occur in non-wetlands. A list of the plant species observed during field surveys can be found below on Table 2.

Table 3: Plant Species Observed

Scientific Name	Common Name	Wetland Status	Native/ Not Native/ Invasive
Adoxaceae-Elderberry Family			
Sambucus sp.	black elderberry	FAC	Na
Anacardiaceae- Cashew Family			
Toxicodendron diversilobum	poison oak	UPL	Na
Asteraceae-Sunflower Family			
Artemisia douglasiana	mugwort	FAC	Na
Baccharis pilularis	coyote brush	UPL	Na
Fagaceae- Beech Family			
Quercus lobata	valley oak	FACU	Na
Juglandaceae-Walnut Family			
Juglans californica	black walnut	FAC	Na
Polygonaceae-Buckwheat Family			
Rumex crisous	curly dock	FAC	I
Rosaceae-Rose Family			
Rubus armeniacus	Himalayan blackberry	FACU	I
Rubus ursinus	native blackberry	FAC	Na
Salicaceae-Wouldow Family			
Salix sp.	Willow sp.	FACW	Na
Sapindaceae-Soap Berry Family			

Scientific Name	Common Name	Wetland Status	Native/ Not Native/ Invasive
Acer negundo	box elder	FACW	Na
Urticaceae-Nettle Family			
Urtica dioica	stinging nettle	FAC	Na

*Na= Native, I=Invasive

Animal and Threatened/Endangered Species

The proposed project will have no impacts to any state-listed species as rare or endangered under the California Endangered Species Act. The proposed project will have an effect on a federally listed species.

VALLEY ELDERBERRY LONGHORN BEETLE

The Valley elderberry longhorn beetle (VELB) was federally listed as a threatened species with critical habitat on August 8, 1980 (USFWS 1980). VELB is a moderately sized beetle that inhabits elderberry plants, which is the host plant for the beetle larvae (Barr 1991). VELB are known to occur throughout the Central Valley from southern Shasta County to Fresno County (Barr 1991). It is endemic to riparian systems along margins of rivers, streams, and adjacent grassy savannas where its host plant commonly occurs.

VELB are known to occur in Butte County. The closest documented occurrence of VELB in the CNDDB is approximately 1 mile from the BSA within the Ord Ferry quad from 2014. As elderberry shrubs are the obligate host plant for this species and the adult VELB are difficult to detect, removal of elderberry shrubs requires consultation with the U.S. Fish and Wildlife Service (USFWS). Within the BSA there are 23 elderberry shrubs. Of the 23 elderberry shrubs, 2 elderberry shrubs would be removed prior to construction. The 2 shrubs would be transplanted at a USFWS-approved mitigation bank.

The Biological Assessment (BA) for VELB was sent to the USFWS on approximately October 27, 2020 which initiated section 7 consultation. The Biological Opinion (BO) was received from the USFWS on April 30, 2021.

GIANT GARTER SNAKE

The giant garter snake (GGS) (*Thamnophis gigas*) is a federal and State threatened species. GGS inhabits marshes, sloughs, ponds, small lakes, low gradient streams, and

other waterways. This species also frequents agricultural wetlands such as irrigation and drainage canals and rice fields, and their adjacent uplands.

An analysis of the suitability of the project site as GGS habitat is included in the Biological Assessment because occurrences have been documented within 5.4 miles of the BSA. The wastewater treatment plant 5.4 miles from the project BSA has GGS, there is little or no connection to Pine Creek. Also, the lack of low gradient slough characteristics, emergent vegetation and wetlands further implicates that there would be no expectation of GGS occupying the project's reach of Pine Creek. For these reasons there would be no effect on GGS by the proposed project.

YELLOW-BILLED CUCKOO

In 2014 the western distinct population segment (DPS) of Yellow-Billed Cuckoo (YBCU) was listed as threatened under the Federal Endangered Species Act (FESA). Critical habitat for the YBCU was also proposed in 2014 and includes approximately 546,335 acres across the western US from Colorado to California. Preferred habitat is open woodlands with low, dense, scrubby vegetation, and is often found near watercourses and oxbows of rivers. In more arid parts of California, they nest in willows (Salix sp.), Fremont cottonwood (Populus fremontii), oak (Quercus sp.) and cultivated fruit trees.

The BSA falls within the proposed critical habitat unit CA-1 Sacramento River. This unit follows the Sacramento River for 69 mi from Colusa to just south of Red Bluff and covers 35,406 ac. This unit has been a major nesting area for YBCU and is considered an important area to maintain for the species recovery. Any impacts associated with the project would only be temporary due to construction presence and noise and will be limited to roadside foraging habitat. High quality nesting and foraging habitat is located in the mixed riparian habitat just south of the Pine Creek Lagoon bridge.

Minor roadside vegetation removal will occur within a riparian strip located on the northwest side of the Pine Creek Lagoon Bridge; however, the entire riparian strip is only 50 feet wide and is not likely to be used by YBCU, not even for foraging due to the persistent traffic noise. No direct or indirect permanent impacts to YBCU are expected to occur as a result of the project.

SWALLOWS AND BATS

The existing bridge over the Pine Creek Lagoon provides suitable habitat for a nesting colony of cliff swallows (*Petrochelidon pyrrhonota*). The cliff swallow is a common migratory bird species that forms large nesting colonies on box culverts and bridges. When access to suitable habitat is prevented at one colony, cliff swallows leave the area and join nesting colonies elsewhere. The typical nesting season for birds is February 1 to September 30th. Swallows in the Central Valley tend to arrive and begin nesting in mid-March to April.

Approximately 60-100 Mexican free-tailed bats (*Tadarida brasiliensis*) were observed in a hinge joint of the Pine Creek Lagoon Bridge. Monitoring has demonstrated that the roost is a day and night roost. There is no evidence that it is a maternity colony.

Invasive Species

The BSA was evaluated for the presence of invasive species based on the California Noxious Weed List (CDFA 2010), the California Invasive Plant Council List (California Invasive Plant Council 2010), and the USDA Federal Weed List (USDA 2010). Some invasive plant species present on the project site include: Pokeweed (Phytolacca sp.) and Himalayan blackberry (*Rubus armeniacus*).

Discussion of Environmental Evaluation Question 2.6—Biological Resources

a) Will 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?

Valley Elderberry Longhorn Beetle

Due to the historic occurrence of VELB, a species listed as federally threaten under the Endangered Species Act, along the Sacramento River and the presence of elderberry shrubs, VELB are inferred to be present within the BSA. The direct effects of this project would be the relocation of 2 elderberry shrubs, including stems which may contain larvae, resulting in potential direct "take" of VELB. “Take” is defined by Section 3(18) of the Federal Endangered Species Act. "The term 'take' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The project may affect, and is likely to adversely affect VELB; therefore, compensatory mitigation is required under the federal Endangered Species Act. The proposed project work window also includes three months of the adult flight period, increasing the chances of adult mortality. Project impacts would be assessed as indirect impacts, temporary direct impacts, and permanent direct impacts.

Indirect Impacts that would result from the proximity to construction may include impacts from construction dust, changes in hydrology, shading, soil compaction, and removal of associated riparian woodland species. There will be indirect impacts to 13 elderberry shrubs. An additional elderberry not within riparian habitat could be indirectly impacted, but the impacts would be temporary in nature.

Temporary Direct Impacts include the transplanting of the elderberry, and the temporary disturbance of the elderberry’s original habitat for 1 year or less.

Permanent Direct Impacts includes the transplanting of the elderberry onsite, and the temporary disturbance of the elderberry’s original habitat for more than 1 year. Two elderberry shrubs would be permanently impacted.

Shoulder widening “may affect, and likely to adversely affect” VELB within the BSA. ESA fencing installed around the elderberry shrubs will prevent the contractor from staging near or within VELB habitat. Formal consultation is required with USFWS.

Giant Garter Snake

There is no suitable habitat for GGS in the project area. The lack of low gradient slough characteristics, emergent vegetation and wetlands further implicates that there would be no expectation of GGS occupying the project's reach of Pine Creek. Therefore, there would be no effect on GGS.

Yellow Billed Cuckoo

The project lacks the essential and biological habitat requirements for YBCU. Requirements include riparian woodlands greater than 200 acres and wider than 325 feet, adequate prey base with higher foliage volume, and moist riparian habitat with higher humidity in flat open riverine valleys. Marginal foraging habitat exists with the old growth riparian habitat at Pine Creek, however, the younger rapidly growing riparian stands of willow and cottonwood associated with the Sacramento River oxbows provide preferred nest and foraging opportunities.

The following avoidance measures will be in place to avoid impacts to YBCU.

- All trees will be removed outside of the migratory bird nesting season (October 1-January 29), when YBCU are not present in California
- If feasible, construction will begin before May 1, prior to YBCU migration to California, to prevent birds from nesting in areas affected by construction noise.
- If YBCU are detected within the construction zone, USFWS and CDFW will be notified.

There will be “no effect” to YBCU and "no effect" to YBCU designated critical habitat.

Swallows and Migratory Birds

Guard rails, posts and end treatments at bridge approaches will be upgraded to meet current standards. This work is on top of the bridge and will not impact nesting swallows underneath the bridge. No exclusion measures are necessary.

The proposed project would remove shrubs and riparian habitat that provide potential nesting habitat for nesting birds that are protected under the Migratory Bird Treaty Act. If the contractor's removal of vegetation occurs between February 15th and August 31st (nesting season) then a qualified biologist shall perform a pre-construction nesting bird survey. If active nests are found, project related work interfering with active migratory bird nests will not occur until Caltrans performs consultation with CDFW regarding appropriate action to comply with provisions of the Fish and Game Code of California, and the MBTA. If a lapse in project related work of fifteen days or longer occurs, another survey and, if required, consultation with CDFW will be required before the work can be reinitiated.

Bats

Guard rail, posts, and end treatments at bridge approaches will be upgraded to meet current standards, however the work proposed on top of the bridge where the bats are located will not affect the bats utilizing the bridge below the deck or in the joints. No exclusion measures will be necessary. A qualified biologist shall perform a pre-construction roosting bat survey to confirm the bat day roost. If bat day-roosts are found, Bats shall be allowed to occupy day roost on portions of the bridge as conflicts with construction are not anticipated. To reduce any potential of project related work interfering with bat day-roosts, the work window for construction activities at the bridges is proposed to occur between September 1 and May 1.

b) The riparian vegetation extending from the western bank of Pine Creek, along the north side of SR 32 would be removed, starting approximately 125 feet west of Pine Creek to the western edge of the riparian vegetation. Approximately 0.75 acres of riparian habitat within the ESL, west of the Pine Creek Lagoon Bridge would be permanently impacted. No riparian vegetation would be temporarily impacted.

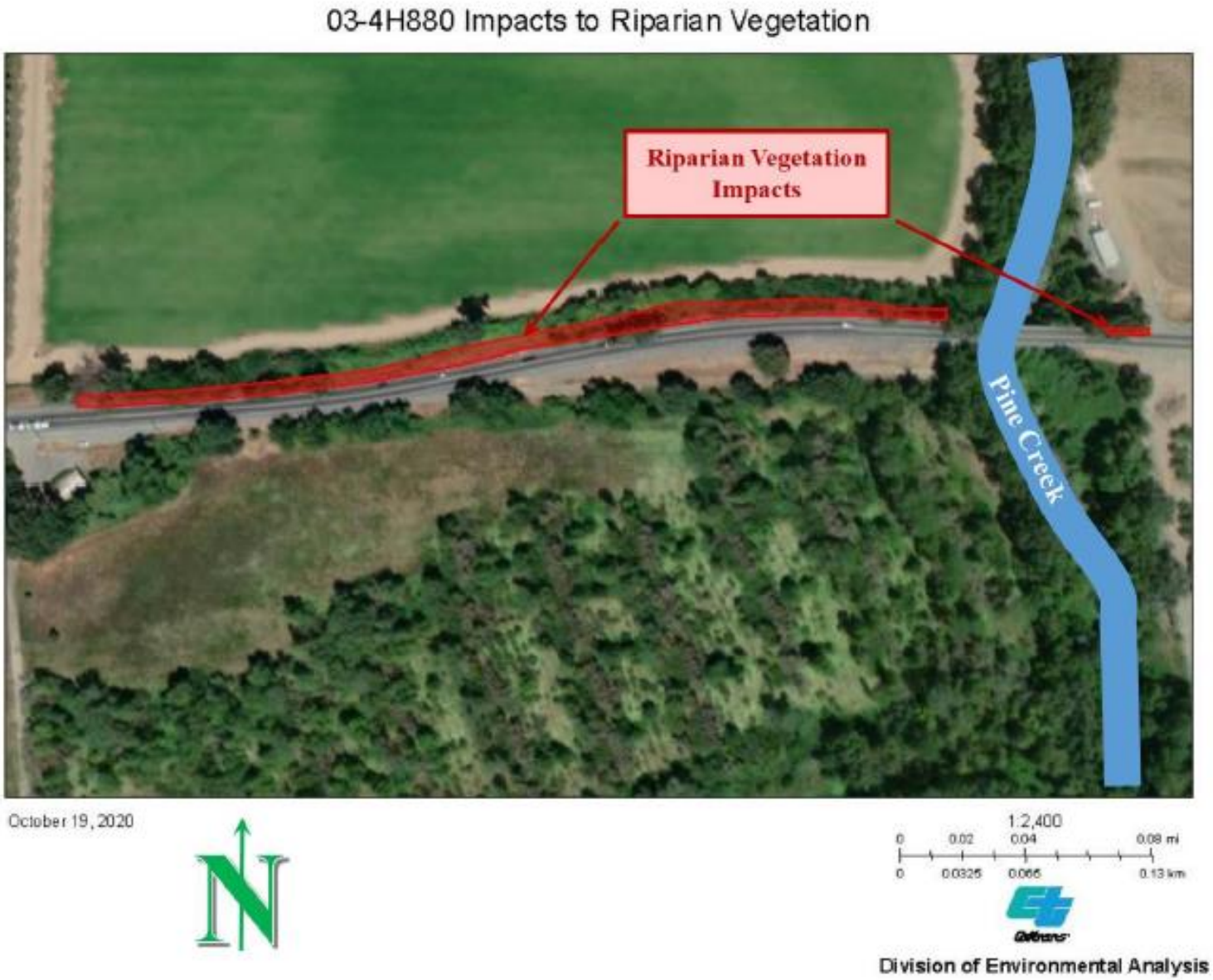
c-f) No work is proposed within Waters of the U.S. and there will be no impact to wetlands or vernal pools Therefore, there will be no impact to state for federally protected wetlands.

The proposed project will not interfere 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. Therefore, there will be no impact.

The proposed project will not conflict with any local polices policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Therefore, there will be no impact.

The proposed project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Butte county does have a Habitat Conservation Plan submitted to the USFWS, NMFS and CDFW, however it has yet to be adopted.

Figure 2. Location of Riparian Impacts



Mitigation Measures

Caltrans proposes to compensate for adverse effects to VELB through the purchase of VELB mitigation credits at a USFWS approved mitigation bank. Elderberry shrubs present in the BSA were divided into three groups depending on the impacts, habitat types, and mitigation needs.

Group 1 consists of 1 elderberry shrub within non-riparian habitat. No exit holes were identified; however, exit holes are difficult to detect so it is conceivable that exit holes may have been present and not detected. This elderberry shrub is located between a power pole and the edge of the right-of-way, outside the area of soil disturbance and will not be directly impacted. The plant could be indirectly impacted due to the proximity of the work but any impact would be temporary. ESA fencing will be used, but no mitigation is proposed.

Group 2 consists of 12 elderberries within a riparian area. No exit holes were identified in any of these elderberry shrubs; however, exit holes are difficult to detect so it is conceivable that exit holes may have been present and not detected. They are all located within riparian habitat. Two elderberry shrubs would be directly impacted and 10 would be indirectly impacted. All directly impacted elderberry shrubs would be transplanted to a USFWS-approved mitigation bank between November 2021 and February 2022. Caltrans proposes to mitigate for 0.0574 acres of riparian habitat at a ratio of 3:1, by purchase of 0.172 acres or 4.2 credits.

Group 3 consists of 10 elderberries within a riparian area. No exit holes were identified; however, exit holes are difficult to detect so it is conceivable that exit holes may have been present and not detected. Three of the 10 elderberries could be indirectly impacted due to proximity to the work but any impact would be temporary. ESA fencing will be used, but no mitigation is proposed.

Table 4 Summary of Effects on VELB

Group Number	Number of Shrubs	Type of Habitat	Direct or Indirect Effects	ESA Fencing	Mitigation required
Group 1	1	Non-riparian	1 shrub indirect	Yes	No
Group 2	12	Riparian	2 shrubs Direct, 10 shrubs Indirect	Yes	Yes
Group 3	10	Riparian	3 shrubs indirect, 0 shrubs direct	Yes	No

No Build Alternative

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.7. Cultural Resources

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

Regulatory Setting

The term "cultural resources," as used in this document, refers to the "built environment" (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including "historic properties," "historic sites," "historical resources," and "tribal cultural resources." Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA's responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique"

archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term "tribal cultural resources" to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires the Department to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU)1 between the Department and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

Environmental Setting

A Historic Property Survey Report (HPSR) was completed for Gianella-Muir Safety Project on August 13, 2020. In addition to the HPSR, an Archaeological Survey Report (ASR) was completed on August 10, 2020, an Extended Phase One Report (XPI) complete August 7, 2020, and a Finding of Effect (FOE) completed on August 13, 2020.

The APE was established to encompass the maximum limits of potential ground disturbing activity that would be expected from the proposed project. This includes all proposed right of way shown on the ESL Layouts in Appendix B represented by the existing ESL limit line, temporary construction easements, utility relocations and any borrow, disposal, access, or staging areas. The APE includes 120.09 acres surrounding the project. Portions of 26 private parcels are included in the APE. Permits to Enter (PTEs) were sent to property owners whose properties were within the APE on May 4, 2020. If no response was received, a second request was sent to the property owners by certified mail. Follow up phone calls were made if there was still no response. PTEs were obtained for 25 of the 26 of parcels partially included in the APE.

[1] The MOU is located on the SER at http://www.dot.ca.gov/ser/vol2/5024mou_15.pdf

These parcels and the Caltrans right of way within the APE were completely surveyed for cultural resources. A record search was conducted with the Northeast Information Center on January 17, 2020. No archaeological sites within the study area were identified. Five state bridges were identified within the study area. The record search also identified one prehistoric archaeological resource within 0.25 miles of the APE.

The project's APE intersects the large built-environment-linear resource of the Sycamore Mud Creek Levee Flood Control System, which is considered a historical resource under CEQA. The Sycamore Mud Creek Levee System has not been formally evaluated but was assumed eligible for inclusion in the National Register of Historic Places (NRHP) and for the California Register of Historic Resources (CRHR) for the purposes of the current project, under Criterion A/1.

Caltrans found a Finding of No Adverse Effect without Standard Condition appropriate for the current project since it will not affect the overall integrity of the Sycamore Mud Creek Flood Control System, nor its ability to convey historical significance. The project will not destroy any section of the large linear resource of the Sycamore Mud Creek Flood Control Levee System and will not alter the resource's integrity or ability to convey its historical significance. Additionally, Caltrans District 3 will prepare all supplemental studies for the phased archeological efforts, for which consultation will continue with CSO, pursuant to X.B.2 of the Section 106 of the Programmatic Agreement (PA).

Discussion of Environmental Evaluation Question 2.7—Cultural Resources

a) The project would not diminish the character of the Sycamore Mud Creek Levee Flood Control System and would not adversely affect the resource's ability to convey its significance. The scope of work does not include any alteration to the resource and/or to its settings that could change its character, use, or physical features.

Additionally, the resource will continue to be under the shared responsibility of the State and federal governments. The Department of Water Resources (DWR) will continue to regulate the levees system according to State Plan of Flood Control as appointed by the 1953 Memorandum of Understanding (MOU). There will be no transfer, lease, or sale of the resource out of federal ownership or control as a result of this project. Therefore, the impact would be less than significant.

b) Caltrans received concurrence with the finding of effect "No Adverse Effect without Standard Conditions" from the State Historic preservation Officer (SHPO) on October 21, 2020.

Due to restricted access, surveys could not be completed of the entire APE. Seven (7) acres of the 120-acre APE could not be surveyed on one private property parcel. As such, in accordance with Stipulation XII.B, Caltrans District 3 requested and received approval for Minor Phasing to complete studies from CSO once access was granted. Caltrans District 3 will continue consultation with CSO and SHPO on the reporting of these findings per Stipulation X.B.2 of the Section 106 PA. Within Caltrans ROW, no potential state-owned historical resources were identified as a result of studies.

Therefore no state-owned historical resources qualifying under Public Resources Code (PRC) 5024 will be impacted as a result of the project.

c) There will be no disturbance to human remains including those interred outside of dedicated cemeteries.

Mitigation Measures

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

No Build Alternative

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.8. Energy

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

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Energy Analysis dated August 18, 2020. Potential impacts to Energy are not anticipated as this project will not increase capacity or provide congestion relief compared to the no build alternative. The project is not likely to directly increase long-term energy consumption. Energy impacts from construction would be short term and would not result in inefficient, wasteful, and unnecessary consumption of energy.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.9. Geology and Soils

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

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	No	No	No	Yes
Would the project: 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?	No	No	No	Yes
Would the project: f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No	No	No	Yes

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to geology and soils are not anticipated as the soils within the project area are lacking the characteristics that would cause earthquake related hazards if an earthquake were to occur. In addition, paleontological resources are unlikely to be impacted by this project.

No Build Alternative—Geology and Soils, Paleontological Resources

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.10. Greenhouse Gas Emissions

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

Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (also referred to as GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2.

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or "mitigate" the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

FEDERAL

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices.[2] This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability."[3] Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

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[2] Federal Highway Administration (FHWA). 2019. *Sustainability.* https://www.fhwa.dot.gov/environment/sustainability/resilience/. Last updated February 7, 2019. Accessed: August 21, 2019.

[3] Federal Highway Administration (FHWA). No date. *Sustainable Highways Initiative*. https://www.sustainablehighways.dot.gov/overview.aspx. Accessed: August 21, 2019.

The U.S. EPA[4], in conjunction with the National Highway Traffic Safety Administration (NHTSA), is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. The current standards require vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. EPA and NHTSA are currently considering appropriate mileage and GHG emissions standards for 2022–2025 light-duty vehicles for future rulemaking.

NHTSA and EPA issued a Final Rule for "Phase 2" for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO_2 emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

STATE

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

AB 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (ARB) create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

[4] U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in Massachusetts v. EPA (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions.

LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

EO B-16-12 (March 2012): Orders State entities under the direction of the Governor, including ARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015): Establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$).[5] Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016: Codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

SB 1386, Chapter 545, 2016: Declared "it to be the policy of the state that the protection and management of natural and working lands … is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."

[5] GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The GWP of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.

AB 134, Chapter 254, 2017: Allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

Environmental Setting

The proposed project is in a rural area, with a primarily natural-resource based agricultural and tourism economy. SR 32 is the main transportation route between Orland and Chico in the area for both passenger and commercial vehicles, and is also popular with bicyclists. The nearest alternate route is SR- 162, 15.7 miles to the south. Traffic counts are low and SR-32 is rarely congested. The Butte County Association of Governments (BCAG) guides transportation development. The Butte County General Plan and RTP/SCS Circulation, Safety, and Traffic elements address GHGs in the project area.

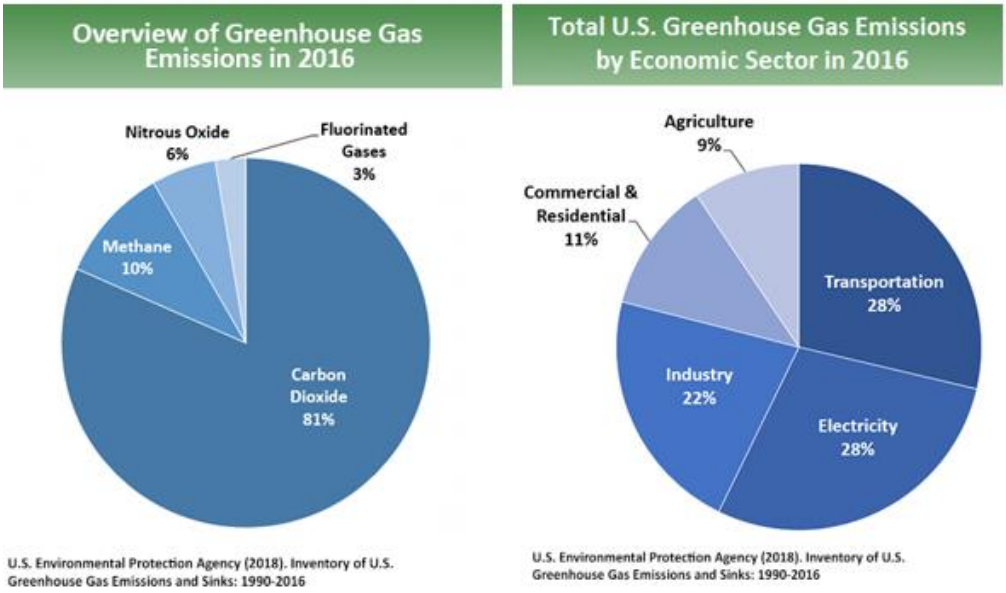
A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by H&SC Section 39607.4.

NATIONAL GHG INVENTORY

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change (see figure 2). The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO_2, CH_4, N_2O, HFCs, perfluorocarbons, SF_6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by "sinks" such as forests, vegetation, and soils that uptake and store CO_2 (carbon sequestration). The 1990–2016 inventory found that of 6,511 $MMTCO_2e$ GHG emissions in 2016, 81% consist of CO_2, 10% are CH_4, and 6% are N_2O; the balance consists of fluorinated gases (U.S. EPA 2018).[6] In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions.

[6] U.S. Environmental Protection Agency. 2018. *Inventory of U.S. Greenhouse Gas Emissions and Sinks.* https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks

Figure 3. U.S. 2016 Greenhouse Gas Emissions



STATE GHG INVENTORY

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2018 edition of the GHG emissions inventory found total California emissions of 429 $MMTCO_2e$ for 2016, with the transportation sector responsible for 41% of total GHGs. It also found that GHG emissions have declined from 2000 to 2016 despite growth in population and state economic output.[7]

[7] California Air Resources Board (ARB). 2019a. *California Greenhouse Gas Emissions Inventory–2019 Edition*. https://ww3.arb.ca.gov/cc/inventory/data/data.htm. Accessed: August 21, 2019.

FIGURE 4. CALIFORNIA 2016 GREENHOUSE GAS EMISSIONS

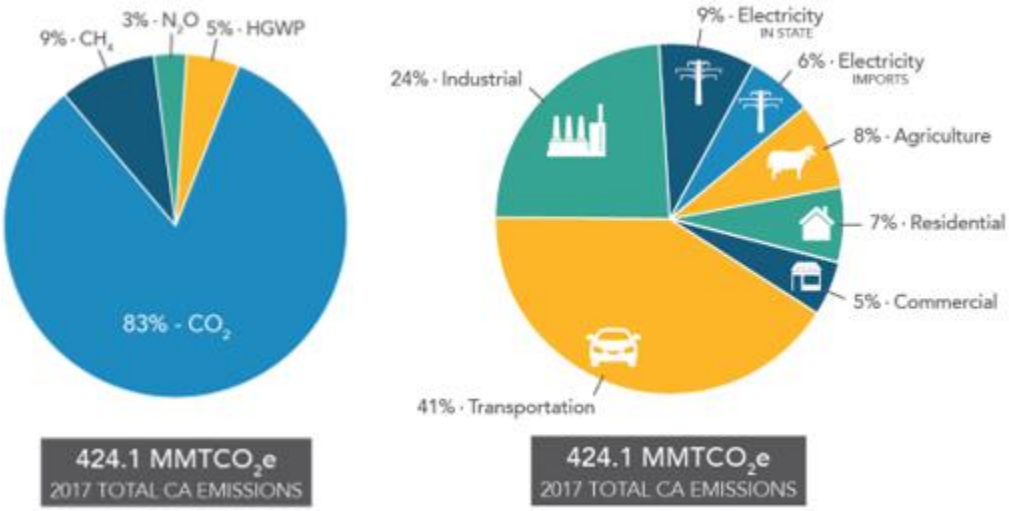
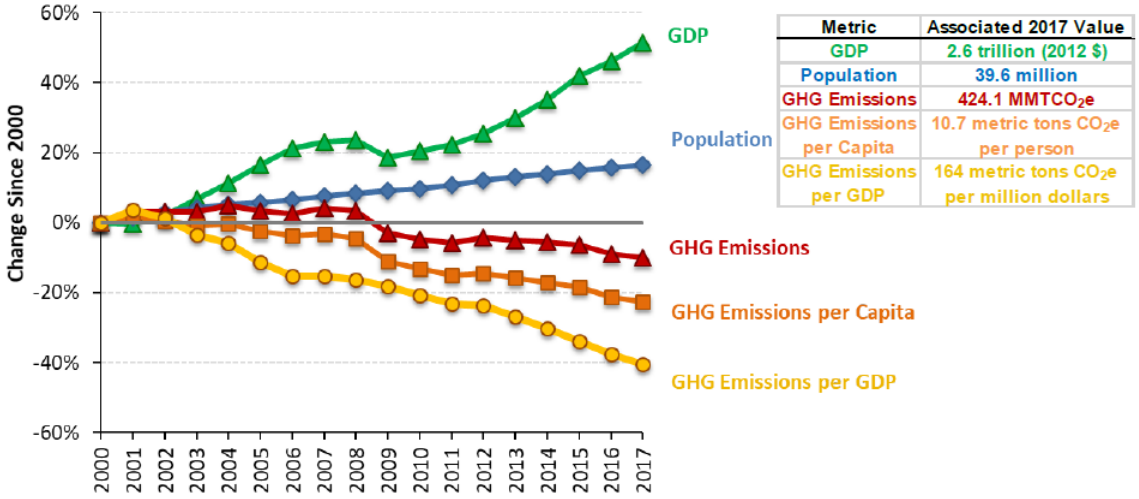


FIGURE 5. CHANGE IN CALIFORNIA GDP, POPULATION, AND GHG EMISSIONS SINCE 2000 (ARB 2019b)[8]



[8] California Air Resources Board (ARB). 2019b. *California Greenhouse Gas Emissions for 2000 to 2017. Trends of Emissions and Other Indicators.* https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf. Accessed: August 21, 2019.

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

REGIONAL PLANS

ARB sets regional targets for California's 18 MPOs to use in their RTP/SCSs to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is included in the RTP/SCS for BCAG. The regional reduction target for BCAG is 1 percent for 2020 and 2035.

The proposed project is within the jurisdiction of BCAG which is the Regional Transportation Planning Agency (RTPA) for Butte County. The Butte County 2016 RTP identifies a 1% increase in GHG levels from 2005 emissions levels by 2020 and a 1% increase in GHG levels from 2005 emissions levels by 2035 for GHG emissions from on-road light duty trucks and passenger vehicles. The targets apply to the BCAG region as a whole for all on-road light-duty trucks and passenger vehicles emissions, and not to individual cities or sub-regions.

TABLE 5. REGIONAL PLANS AIR QUALITY GOALS

Title	GHG Reduction Policies or Strategies
Butte County Association of Governments (BCAG) Regional Transportation Plan and Sustainable Community Strategy 2040 (adopted December 2016)	• Improve bicycling and pedestrian routes • Expand the public transit network • Develop land use scenarios for the purposes of illustrating travel effects on the regional transportation system to help meet the region GHG reduction targets
Butte County Climate Action Plan (Adopted February 2014)	• Inventory and analyze community and government GHG emissions for the county and Implement programs that lead to less GHG production such as installing solar panel arrays, switching to less GHG intensive crops, methane collection from the landfill, and complete streets.

[8] California Air Resources Board (ARB). 2019c. *SB 375 Regional Plan Climate Targets*. https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: August 21, 2019..

City of Chico Climate Action Plan (2020)	• Expand and enhance bicycling and pedestrian infrastructure to decrease the use of vehicles and GHG production • Corridor management measures and traffic calming to lower traffic speeds to reduce GHG emissions • Expand the use of alternative fuels to reduce the use of GHG producing fuels
BCAG Transit and Non-Motorized Plan (May 2015)	• Focuses on improving the transportation network for people who walk, bike, or take transit in Butte County • The plan projects an additional per capita greenhouse gas emission reduction of 0.25%0.27% based on the implementation of the transit services alone

Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the SHS and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH_4 and N_2O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Public Resources Code, § 21083(b)(2)). As the California Supreme Court explained, “Because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself.” (Cleveland National Forest Foundation *v.* San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (CEQA Guidelines Sections 15064(h)(1) and 15130)).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Operational Emissions

The purpose of the proposed project is to reduce the number and severity of collisions on SR 32 and will not increase the capacity of the roadway. This type of project generally causes minimal or no increase in operational GHG emissions. Because the project would not increase the number of travel lanes on SR 32, no increase in vehicle miles traveled (VMT) would occur as result of project implementation. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected. It is likely that there will be long term GHG

benefits from smoother pavement surfaces as this project will overlay the existing pavement. Widening the shoulders would make the roadway safer for bicyclists and pedestrians, supporting alternative modes of travel.

Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

All construction contracts include Caltrans Standard Specifications Sections 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

Construction is expected to begin in 2022 and last approximately 120 working days. The CAL-CET2018 was used to estimate average carbon dioxide (CO2), methane (CH4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs) emissions from construction activities. A quantity of GHG is expressed as carbon dioxide equivalent (CO2e) that can be estimated by the sum after multiplying each amount of CO2, CH4, N2O, and HFCs by its global warming potential (GWP). The GWPs of CO_2, CH_4, N_2O, and HFCs are 1, 25, 298, and 14,800, respectively. The average CO2e produced during construction is estimated to be approximately 478 metric tons.

Certain Standard Specifications and laws that the contractor is required to follow will reduce GHG during construction. All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations. Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. The contractor would also have to comply with Title 13 of the California Code of Regulations, which restricts idling of construction vehicles and equipment to no more than 5 minutes. This would further reduce GHG emissions during construction. A traffic management plan would also be utilized to minimize vehicle delays, which in turn reduces unnecessary GHG production due to vehicle idling.

To further reduce GHG emissions, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times as much as feasible. Reduced idling by vehicles will reduce unnecessary GHG emissions. Scheduling truck trips outside of peak morning and evening commute hours will also serve to reduce congestion and GHG emissions. Reducing construction waste and maximizing the use of recycled materials reduces consumption of raw materials, reduces landfill waste, and encourages cost savings. Not only does this reduce GHG emissions from the waste in the landfill, but also avoids emissions that would be produced taking the construction waste to the landfill.

The way construction equipment is used can also reduce GHG emissions. Maintaining equipment in proper tune and working condition and using right size equipment for the job can help prevent additional GHG emissions. Also, encouraging improved fuel efficiency from construction equipment can help reduce GHG emissions.

CEQA Conclusion

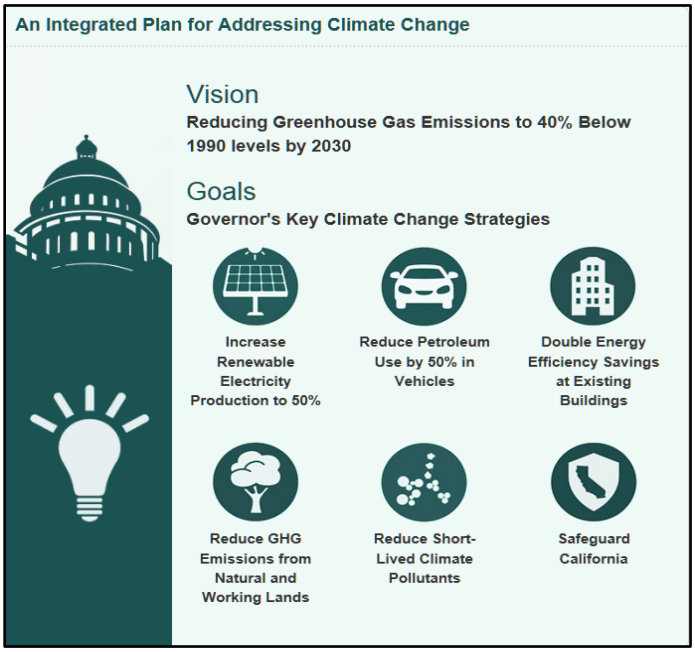
As this project is a safety project that is not capacity increasing, there will be no change in operational emissions. Furthermore, the proposed roadway improvements would lead to smoother pavement and may provide long-term GHG benefits. There will be construction GHG emissions, but standard specifications and regulations will reduce these emissions. The project would not conflict with any GHG-reduction plan, policy or regulation. Accordingly, this project will have a “less than significant impact” on GHG emissions.

Greenhouse Gas Reduction Strategies

Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals (see Figure 5) that involved (1) reducing today’s petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*.

Figure 6. California Climate Strategy



The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing greenhouse gas emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030.[9]

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

[9] State of California. 2019. *California Climate Strategy*. https://www.climatechange.ca.gov/. Accessed: August 21, 2019.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with CO_2 reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand management and new technologies rather than continuing to expand capacity on existing roadways.

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce greenhouse gas emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the plan that will help to reduce GHG emissions include:

- Increasing percentage of non-auto mode share
- Reducing VMT
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the State's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

Caltrans Policy Directives and Other Initiates

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Activities to Address*

Climate Change (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

PROJECT-LEVEL GREENHOUSE GAS REDUCTION STRATEGIES

The following measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project.

- The construction contractor must comply with the 2018 Caltrans Standard Specifications in Section 14-9. Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including the Butte County Air Quality Management District regulations and local ordinances.
- Compliance with Title 13 of the California Code of Regulations, which restricts idling of construction vehicles and equipment to no more than 5 minutes.
- Caltrans 2018 Standard Specification 7-1.02C "Emissions Reduction" ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board.
- Utilize a traffic management plan to minimize vehicle delays.
- Reduce construction waste and maximize the use of recycled materials (reduces consumption of raw materials, reduces landfill waste, and encourages cost savings).

Adaptation Strategies

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges, combined with a rising sea level, can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

FEDERAL EFFORTS

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program (USGRCP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of

1990 (15 U.S.C. Ch. 56A § 2921 et seq). The *Fourth National Climate Assessment,* published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime."[10]

U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions."[11]

FHWA order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events,* December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels.[12]

STATE EFFORTS

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate Change Assessment* (2018) is the state's latest effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

[10] U.S. Global Change Research Program (USGCRP). 2018. *Fourth National Climate Assessment*. https://nca2018.globalchange.gov/. Accessed: August 21, 2019.

[11] Federal Highway Administration (FHWA). 2019. *Sustainability.* https://www.fhwa.dot.gov/environment/sustainability/resilience/. Last updated February 7, 2019. Accessed: August 21, 2019.

- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- Resilience is the "capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience". Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factors. These factors include, but are not limited to, ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

Caltrans Adaptation Efforts

CALTRANS VULNERABILITY ASSESSMENTS

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure* – Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence* – Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization* – Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

According to the Caltrans District 3 Climate Change Vulnerability Assessment (2019),[13] the climate change stressors present in District 3 are increased precipitation volatility, increasing temperatures, and increased wildfire extent and severity.

SEA-LEVEL RISE

The proposed project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

FLOODPLAINS

Future climate conditions are expected to alter rainfall patterns in California, with less precipitation overall but falling in heavier individual rain events. The Caltrans Climate Change Vulnerability Assessment for District 3 (Caltrans 2019) assessed and mapped potential changes to the 100-year flood event, a design standard used in highway design. In the project area, mapping shows that the 100-year storm rainfall event is likely to change by less than 5 percent through 2085.

The proposed project to widen shoulders and add dedicated turn lanes. The widening of the shoulders would add impervious surfaces along the length of the project. The proposed project crosses over Pine Creek and Mud creek in addition to irrigation channels used for farming. The west end of the project is also near, but does not cross, the Sacramento River. Most of the project is within the 1% annual chance flood hazard zone. A portion of the project on the east side of the project is within the 0.2% floodplain hazard zone, and the very east end of the project is not within any flood hazard zone.

Existing roadway and bridge drainage systems currently discharge stormwater to receiving waters through bridge deck drains and/or discharge to vegetated slopes adjacent to the highway facility. The current design for stormwater management, post construction, is to perpetuate existing drainage patterns. Stormwater will continue to sheet flow to vegetated slopes. The project area is fairly flat, and the project would include extending existing box culverts and lining poor condition culverts where required. These modifications would accommodate the relatively small potential increase in a 100-year-storm rainfall event.

WILDFIRE

The proposed project is located in a Local Responsibility Area that is designated by CalFire as a non-very-high fire hazard severity zone.[14] Google Maps satellite imagery shows SR 32 in the project area is surrounded by agricultural fields and orchards. Mapping in the Caltrans Climate Change Vulnerability Assessment for District 3 shows

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[13] California Department of Transportation. 2019. *Caltrans Climate Change Vulnerability Assessments. District 3 Technical Report*. Prepared by WSP.

[14] California Department of Forestry and Fire Protection (CalFire). 2008. *Very High Fire Hazard Severity Zones in LRA*. https://osfm.fire.ca.gov/media/6650/fhszl_map4.pdf. Accessed: September 10, 2020.

that this segment of roadway is not considered to be potentially exposed to wildfire and is not rated at any level of wildfire concern. Caltrans 2018 revised Standard Specification 7-1.02M(2) is required on all projects; it mandates fire prevention procedures during construction, including a fire prevention plan, to avoid accidental ignitions.

2.11. Hazards and Hazardous Materials

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

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.

Environmental Setting

An Initial Site Assessment (ISA) was completed for the Gianella-Muir Safety Project on March 24, 2020. The review for potentially hazardous waste within the project limits included a review of project plans, a review of Naturally Occurring Asbestos maps, and a review of the Geotracker database which contains information on hazardous waste sites. Since construction of the proposed project cannot avoid disturbing soils, a Site Investigation (SI) is required. The SI involves sampling soils for Aerially Deposited Lead (ADL) and will determine if hazardous soils exist and what actions, if any, will need to occur during construction. In addition to ADL, treated wood waste (TWW) will be encountered during construction of this project. This project is not located on the Cortese list.

Discussion of Environmental Evaluation Question 2.9 – Hazards and Hazardous Materials

Question a of the CEQA Checklist for Hazards and Hazardous materials was marked “Less Than Significant Impact.” The reason for this is that ADL, lead and chromium in yellow traffic striping, TWW, and the potential for Styrene in culvert liners are all present within the Gianella-Muir Safety Project.

Lead-contaminated soil may exist within and near our R/W due to the historical use of leaded gasoline, leaded airline fuels, waste incineration, and et-cetera. The areas of primary concern in relation to highway facilities are soils along routes with historically high vehicle emissions due to large traffic volumes, congestion, or stop and go situations. Since soil disturbance will occur and excess soils will be generated, a site investigation for Aerially Deposited Lead (ADL) is required. This site investigation will determine if hazardous soils exist and what actions, if any, will need to occur during construction.

In the event that cured in place pipe (CIPP) will be used to rehabilitate/replace drainage facilities, the potential for hazardous waste may exist with styrene (a highly volatile chemical used in the main liner). If groundwater is known to be present in the vicinity of a culvert or perched/spring water permeates to the inside of the culvert, NROEE recommends the use of a pre-liner instead of patching the deteriorated culvert.

Hazardous chemicals are known to exist in the wood posts associated with sign posts. As such, if wood posts are removed, they shall be disposed of in accordance with Standard Special Provision 14-11.14 (Treated Wood Waste).

Hazardous levels of lead and chromium are known to exist in the yellow color traffic stripes. Since these traffic stripes will be cold planned along with the roadway, the levels of lead and chromium will become non-hazardous. These grindings (which consist of the roadway material and the yellow color traffic stripes) shall be removed and disposed of in accordance with Standard Special Provision 36-4 (Residue Containing High Lead Concentration Paints) which requires a Lead Compliance Plan (LCP). Non-hazardous levels of lead are known to exist in the white traffic striping. As such, these grindings shall be removed and disposed of in accordance with the same specification.

Since construction of the proposed project cannot avoid disturbing soils, a Site Investigation (SI) is required. The site investigation involves sampling soils for ADL. A SI needs to be requested by the PE or PM and takes 2 to 5 months to complete since a task order has to be prepared, approved, and issued to a contractor. The contractor is then required to prepare work plans, health and safety plans, conduct site investigations, and prepare site investigation reports for Caltrans review and approval.

All of the hazardous or potentially hazardous materials present within this project will be accounted for with SSPs and applicable laws. The SI will help determine which actions, if any, need to occur during construction to protect the public and the environmental from lead found in soils. Therefore a “Less Than Significant Impact” is expected through the routine transport and disposal of the mentioned materials. A “Less Than Significant Impact” is also expected for a reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment as the appropriate protections will be in place during construction.

“No Impact” determinations in sections c through g of the CEQA Checklist are based on the scope, description, and location of the proposed project, as well as the ISA dated March 24, 2020. No impacts to these sections are anticipated due to the project being located farther than 0.25 miles from a school, no cortese list sites within the project area, the project is not within 2 miles of an airport, the project will not impact an emergency response plan, or have an impact on wildland fires.

Mitigation Measures

No mitigation measures are necessary for hazards and hazardous materials.

No Build Alternative

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.12. Hydrology and Water Quality

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	No	No	Yes	No
Would the project: b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No	No	No	Yes
Would the project: 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;	No	No	Yes	No
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	No	No	Yes	No
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	No	No	Yes	No
(iv) impede or redirect flood flows?	No	No	No	Yes
Would the project: d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No	No	No	Yes
Would the project: e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No	No	Yes	No

Regulatory Setting

The primary laws and regulations governing hydrology and water quality include:

- Federal Clean Water Act (CWA), 33 USC 1344
- Federal Executive Order for the Protection of Wetlands (EO 11990)
- State Sections 1600–1607 of the California Fish and Game Code (CFGC)
- State Porter-Cologne Water Quality Control Act, § 13000 et seq.

Environmental Setting

A Water Quality Assessment was completed on August 13, 2020 and a Preliminary Drainage Report was completed on October 20, 2020. Minor technical additions were made to this section after the draft environmental document was circulated.

Within the Project limits, a majority of runoff sheet flows off the side of SR 32, with some areas having runoff is collected via roadside dikes before sheet flowing off the side of SR 32. Drainage features within the project limits consists of vegetated roadside ditches and cross culverts. Existing grass swales have gentle slopes, which allows for infiltration of highway stormwater runoff and run-on from agriculture land use within the area.

A majority of the Project limits are located in areas designated by the Federal Emergency Management Agency (FEMA) as Special Flood Hazard Area (SFHA) Zone A. FEMA uses Zone A to characterize areas subject to inundation by the 1-percent annual chance flood (100-year flood) where no Base Flood Elevation have been determined. Additionally, some areas within the Project limits have been designated by FEMA as within Zone X: “Area with reduced flood risk due to levee.” The scope of the project will not raise or change the profile of SR 32 and it is anticipated that there will be no affects to the FEMA mapped floodplain in the project area.

Discussion of Environmental Evaluation Question 2.10—Hydrology and Water Quality

There will be no discussion of environmental evaluation questions b, c part iv, and d for Hydrology and Water Quality as the project will have no impact on these questions. The no impact determinations are based on the scope, description, and location of the proposed project.

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

   Construction-related activities would result in surface disturbances with the potential to violate water quality standards and WDRs if sediment or contaminant-laden runoff from work areas enters storm drains or other pathways

leading to receiving waters. However, it is anticipated that the project will be regulated under the Construction General Permit (CGP) and appropriate compliance measures will be implemented to avoid discharges and potential water quality threats within the project area. As an example, compliance with the CGP requires a risk level analysis based on the project's potential erosion and transport to receiving waters. The results of this analysis will be utilized to determine standard water quality protection measures (to be implemented) in order to avoid surface and ground water quality degradation during construction operations. It is anticipated that BMP usage, placement, field implementation and effectiveness will be monitored, adjusted, and modified (accordingly) for the duration of the project. Compliance with all applicable NPDES Permits, in addition to coordination with the Regional Water Quality Board, is expected to ensure the protection of water resources in the area.

For projects having 1 acre of more of new impervious area, Caltrans' MS4 Permit requires the implementation of storm water design features and a strategy to treat runoff and manage impervious and pervious areas within the project limits. Specific design features will be vetted and decisions made (storm water related) will be documented within project design and environmental technical studies. This impact would be less than significant.

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:

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

Compliance with the Construction General Permit (GCP) is anticipated to address the implementation of minimization and avoidance measures. It is expected that standard construction erosion control measures will be utilized to avoid erosion and siltation for the duration of project activities. BMP measures and field implementation strategies will be outlined in the Contractor prepared and Caltrans approved SWPPP. These will likely include temporary soil stabilization measures, linear sediment barriers (i.e. silt fence, gravel bag berms, fiber rolls), and construction site waste management (i.e. concrete washout, construction materials storage, litter/ waste management) among other approved controls. This impact would be less than significant.

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

It is anticipated that drainage system design will focus on perpetuating existing highway drainage conditions to the greatest extent feasible. Rehabilitated and/or new drainage features will be designed to perpetuate flow in the existing direction and will have similar or greater capacity than what currently exists in support of current design standards and the

proposed design features for the project. This impact would be less than significant.

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

Drainage appurtenances, within the project limits, will be designed to accommodate the anticipated change in flow. In compliance with Caltrans' MS4 Permit, treatment BMPs will be incorporated into the project design, where applicable and feasible, to treat the new impervious area anticipated for the project. The implementation of BPMs meant to treat general pollutants will be evaluated and an analysis of site characteristics to optimize water quality volume/water quality flow and maximize site perviousness will be performed. This impact would be less than significant.

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

It is expected that temporary impacts to localized water quality and groundwater, that may occur, will be minimized and/or avoided through the use of Best Management Practices and NPDES permit (i.e. CGP and Caltrans' MS4) compliance practices. The implementation of water quality measures, meant to promote storm water infiltration practices and low impact development, is anticipated. Additionally, due to excavation occurring on a temporary and short-term basis, during the construction period, groundwater resources should not be affected to any great extent or degree. This impact would be less than significant.

Mitigation Measures

No mitigation measures are necessary for hydrology and water quality.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.13. Land Use and Planning

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

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. Potential conflicts to any local land use and planning are not anticipated. The majority of the proposed project will occur along the State Highway within the existing Caltrans right of way. Work outside of the right of way will mainly be accomplished with TCEs. The TCEs are small and will not interfere with activities in the surrounding parcels in a temporary or permanent way. Right of way acquisition will be required at mud creek to improve roadway entrances and at Muir Avenue to extend a deceleration lane. These permanent right of way acquisitions will not have an impact on land use and planning. The scope of work for this project will not change the physical location of the highway, therefore the proposed project will not cause division of the local community.

The proposed project does not conflict with local plans. The local or regional plans that pertain to the project area are the Butte County General Plan, Butte County Draft Habitat Conservation Plan (HCP), and the Butte County Transit and Non-Motorized Transportation Plan. This project is not within the city limits of Chico, but the far eastern portion of the project is within the Chico of Chico Sphere of Influence. The project ends at the Muir Avenue, SR 32 intersection. The City of Chico Sphere of influence is the potential future city limits of the City of Chico.

The Butte County General Plan shows that the parcels that abut the project are zoned as agricultural land and will remain that way as there is no planned residential or commercial development surrounding this section of SR 32. The project does not conflict with the agricultural zoning along SR 32, as there will be no acquisition of agricultural property adjacent to the project.

The Butte County Transit and Non-Motorized Transportation Plan listed State Route 32 in Butte county as the future location of a Class II Bike Lane. The proposed project is in accord with the Butte County Transit and Non-Motorized Transportation Plan as the wider shoulders will provide more space for pedestrians and bicyclists along this section

of SR 32. Signs warning vehicles of bicyclists before narrow bridges will make this section of SR 32 safer for bicyclists, which is also in accordance with the Butte County Transit and Non-Motorized Transportation Plan. The Butte County Draft HCP has not yet been adopted.

No Build Alternative

The existing condition would remain; therefore, per CEQA, “No Impact” would occur.

2.14. Mineral Resources

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

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to mineral resources are not anticipated due to there being no known mineral resources located within the environmental study area. The closest known mineral resource, classified as concrete grade aggregate, is located about 0.3 miles from the western edge of the project along State Route 32 in Glenn county.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.15. Noise

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project result in: a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	No	No	No	Yes
Would the project result in: b) Generation of excessive groundborne vibration or groundborne noise levels?	No	No	No	Yes
Would the project result in: 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	No	No	Yes

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Noise Analysis dated August 19, 2020. Potential impacts to Noise are not anticipated as this project meets the criteria for a Type III project as defined in 23CFR772. Traffic volumes, composition and speeds would remain the same in the build and no build condition. Traffic noise impacts are not anticipated, and a detailed noise study report is not required.

During construction, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Noise associated with construction is controlled by 2018 Caltrans Standard Specification Section 14-8.02, "Noise Control," which states the following:

1. Control and monitor noise resulting from work activities.
2. Do not exceed 86 dBA Lmax at 50 feet from the job site activities from 9 p.m. to 6 a.m.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.16. Population and Housing

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

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to population and housing are not anticipated as the proposed project would not increase capacity or access; therefore, the proposed project would not directly or indirectly induce population growth in the area. The project would not add new homes or businesses and would not extend any roads or other infrastructure. There would be no impact to unplanned population growth. Although some of the areas surrounding the project are rural residential communities, there are no residences within the project area, and no replacement housing would be necessary. Conforming of driveways along the proposed project will be required, but this will not displace any people or induce growth. There would be no impact to existing people or housing.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.17. Public Services

Question	Potentially Significant Impact	Less Than Significant 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: Fire protection?	No	No	No	Yes
Police protection?	No	No	No	Yes
Schools?	No	No	No	Yes
Parks?	No	No	No	Yes
Other public facilities?	No	No	No	Yes

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to public resources are not anticipated. During construction any emergency service agency whose ability to respond to incidents may be affected by traffic control would be notified prior to any closure. All emergency vehicles would be accommodated through the work area. There would be no impact to emergency services resulting from the project.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.18. Recreation

Question	Potentially Significant Impact	Less Than Significant 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?	No	No	No	Yes
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	No	No	Yes

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to recreation are not anticipated. The project would not increase the use of existing neighborhood parks, regional parks, or other recreational facilities. No neighborhood parks, regional parks, or other recreational facilities are present within the project limits. There would be no impact to neighborhood or regional parks.

The project does not include recreational facilities or require the construction or expansion of recreational facilities. No neighborhood parks, regional parks, or other recreational facilities are present within the project limits. There would be no impact from the construction of recreational facilities.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.19. Transportation/Traffic

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No	No	No	Yes
Would the project: b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? NOTE: While public agencies may immediately apply Section 15064.3 of the updated Guidelines, statewide application is not required until July 1, 2020. In addition, uniform statewide guidance for Caltrans projects is still under development. The PDT may determine the appropriate metric to use to analyze traffic impacts pursuant to section 15064.3(b). Projects for which an NOP will be issued any time after December 28, 2018, should consider including an analysis of VMT/induced demand if the project has the potential to increase VMT (see page 20 of OPR's updated SB 743 Technical Advisory), particularly if the project will be approved after July 2020.	No	No	No	Yes
Would the project: c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No	No	No	Yes
Would the project: d) Result in inadequate emergency access?	No	No	No	Yes

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Traffic data that was provided in the Project Initiation Report dated August 23, 2019. Potential impacts to traffic are not anticipated due to this project being a safety project, where the project scope does not change traffic flow on SR 32. There is no conflict with bicycle or pedestrian facilities as this project will widen the shoulders of SR 32 which will provide more space for bicyclists to avoid vehicles. In addition, this project will further enhance bicycle and pedestrian facilities along SR 32 by installing bicycle warning signs near narrow bridges for vehicles. There are no other conflicts with local plans or ordinances as discussed in section 2.13 Land Use and Planning that are applicable to traffic within the project area.

This project will not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Concurrence from Caltrans Head Quarters that a VMT CEQA analysis for this project is not required was received on August 13, 2020.

No hazards will be created by this project. This project will make SR 32 safer by increasing sight distance, adding clear recover zones, and wider shoulders. Intersections that have been found to have inadequate lighting will be addressed with improved safety lighting.

Emergency access will not be impeded by this project. During construction any emergency service agency whose ability to respond to incidents may be affected by traffic control would be notified prior to any closure. All emergency vehicles would be accommodated through the work area. After construction is complete, emergency access will be unchanged from existing conditions.

No Build Alternative

The existing condition would remain; therefore, per CEQA “No Impact” would occur.

2.20. Tribal Cultural Resources

Question	Potentially Significant Impact	Less Than Significant 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), or	No	No	No	Yes
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. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No	No	No	Yes

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the HSPR dated August 13, 2020. Potential impacts to Tribal Cultural Resources are not anticipated. There are no listed or eligible to list historic resources within the APE.

No Build Alternative

The existing condition would remain; therefore, per CEQA "No Impact" would occur.

2.21. Utilities and Service Systems

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities—the construction or relocation of which could cause significant environmental effects?	No	No	Yes	No
Would the project: b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No	No	No	Yes
Would the project: c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	No	No	No	Yes
Would the project: 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?	No	No	No	Yes
Would the project: e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No	No	No	Yes

There are numerous overhead utility poles as well as underground utilities within the project limits. This includes a Kinder Morgan pipeline crossing near PM 3.0 which was revealed based on utility investigation and review of As-builts. The project proposes to relocate 5 utility poles to outside the Clear Recovery Zone (CRZ).

Environmental Setting

There are no expected long term impacts to utilities. Temporary impacts will be due to relocation efforts by utility providers. Only a minor disruption for homeowners is expected during the relocation. It is anticipated that the overhead utility relocations will be minor in nature and short term.

Discussion of Environmental Evaluation Question 2.21—Utilities and Service Systems

a) Minor relocation of overhead utilities would result in the slight expansion of the utility facilities. However, the relocation of utilities would not result in new or major expansion of the existing facilities. Therefore the impact would be less than significant.

"No Impact" determinations for questions b) through e) are based on the scope, description, and location of the proposed project. Any utility relocations resulting from the work that will occur from this project will comply with all applicable laws and will not cause a permanent increased use of utilities.

Mitigation Measures

Based on the determinations made in the CEQA Checklist, mitigation measures have not been proposed for the project.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.22. Wildfire

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No	No	No	Yes
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	No	No	No	Yes
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	No	No	No	Yes
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No	No	No	Yes

"No Impact" determinations in this section are based on the scope, description, location, and CalFire Fire Hazard Severity Zone Maps of the proposed project. Potential impacts to wildfire are not anticipated. The project is not within or near a State Responsibility Area and would not have any impact on wildlife.

No Build Alternative

The existing condition would remain; therefore, per CEQA, "No Impact" would occur.

2.23. Mandatory Findings of Significance

Question	Potentially Significant Impact	Less Than Significant 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 or eliminate important examples of the major periods of California history or prehistory?	No	Yes	No	No
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)?	No	No	No	Yes
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	No	No	No	Yes

Discussion of Environmental Evaluation Question 2.23—Mandatory Findings of Significance

a) The Gianella-Muir Safety project has the possibility of adverse effects on the USFWS listed VELB. Elderberry shrubs, the host plant for VELB larvae, in the project area were grouped so that each of the three groups could have different mitigation strategies. Mitigation for VELB include transplanting directly impacted shrubs to a USFWS-approved mitigation bank, purchasing credits to off-set the indirect impacts to riparian habitat, and by using ESA fencing to protect shrubs that would have temporary, indirect impacts. Discussion of the mitigation strategies for VELB are discussed further in section 2.6 Biological Resources. Impacts to VELB are less-than-significant with mitigation incorporated.

Therefore, with the implementation of mitigation measures, the impacts would be less than significant to federally-listed as threatened or endangered animal species. The proposed project will have no impacts to any state-listed species as rare or endangered

under the California Endangered Species Act.. This project will not have an impact on reducing 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, or eliminate important examples of the major periods of California history or prehistory.

b) This project does not have any cumulatively considerable impacts. Therefore, there is no impact.

c) This project does not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. Therefore, there is no impact.

2.24. Cumulative Impacts

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations, Section 1508.7 of the Council on Environmental Quality (CEQ) Regulations.

Aesthetics

The Gianella-Muir Safety project will not cause direct or indirect impacts on Aesthetics. It will not contribute to a cumulative impact on Aesthetics and need not be further evaluated.

Agriculture and Forest Resources

The Gianella-Muir Safety project will not cause direct or indirect impacts on Agriculture and Forest Resources. It will not contribute to a cumulative impact on Agriculture and Forest Resources and need not be further evaluated.

Air Quality

The Gianella-Muir Safety project will not cause direct or indirect impacts on Air Quality. It will not contribute to a cumulative impact on Air Quality and need not be further evaluated.

Biological Resources

Routine Caltrans maintenances activities would continue in the project area, but these activities should not contribute to the cumulative effects to wildlife and their habitat in

the area since maintenance activities are kept to the roadways and shoulders. Therefore, the Gianella-Muir Safety project will not cause direct or indirect impacts on Biological Resources. It will not contribute to a cumulative impact on Biological Resources and need not be further evaluated

Cultural Resources

The Gianella-Muir Safety project will not cause direct or indirect impacts on Cultural Resources. It will not contribute to a cumulative impact on Cultural Resources and need not be further evaluated.

Energy

The Gianella-Muir Safety project will not cause direct or indirect impacts on Energy. It will not contribute to a cumulative impact on Energy and need not be further evaluated.

Geology and Soils

The Gianella-Muir Safety project will not cause direct or indirect impacts on Geology and Soils. It will not contribute to a cumulative impact on Geology and Soils and need not be further evaluated.

Greenhouse Gas Emissions

To determine the potential cumulative impacts of GHG emissions of the Gianella-Muir Safety Project, Butte county was selected to be the Resource Study Area.

The Butte County Climate Action Plan, adopted in 2014, inventoried GHG emission sources within the county. More than three-quarters of Butte County emissions result from agriculture, on-road transportation, and residential energy use.

In 2006, agriculture produced 43% of Butte Counties GHG emissions. This is due in part to Butte County having over 500,000 acres of agricultural land. These agricultural practices emitted, on average, less than 1 metric ton of carbon dioxide equivalents (MTCO2e) per acre of agricultural land. Since the inventory was taken, Butte County has continued to work to reduce the GHG produced from agricultural activities, which were already relatively efficient. In 2006 the total existing residential and nonresidential acreage in Butte county was producing over 6 MTCO2e per acre. One reason residential emissions are high is that many of the buildings in Butte County were constructed before efficiency was considered in building design.

If the Butte County Climate Action Plan is completely implemented, CO_2 emissions could be reduced by up to 16.2% below baseline 2006 levels by 2020. This would exceed the state guidance for reductions for the county. The majority of GHG emission reduction will occur through solar projects and by continuing to optimize agricultural practices in the county.

The Gianella-Muir Safety project will not cause any direct or indirect impacts on operational GHG emission in Butte county. This safety project will not add additional

lanes or increase vehicle miles traveled. GHG emissions from construction will have a small but direct impact on GHG in Butte County. These impacts will be temporary and will not be cumulatively considerable. When GHG emissions were inventoried in Butte County in 2006, off-road emissions only accounted for 2% of the total GHG emissions. Off-road emissions include emissions from construction, but also any emissions given off from yard equipment used by the public and off-road vehicles. Construction GHG emissions are not a significant source of GHG in Butte County.

Reasonably foreseeable future actions in Butte County and the cities within Butte county include many GHG reducing projects. The City of Chico will be implementing projects that will provide traffic calming and complete streets elements, improve transit options, and increase alternative fuel use for government vehicles and plug in stations for the public. Non-motorized transportation facilities will be constructed and improved upon throughout Butte County as a way of encouraging the public to use alternative modes of transportation for daily travel and to reduce GHG emissions. The county is also working to reduce GHG intensive agriculture and residential energy usage.

Caltrans is completing multiple projects in Butte County that will have an impact on GHG emissions. There are many foreseeable projects within the county that aim to improve ride quality and road service life. These projects create a smoother road surface which may provide long term benefits to GHG emissions. In addition, ramp metering projects have been initiated throughout the county. Ramp metering is installed to reduce overall congestion on the State Highway System, which may lead to lower GHG emissions in the future. Caltrans also has projects in Chico and Oroville that will create or improve on bike and pedestrian facilities along the State Highway System. These projects will reduce GHG emissions by encouraging the public to use these facilities instead of personal vehicles.

Caltrans is also working on creating passing lanes as part of larger projects on the State Route 70 corridor South of Oroville, partially within Butte County. These projects may have the potential to directly or indirectly impact GHG emissions, depending on the length of the passing lanes.

Cumulative impacts from GHG, both direct and indirect, exist in Butte County. The main sources of GHG emissions in Butte county come from agriculture, residential energy use, and on-road transportation. The Gianella- Muir Safety Project will have a less than significant impact on cumulative GHG emissions due to the temporary emissions that will occur during construction. No foreseeable direct or indirect impact to cumulative operational emissions will occur from this project. Butte county and the cities within the county limits are actively working to reduce GHG emissions. The major sources of GHG emissions in the county are being addressed pro-actively so the county can remain in compliance with the regional reduction target set by ARB for GHG. Many reasonably foreseeable actions that will occur in Butte county will reduce GHG emissions by increasing the use of non-motorized transportation or mass transit, providing smoother pavement, and by adding complete streets elements which is increase pedestrian and bicycle use while also providing the benefit of traffic calming.

Mitigation for cumulative impacts from GHG emissions for the Gianella-Muir Safety Project is not necessary. Measures to reduce construction emissions have been discussed in 2.10 Greenhouse Gas Emissions.

Hazards and Hazardous Materials

The Gianella-Muir Safety project will not cause direct or indirect impacts to Hazards and Hazardous Materials. It will not contribute to a cumulative impact on Hazards and Hazardous Materials and need not be further evaluated.

Hydrology and Water Quality

The Gianella-Muir Safety project will not cause direct or indirect impacts on Hydrology and Water Quality. It will not contribute to a cumulative impact on Hydrology and Water Quality and need not be further evaluated.

Land Use and Planning

The Gianella-Muir Safety project will not cause direct or indirect impacts on Land Use and Planning. It will not contribute to a cumulative impact on Land Use and Planning and need not be further evaluated.

Mineral Resources

The Gianella-Muir Safety project will not cause direct or indirect impacts on Mineral Resources. It will not contribute to a cumulative impact on Mineral Resources and need not be further evaluated.

Noise

The Gianella-Muir Safety project will not cause direct or indirect impacts on Noise. It will not contribute to a cumulative impact on Noise and need not be further evaluated.

Population and Housing

The Gianella-Muir Safety project will not cause direct or indirect impacts on Population and Housing. It will not contribute to a cumulative impact on Population and Housing and need not be further evaluated.

Public Services

The Gianella-Muir Safety project will not cause direct or indirect impacts on Public Services. It will not contribute to a cumulative impact on Public Services and need not be further evaluated.

Recreation

The Gianella-Muir Safety project will not cause direct or indirect impacts on Recreation. It will not contribute to a cumulative impact on Recreation and need not be further evaluated.

Transportation/Traffic

The Gianella-Muir Safety project will not cause direct or indirect impacts to Transportation or Traffic. It will not contribute to a cumulative impact on Transportation or Traffic and need not be further evaluated.

Tribal Cultural Resources

The Gianella-Muir Safety project will not cause direct or indirect impacts on Tribal Cultural Resources. It will not contribute to a cumulative impact on Tribal Cultural Resources and need not be further evaluated.

Utilities and Service Systems

The Gianella-Muir Safety project will not cause direct or indirect impacts to Utilities and Service Systems. It will not contribute to a cumulative impact on Utilities and Service Systems and need not be further evaluated.

Wildfire

The Gianella-Muir Safety project will not cause direct or indirect impacts to Wildfire. It will not contribute to a cumulative impact on Wildfire and need not be further evaluated.

Chapter 3. Coordination and Comments

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization and/or mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Project Development Team (PDT) meetings, permits to enter, and interagency coordination. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

The following agencies, organizations, and individuals were consulted in the preparation of this environmental document.

Coordination with Resource Agencies

The Caltrans Headquarters Cultural Studies Office sent the HPSR package to SHPO on August 26, 2020. Concurrence from SHPO was received on October 21, 2020.

Michele Lukkarila, project biologist, first contacted USFW with the draft Biological Assessment on September 14, 2020. The final Biological Assessment was sent to USFW on October 27, 2020. The Biological Opinion from USFWS was received on April 30, 2021.

Coordination with Property Owners

Property owners whose properties were partially within the APE were first contacted for PTEs for cultural resource field reviews on May 4, 2020. Property owners were mailed a consent form asking if cultural resources could conduct field reviews of the portions of their property covered by the environmental study limits. If no response was received from the initial PTE request, additional PTE forms were sent by certified mail to the unresponsive property owner. If there was still no response, multiple phone calls were made to follow up with the unresponsive property owners.

Circulation

The Proposed Mitigated Negative Declaration was circulated from April 21, 2021 to May 20, 2021.

Chapter 4. List of Preparers

The following individuals performed the environmental work on the project:

California Department of Transportation, District 3

Laura Loeffler	Senior Environmental Planner
Caitlin Greenwood	Environmental Planner
Youngil Cho	Air/Noise Specialist
Connor Buitenhuys	Archaeologist
Michele Lukkarila	Biologist
Rebecca Cole	Biologist
Rajive Chadha	Hazardous Waste Specialist
Kathyryn Lugo	Landscape Architect
Lisa Bright	Native American Coordinator
Sean Cross	Stormwater Specialist
Andrey Tokmakov	Project Engineer
Cameron Knudson	Project Manager
Hardeep Pannu	Right of Way Project Coordinator

Wood Rodgers

Brian Krcelic	Project Manager
Arsalan Gharachorloo	Project Engineer

Chapter 5. References

Barr, C.B. 1991. The distribution, habitat and status of the valley elderberry. longhorn beetle *Desmocerus californicus dimorphus*. U.S. Fish and Wildlife Service, Sacramento.

Butte County. *Butte County General Plan 2030.* https://www.buttecounty.net/dds/Planning/Butte-County-General-Plan. Accessed August 2020.

Butte County. *Butte County Climate Action Plan*. https://www.buttecounty.net/dds/Planning/General-Plan/CAP. Accessed August 2020.

Butte County Association of Government. *Transit and Non-Motorized Transportation Plan*. http://www.bcag.org/Planning/Transit--Non-Motorized-Transportation-Plan/index.html. Accessed August 2020.

California Air Resources Board (ARB). 2019a. *California Greenhouse Gas Emissions Inventory–2019 Edition*. https://ww3.arb.ca.gov/cc/inventory/data/data.htm. Accessed: August 21, 2019

California Air Resources Board (ARB). 2019b. *California Greenhouse Gas Emissions for 2000 to 2017. Trends of Emissions and Other Indicators.* https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf. Accessed: August 21, 2019.

California Air Resources Board (ARB). 2019c. *SB 375 Regional Plan Climate Targets*. https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: August 21, 2019.

California Department of Conservation. *Earthquake Hazards and Liquefaction Zones*. https://gis.conservation.ca.gov/server/rest/services/CGS_Earthquake_Hazard_Zones/SHP_Liquefaction_Zones/MapServer. Accessed July 2020.

California Department of Conservation. *Geospatial Data and Web Maps from the California Department of Conservation*. https://maps.conservation.ca.gov/. Accessed July 2020.

California Department of Transportation. 2015. *Standard Specifications*. http://www.dot.ca.gov/des/oe/construction-contract-standards.html. Accessed June 2020.

California Department of Transportation. *Climate Action Program*. http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf. Accessed September 2014.

Calfire. *Fire Hazard Impact Map.* http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_statewide. Accessed July 2020.

Federal Highway Administration (FHWA). 2019. *Sustainability.* https://www.fhwa.dot.gov/environment/sustainability/resilience/. Last updated February 7, 2019. Accessed: August 21, 2019.

Federal Highway Administration (FHWA). No date. *Sustainable Highways Initiative*. https://www.sustainablehighways.dot.gov/overview.aspx. Accessed: August 21, 2019.

State of California. 2018. *California's Fourth Climate Change Assessment*. http://www.climateassessment.ca.gov/. Accessed: August 21, 2019.

State of California. 2019. *California Climate Strategy*. https://www.climatechange.ca.gov/. Accessed: August 21, 2019.

U.S. Department of Transportation (U.S. DOT). 2011. *Policy Statement on Climate Change Adaptation*. June. https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/usdot.cfm. Accessed: August 21, 2019.

U.S. Environmental Protection Agency (U.S. EPA). 2009. *Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Section 202(a) of the Clean Air Act*. https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean. Accessed: August 21, 2019.

U.S. Environmental Protection Agency (U.S. EPA). 2018. *Inventory of U.S. Greenhouse Gas Emissions and Sinks.* https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks. Accessed: August 21, 2019.

U.S. Fish and Wildlife Service (USFWS). 1980. Listing the Valley elderberry longhorn beetle as a threatened species with critical habitat. Sacramento, CA. Federal Register. 45(155): 52803-52807. Friday, August 8, 1980.

U.S. Global Change Research Program (USGCRP). 2018. *Fourth National Climate Assessment*. https://nca2018.globalchange.gov/. Accessed: August 21, 2019.

Appendix A.Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

August 2020

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a nondiscriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

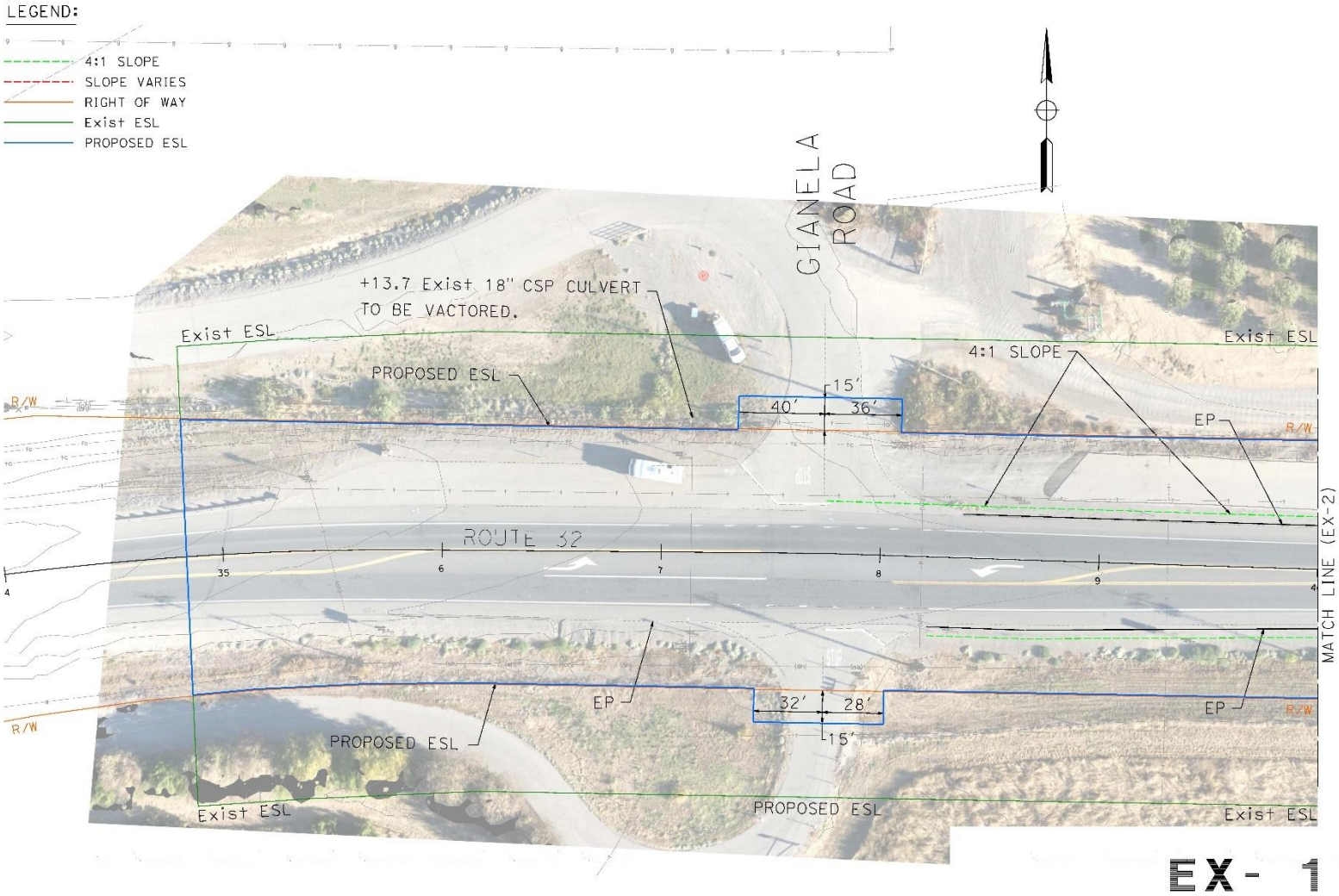
For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

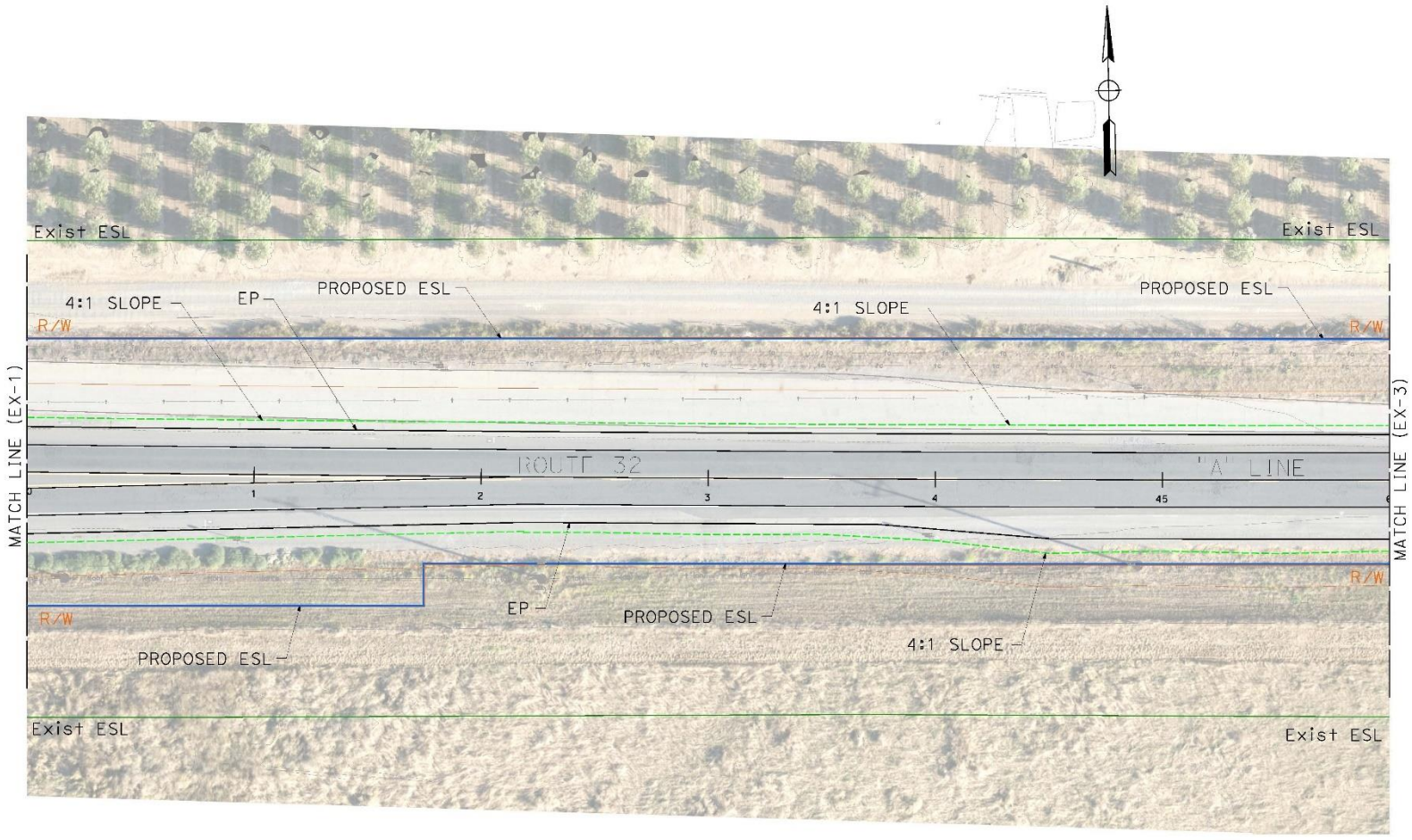
To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at <Title.VI@dot.ca.gov>.

Original signed by
Toks Omishakin
Director

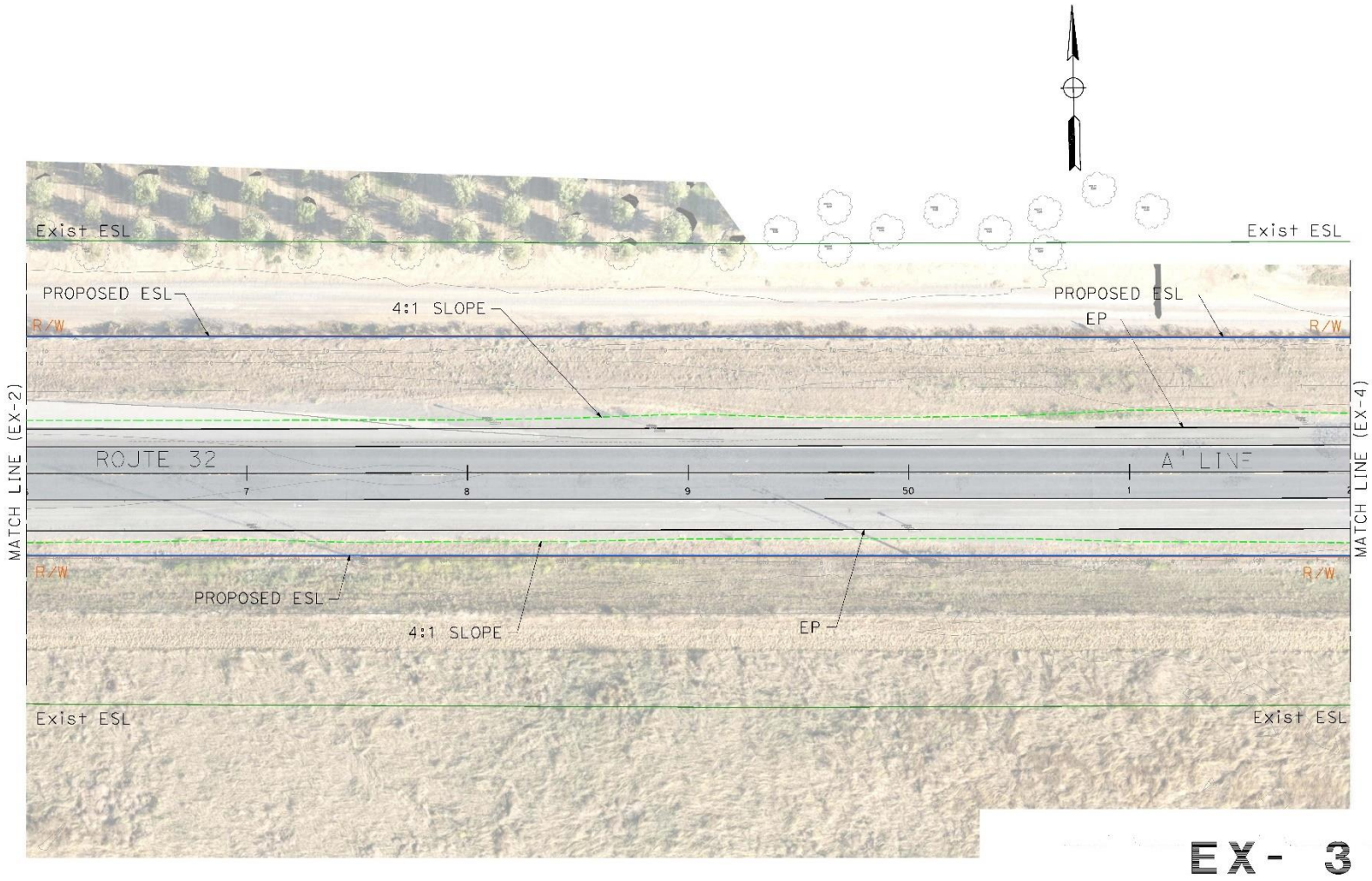
"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

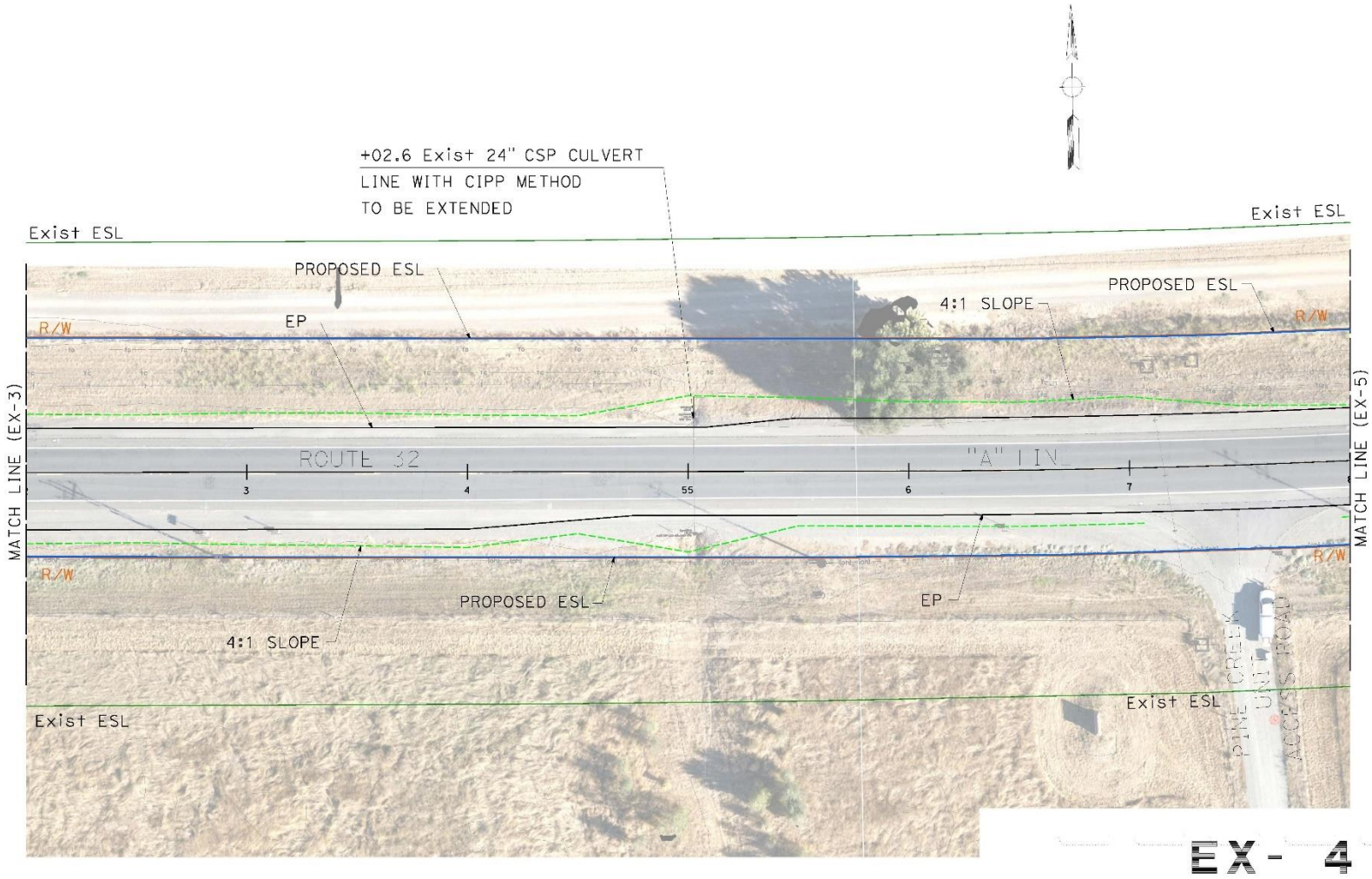
Appendix B. Layouts of Proposed Work

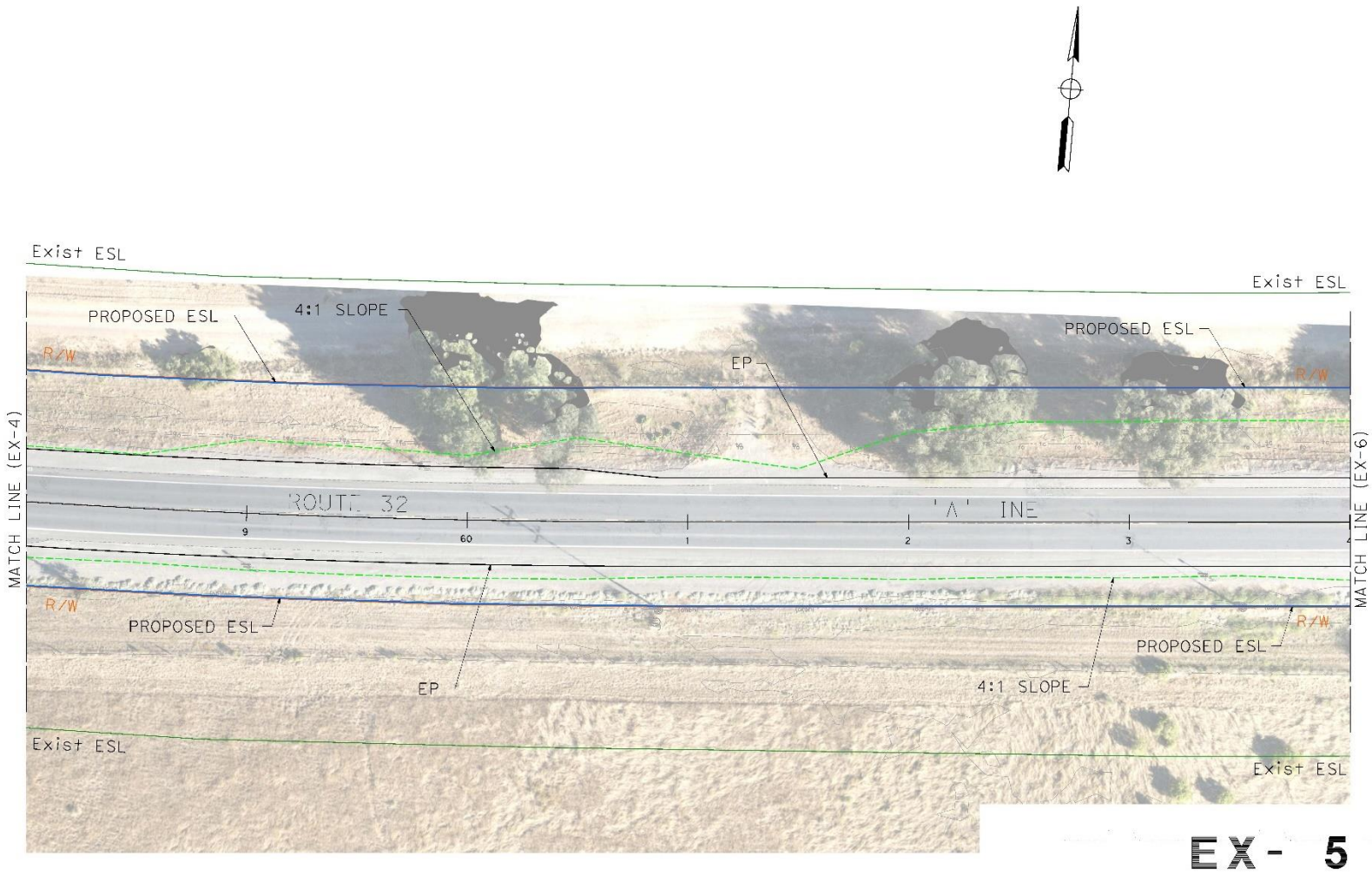

LEGEND:
4:1 SLOPE
SLOPE VARIES
RIGHT OF WAY
Exist ESL
PROPOSED ESL
GIANELLA ROAD
+13.7 Exist 18" CSP CULVERT TO BE VACTORED.
Exist ESL
PROPOSED ESL
4:1 SLOPE
Exist ESL
15'
40'
36'
EP
R/W
ROUTE 32
MATCH LINE (EX-2)
R/W
EP
32'
28'
15'
EP
R/W
PROPOSED ESL
Exist ESL
PROPOSED ESL
Exist ESL
EX- 1


Exist ESL
Exist ESL
4:1 SLOPE
EP
PROPOSED ESL
PROPOSED ESL
4:1 SLOPE
R/W
R/W
MATCH LINE (EX-1)
ROUTE 32
"A" LINE
MATCH LINE (EX-3)
R/W
R/W
EP
PROPOSED ESL
PROPOSED ESL
4:1 SLOPE
Exist ESL
Exist ESL

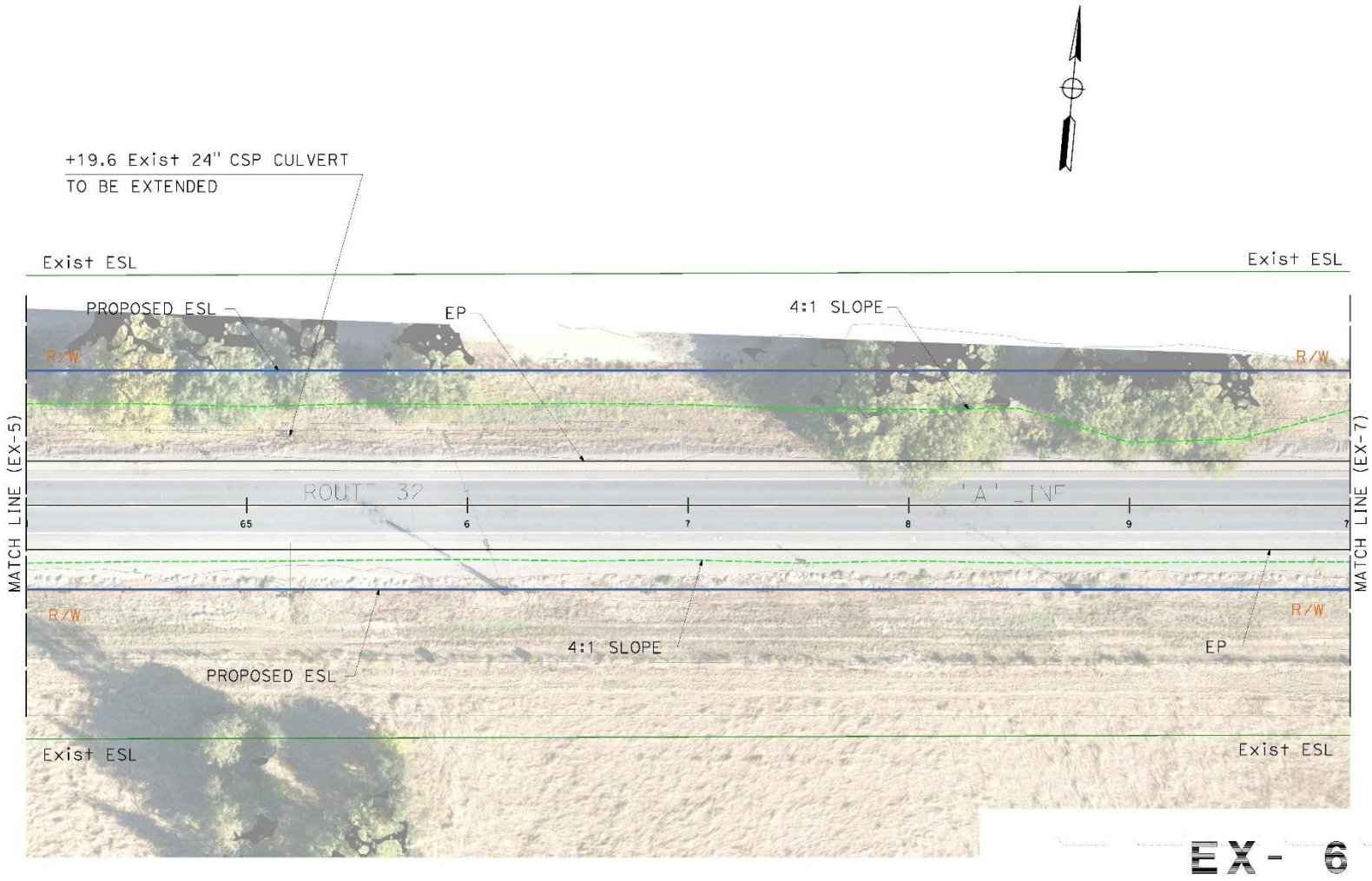
EX- 2

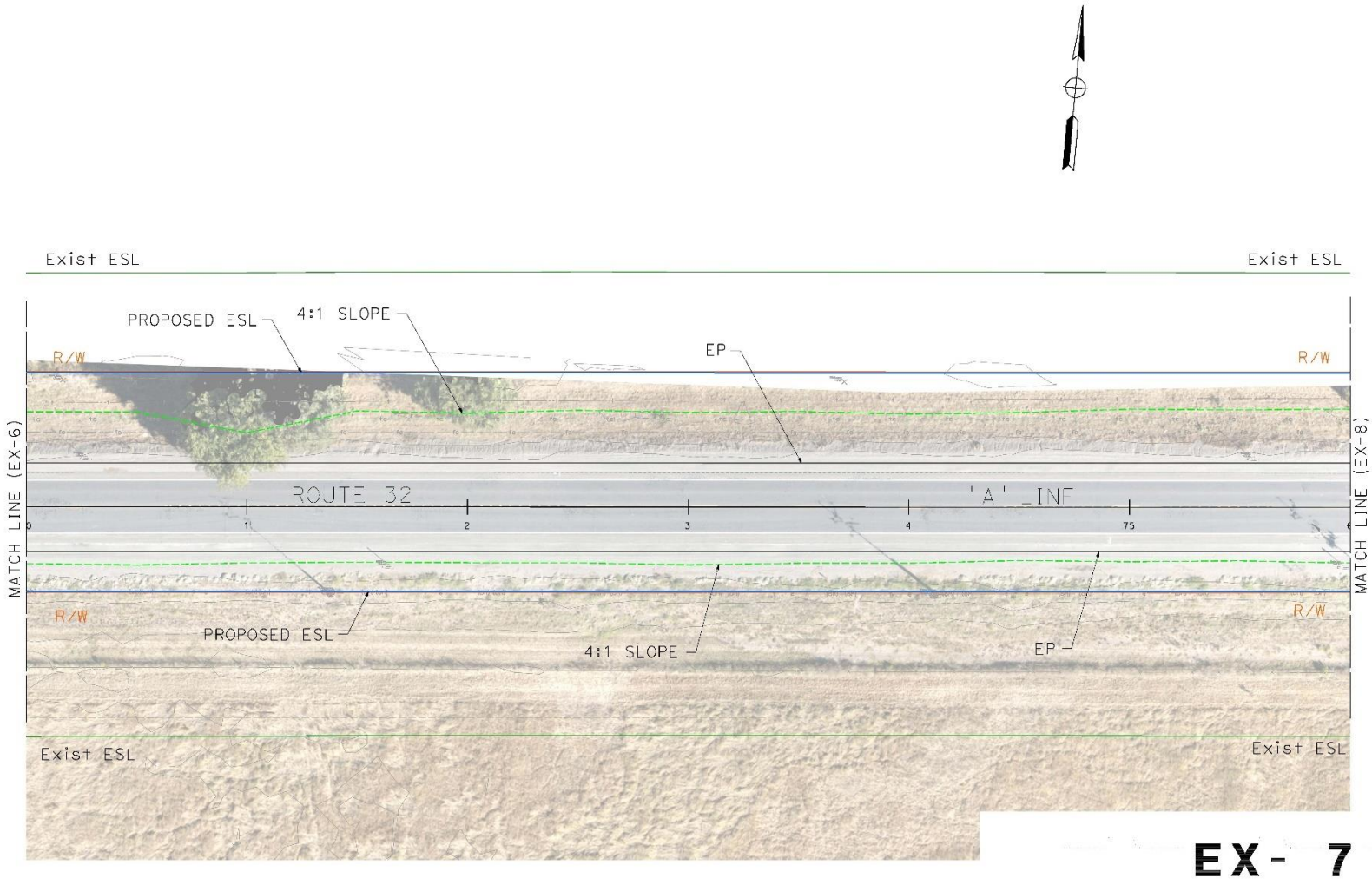

Exist ESL
Exist ESL
PROPOSED ESL
R/W
4:1 SLOPE
PROPOSED ESL
EP
R/W
MATCH LINE (EX-2)
ROUTE 32
A' LINE
MATCH LINE (EX-4)
R/W
R/W
PROPOSED ESL
4:1 SLOPE
EP
Exist ESL
Exist ESL
EX- 3


+02.6 Exist 24" CSP CULVERT
LINE WITH CIPP METHOD
TO BE EXTENDED
Exist ESL
Exist ESL
PROPOSED ESL
PROPOSED ESL
EP
4:1 SLOPE
R/W
R/W
MATCH LINE (EX-3)
MATCH LINE (EX-5)
ROUTE 32
"A" LIN
3
4
55
6
7
R/W
R/W
PROPOSED ESL
EP
4:1 SLOPE
Exist ESL
Exist ESL
PINE CREEK
ACCESS ROAD
EX- 4

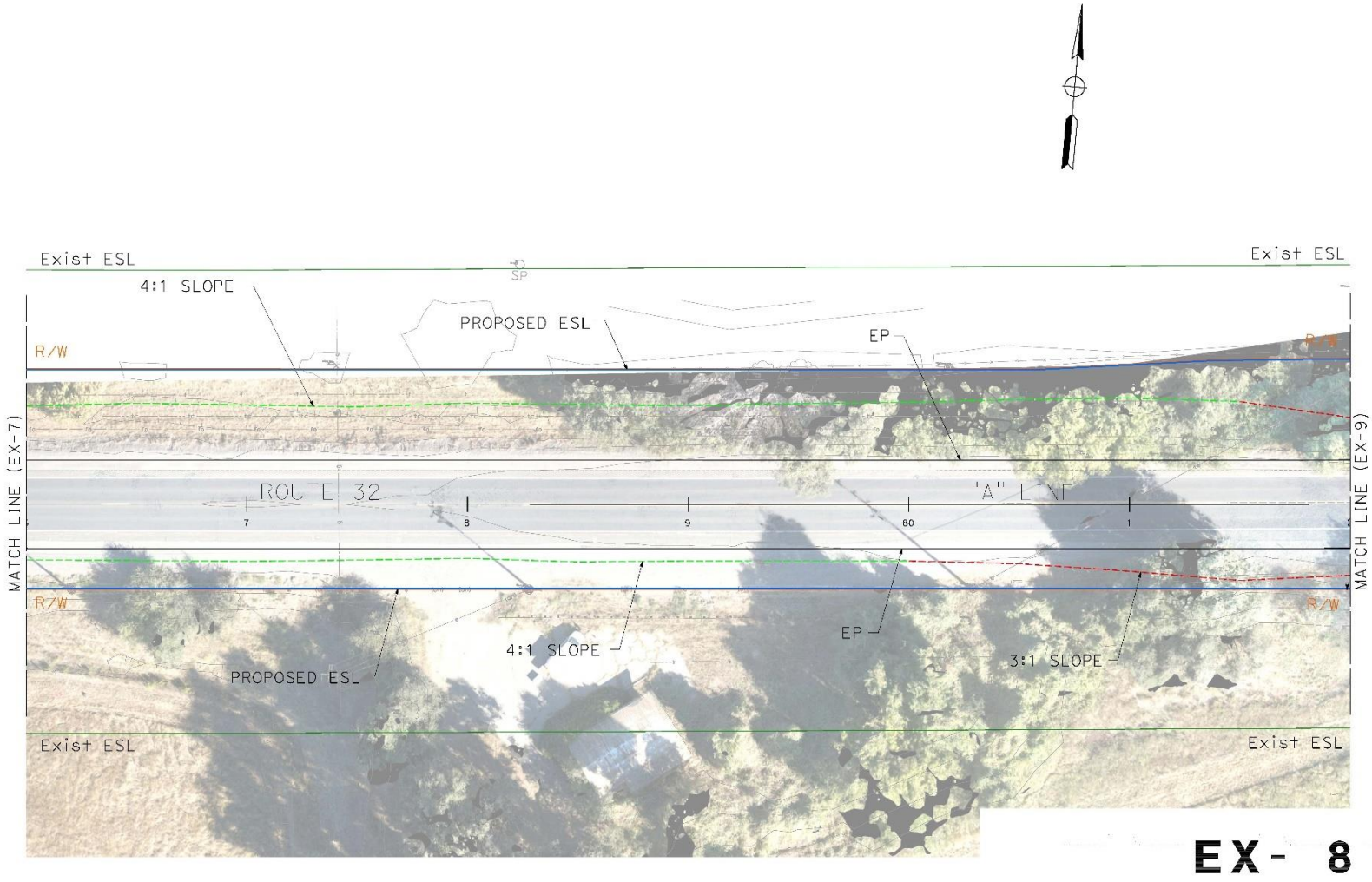

Exist ESL
Exist ESL
PROPOSED ESL
4:1 SLOPE
R/W
EP
PROPOSED ESL
R/W
MATCH LINE (EX-4)
ROUTE 32
'A' LINE
MATCH LINE (EX-6)
R/W
PROPOSED ESL
EP
4:1 SLOPE
PROPOSED ESL
R/W
Exist ESL
Exist ESL

EX- 5

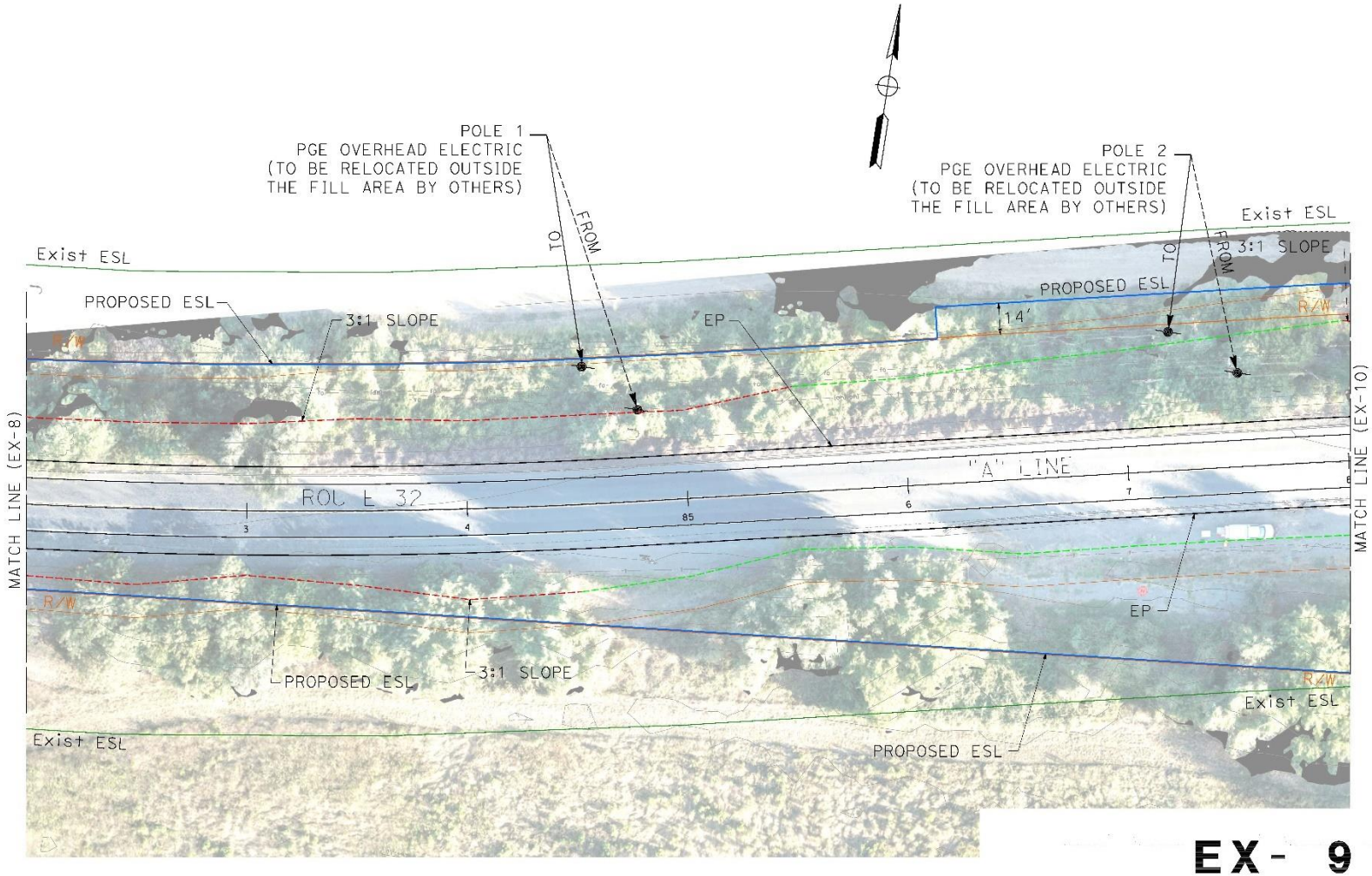

+19.6 Exist 24" CSP CULVERT
TO BE EXTENDED
Exist ESL
Exist ESL
PROPOSED ESL
EP
4:1 SLOPE
R/W
R/W
MATCH LINE (EX-5)
MATCH LINE (EX-7)
ROUTE 32
'A' LINE
65
6
7
8
9
7
R/W
R/W
4:1 SLOPE
EP
PROPOSED ESL
Exist ESL
Exist ESL
EX- 6


Exist ESL
Exist ESL
PROPOSED ESL
4:1 SLOPE
EP
R/W
R/W
MATCH LINE (EX-6)
MATCH LINE (EX-8)
ROUTE 32
'A' LINE
0
1
2
3
4
75
6
R/W
R/W
PROPOSED ESL
4:1 SLOPE
EP
Exist ESL
Exist ESL

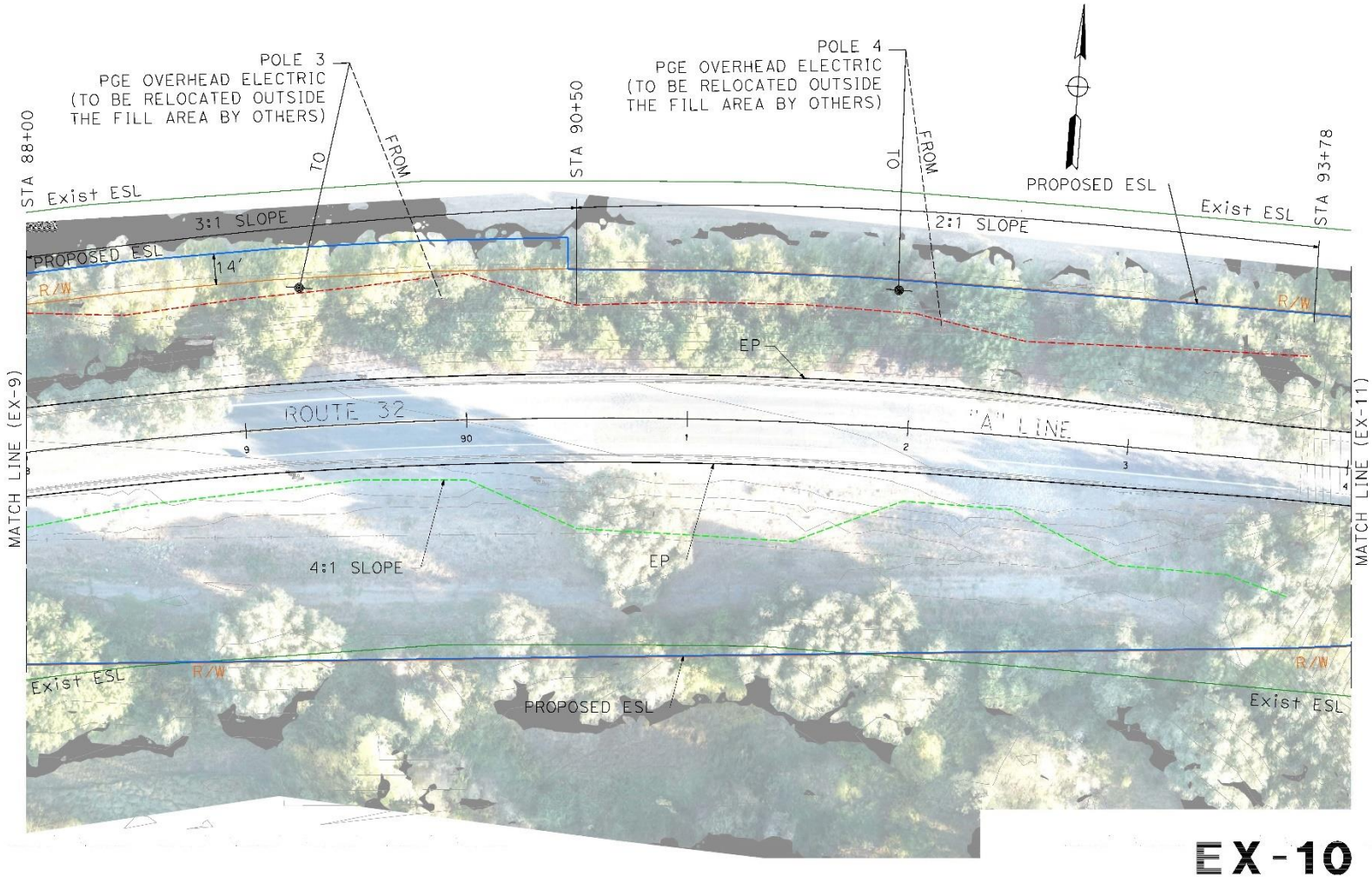
EX- 7


Exist ESL
Exist ESL
4:1 SLOPE
PROPOSED ESL
EP
R/W
R/W
MATCH LINE (EX-7)
ROL L 32
'A' LINE
MATCH LINE (EX-9)
R/W
R/W
EP
4:1 SLOPE
3:1 SLOPE
PROPOSED ESL
Exist ESL
Exist ESL

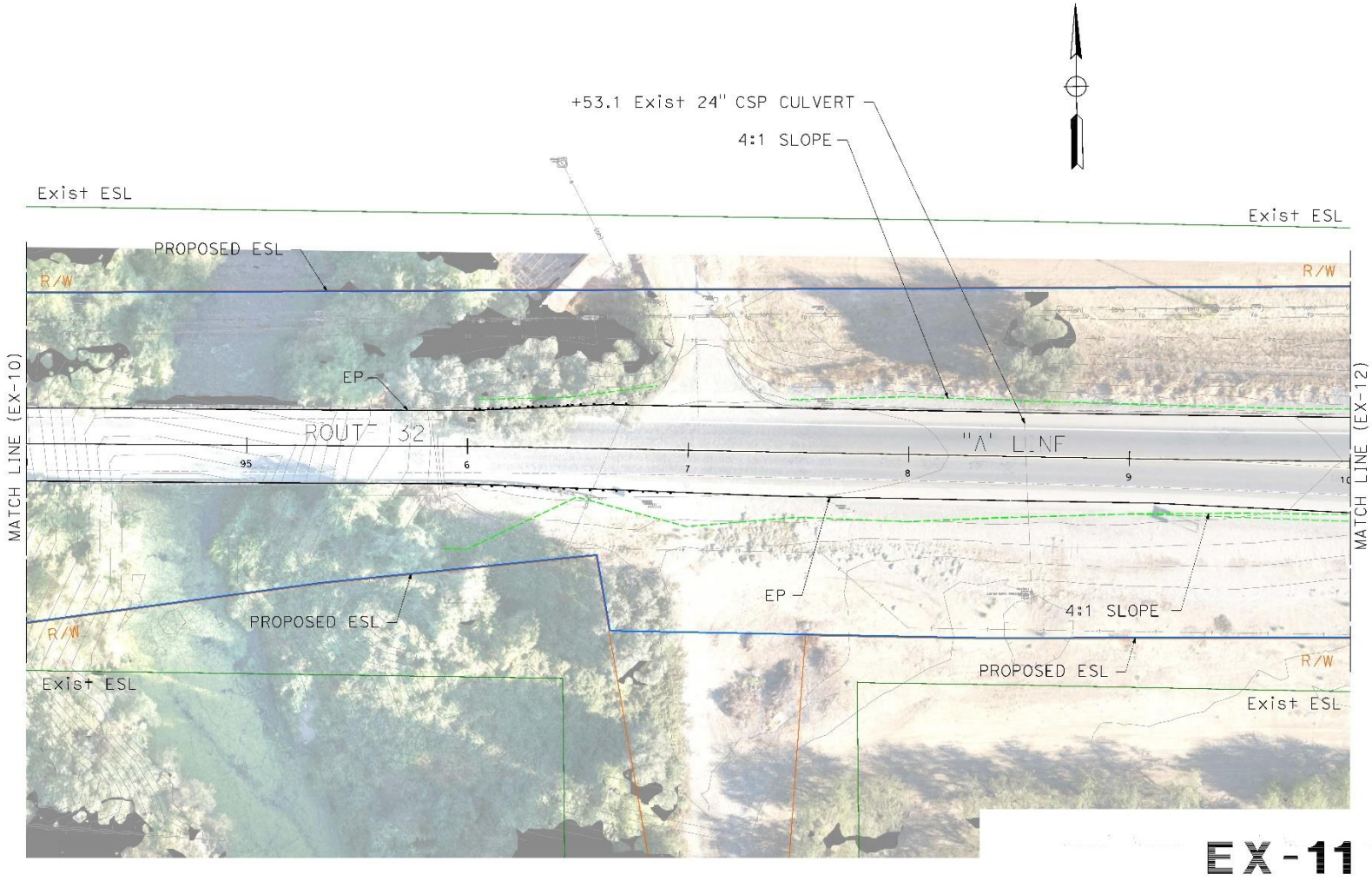
EX- 8

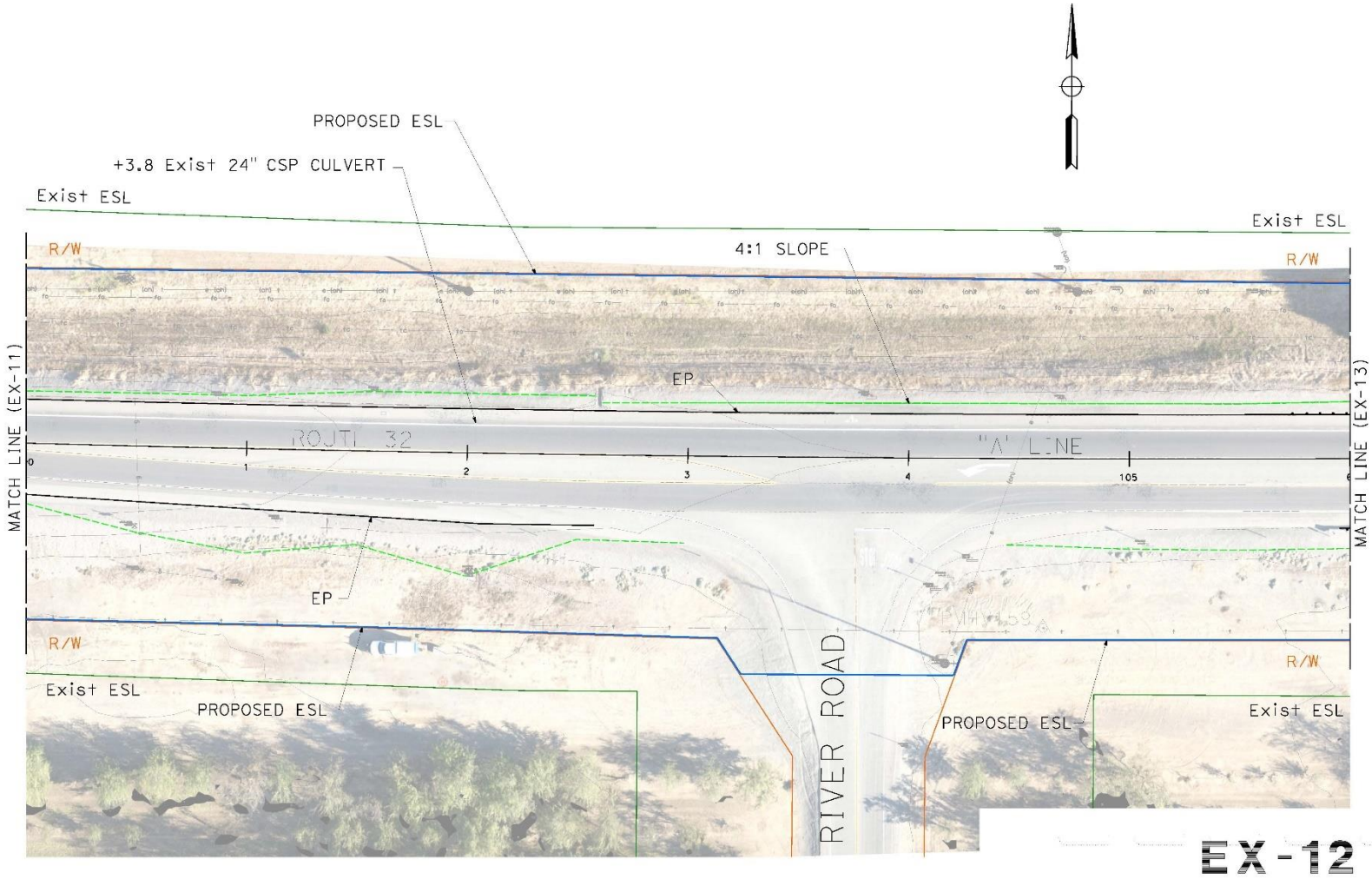

POLE 1
PGE OVERHEAD ELECTRIC
(TO BE RELOCATED OUTSIDE
THE FILL AREA BY OTHERS)
TO
FROM
POLE 2
PGE OVERHEAD ELECTRIC
(TO BE RELOCATED OUTSIDE
THE FILL AREA BY OTHERS)
TO
FROM
Exist ESL
Exist ESL
PROPOSED ESL
3:1 SLOPE
EP
14'
PROPOSED ESL
3:1 SLOPE
R/W
R/W
R/W
R/W
"A" LINE
ROUTE 32
MATCH LINE (EX-8)
MATCH LINE (EX-10)
PROPOSED ESL
3:1 SLOPE
EP
Exist ESL
Exist ESL
PROPOSED ESL

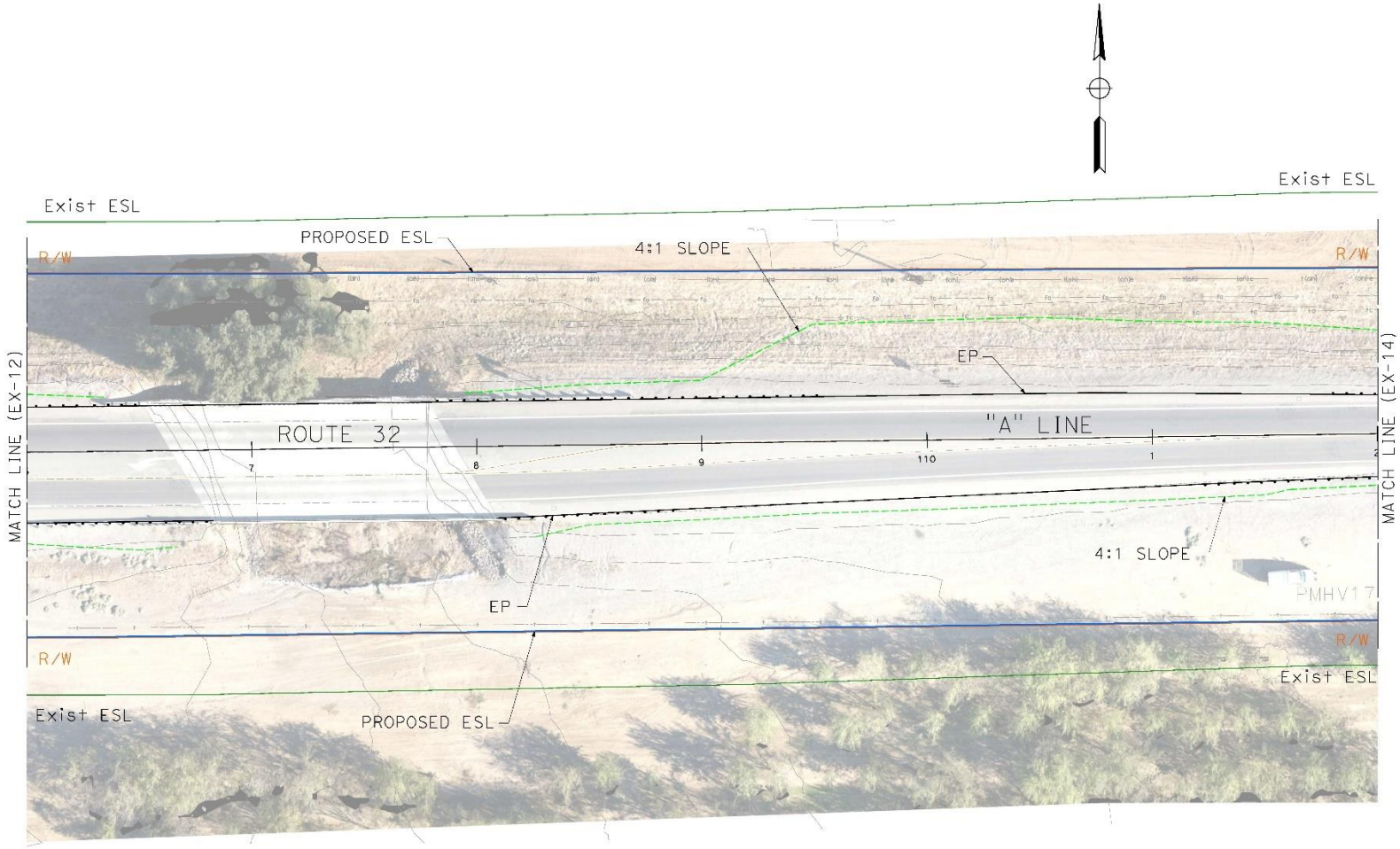
EX- 9


POLE 3
PGE OVERHEAD ELECTRIC
(TO BE RELOCATED OUTSIDE
THE FILL AREA BY OTHERS)
TO
FROM
POLE 4
PGE OVERHEAD ELECTRIC
(TO BE RELOCATED OUTSIDE
THE FILL AREA BY OTHERS)
TO
FROM
STA 88+00
STA 90+50
STA 93+78
Exist ESL
3:1 SLOPE
PROPOSED ESL
14'
R/W
2:1 SLOPE
PROPOSED ESL
Exist ESL
R/W
EP
ROUTE 32
"A" LINE
MATCH LINE (EX-9)
MATCH LINE (EX-11)
4:1 SLOPE
EP
Exist ESL
R/W
PROPOSED ESL
R/W
Exist ESL

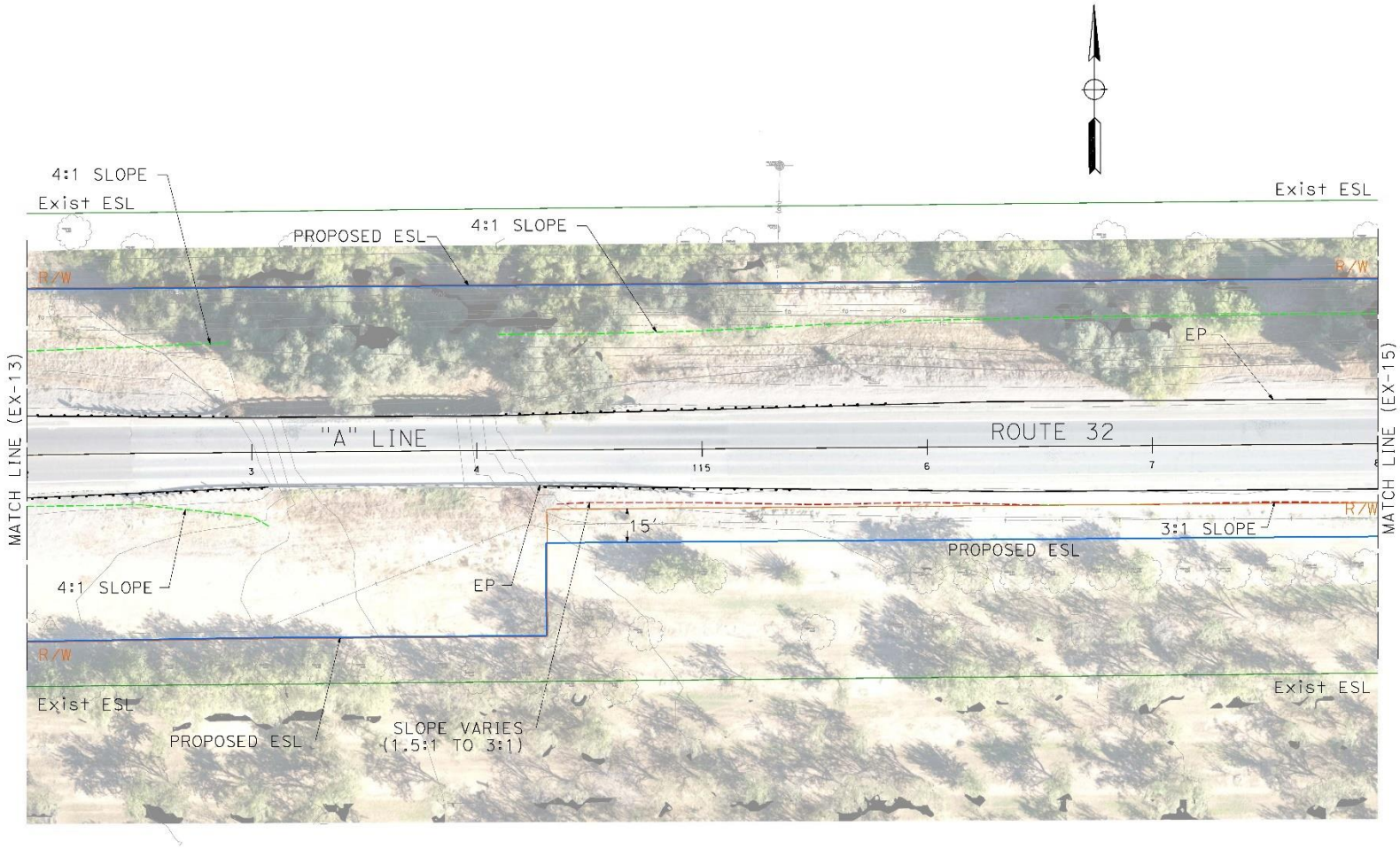
EX-10


+53.1 Exist 24" CSP CULVERT
4:1 SLOPE
Exist ESL
Exist ESL
PROPOSED ESL
R/W
R/W
EP
ROUT 32
"A" LINE
MATCH LINE (EX-10)
MATCH LINE (EX-12)
95
6
7
8
9
10
EP
4:1 SLOPE
PROPOSED ESL
PROPOSED ESL
R/W
R/W
Exist ESL
Exist ESL
EX-11

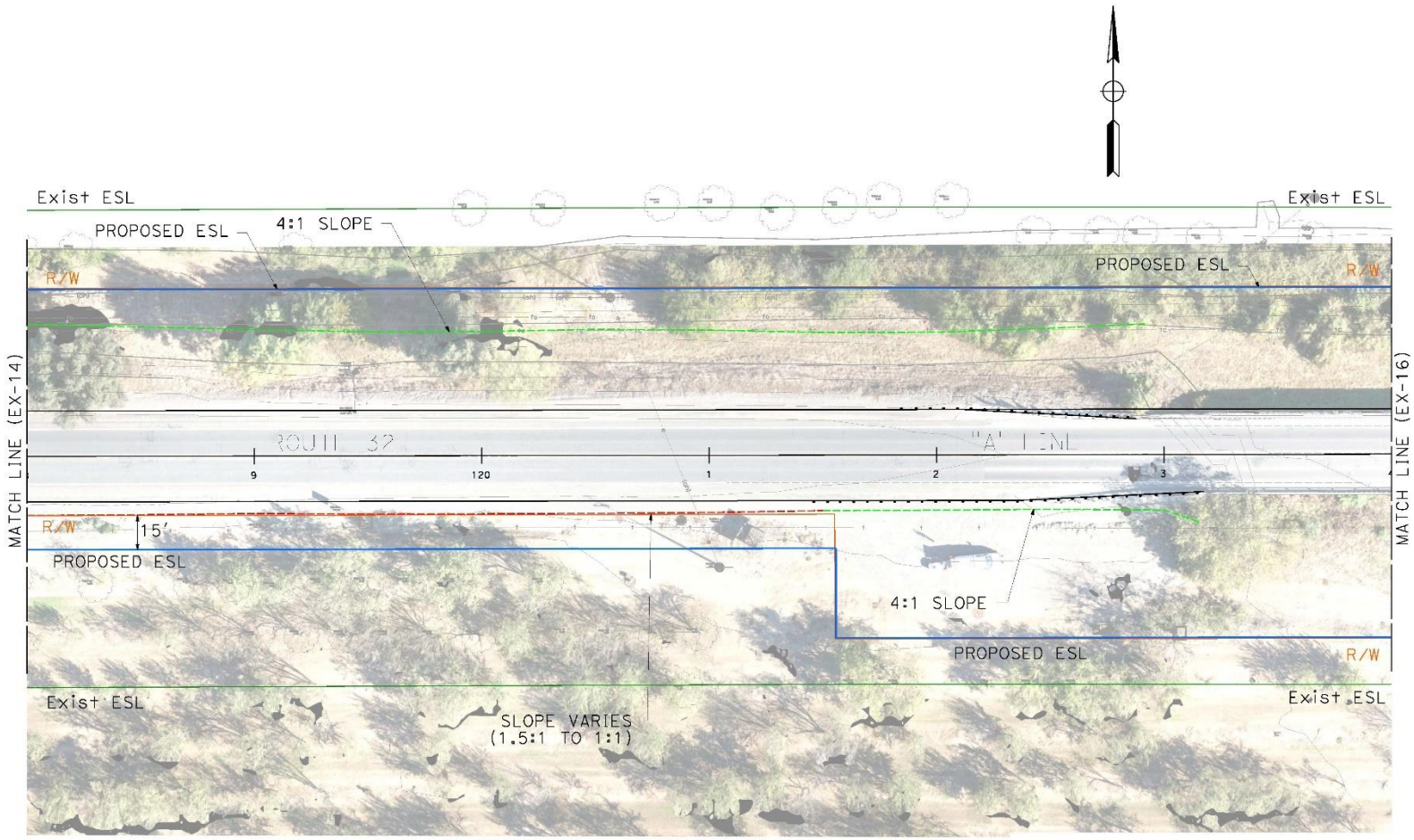

PROPOSED ESL
+3.8 Exist 24" CSP CULVERT
Exist ESL
Exist ESL
R/W
4:1 SLOPE
R/W
EP
ROUTE 32
"A" LINE
MATCH LINE (EX-11)
MATCH LINE (EX-13)
EP
R/W
R/W
Exist ESL
PROPOSED ESL
RIVER ROAD
PROPOSED ESL
Exist ESL
EX-12


Exist ESL
PROPOSED ESL
4:1 SLOPE
R/W
EP
ROUTE 32
"A" LINE
MATCH LINE (EX-12)
MATCH LINE (EX-14)
4:1 SLOPE
EP
R/W
Exist ESL
PROPOSED ESL

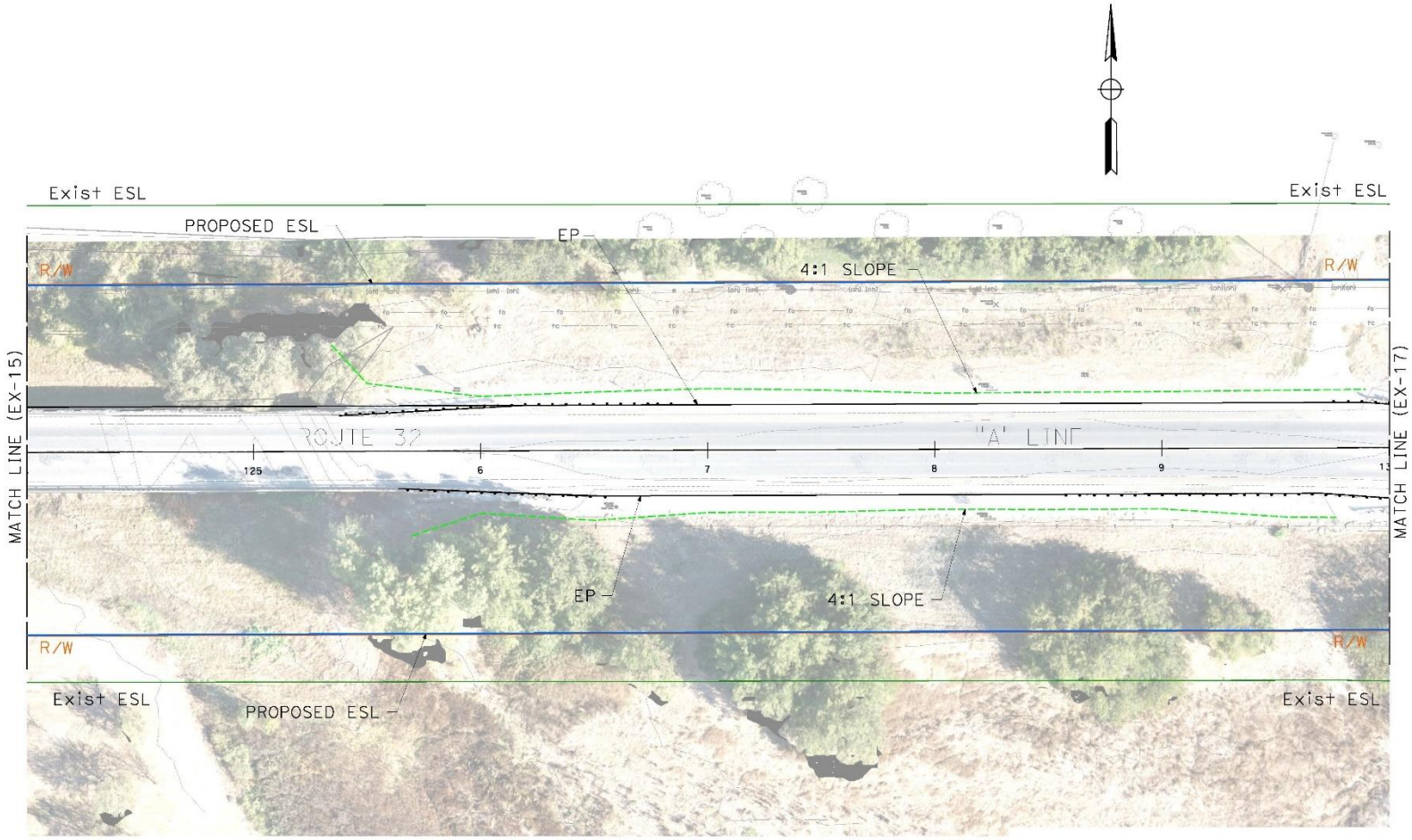
EX-13


4:1 SLOPE
Exist ESL
PROPOSED ESL
4:1 SLOPE
Exist ESL
R/W
R/W
EP
MATCH LINE (EX-13)
"A" LINE
ROUTE 32
MATCH LINE (EX-15)
3
4
115
6
7
15'
3:1 SLOPE
R/W
PROPOSED ESL
4:1 SLOPE
EP
R/W
Exist ESL
Exist ESL
PROPOSED ESL
SLOPE VARIES
(1.5:1 TO 3:1)

EX-14


Exist ESL
Exist ESL
PROPOSED ESL
4:1 SLOPE
R/W
PROPOSED ESL
R/W
MATCH LINE (EX-14)
MATCH LINE (EX-16)
ROUTE 32
"A" LINE
9
120
1
2
3
R/W
15'
PROPOSED ESL
4:1 SLOPE
PROPOSED ESL
R/W
Exist ESL
SLOPE VARIES
(1.5:1 TO 1:1)
Exist ESL

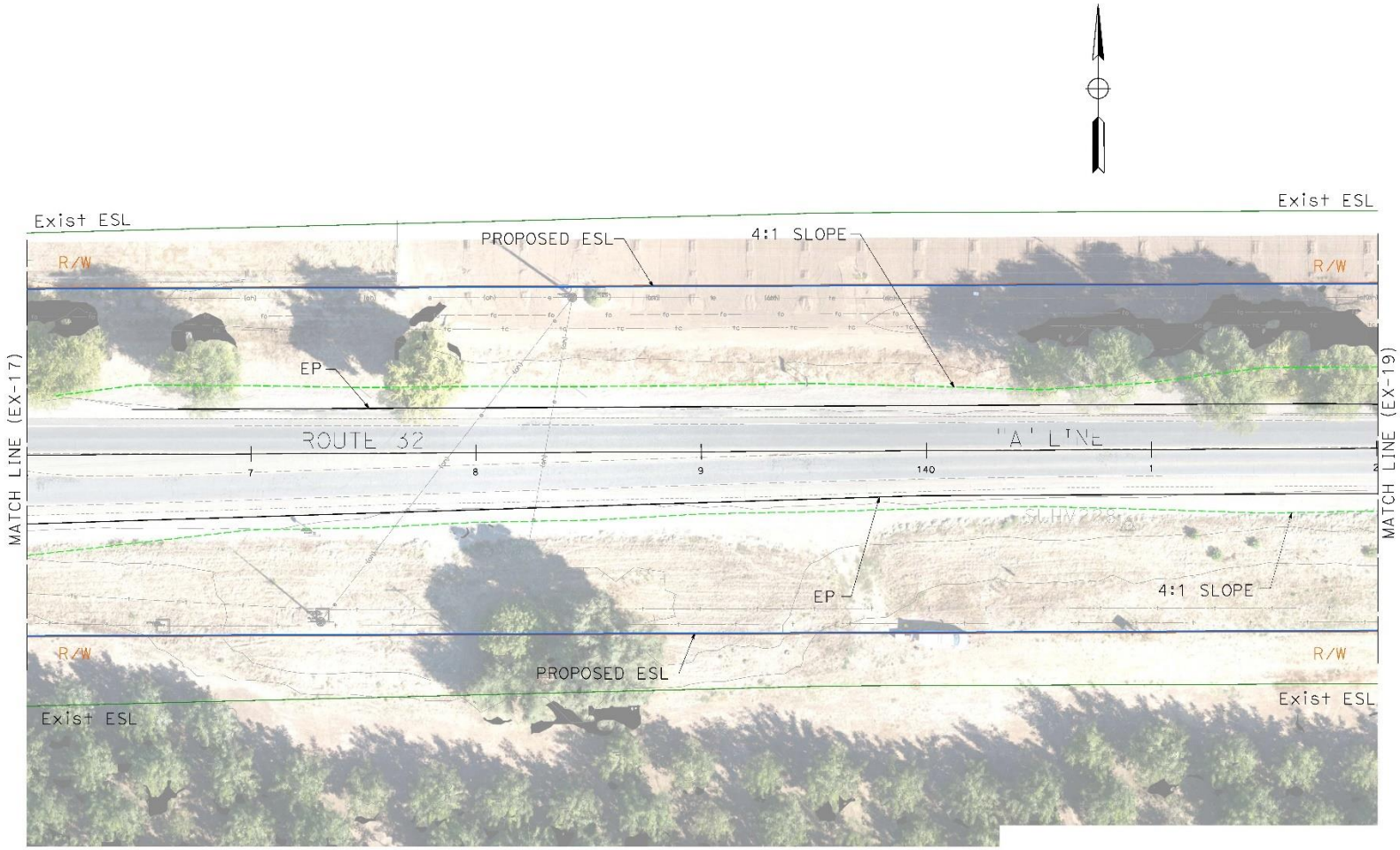
EX-15


Exist ESL
PROPOSED ESL
EP
4:1 SLOPE
R/W
Exist ESL
R/W
MATCH LINE (EX-15)
ROUTE 32
"A" LINE
125
6
7
8
9
MATCH LINE (EX-17)
EP
4:1 SLOPE
R/W
R/W
Exist ESL
PROPOSED ESL
Exist ESL

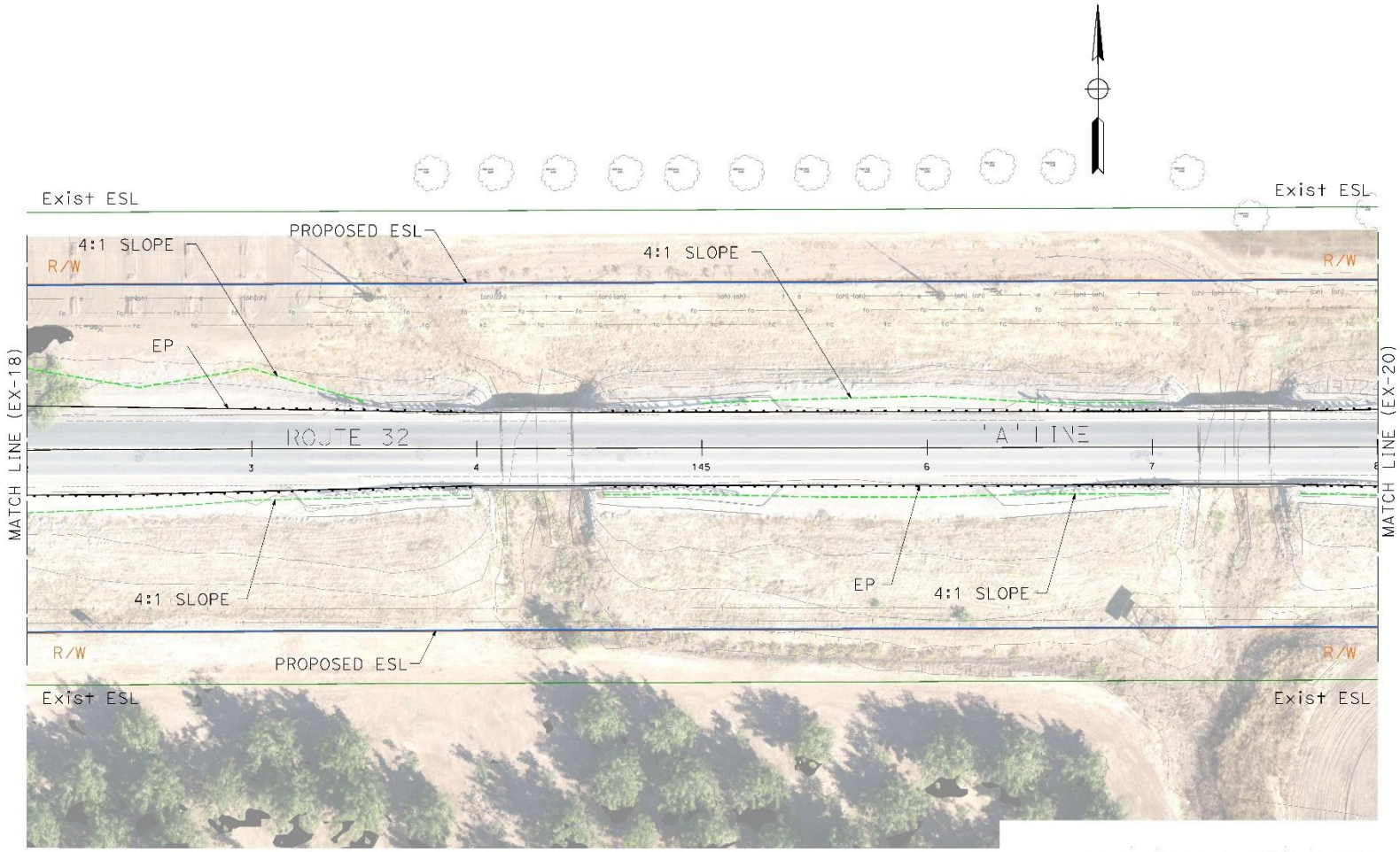
EX-16


HAMILTON NORD
CANA HWY
Exist ESL
PROPOSED ESL
R/W
4:1 SLOPE
15'
28'
37'
EP
"A" LINE
ROJIE 32
MATCH LINE (EX-16)
MATCH LINE (EX-18)
PROPOSED ESL
Exist ESL
PROPOSED LIGHTING

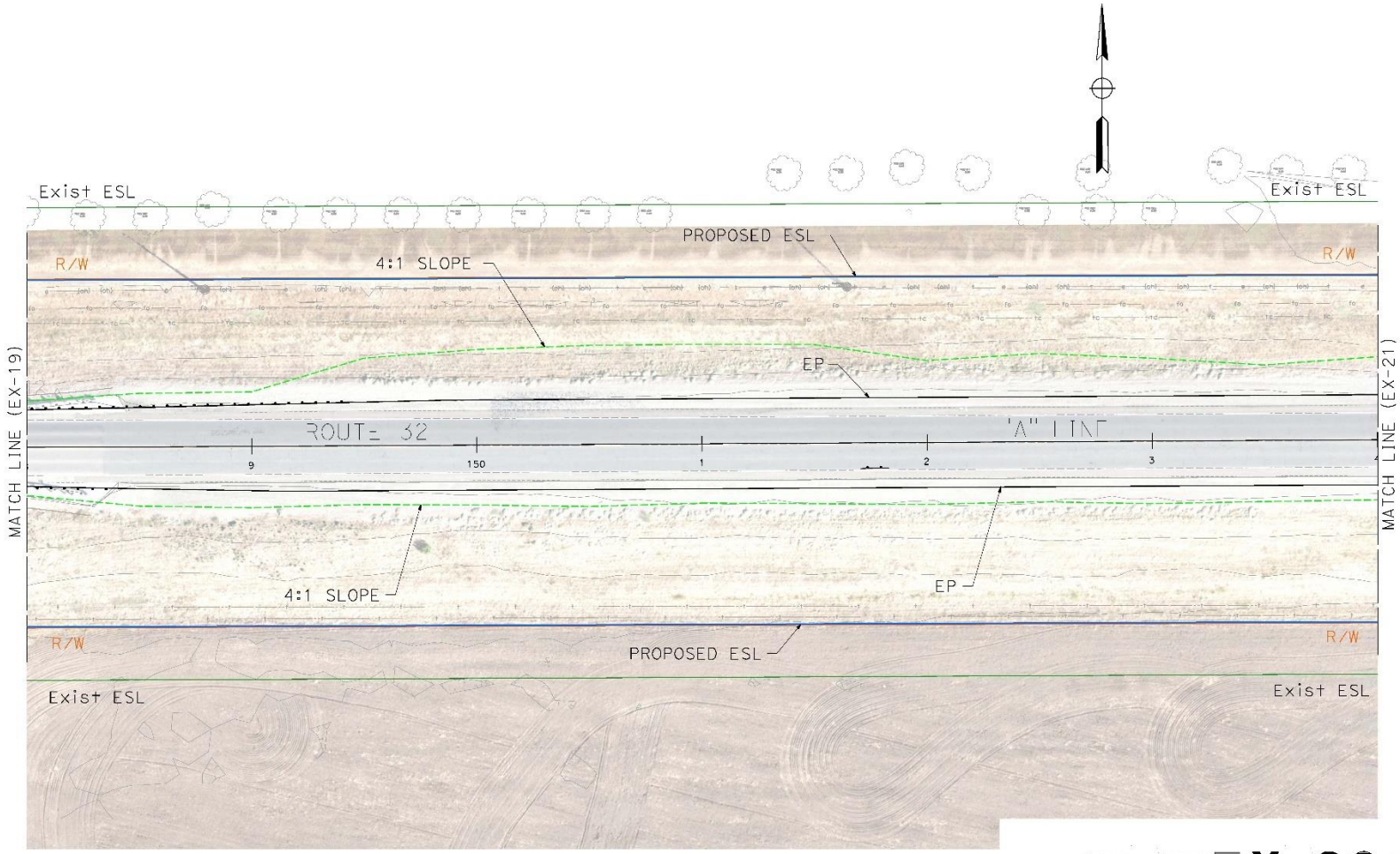
EX-17


Exist ESL
Exist ESL
PROPOSED ESL
4:1 SLOPE
R/W
R/W
EP
MATCH LINE (EX-17)
ROUTE 32
'A' LINE
MATCH LINE (EX-19)
7
8
9
140
1
EP
4:1 SLOPE
R/W
R/W
PROPOSED ESL
Exist ESL
Exist ESL

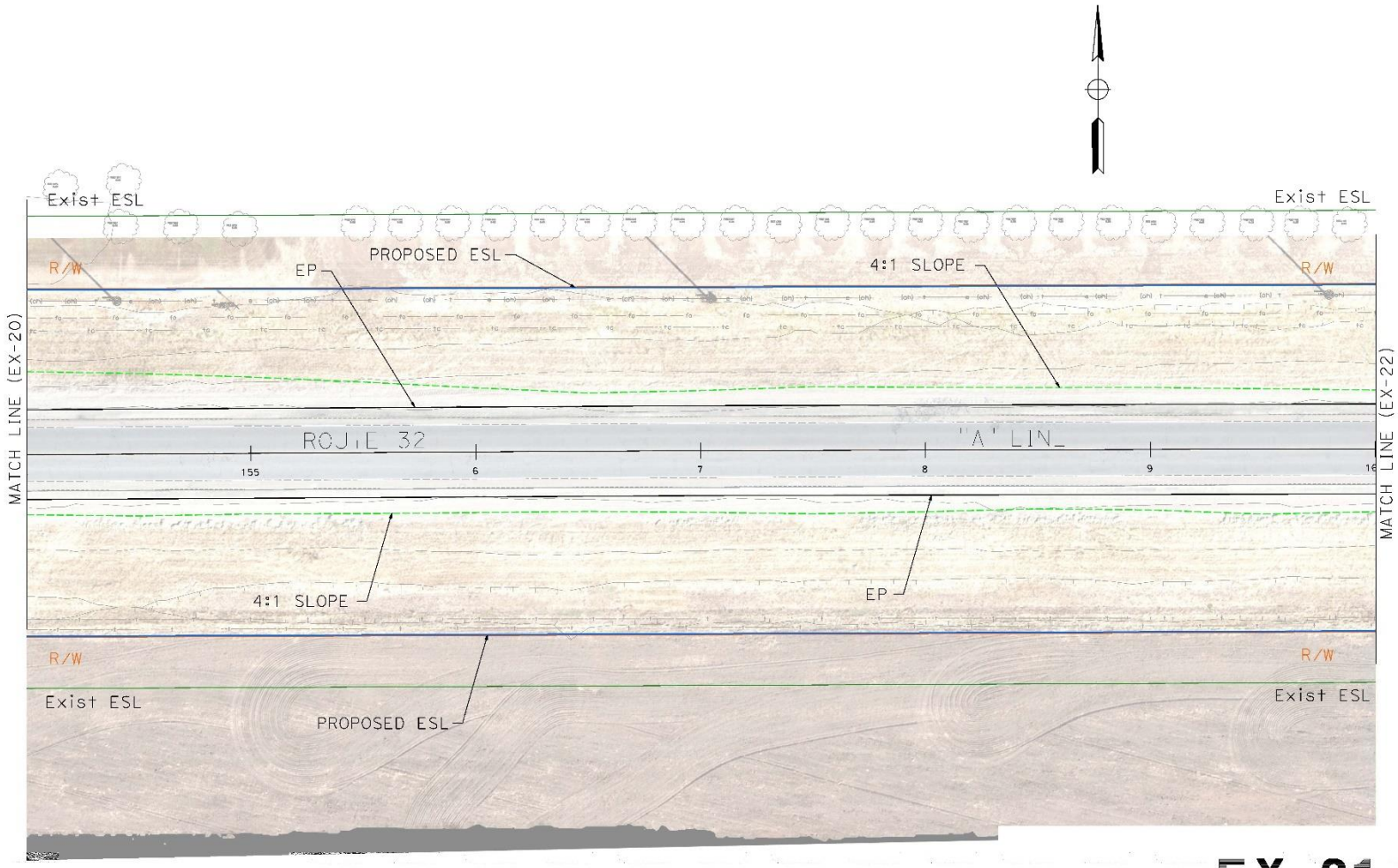
EX-18


Exist ESL
Exist ESL
PROPOSED ESL
4:1 SLOPE
4:1 SLOPE
R/W
R/W
EP
MATCH LINE (EX-18)
MATCH LINE (EX-20)
ROUTE 32
'A' LINE
3
4
145
6
7
8
4:1 SLOPE
EP
4:1 SLOPE
R/W
R/W
PROPOSED ESL
Exist ESL
Exist ESL

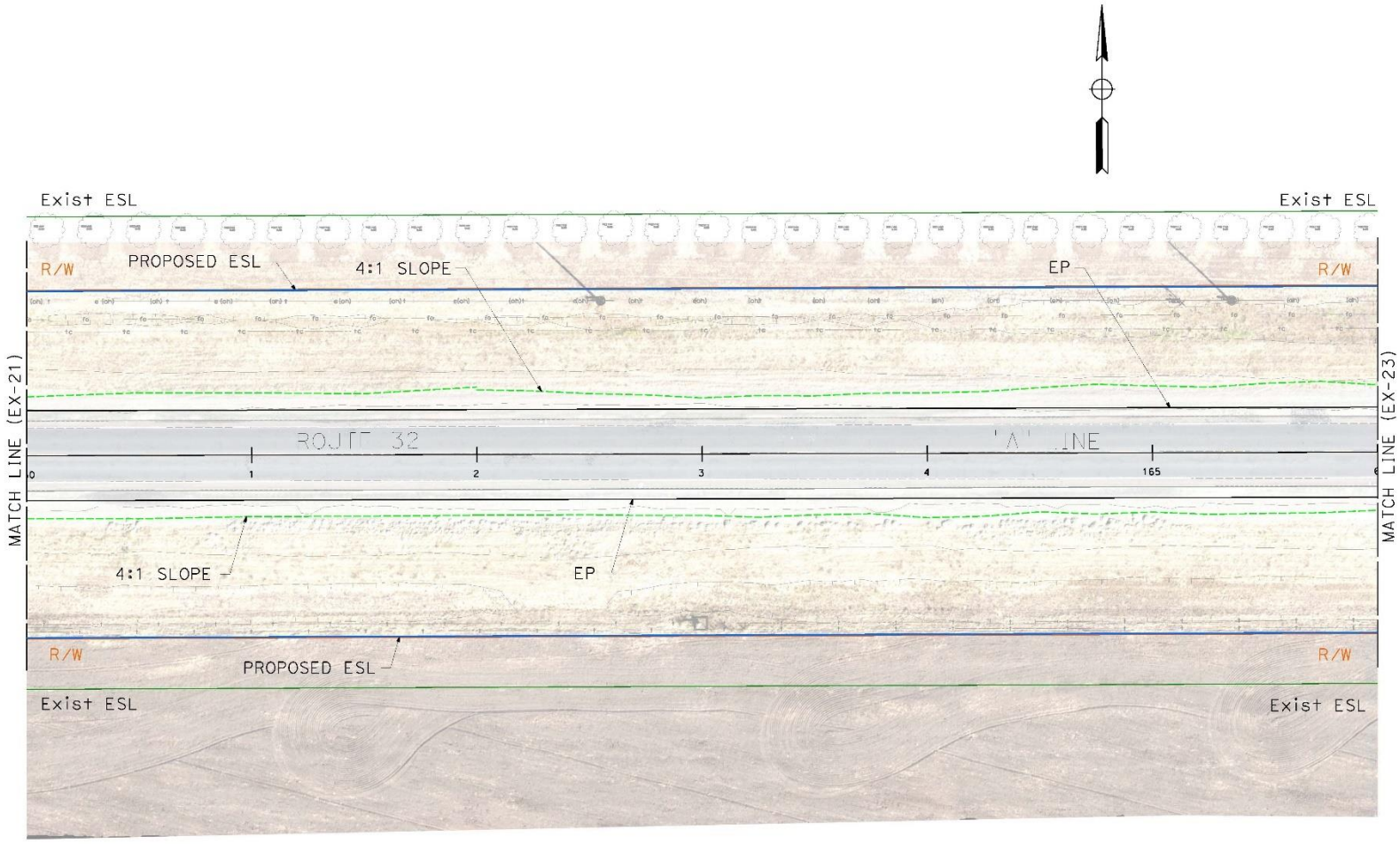
EX-19


Exist ESL
Exist ESL
PROPOSED ESL
R/W
R/W
4:1 SLOPE
EP
MATCH LINE (EX-19)
ROUTE 32
"A" LINE
9
150
1
2
3
MATCH LINE (EX-21)
4:1 SLOPE
EP
R/W
PROPOSED ESL
R/W
Exist ESL
Exist ESL

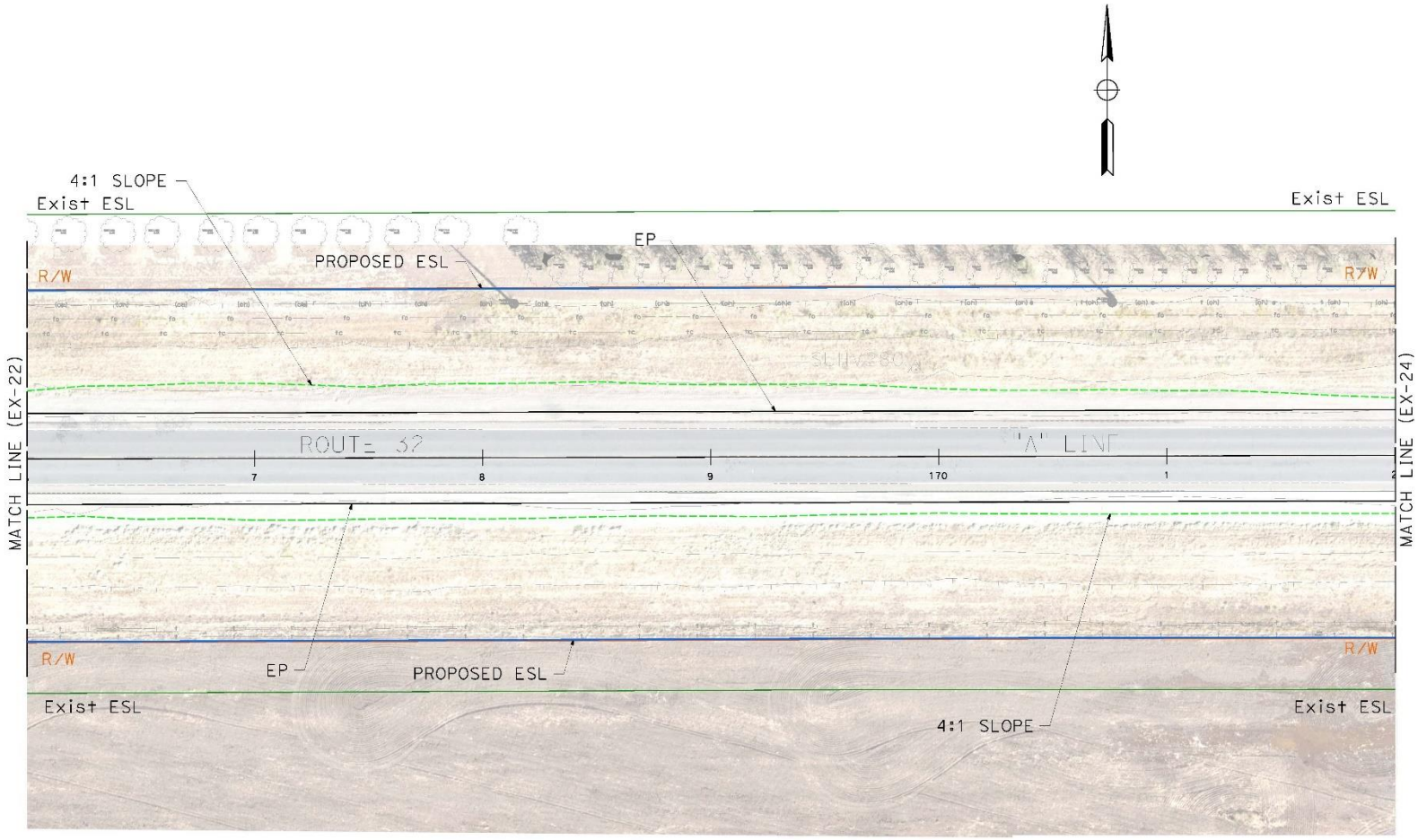
EX-20


Exist ESL
Exist ESL
R/W
EP
PROPOSED ESL
4:1 SLOPE
R/W
MATCH LINE (EX-20)
ROJ.E 32
'A' LIN_
155
6
7
8
9
16
MATCH LINE (EX-22)
4:1 SLOPE
EP
R/W
R/W
Exist ESL
Exist ESL
PROPOSED ESL

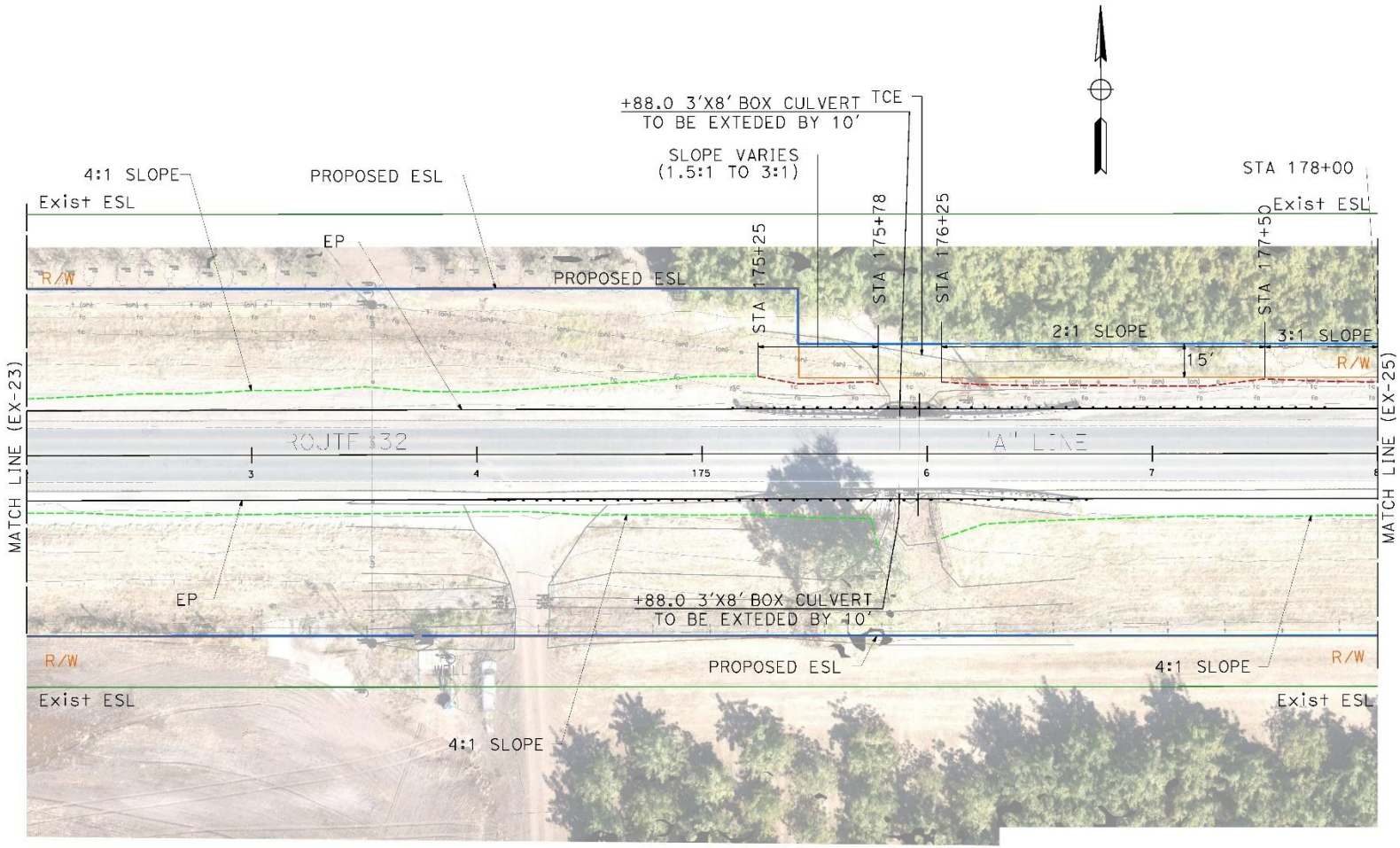
EX-21


Exist ESL
Exist ESL
R/W
PROPOSED ESL
4:1 SLOPE
EP
R/W
MATCH LINE (EX-21)
MATCH LINE (EX-23)
ROUTE 32
'A' LINE
0
1
2
3
4
165
4:1 SLOPE
EP
R/W
PROPOSED ESL
R/W
Exist ESL
Exist ESL

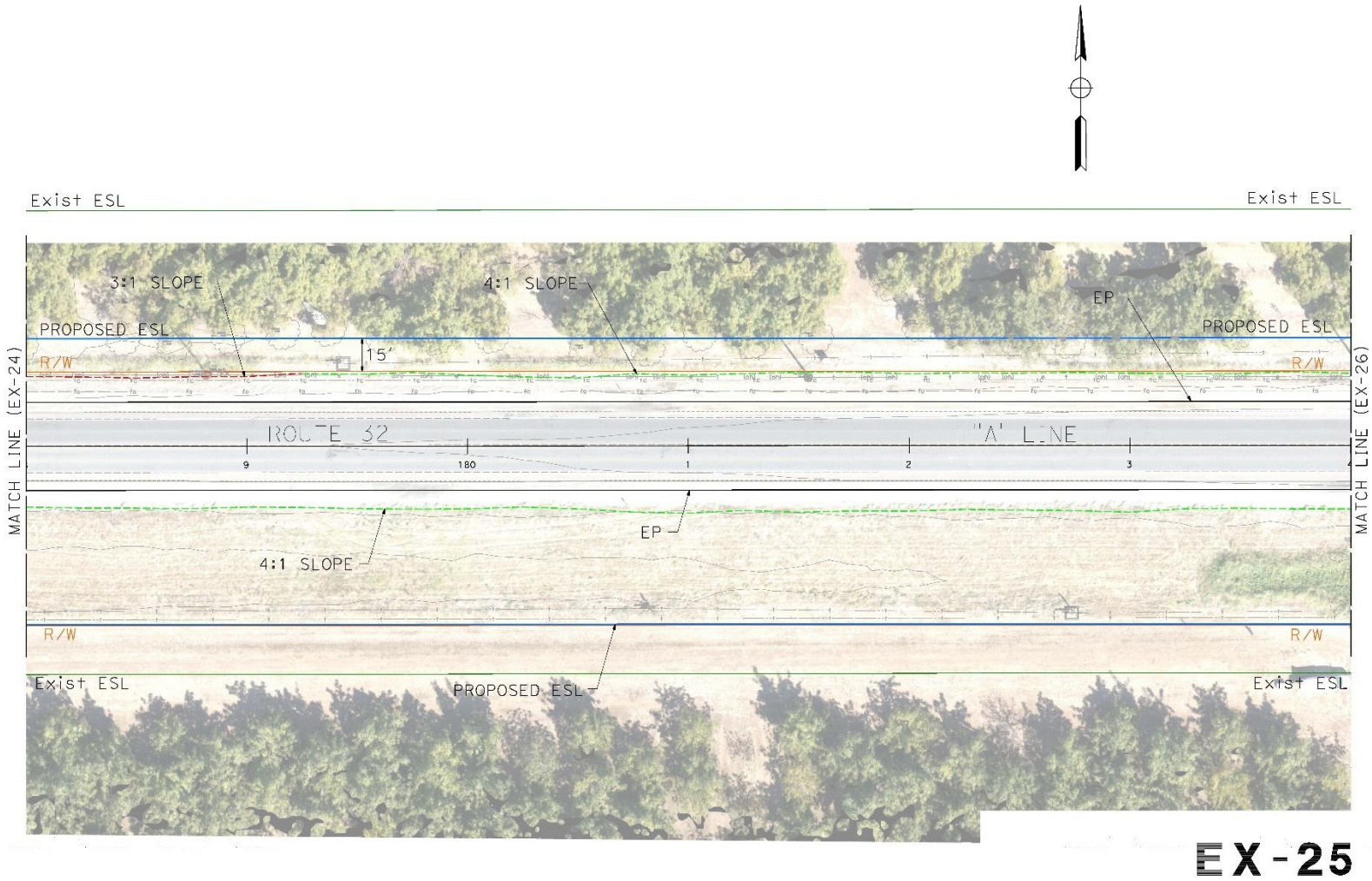
EX-22


4:1 SLOPE
Exist ESL
Exist ESL
EP
PROPOSED ESL
R/W
R/W
MATCH LINE (EX-22)
MATCH LINE (EX-24)
ROUTE 32
'A' LINE
7
8
9
170
1
R/W
R/W
EP
PROPOSED ESL
Exist ESL
Exist ESL
4:1 SLOPE

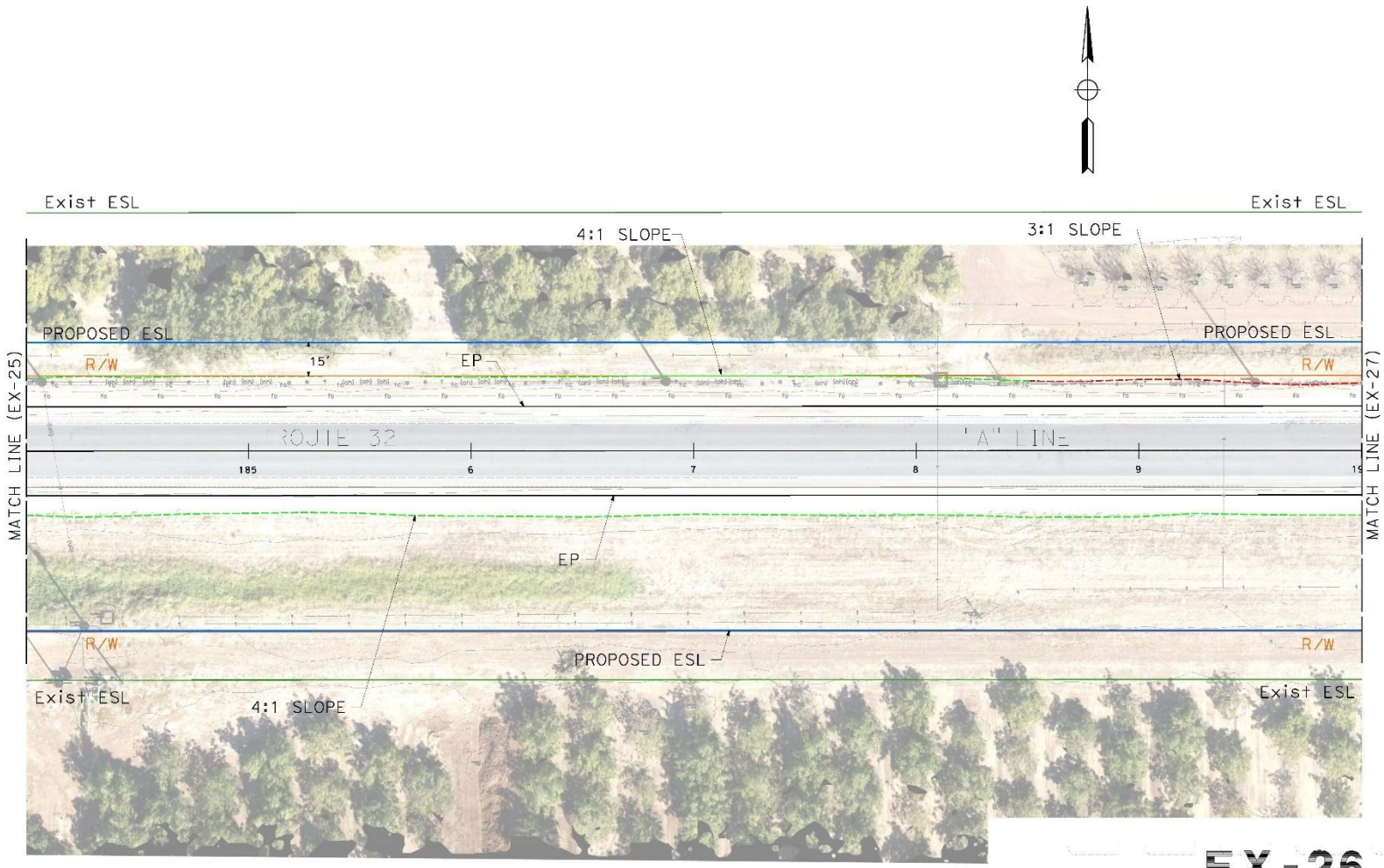
EX-23


+88.0 3'X8' BOX CULVERT TCE
TO BE EXTEDED BY 10'
SLOPE VARIES
(1.5:1 TO 3:1)
4:1 SLOPE
PROPOSED ESL
Exist ESL
STA 178+00
EP
R/W
STA 175+25
STA 175+78
STA 176+25
STA 177+50
2:1 SLOPE
3:1 SLOPE
15'
MATCH LINE (EX-23)
MATCH LINE (EX-25)
ROUTE 32
'A' LINE
+88.0 3'X8' BOX CULVERT
TO BE EXTEDED BY 10'
4:1 SLOPE

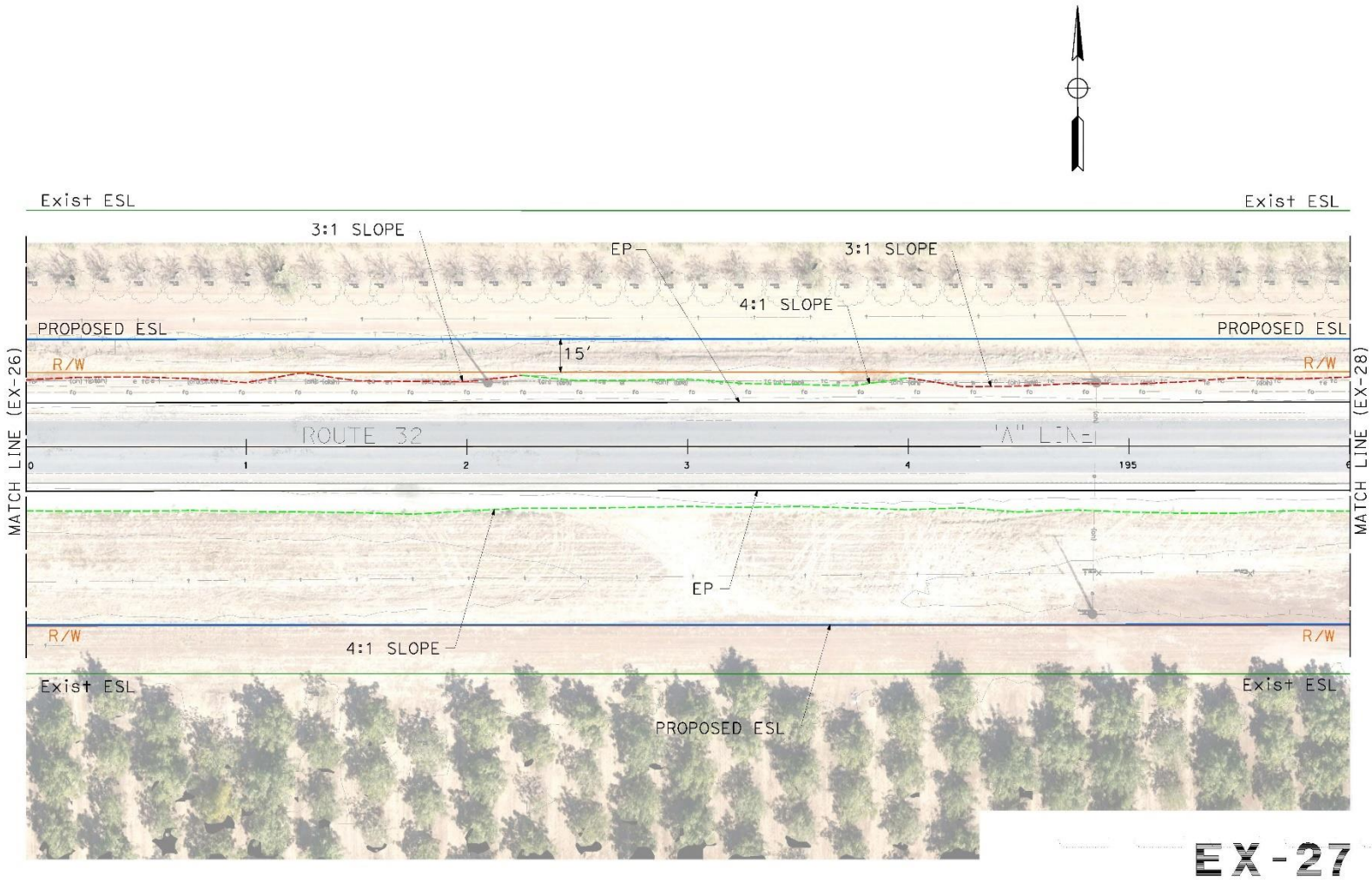
EX-24


Exist ESL
Exist ESL
3:1 SLOPE
4:1 SLOPE
EP
PROPOSED ESL
PROPOSED ESL
R/W
15'
R/W
MATCH LINE (EX-24)
ROUTE 32
'A' LINE
9
180
1
2
3
MATCH LINE (EX-26)
EP
4:1 SLOPE
R/W
R/W
Exist ESL
PROPOSED ESL
Exist ESL

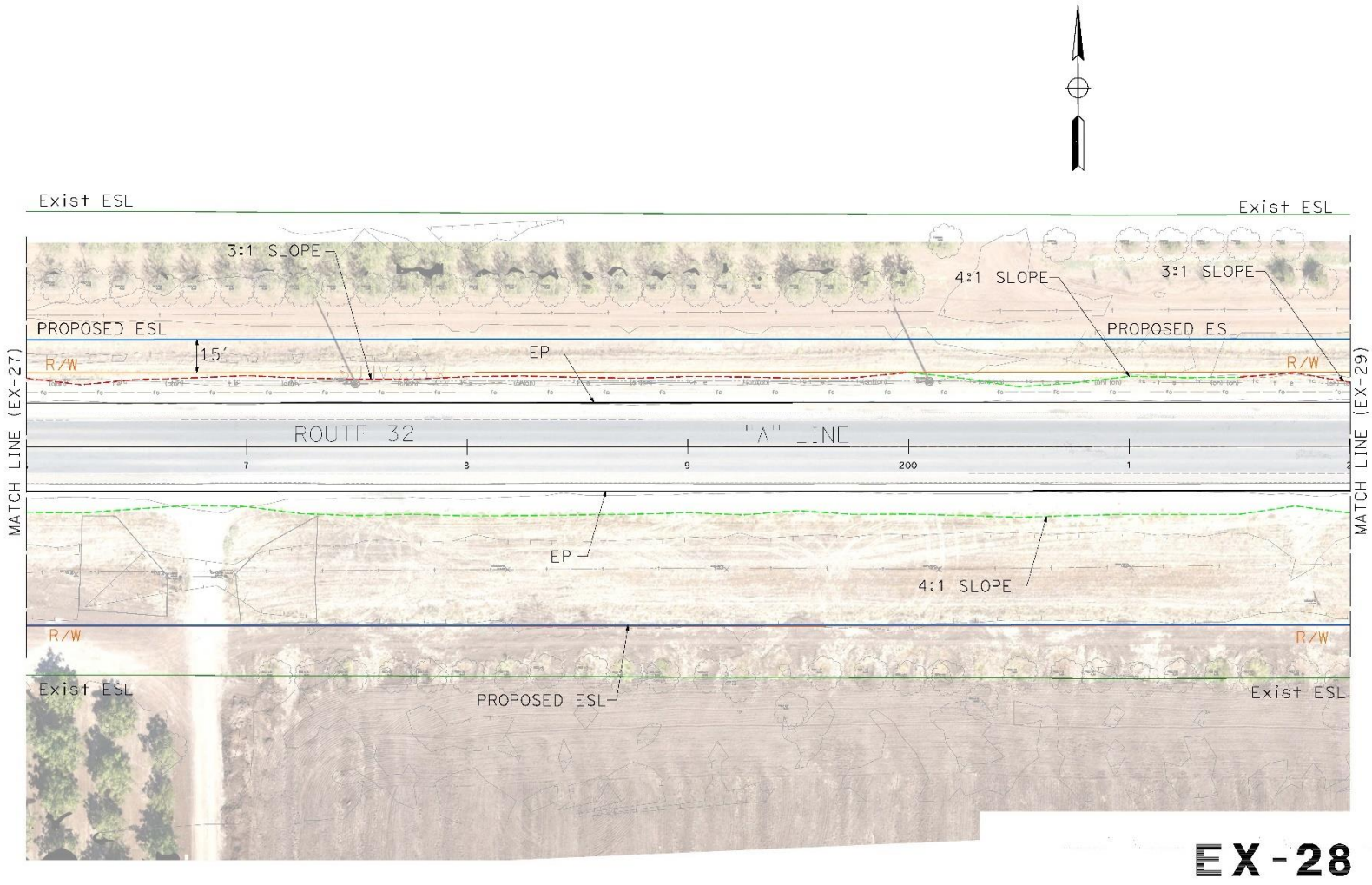
EX-25

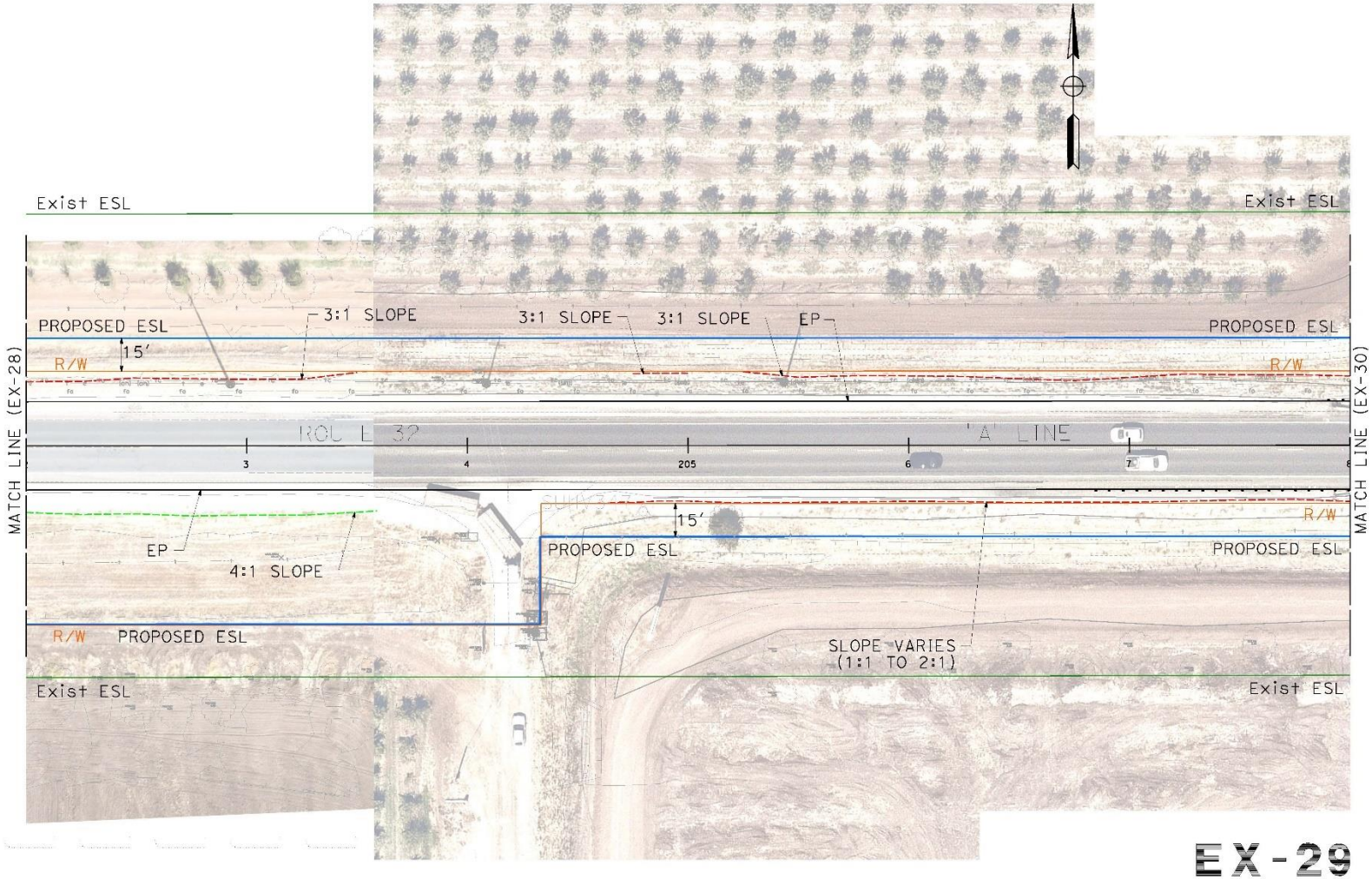

Exist ESL
Exist ESL
4:1 SLOPE
3:1 SLOPE
PROPOSED ESL
PROPOSED ESL
R/W
15'
EP
R/W
MATCH LINE (EX-25)
MATCH LINE (EX-27)
ROUTE 32
'A' LINE
185
6
7
8
9
EP
R/W
R/W
PROPOSED ESL
Exist ESL
4:1 SLOPE
Exist ESL

EX-26

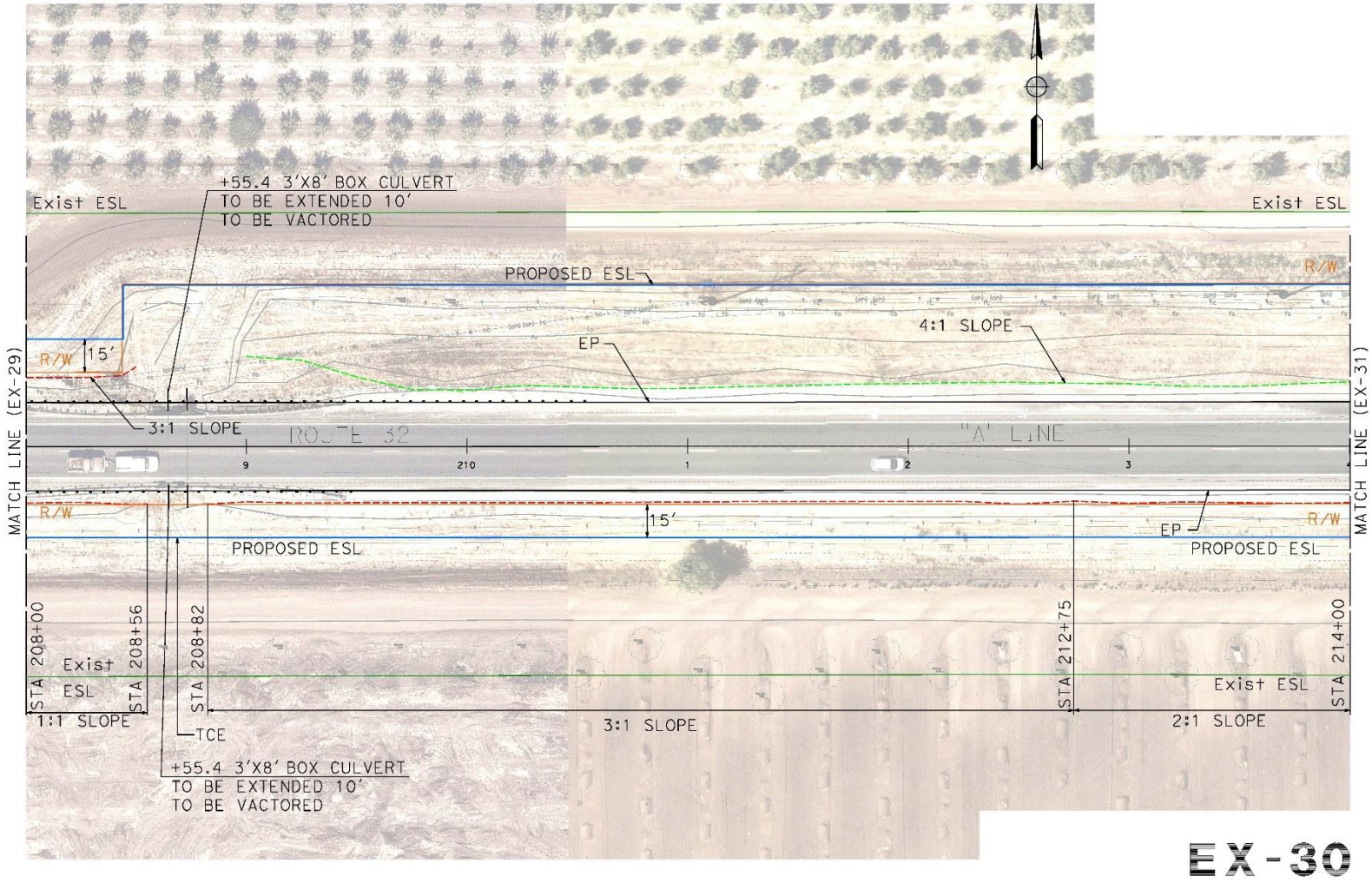

Exist ESL
Exist ESL
3:1 SLOPE
EP
3:1 SLOPE
4:1 SLOPE
PROPOSED ESL
PROPOSED ESL
15'
R/W
R/W
MATCH LINE (EX-26)
MATCH LINE (EX-28)
ROUTE 32
"A" LINE
0
1
2
3
4
195
6
EP
R/W
R/W
4:1 SLOPE
Exist ESL
Exist ESL
PROPOSED ESL

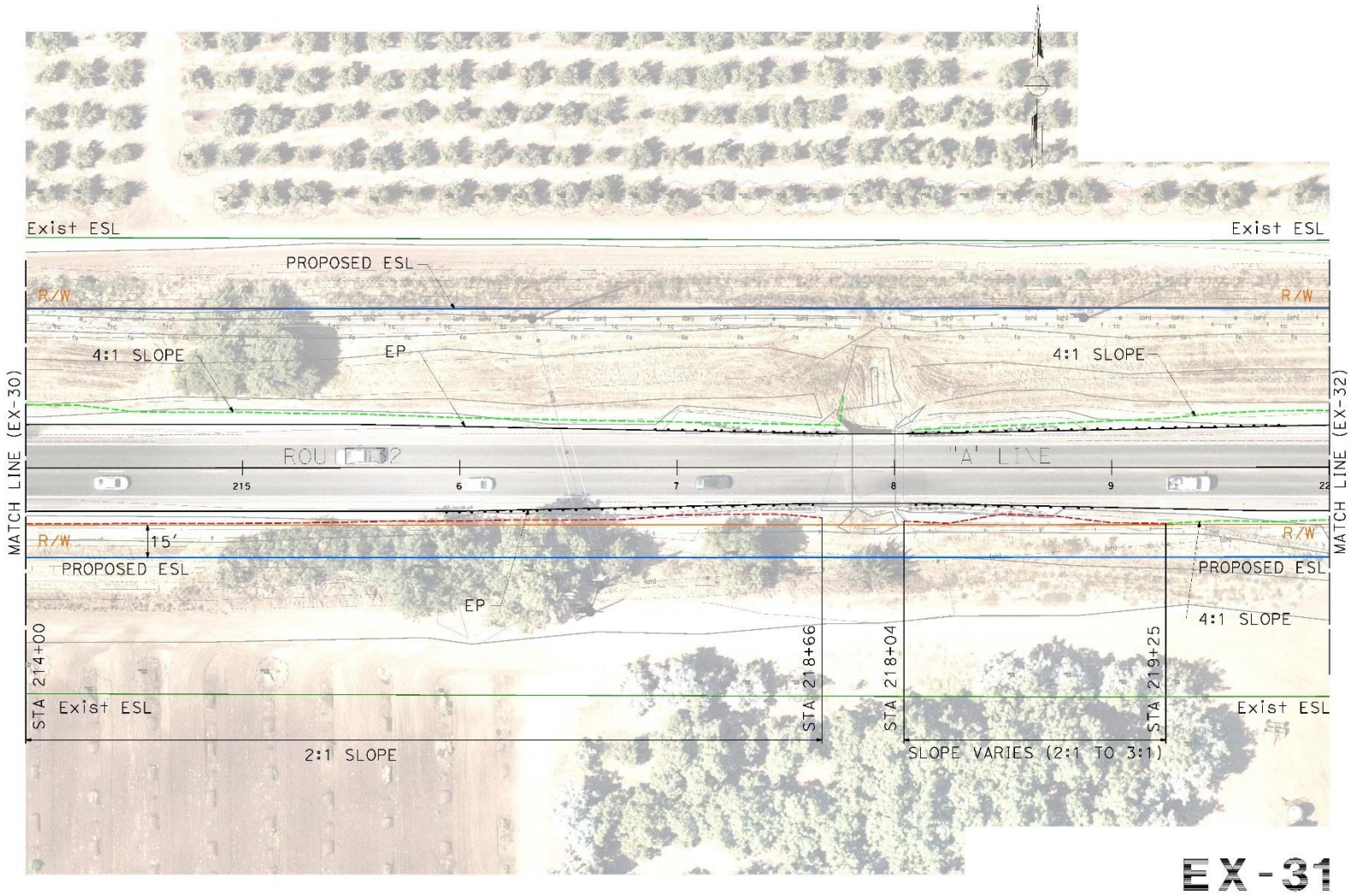
EX-27


Exist ESL
Exist ESL
3:1 SLOPE
4:1 SLOPE
3:1 SLOPE
PROPOSED ESL
PROPOSED ESL
R/W
15'
EP
R/W
ROUTE 32
"A" LINE
MATCH LINE (EX-27)
MATCH LINE (EX-29)
EP
4:1 SLOPE
R/W
R/W
Exist ESL
PROPOSED ESL
Exist ESL
EX-28

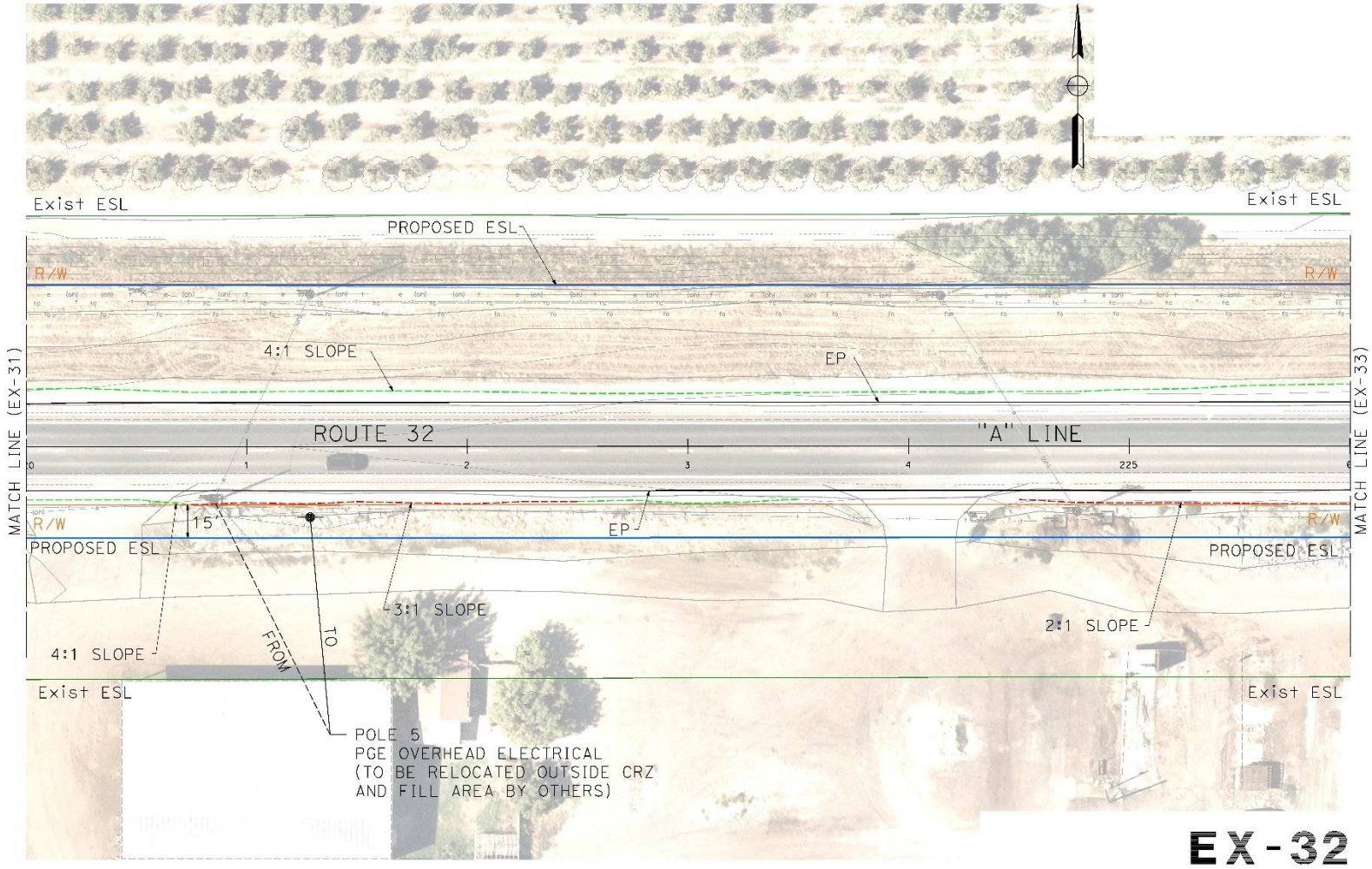

Exist ESL
Exist ESL
PROPOSED ESL
3:1 SLOPE
3:1 SLOPE
3:1 SLOPE
EP
PROPOSED ESL
R/W
15'
R/W
MATCH LINE (EX-28)
MATCH LINE (EX-30)
'A' LINE
3
4
205
6
7
EP
4:1 SLOPE
15'
R/W
PROPOSED ESL
PROPOSED ESL
R/W
PROPOSED ESL
SLOPE VARIES
(1:1 TO 2:1)
Exist ESL
Exist ESL

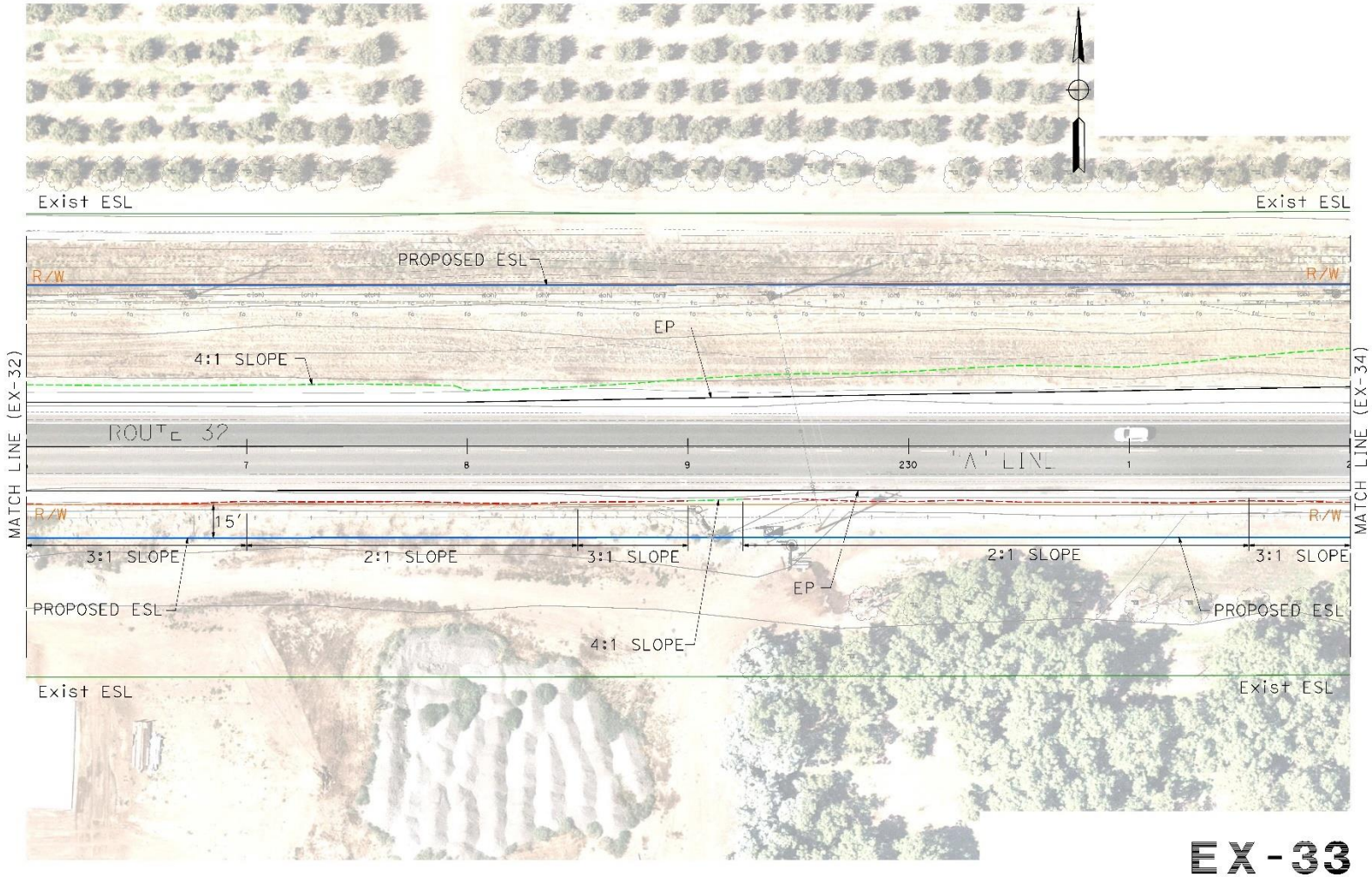
EX-29


+55.4 3'X8' BOX CULVERT
TO BE EXTENDED 10'
TO BE VACTORED
Exist ESL
Exist ESL
PROPOSED ESL
R/W
4:1 SLOPE
EP
R/W
15'
3:1 SLOPE
ROUTE 32
"A" LINE
MATCH LINE (EX-29)
MATCH LINE (EX-31)
R/W
15'
EP
R/W
PROPOSED ESL
PROPOSED ESL
STA 208+00
STA 208+56
STA 208+82
STA 212+75
STA 214+00
Exist ESL
Exist ESL
1:1 SLOPE
3:1 SLOPE
2:1 SLOPE
TCE
+55.4 3'X8' BOX CULVERT
TO BE EXTENDED 10'
TO BE VACTORED
EX-30

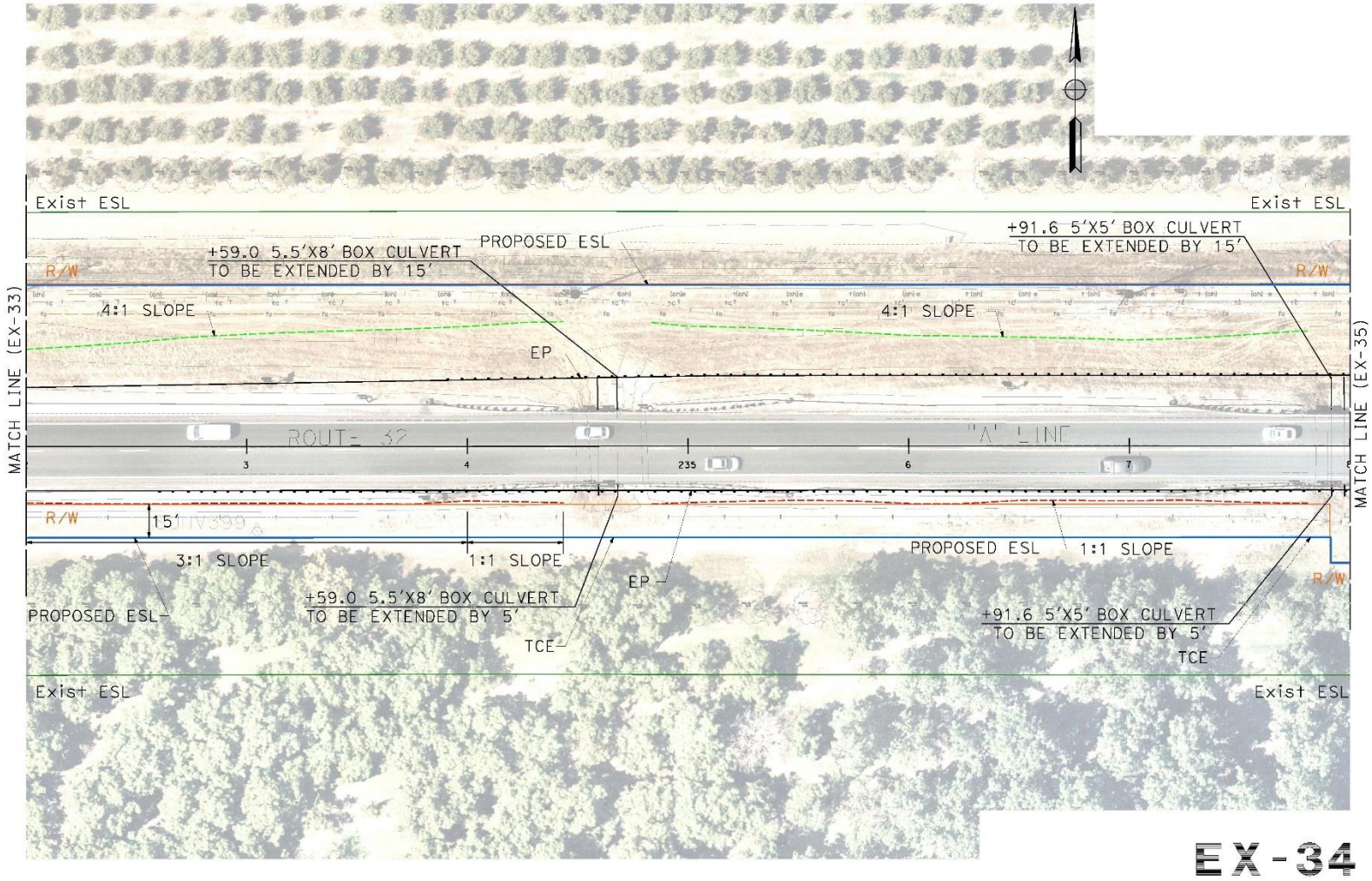

Exist ESL
Exist ESL
PROPOSED ESL
R/W
R/W
4:1 SLOPE
EP
4:1 SLOPE
MATCH LINE (EX-30)
MATCH LINE (EX-32)
ROUTE 32
'A' LINE
215
6
7
8
9
R/W
15'
R/W
PROPOSED ESL
PROPOSED ESL
EP
4:1 SLOPE
STA 214+00
STA 218+66
STA 218+04
STA 219+25
STA Exist ESL
Exist ESL
2:1 SLOPE
SLOPE VARIES (2:1 TO 3:1)

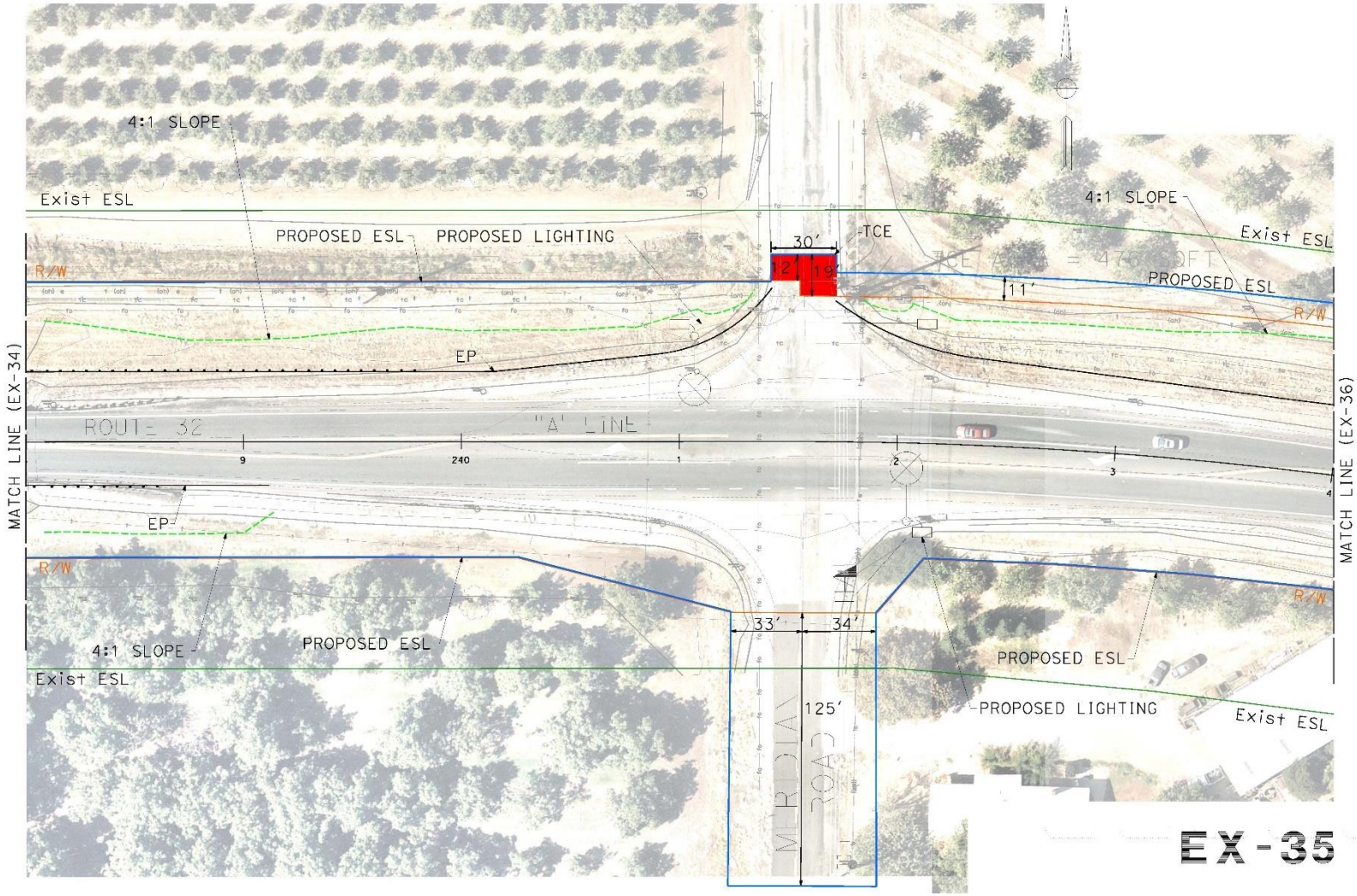
EX-31

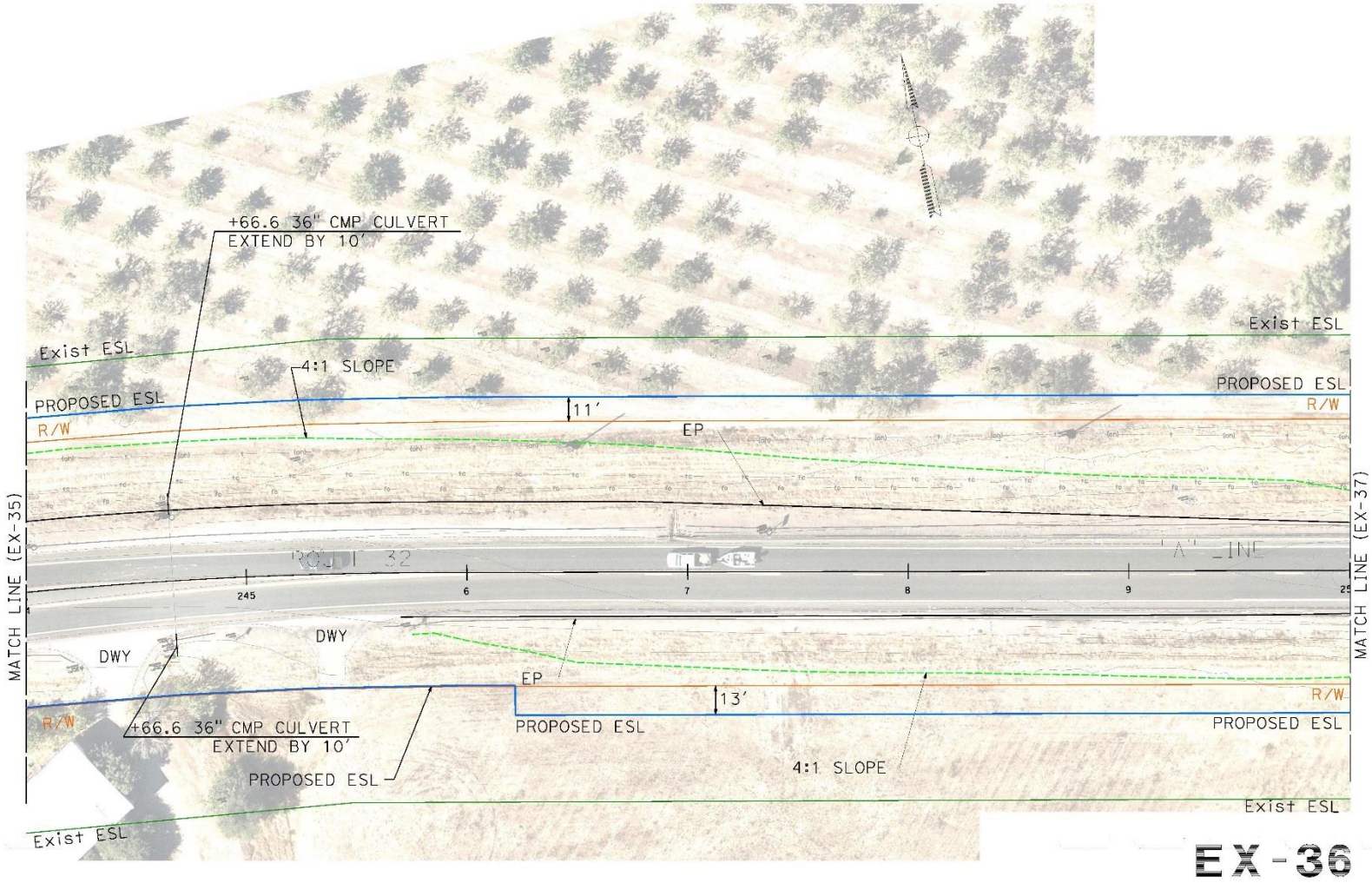

Exist ESL
Exist ESL
PROPOSED ESL
R/W
R/W
4:1 SLOPE
EP
MATCH LINE (EX-31)
ROUTE 32
"A" LINE
MATCH LINE (EX-33)
0
1
2
3
4
225
6
R/W
15'
EP
R/W
PROPOSED ESL
PROPOSED ESL
3:1 SLOPE
2:1 SLOPE
4:1 SLOPE
FROM
TO
Exist ESL
Exist ESL
POLE 5
PGE OVERHEAD ELECTRICAL
(TO BE RELOCATED OUTSIDE CRZ
AND FILL AREA BY OTHERS)
EX-32


Exist ESL
Exist ESL
PROPOSED ESL
R/W
R/W
EP
4:1 SLOPE
MATCH LINE (EX-32)
ROUTE 32
'A' LINE
MATCH LINE (EX-34)
R/W
15'
R/W
3:1 SLOPE
2:1 SLOPE
3:1 SLOPE
2:1 SLOPE
3:1 SLOPE
EP
PROPOSED ESL
PROPOSED ESL
4:1 SLOPE
Exist ESL
Exist ESL

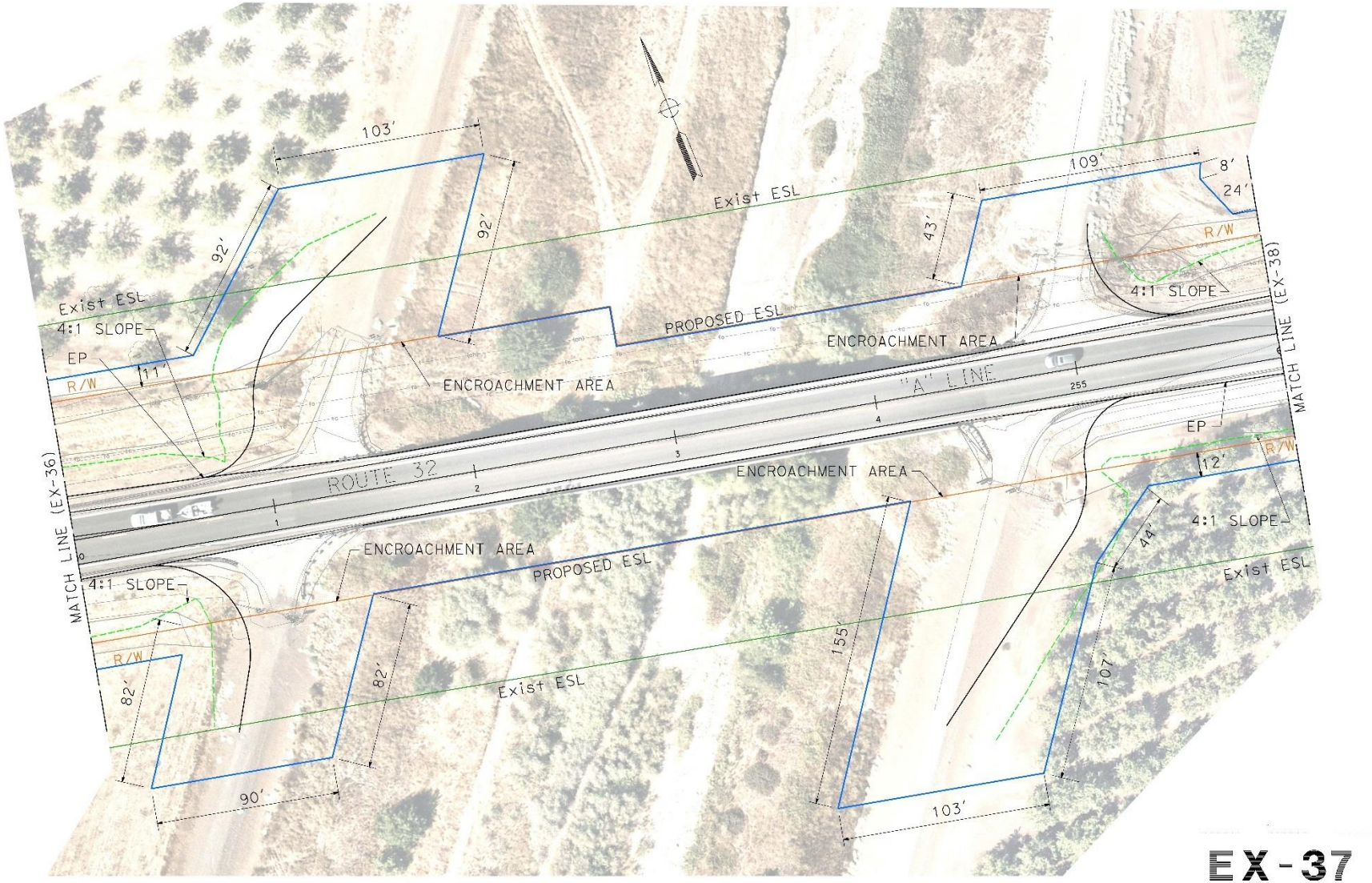
EX-33


Exist ESL
Exist ESL
+59.0 5.5'X8' BOX CULVERT
TO BE EXTENDED BY 15'
PROPOSED ESL
+91.6 5'X5' BOX CULVERT
TO BE EXTENDED BY 15'
R/W
R/W
4:1 SLOPE
4:1 SLOPE
EP
MATCH LINE (EX-33)
MATCH LINE (EX-35)
ROUTE 32
"A" LINE
3
4
235
6
7
R/W
15'
3:1 SLOPE
1:1 SLOPE
PROPOSED ESL
1:1 SLOPE
R/W
EP
+59.0 5.5'X8' BOX CULVERT
TO BE EXTENDED BY 5'
PROPOSED ESL
TCE
+91.6 5'X5' BOX CULVERT
TO BE EXTENDED BY 5'
TCE
Exist ESL
Exist ESL
EX-34

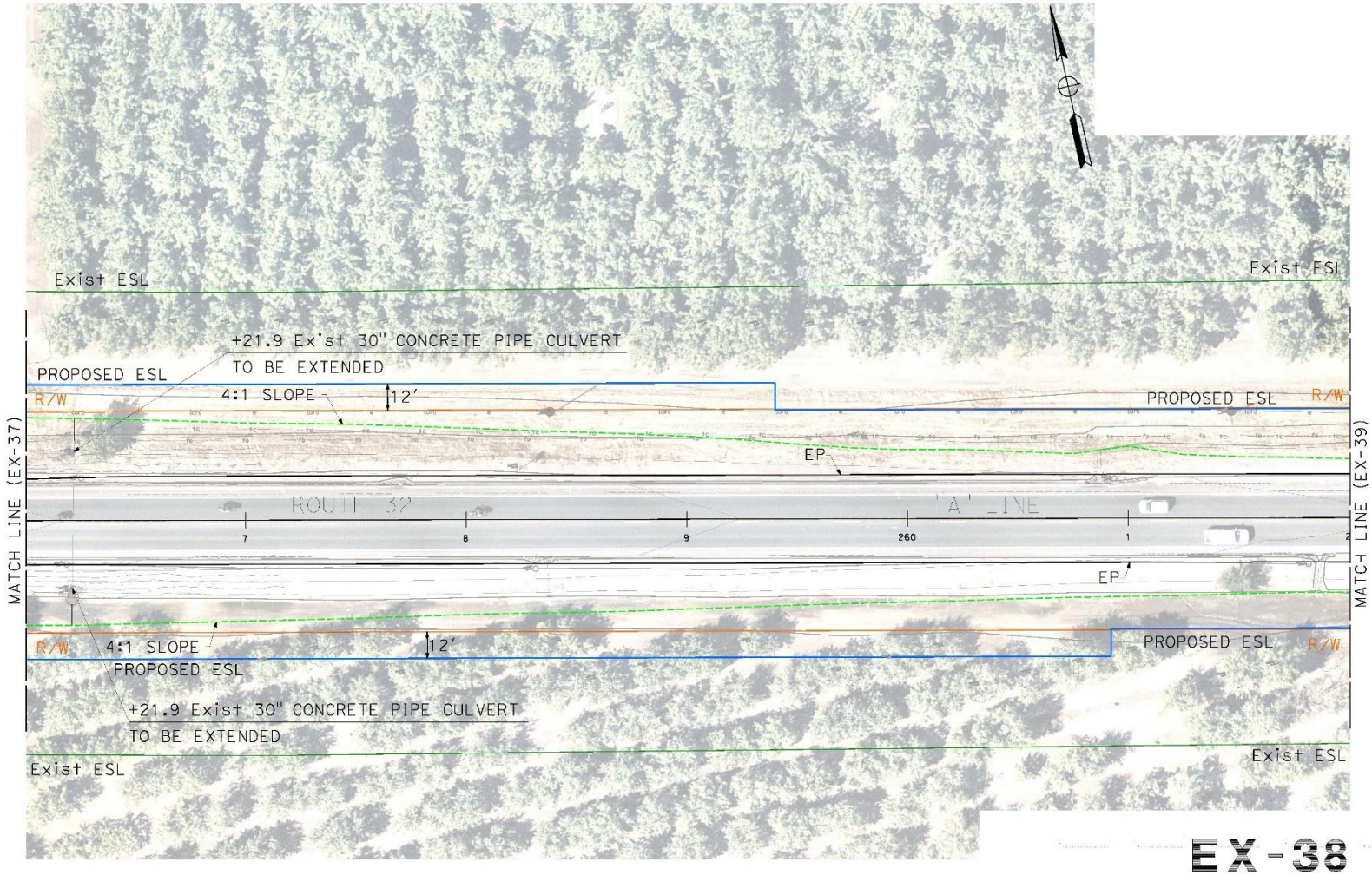

4:1 SLOPE
Exist ESL
PROPOSED ESL
PROPOSED LIGHTING
30'
TCE
12'
18'
11'
4:1 SLOPE
Exist ESL
PROPOSED ESL
R/W
EP
ROUTE 32
"A" LINE
9
240
1
2
3
4
MATCH LINE (EX-34)
MATCH LINE (EX-36)
EP
R/W
R/W
33'
34'
4:1 SLOPE
PROPOSED ESL
Exist ESL
PROPOSED ESL
125'
PROPOSED LIGHTING
Exist ESL
MERIDIAN ROAD
EX-35


+66.6 36" CMP CULVERT
EXTEND BY 10'
Exist ESL
PROPOSED ESL
R/W
4:1 SLOPE
11'
EP
Exist ESL
PROPOSED ESL
R/W
MATCH LINE (EX-35)
MATCH LINE (EX-37)
245
6
7
8
9
DWY
DWY
EP
13'
R/W
+66.6 36" CMP CULVERT
EXTEND BY 10'
PROPOSED ESL
PROPOSED ESL
4:1 SLOPE
Exist ESL
Exist ESL

EX-36


103'
92'
92'
Exist ESL
109'
8'
24'
43'
R/W
4:1 SLOPE
Exist ESL
4:1 SLOPE
EP
R/W
11'
PROPOSED ESL
ENCROACHMENT AREA
ENCROACHMENT AREA
"A" LINE
255
MATCH LINE (EX-38)
MATCH LINE (EX-36)
ROUTE 32
EP
R/W
12'
ENCROACHMENT AREA
4:1 SLOPE
44'
ENCROACHMENT AREA
PROPOSED ESL
4:1 SLOPE
Exist ESL
R/W
155'
82'
82'
Exist ESL
107'
90'
103'

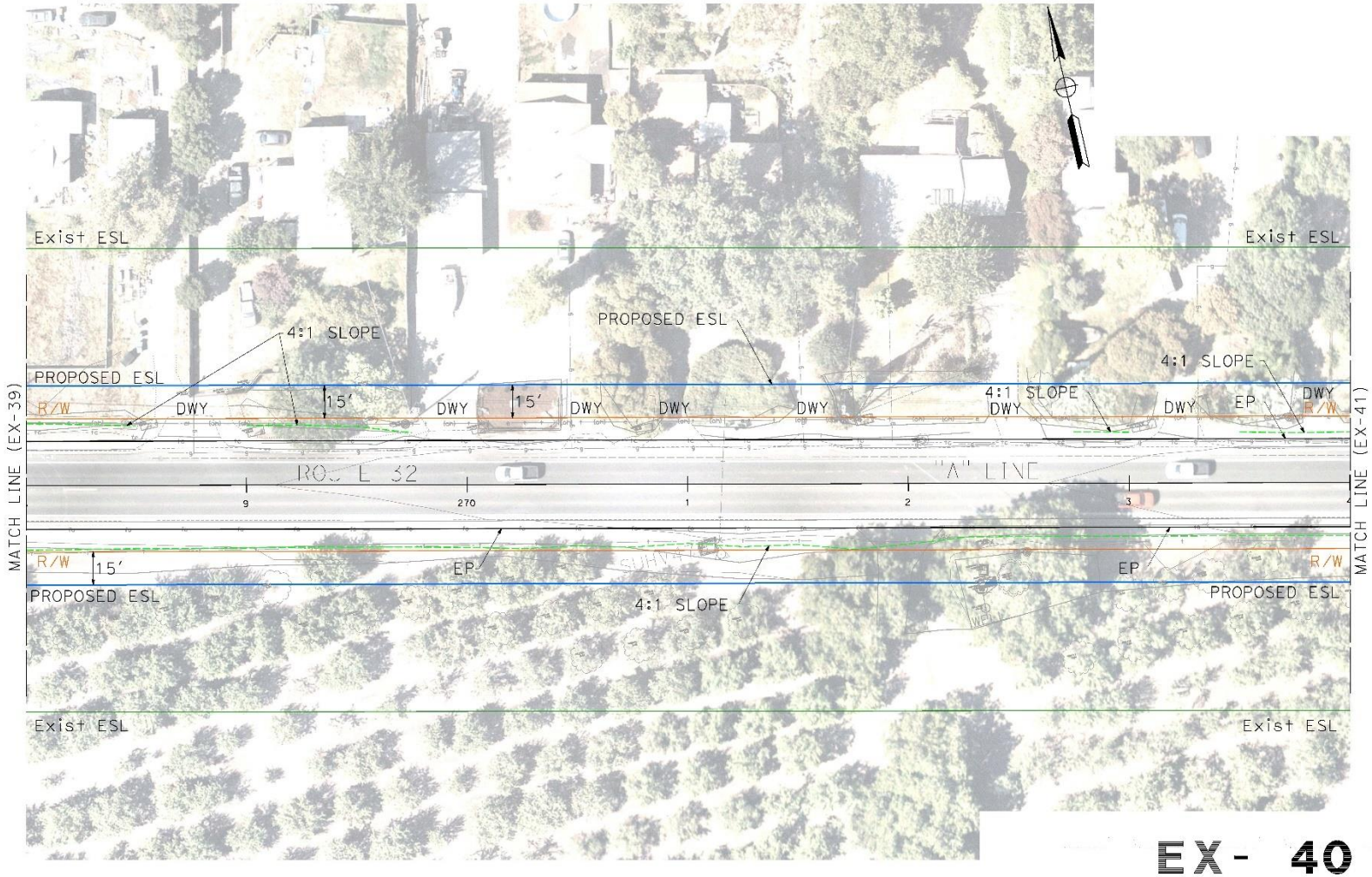
EX-37


Exist ESL
Exist ESL
+21.9 Exist 30" CONCRETE PIPE CULVERT
TO BE EXTENDED
PROPOSED ESL
R/W
4:1 SLOPE
12'
PROPOSED ESL
R/W
EP
ROUTE 32
'A' LINE
MATCH LINE (EX-37)
MATCH LINE (EX-39)
7
8
9
260
1
EP
R/W
4:1 SLOPE
PROPOSED ESL
12'
PROPOSED ESL
R/W
+21.9 Exist 30" CONCRETE PIPE CULVERT
TO BE EXTENDED
Exist ESL
Exist ESL

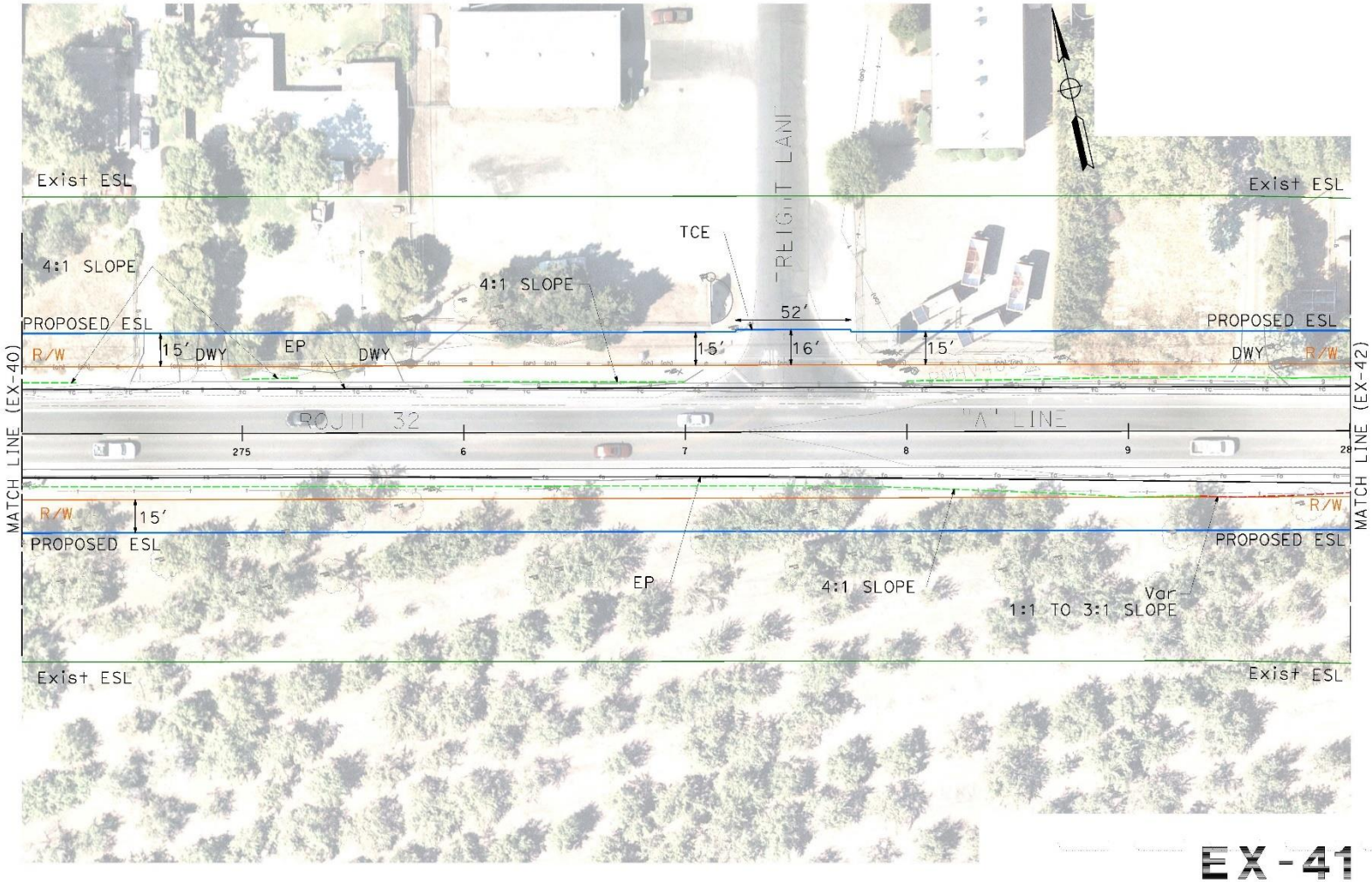
EX-38


Exist ESL
Exist ESL
+35.3 Exist 18" CONCRETE PIPE CULVERT
TO BE EXTENDED
4:1 SLOPE
4:1 SLOPE
R/W PROPOSED ESL
PROPOSED ESL
4:1 SLOPE
DWY
EP
15'
DWY
R/W
MATCH LINE (EX-38)
ROUTE 32
A" LINE
3
4
265
6
7
MATCH LINE (EX-40)
15'
EP
R/W
4:1 SLOPE
PROPOSED ESL
R/W
PROPOSED ESL
+35.3 Exist 18" CONCRETE PIPE CULVERT
TO BE EXTENDED
Exist ESL
Exist ESL

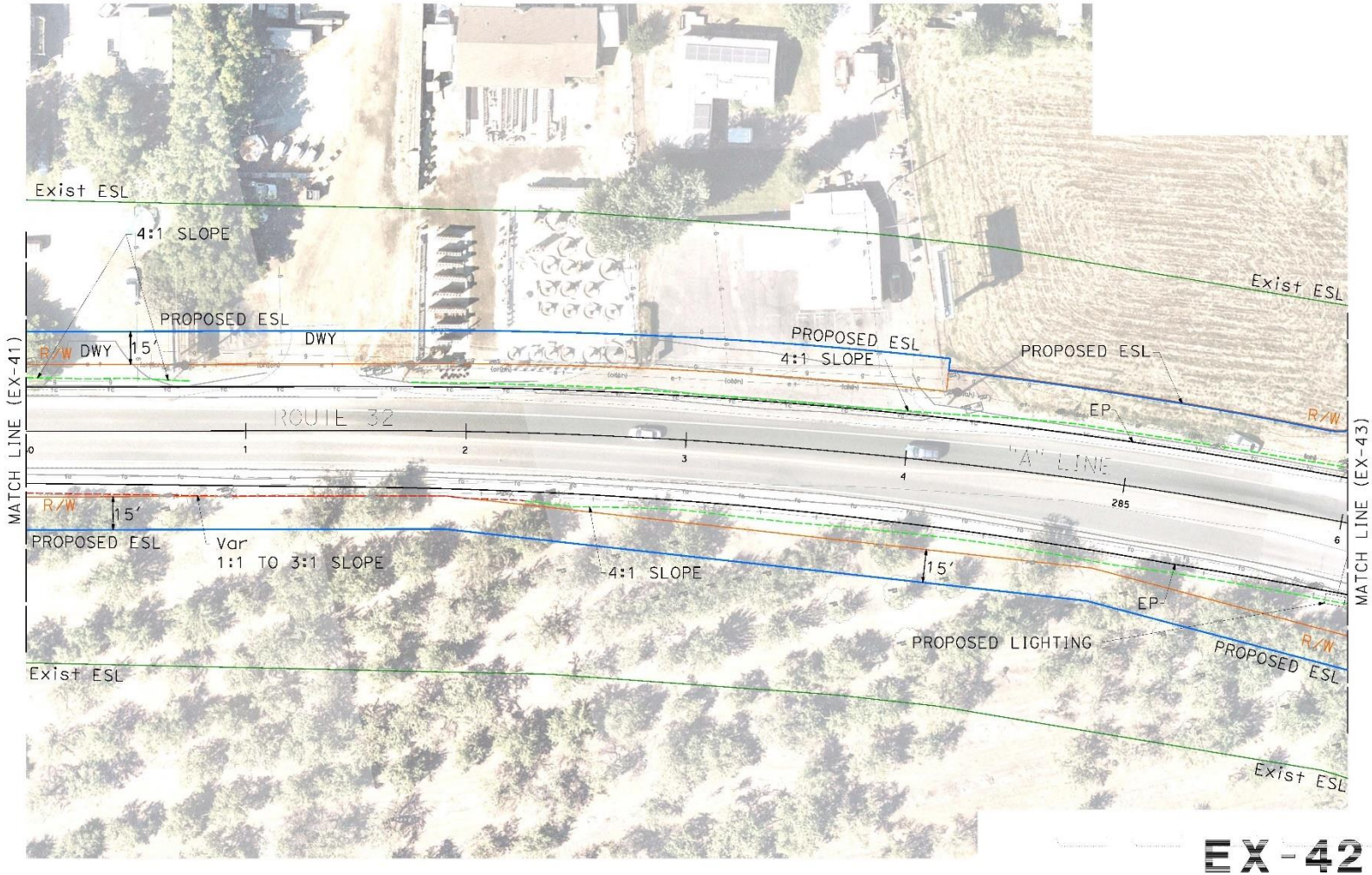
EX-39


Exist ESL
Exist ESL
4:1 SLOPE
PROPOSED ESL
PROPOSED ESL
4:1 SLOPE
R/W
DWY
15'
DWY
15'
DWY
DWY
DWY
4:1 SLOPE
DWY
DWY
EP
DWY
R/W
MATCH LINE (EX-39)
MATCH LINE (EX-41)
9
270
1
2
3
R/W
15'
EP
EP
R/W
PROPOSED ESL
4:1 SLOPE
PROPOSED ESL
Exist ESL
Exist ESL

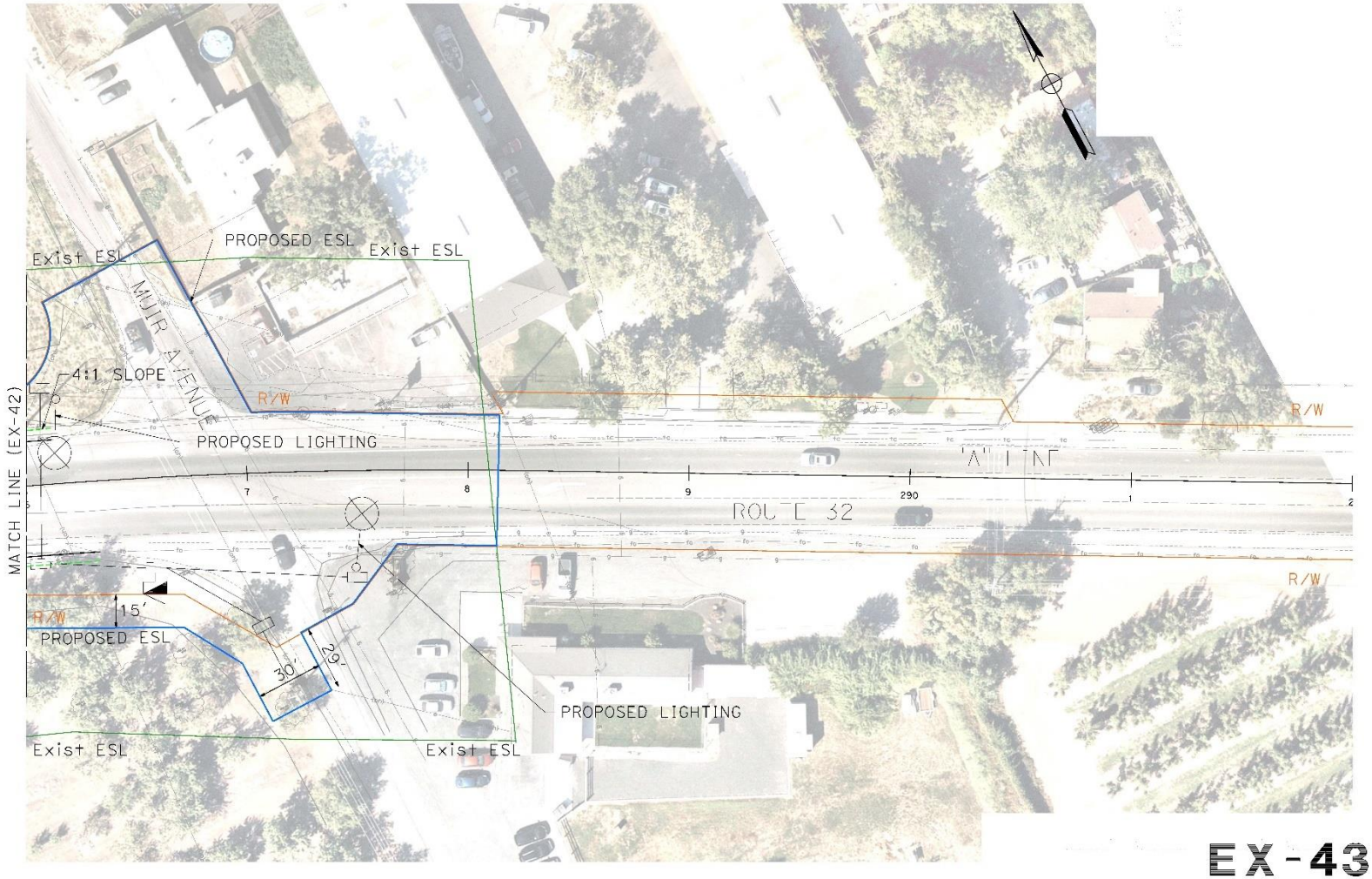
EX- 40


Exist ESL
Exist ESL
TCE
FREIGHT LANE
4:1 SLOPE
4:1 SLOPE
52'
PROPOSED ESL
PROPOSED ESL
R/W
15' DWY
EP
DWY
15'
16'
15'
DWY
R/W
MATCH LINE (EX-40)
ROUTE 32
"A" LINE
275
6
7
8
9
28
MATCH LINE (EX-42)
R/W
15'
R/W
PROPOSED ESL
PROPOSED ESL
EP
4:1 SLOPE
Var
1:1 TO 3:1 SLOPE
Exist ESL
Exist ESL

EX-41


Exist ESL
4:1 SLOPE
PROPOSED ESL
DWY
R/W DWY
15'
ROUTE 32
PROPOSED ESL
4:1 SLOPE
PROPOSED ESL
EP
R/W
"A" LINE
285
MATCH LINE (EX-41)
MATCH LINE (EX-43)
R/W
15'
PROPOSED ESL
Var
1:1 TO 3:1 SLOPE
4:1 SLOPE
15'
EP
PROPOSED LIGHTING
R/W
PROPOSED ESL
Exist ESL
Exist ESL
Exist ESL

EX-42


Exist ESL
PROPOSED ESL
Exist ESL
MUIR AVENUE
4:1 SLOPE
R/W
PROPOSED LIGHTING
MATCH LINE (EX-42)
ROUTE 32
R/W
R/W
15'
PROPOSED ESL
30'
29'
PROPOSED LIGHTING
Exist ESL
Exist ESL

EX-43

Appendix C. USFWS and NMFS 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:
Consultation Code: 08ESMF00-2020-SLI-0746
Event Code: 08ESMF00-2021-E-04685
Project Name: 03-4H880 BUT-32

April 20, 2021

Subject: Updated 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, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) 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 Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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 ECOS-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 ECOS-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:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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 Tracking Number 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

Consultation Code: 08ESMF00-2020-SLI-0746
Event Code: 08ESMF00-2021-E-04685
Project Name: 03-4H880 BUT-32
Project Type: TRANSPORTATION
Project Description: Shoulder widening
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.75200725792078,-121.98518315959674,14z

Counties: Butte County, California

Endangered Species Act Species

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Butte County Meadowfoam *Limnanthes floccosa ssp. californica* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4223	Endangered
Greene's Tuctoria *Tuctoria greenei* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1573	Endangered
Hoover's Spurge *Chamaesyce hooveri* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3019	Threatened
Slender Orcutt Grass *Orcuttia tenuis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* https://ecos.fws.gov/ecp/species/3911#crithab	Proposed

Quad Name Nord
Quad Number 39121-G8

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat - X
SRWR Chinook Salmon Critical Habitat - X
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - X
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Nord (3912178) OR Ord Ferry (3912168))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Anthicus antiochensis Antioch Dunes anthicid beetle	IICOL49020	None	None	G1	S1	
Anthicus sacramento Sacramento anthicid beetle	IICOL49010	None	None	G1	S1	
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. ferrisiae Ferris' milk-vetch	PDFAB0F8R3	None	None	G2T1	S1	1B.1
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Castilleja rubicundula var. rubicundula pink creamsacs	PDSCR0D482	None	None	G5T2	S2	1B.2
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Cryptantha crinita silky cryptantha	PDBOR0A0Q0	None	None	G2	S2	1B.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S3	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
Euphorbia hooveri Hoover's spurge	PDEUP0D150	Threatened	None	G1	S1	1B.2
Fritillaria pluriflora adobe-lily	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Great Valley Willow Scrub Great Valley Willow Scrub	CTT63410CA	None	None	G3	S3.2	
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G3G4	S3S4	
Lasiurus blossevillii western red bat	AMACC05060	None	None	G4	S3	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G3G4	S4	
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Limnanthes floccosa ssp. californica Butte County meadowfoam	PDLIM02042	Endangered	Endangered	G4T1	S1	1B.1
Limnanthes floccosa ssp. floccosa woolly meadowfoam	PDLIM02043	None	None	G4T4	S3	4.2
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Rana boylii foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Spea hammondii western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Tuctoria greenei Greene's tuctoria	PMPOA6N010	Endangered	Rare	G1	S1	1B.1

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Wolffia brasiliensis	PMLEM03020	None	None	G5	S2	2B.3
Brazilian watermeal						

Record Count: 42

Appendix D.Response to Comments

"STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY GAVIN NEWSOM, GOVERNOR

CENTRAL VALLEY FLOOD PROTECTION BOARD
3310 El Camino Ave., Ste. 170
SACRAMENTO, CA 95821
(916) 574-0609 FAX: (916) 574-0682

May 4, 2021

Ms. Caitlin Greenwood
California Department of Transportation
703 B Street
Marysville, CA 95901

Subject: Gianella-Muir Safety Project, Mitigated Negative Declaration SCH No. 2021040476

Location: Butte County

Dear Ms. Greenwood,

Central Valley Flood Protection Board (Board) staff has reviewed the subject document and provides the following comments:

The proposed project may be located within the Mud Creek Designated Floodway, under Board jurisdiction and may require a Board permit prior to construction.

The Board's jurisdiction covers the entire Central Valley including all tributaries and distributaries of the Sacramento and San Joaquin Rivers, and the Tulare and Buena Vista basins south of the San Joaquin River.

Under authorities granted by California Water Code and Public Resources Code statutes, the Board enforces standards set forth in California Code of Regulations, Title 23, Waters, Division 1 (Title 23) for the construction, maintenance, and protection of adopted plans of flood control, including the federal-State facilities of the State Plan of Flood Control, regulated streams, and designated floodways.

Pursuant to Title 23, Section 6 (a), a Board permit is required prior to working within the Board's jurisdiction for the placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment, excavation, the planting, or removal of vegetation, and any repair or maintenance that involves cutting into the levee.

Board staff have reviewed the subject document and provides the following comments on the potential environmental effects within the Board's jurisdiction:

Hydrologic Impacts

According to page 3 "1.4. Permits and Approvals Needed" the Central Valley Flood Protection Board was not shown as agency that will require approval of an encroachment permit.

Ms. Caitlin Greenwood
May 4, 2021

An encroachment permit application may be required for the Project if it is located within the Mud Creek Designated Floodway. An encroachment permit may also be required to include any existing works that predate permitting into compliance with Title 23, or where it is necessary to establish the conditions normally imposed by permitting. The circumstances include those where responsibility for the works has not been clearly established or ownership and use have been revised.

Prior to the Board making a decision on an encroachment permit, the Board requires the CEQA lead agency's determination on the distribution of a proposed negative declaration or mitigated negative declaration to state agencies.

Other federal (including U.S. Army Corps of Engineers Section 10 and 404 regulatory permits), State and local agency permits may be required and are the applicant's responsibility to obtain.

Board permit applications and Title 23 regulations are available on our website at http://www.cvfpb.ca.gov/. Maps of the Board's jurisdiction are also available from the California Department of Water Resources website at http://gis.bam.water.ca.gov/bam/.

Please contact James Herota at (916) 574-0651, or via email at James.Herota@CVFlood.ca.gov if you have any questions.

Sincerely,

Andrea Buckley

Andrea Buckley
Environmental Services and Land Management Branch Chief

DocuSign SECURED

Certificate Of Completion

Envelope Id: F6F8E54C82ED4EC18F4128AAB5E325A5
Subject: Please DocuSign: Caltrans MudCreek_05042021.pdf
Source Envelope:
Document Pages: 2 Signatures: 1
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Status: Completed

Envelope Originator:
James Herota
1416 9th Street
Sacramento, CA 95814
James.Herota@CVFlood.ca.gov
IP Address: 74.46.255.191

Record Tracking

Status: Original
5/4/2021 2:37:30 PM
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Holder: James Herota
James.Herota@CVFlood.ca.gov
Pool: StateLocal
Pool: Department of Water Resources

Location: DocuSign

Location: DocuSign

Signer Events	Signature	Timestamp
Andrea Buckley andrea.buckley@CVFlood.ca.gov Department of Water Resources Security Level: Email, Account Authentication (None)	Andrea Buckley Signature Adoption: Pre-selected Style Using IP Address: 136.200.53.19	Sent: 5/4/2021 2:45:17 PM Viewed: 5/4/2021 2:51:14 PM Signed: 5/4/2021 2:51:27 PM
Electronic Record and Signature Disclosure: Not Offered via DocuSign		
In Person Signer Events	**Signature**	**Timestamp**
Editor Delivery Events	**Status**	**Timestamp**
Agent Delivery Events	**Status**	**Timestamp**
Intermediary Delivery Events	**Status**	**Timestamp**
Certified Delivery Events	**Status**	**Timestamp**
Carbon Copy Events	**Status**	**Timestamp**
Witness Events	**Signature**	**Timestamp**
Notary Events	**Signature**	**Timestamp**

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	5/4/2021 2:45:17 PM
Certified Delivered	Security Checked	5/4/2021 2:51:14 PM
Signing Complete	Security Checked	5/4/2021 2:51:27 PM
Completed	Security Checked	5/4/2021 2:51:27 PM
Payment Events	**Status**	**Timestamps**

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 3
703 B STREET | MARYSVILLE, CA 95901-5556
(530) 741-4233 | FAX (530) 741-4245 TTY 711
www.dot.ca.gov

May 28, 2021

Ms. Andrea Buckley
Attention: James Herota
Central Valley Flood Protection Board
3310 El Camino Ave. Ste. 170
Sacramento, CA 95821

Dear Ms. Andrea Buckley:

Thank you for providing the comment on the Gianella-Muir Safety Project, Proposed Mitigated Negative Declaration SCH NO. 2021040476. Part of the scope of work for the Gianella-Muir Safety Project is to improve the levee access road entrances located immediately off the State Route 32 at Mud Creek.

Specifically, the comment letter notes that an encroachment permit application may be required for the Project if it is located within the Mud Creek Designated Floodway. An encroachment permit may also be required to include any existing works that predate permitting into compliance with Title 23, or where it is necessary to establish the conditions normally imposed by permitting. The circumstances include those where responsibility for the works has not been clearly established or ownership and use have been revised. In addition, Central Valley Flood Protection Board (CVFPB) inquired into whether an encroachment permit would be necessary, as this permit was not identified within the Initial Study/Proposed Mitigated Negative Declaration under section 1.4, page 3, Permits and Approvals Needed.

The California Department of Transportation will be obtaining an encroachment permit from CVFPB and Section 408 permission from the U.S. Army Corps of Engineers (USACE)for the improvements at the Mud Creek levee access roads. However, the work on the west side of the Mud Creek levee footprint needs the CVFPB encroachment permit only. Based on input from the CVFPB staff, the Department is considering submitting two separate applications for this project. The first application will be for the work adjacent to the Mud Creek levee that will require approvals from both the CVFPB and USACE. The second application will be for work on the west side of the Mud Creek levee footprint and it will need the CVFPB approval only. This work is in the CVFPB Designated Floodway and not under the USACE jurisdiction. The Department is currently working on the referenced permit applications. To correct this oversight in the Initial Study the Final Mitigated Negative Declaration will identify that

an encroachment permit is necessary from CVFPB and that work adjacent to the Mud Creek levee will also need Section 408 permission from the USACE in section 1.4 "Permits and Approval Needed".

If you have further questions or need additional information, please contact Caitlin Greenwood at **Caitlin.Greenwood@dot.ca.gov** or at (530) 821-8296.

Sincerely,

Laura Loeffler

Laura Loeffler, Branch Chief, M-1
Division of Environmental, North Region
Caltrans District 3, Marysville

CC:
Cameron Knudson, Project Manager, Caltrans
Brian Krcelic, Project Manager, Wood Rodgers
Jay Punia, Project Engineer, Wood Rodgers

From:	Boyd, Jan@Wildlife
To:	Loeffler, Laura M@DOT
Cc:	Greenwood, Caitlin@DOT; state.clearinghouse@opr.ca.gov; Wildlife R2 CEQA; Murphy, Melissa@Wildlife
Subject:	Caltrans 03-4H880 Gianella-Muir Safety Project - CDFW Comments on MND (SCH_2021040476)
Date:	Wednesday, May 19, 2021 12:11:18 PM
Attachments:	image001.png

EXTERNAL EMAIL. Links/attachments may not be safe.

Dear Ms. Loeffler:

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt a Mitigated Negative Declaration (MND) from the California Department of Transportation (Caltrans) for the Gianella-Muir Safety Project (Project) (03-4H880) pursuant the California Environmental Quality Act (CEQA) statute and guidelines.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish, wildlife, native plants, and their habitat. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may need to exercise its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code. CDFW also administers the Native Plant Protection Act, Natural Community Conservation Act, and other provisions of the Fish and Game Code that afford protection to California's fish and wildlife resources.

PROJECT DESCRIPTION SUMMARY

The Project consists of improving road conditions on State Route (SR) 32 in Butte County between Post Mile (PM) 0.3 at Gianella Road and PM 5.0 at Muir Avenue. The Safety improvements include widening the existing shoulders to eight feet except at the nine existing bridges, increase the left

turn deceleration lane lengths, add intersection safety lighting, add shoulder and centerline rumple strips, improve the ride quality of the pavement, address poor condition culverts, install safety lighting, and upgrade the guardrail at the existing bridges.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist Caltrans in adequately identifying and, where appropriate, mitigating the Project's significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources.

Comment 1: *Discussion of Environmental Evaluation Question 2.6 – Biological Resources a)* – The MND analyzes the potential for impacts for two bird species western yellow-billed cuckoo (WYBC) (*Coccyzus americanus*) and cliff swallow (*Petrochelidon pyrrhonota*), but does not consider other bird species that occur in the Sacramento River corridor and may utilize riparian habitat in the Project Area for foraging or nesting such as bank swallow (*Riparia riparia*) or Swainson's hawk (*Buteo swainsoni*). CDFW recommends that Caltrans consider Fish and Game Codes 3503, 3503.5, and 3515, which provide protection to nongame birds, migratory birds, birds of prey, their nests, and eggs. Potential habitat for nesting birds and birds of prey is present within the Project area. Therefore, the proposed Project should disclose all potential activities that may incur a direct or indirect take to nongame nesting birds within the Project footprint and its close vicinity. Appropriate avoidance, minimization, and/or mitigation measures to avoid take should be included in the environmental document. Measures to avoid the impacts should include species specific work windows, biological monitoring, installation of noise attenuation barriers, etc. CDFW does not recommend the MND rely on Caltrans' 2018 Standard Specifications, Section 14-6.03B for the protection of bird species, but rather utilize recommendations in the following paragraph.

To minimize the potential for nest disturbance, CDFW recommends that nesting surveys be conducted within a minimum of 500 feet of the Project site, and ¼-mile for birds of prey, if project activities will be conducted between February 1 and August 31. Surveys should be conducted no more than 14 days prior to the start of project activities, and repeated if project activity is paused for 14 days or longer. If a nest is found or nesting/breeding activity is observed, CDFW recommends that the surveying biologist establish a suitable buffer based on the species and specific circumstances. All measures to protect nesting birds should be performance-based. While some birds may tolerate disturbance within 250 feet of construction activities, other birds may have a different disturbance threshold and "take" could occur if the temporary disturbance buffers are not designed to reduce stress to that individual pair. CDFW recommends including performance-based protection measures for avoiding all nests protected under the Migratory Bird Treaty Act and Fish and Game Code. A 250-foot exclusion buffer may be sufficient; however, that buffer may need to be increased based on the birds' tolerance level to the disturbance.

Comment 2: *Discussion of Environmental Evaluation Question 2.6 – Biological Resources a), Yellow Billed Cuckoo* – The MND proposes that if WYBC are detected within the construction zone, the U.S. Fish and Wildlife Service (USFWS) will be notified. WYBC is not only federally-listed as threatened, but also state-listed as endangered. If in the event a WYBC is detected in the construction zone, CDFW recommends that Caltrans cease all construction activities, notify CDFW (in addition to the USFWS), consult a designated biologist experienced with WYBC to develop a non-disturbance buffer, and if necessary, comply with CESA.

Comment 3: *Environmental Setting, Swallow and Bats and Discussion of Environmental Evaluation Question 2.6 – Biological Resources a), Bats* – The MND acknowledges that the Pine Creek Lagoon Bridge contains 60 to 100 Mexican free-tailed bats. However, the MND also states that the work around the bridge where the bats are located will not affect the bats utilizing the bridge without providing specific reasoning for this justification. CDFW recommends the MND include avoidance and minimization measures for bats and include a habitat assessment to be performed by a biologist with expertise and experience with bats and their habitat for all bridges and associated riparian vegetation proposed to be removed. The minimum qualifications for the biologist should include at least three years of experience in conducting bat habitat assessments, night-time emergence surveys, and acoustic monitoring. The bat biologist should have adequate experience identifying local bat species (visual and acoustic identification), type of habitat, and differences in roosting behavior and types (i.e., day, night, maternity). Bats should not be disturbed without an experienced biologist overseeing avoidance and minimizations measures designed to protect roosting bats. If temporary exclusionary devices are determined to be necessary by the bat biologist, they should be implemented prior to the project impacts and disturbance occurring during the period of March 1 to April 15 or August 31 to October 15. Potential avoidance efforts may include exclusionary blocking or filling potential roosting cavities with foam or steel wool, visual monitoring, and staging project work to avoid bats. If bats are known to use the bridge structure, exclusion netting should not be used.
Comment 4: Lake and Streambed Alteration – *Section 1.4 Permits and Approval Needed, Table 1,* does not include any permits or authorizations required by CDFW. However, *Section 1.2 Project Description, Alternative 1: Build Alternative,* describes extending existing concrete box culverts and corrugated metal pipes (CMP) (improvement number 7) and replacing existing 18-inch CMP culverts with new 24-inch CMP culverts if shoulder widening results in culvert lengths exceeding 100 feet in length (improvement number 15). Furthermore, the discussion in *Section 2.6 Biological Resources, Wetlands and Other Waters,* describes the environmental setting regarding three primary drainages that the Project crosses: Pine Creek, Rock Creek, and Mud Creek. Although in-water work is not proposed for this Project, Notification to CDFW is required, pursuant to Fish and Game Code section 1602 if a project proposes activities that will substantially divert or obstruct the natural flow of water; substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. The Project proposes to remove (permanently impact) 0.75 acre of riparian habitat on the west bank of Pine Creek, which would result in a substantial change to the bed, bank, or channel. In addition to the requirement for Notification, CDFW recommends Caltrans to consider any grading, excavation, trenching, paving, and/or railing replacements on or adjacent to the existing bridges be included in a Lake and Streambed Alteration Notification due to the potential for material associated with those activities potentially passing into waters of the state.

The locations of the proposed culvert replacement and the purpose of riparian vegetation removal are not clearly identified in the MND. The layouts of proposed work in Appendix B of the MND do not provide coordinates for box culverts or CMPs that are proposed for improvements. CDFW recommends the MND clearly describe the project activities in detail and their associated impacts. In addition, the MND should include appropriate detailed exhibits disclosing the Project area including permanent impact areas, as well as temporary impacted areas such as equipment staging areas, spoils areas, adjacent infrastructure development, staging areas, and access haul roads.

Section 1.5 Standard Measures and Best Management Practices Included in All Alternatives, Water Quality and Stormwater Runoff, WQ-1 states that construction would likely require the following temporary construction site BMPs:

- Water would be removed by means of dewatering the individual pipe piles or cofferdams.
- Water generated from the dewatering operations would be trucked off-site to an appropriate facility or treated and used on-site for dust control and/or discharged to an infiltration basin or used to irrigate agricultural lands.

CDFW recommends that these activities be clarified in the MND as to the location where and for what parts of the Project these would be needed for. If these activities take place within a stream, river, or lake, they will be subject to Fish and Game Code 1602 and would require Notification.

Comment 5: *Discussion of Environmental Evaluation Question 2.6 – Biological Resources b) and Mitigation Measures* – As previously mentioned in Comment 4, the MND describes approximately 0.75 acre of riparian habitat on the west bank of Pine Creek will be permanently impacted. However, the only riparian habitat proposed for mitigation in the *Mitigation Measures* is described in association with valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB) habitat (0.0574 acre). CDFW recommends Caltrans develop avoidance, minimization, and mitigation measures for all permanent and temporary impacts to riparian habitat to reduce Project impacts to a less-than-significant level.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to the CNDDB. The CNNDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be submitted online or mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

Pursuant to Public Resources Code §21092 and §21092.2, CDFW requests written notification of proposed actions and pending decisions regarding the proposed project. Written notifications shall be directed to: California Department of Fish and Wildlife North Central Region, 1701 Nimbus Road, Rancho Cordova, CA 95670 or emailed to r2CEQA@wildlife.ca.gov.

CDFW appreciates the opportunity to comment on the MND to assist in identifying and mitigating Project impacts on biological resources. CDFW personnel are available for consultation regarding biological resources and strategies to minimize and/or mitigate impacts. Questions regarding this letter or further coordination should be directed to Ian Boyd, Senior Environmental Scientist (Specialist), at (916) 969-8940 or ian.boyd@wildlife.ca.gov.

Thank you,

Ian Boyd
Senior Environmental Scientist (Specialist)
North Central Region (Region 2)
1701 Nimbus Rd., Suite A
Rancho Cordova, CA 95670
P: 916-932-3035
ian.boyd@wildlife.ca.gov

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 3
703 B STREET | MARYSVILLE, CA 95901-5556
(530) 741-4233 | FAX (530) 741-4245 TTY 711
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June 2, 2021

Mr. Ian Boyd
California Department of Fish and Wildlife
North Central Region
1701 Nimbus Rd., Suite A
Rancho Cordova, CA 95670

Dear Mr. Boyd:

Thank you for providing comments on the Gianella-Muir Safety Project Initial Study/Proposed Mitigated Negative Declaration SCH NO. 2021040476.

Response to Comment 1: The California Department of Fish and Wildlife (CDFW) commented that the California Department of Transportation (Caltrans) has only considered impacts to yellow-billed cuckoo (YBCU) and cliff swallows, and not other bird species that occur in the Sacramento River corridor. CDFW recommended that Caltrans consider Fish and Game codes 3503, 3503.5, and 3515, which provide protection to nongame birds, migratory birds, birds of prey, their nests, and eggs. It was also recommended that appropriate avoidance, minimization, and/or mitigation measures should be included to avoid take. CDFW also commented that the Caltrans' 2018 Standard Specifications, Section 14-6.03B should not be solely relied upon, and that the paragraph included in the original comment letter should be incorporated into the environmental document.

Caltrans has considered the potential impacts to other bird species in addition to cliff swallows and YBCU. To ensure that the project will not have an impact on nongame birds, migratory birds, birds of prey, their nests, and eggs, the following statement has been included under 2.6 Biological Resources, Discussion of Environmental Evaluation Questions 2.6 – Biological Resources, Swallows and Migratory Birds:

- If the contractor's removal of vegetation occurs between February 1st and September 30 (nesting season) then a qualified biologist shall perform a pre-construction nesting bird survey. If active nests are found, project related work interfering with active migratory bird nests will not occur until Caltrans performs consultation with CDFW regarding appropriate action to comply with provisions of the Fish and Game Code of California, and the Migratory Bird Treaty Act. If a lapse in project related work lasts14 days or longer occurs,

another survey and, if required, consultation with CDFW will be required before the work can be reinitiated.

Response to Comment 2: CDFW commented that YBCU is also a state listed endangered species in addition to being a federally listed endangered species. It was also noted that the MND, section 2.6 Biological Resources, only the US Fish and Wildlife Service (USFWS) is listed as an agency that will be notified in the event of YBCU being detected in the construction zone. CDFW needs to be notified in addition to USFWS if YBCU if found within the construction zone and Caltrans would need to consult with a designated biologist with YBCU to develop a non-disturbance buffer, and if necessary, comply with CESA. CDFW has been added as an agency to be notified in the event of YBCU detection in the construction zone.

Response to Comment 3: In comment 3, CDFW noted that while Caltrans acknowledges that bats are present at the Pine Creek Lagoon Bridge, there was no specific reasoning in the MND as to why the project will not impact the bats present at this location. CDFW recommends that the MND include avoidance and minimization measures for bats and include a habitat assessment performed by a qualified biologist. If temporary exclusionary devices are determined to be necessary by the bat biologist, they should be implemented prior to the project impacts and disturbance occurring during the period of March 1 to April 15 or August 31 to October 15.

The guardrail posts and end treatments at the Pine Creek Lagoon Bridge approaches will be upgraded to current standards. The work at this location will only occur on the top of the bridge and will not affect the bats utilizing the bridge below the deck or in the joints. The work consists of removing and replacing posts held by bolts on both sides of the bridge. The noise level from the hand power tools would be intermittent and comparable, if not less than that of the traffic. No pavement grinding or overlay will occur on the bridge. As part of the habitat assessment for bats, acoustic monitoring was performed by a qualified biologist to determine what types of bats occupy the roost. To reduce any potential for project related work interfering with the bats, Caltrans will implement the following measure:

- A qualified biologist shall perform a pre-construction roosting bat survey to confirm the bat day roost. If bat day-roosts are found, Bats shall be allowed to occupy day roost on portions of the bridge as conflicts with construction are not anticipated. To reduce any potential of project related work interfering with bat day-roosts, the work window for construction activities at the bridges is proposed to occur between September 1 and May 1.

Response to Comment 4: CDFW noted that while Caltrans is planning on extending existing box culverts and corrugated metal pipes (CMP)and replacing existing 18-inch CMP culverts with new 24-inch culverts if shoulder widening results in culvert lengths greater then 100 feet in length, there are no permits or authorizations required from CDFW. It was also noted that while in water work will not occur at the three primary drainages; Pine Creek, Rock Creek, and Mud Creek, notification to CDFW is required, pursuant to Fish and Game Code section 1602 if a project proposes activities that will substantially divert or obstruct the natural flow of water; substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

A Jurisdictional Aquatic Resource Delineation was performed in May 2020 for this project. The culverts that will be extended in length or increased in diameter as a part of this project are not within the jurisdiction of CDFW. These culverts do not have a defined bed, bank, or channel and are in place to convey roadside drainage and stormwater. There will be no work occurring around the three primary drainages; Pine Creek, Rock Creek, and Mud Creek, that will substantially divert or obstruct the natural flow of water; change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. Guardrail will be replaced on the Pine Creek Lagoon Bridge and all construction activities and access will be conducted from the bridge deck. There will be no pavement grinding or releasing of materials into Pine Creek. Best management practices and standard measures will prevent impacts to Pine Creek. Because of these restricted construction activities notification to CDFW pursuant to Fish and Game Code section 1602 is not required by Caltrans for this work.

The project also proposes to remove 0.75 acre of riparian habitat on the west bank of Pine Creek. CDFW commented that the removal of this riparian habitat would cause a substantial change in the bed, bank, or channel of Pine Creek. CDFW recommends Caltrans to consider any grading, excavation, trenching, paving, and/or railing replacements on or adjacent to the existing bridges be included in a Lake and Streambed Alteration Notification due to the potential for material associated with those activities potentially passing into waters of the state.

The 0.75 acres of riparian habitat that will be removed as part of this project is adjacent to, but not within, the bed, bank, or channel of Pine Creek. The riparian area is parallel to the road and does not provide direct benefit to the Pine Creek riparian corridor. The removal of the riparian habitat will not require a Lake and Streambed Alteration Notification. Best management practices will be implemented

to ensure no debris falls into the creek while removing and replacing the bridge posts. A map of the impacts to riparian vegetation will be added to the Final Mitigated Negative Declaration for clarity.

CDFW also commented that the locations of the proposed culvert replacement and the purpose of the riparian vegetation removal were not clearly identified in the MND and that the project activities need to be more clearly described. In addition, the MND should include detailed exhibits disclosing the project area including permanent impact areas, as well as temporary impacted areas such as equipment staging areas, spoils areas, adjacent infrastructure development, staging areas, and access haul roads.

Culverts that will be extended, lined, or replaced during construction are now labeled in the project exhibits. These updated exhibits will be included in the final MND in appendix B. The riparian habitat to be removed is now shown in Figure 2, under Discussion of Environmental Evaluation Question 2.6—Biological Resources. Removal of the riparian habitat is necessary to accommodate the road widening for the eight-foot shoulders.

The Water Quality-1 (WQ-1) measure from Section 1.5 Standard Measures and Best Management Practices Included in All Alternatives, Water Quality and Stormwater Runoff was also commented on by CDFW. Specifically, CDFW asked for clarity on the following points of the standard measure:

- Water would be removed by means of dewatering the individual pipe piles or cofferdams.
- Water generated from the dewatering operations would be trucked off-site to an appropriate facility or treated and used on-site for dust control and/or discharged to an infiltration basin or used to irrigate agricultural lands.

CDFW recommended that the location and reason for the occurrence of these activities be clarified in the MND. If these activities take place within a stream, river, or lake, they would be subject to Fish and Game Code 1602 and would require notification.

The WQ-1 measure found in Section 1.5 Standard Measures and Best Management Practices Included in All Alternatives, Water Quality and Stormwater Runoff is a standard measure with standard language. In water work will not occur in any streams, rivers, or lakes as a part of this project. The bullet points related to WQ-1 measure in the MND have been revised as follows:

- During construction operations and under certain conditions, if groundwater is encountered, a land discharge permit may be required which contains

conditions and specifies how clean/neutralized water can be discharged within the State's right of way.

Response to Comment 5: CDFW commented that the 0.75 acre riparian habitat that is being permanently impacted is only mitigated in association with the valley elderberry longhorn beetle (VELB). CDFW recommends Caltrans develop avoidance, minimization, and mitigation measures for all permanent and temporary impacts to riparian habitat to reduce Project impacts to a less-than-significant level.

Please note that the riparian habitat removed is outside of the bed, bank, or channel or Pine Creek. As part of an avoidance measure, high visibility fencing will be installed to prevent the contractor from accidental encroachment into the riparian area adjacent to channel of Pine Creek.

If you have further questions or need additional information, please contact Caltrans biologist Michele Lukkarila at Michele.Lukkarila@dot.ca.gov or at (530) 720-5820, or Caltrans environmental coordinator Caitlin Greenwood at Caitlin.Greenwood@dot.ca.gov or at (530) 821-8296.

Sincerely,

Laura Loeffler

Laura Loeffler, Branch Chief, M-1
Division of Environmental, North Region
Caltrans District 3, Marysville

Appendix E. SHPO Concurrence Letter

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

October 21, 2020

VIA EMAIL

In reply refer to: FHWA_2020_0826_001

Mr. David Price
Section 106 Coordinator
Cultural Studies Office
Caltrans Division of Environmental Analysis
1120 N Street, MS-27
Sacramento, CA 95814

Subject: Finding of No Adverse Effect for the Proposed Gianella-Muir Safety Project Along State Route 32, Butte County, California.

Dear Mr. Price:

On August 26, 2020, the Office of Historic Preservation (OHP) received a letter from the California Department of Transportation (Caltrans) for the above referenced undertaking. Caltrans is initiating consultation with the State Historic Preservation Officer (SHPO) in accordance with the January 1, 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA). Pursuant to Stipulation X.B.2.b of the Section 106 PA, Caltrans is seeking SHPO comment on a finding of no adverse effect without standard conditions. Enclosed with Caltrans' letter is a Historic Property Survey Report (HPSR) and attachments.

The undertaking proposes to widen both sides of the road's shoulders, resurface the roadway, improve drainage, and address the issue of groundwater intrusion at several bridges' approaches. The proposed roadwork would include extending some of the existing culverts to accommodate shoulder widening, the reconstruction of drainage ditches, and the replacement of selected areas of the pavement at bridges' approaches. As part of the undertaking, Caltrans proposes the replacement of the guard rails at the Mud Creek Bridge, located over the Sycamore Mud Creek Flood Control Levee System, with installation of crash-cushions and fill and the slight realignment of the levee maintenance road. Construction activities would include equipment staging areas, ground disturbance, utility relocation, excavating, grubbing/ scarification, drilling, concrete pouring, and conducting various related electrical work activities. A more detailed description of the undertaking and area of potential effects (APE) is located on pages one and two of the HPSR.

Caltrans' efforts to identify historic properties that may be affected by the undertaking identified a portion of a large linear resource, the Sycamore Creek Flood Control Levees System within the APE requiring evaluation according to the National Register of Historic Places (NRHP) criteria. The US Army Corps of Engineers (USACE) designed the Sycamore Mud Creek Levee System in the early 1960s and built it between 1962 and 1965 as part of the collection of structures, programs, and modes of operation that constitute the state-federal flood protection system and that is referred to as the State Plan of Flood Control (SPFC). The west and east banks of the Sycamore Mud Creek Flood Control Levee System cross through the APE beneath the Mud Creek Bridge. Pursuant to Stipulation VIII.C.4 of the Section 106 PA, Caltrans will consider the Sycamore Mud Creek Flood Control Levee System as eligible for listing on the NRHP under Criterion A at the State level of significance for the purposes of this undertaking only. It is assumed eligible under Criterion A for its association with flood control practices and historical themes of transportation and agriculture in the Central Valley of California. The Levee System was assigned the period of significance of 1960 – 1965, representing the time between the initial authorization of the project by the State Plan of Flood Control (Flood Control Act of 1944)1 and the completion of the levees by the USACE.

Due to restricted access, 7.5 acres of the 120-acre APE could not be archaeologically surveyed on one private property parcel. As such, in accordance with Stipulation XII.B, Caltrans District 3 requested and received approval from the Caltrans Cultural Studies Office (CSO) for Minor Phasing to complete studies once access is granted. Caltrans District 3 will continue consultation with CSO and SHPO on these findings per Stipulation X.B.2 of the Section 106 PA. Caltrans District 3 proposes to complete all needed surveys on the 7.5-acre parcel after right-of-way (ROW) acquisition and prior to construction in accordance with several conditions presented in the Finding of Effect attached to the HPSR.

Caltrans has applied the Criteria of Adverse Effect, pursuant to Stipulation X.A. of the Section 106 PA and has determined that the undertaking will not adversely affect the Sycamore Mud Creek Flood Control Levee System. Pursuant to Stipulation X.B.2.a of the Section 106 PA, Caltrans has found that the proposed undertaking will have no adverse effect to historic properties. Based on review of the submitted documentation, and proposed conditions to complete pending archaeological surveys once access is granted, **I do not object**. If you have any questions, please contact State Historian Natalie Lindquist at (916) 445-7014 or at natalie.lindquist@parks.ca.gov or Associate State Archaeologist Alicia Perez at (916) 445-7020 or at alicia.perez@parks.ca.gov .

Sincerely,

Julianne Polanco
State Historic Preservation Officer

Appendix F. Biological Opinion

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846
SFWO_mail@fws.gov

In Reply Refer to:
08ESMF00-2021-F-1074-1

April 30, 2021

Kenneth Russo
Senior Environmental Planner, North Region Environmental Planning
California Department of Transportation, District 3
703 B Street
Marysville, California 95901
kenneth.russo@dot.ca.gov

Subject: Formal Consultation on the State Route 32 Gianella-Muir Safety Project, Butte County, California (Caltrans Fed. ID# 03-4H880)

Dear Kenneth Russo:

This letter is in response to the California Department of Transportation's (Caltrans) October 27, 2020, request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed State Route 32 Gianella-Muir Safety Project (proposed project) in Butte County, California. Your request was received by the Service on October 27, 2020. At issue are the proposed project's effects on the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle). This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The federal action on which we are consulting is the widening and paving of a portion of State Route (SR) 32 to address current safety deficiencies to meet all applicable state and federal guidelines. Caltrans has assumed Federal Highway Administration's (FHWA) responsibilities as the lead agency under the Act for this consultation in accordance with Section 1313, Surface Transportation Project Delivery Program, of the Moving Ahead for Progress in the 21st Century Act (MAP-21) of 2012. The MAP-21 is described in the National Environmental Policy Act assignment Memorandum of Understanding between FHWA and Caltrans (effective March 30, 2017) and codified in 23 U.S.C 327.

Pursuant to 50 CFR 402.12(j), you submitted a biological assessment for our review and requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect, and is likely to adversely affect the beetle. A portion of the proposed project is within proposed critical habitat unit, CA 1 Sacramento River, for the federally threatened western distinct population segment of the yellow-billed cuckoo (*Coccyzus americanus*) (cuckoo). However, Caltrans concluded that the project will have no effect to this proposed critical habitat unit because there are no primary constituent elements present within

the proposed project's action area. Therefore, the remainder of this document provides our biological opinion on the effects of the proposed project on the beetle.

In considering your request, we based our evaluation on the following:

(1) Your October 27, 2020, letter requesting initiation of formal consultation and the October 2020, *Gianella-Muir Safety Project Biological Assessment* (biological assessment), prepared by Caltrans and received by the Service on October 27, 2020;

(2) Email and telephone correspondence between the Service and Caltrans; and

(3) Other information available to the Service.

Consultation History

September 22, 2020:	Telephone correspondence between Caltrans and the Service. Potential adverse effects and project activities were discussed.
October 27, 2020:	The Service received the October 27, 2020, letter from Caltrans requesting initiation of formal consultation, and the accompanying biological assessment.

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed project is located in Butte County, on SR 32 from 0.3 miles east of the Glenn/Butte County line, near Hamilton City, to Muir Avenue on the outskirts of the City of Chico. The primary objective of this project is to address current safety deficiencies and to reduce fatal collisions. The proposed project will improve the ride quality of the pavement, address poor condition culverts, install safety lighting, and upgrade end treatments at bridge approaches to meet current standards. To achieve this goal, improvements or upgrades will need to be made to three components of the roadway.

The first component is the roadway widening. Complete grading for shoulder widening (including widening of a levee), increase in left turn deceleration lane lengths, and a shoulder bypass at specific locations is proposed, as well as new shoulder paving. Existing culverts will need to be extended to accommodate the 8-foot shoulders. Typical equipment used will be excavators, dozers, backhoes, graters, and compactors.

The second component is roadway paving. The existing pavement will be ground, and cracks will be sealed prior to placing the new pavement overlay. New striping and rumble strips will be installed. Typical equipment used will be concrete trucks, pavers, and compactors.

The third component are the upgrades to Caltrans standards. Safety lighting at specific locations will be installed as well as guardrails to current standards throughout the proposed project limits. Typical equipment used will be concrete trucks and drill rigs. The proposed project's schedule is expected to require 120 working days in two construction seasons beginning in the fall of 2022 and completed by the end of 2023.

Within the action area, there are a total of 23 elderberry shrubs (*Sambucus* sp.), the sole host plant for the beetle, with at least one stem greater than one inch at ground level. Of the 23 elderberry shrubs, two are currently located within the area to be widened to accommodate the 8-foot shoulders. Based on the location, these two elderberry shrubs will be removed, resulting in the loss of 0.0574 acre of suitable riparian beetle habitat, and transplanted to a Service-approved beetle conservation bank. In addition, 13 of the 23 elderberry shrubs will be indirectly impacted due to construction activities. The remaining 8 elderberry shrubs will be completely avoided from all construction activities. The 21 elderberry shrubs, including the 13 elderberry shrubs that will be indirectly impacted and the 8 elderberry shrubs that will be avoided, will be fenced off from construction activities with a 20 foot buffer from all ground disturbance to the maximum extent feasible.

Conservation Measures

In addition to implementing Caltrans' standard BMPs throughout the proposed project area for the duration of construction, including erosion and sediment control, the following measures to minimize effects to the beetle are proposed. The measures proposed below are considered part of the proposed action evaluated by the Service in this biological opinion.

1. All areas to be avoided during construction activities will be fenced and/or flagged as close to construction limits as feasible.

2. Activities that may damage or kill an elderberry shrub (e.g. trenching, paving, etc.) may need an avoidance area of at least 6 meters (20 feet) from the dripline, depending on the type of activity.

3. A qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the status of the beetle, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for noncompliance.

4. A qualified biologist will monitor the work area at project appropriate intervals to assure that all avoidance and minimization measures are implemented. The amount and duration of monitoring will depend on the project specifics and should be discussed with the Sacramento Valley Division Supervisor at (916) 414-6600.

5. As much as feasible, all activities that could occur within 50 meters (165 feet) of an elderberry shrub, will be conducted outside of the flight season of the beetle (March - July).

6. Trimming may remove or destroy beetle eggs and/or larvae and may reduce the health and vigor of the elderberry shrub. In order to avoid and minimize adverse effects to the beetle when trimming, trimming will occur between November and February and will avoid the removal of any branches or stems that are $\geq$ 1 inch in diameter. Measures to address regular and/or large-scale maintenance (trimming) should be established in consultation with the Service.

7. Herbicides will not be used within the dripline of the elderberry shrubs. Insecticides will not be used within 30 meters (98 feet) of an elderberry shrub. All chemicals will be applied using a backpack sprayer or similar direct application method.

8. Mechanical weed removal within the dripline of the shrub will be limited to the season when adults are not active (August - February) and will avoid damaging the elderberry shrub.

9. Erosion control will be implemented, and the affected area will be re-vegetated, where appropriate, with native plants.

As part of the proposed project, Caltrans has proposed to compensate for the transplantation of two elderberry shrubs within the proposed project site. Compensation will occur through the purchase of 4.2 beetle conservation credits at a Service-approved beetle conservation bank per the total plantings shown in Table 1.

Table 1: Valley Elderberry Longhorn Beetle Habitat-Level Compensation

Habitat Type	Acres of Direct Impact	Acres of Credit	Mitigation Ratio	Mitigation Credits Proposed for Purchase[1]
Riparian	0.0574	1.4	3:1	4.2
Non-Riparian				
			Total	**4.2**

[1]One credit (unit) = 1,800 sq. ft. or 0.041 acre

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action." For the proposed project, the action area encompasses the construction footprint, any areas used for access and staging, as well as the area within 165 feet of those components to account for impacts to the beetle.

Analytical Framework for the Jeopardy Determination

Section 7(a)(2) of the Act requires that federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this biological opinion considers the effects of the proposed federal action, and any cumulative effects, on the rangewide survival and recovery of the listed species. It relies on four components: (1) the *Status of the Species*, which describes the current rangewide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the current condition of the species in the action area without the consequences to the listed species caused by the proposed action, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines all consequences to listed species that are caused by the proposed federal action; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-federal activities in the action area on the species. The *Effects of the Action* and *Cumulative Effects* are added to the *Environmental Baseline* and in light

of the status of the species, the Service formulates its opinion as to whether the proposed action is likely to jeopardize the continued existence of the listed species.

Status of the Species

For the most recent comprehensive assessment of the species' range-wide status, please refer to the *Withdrawal of the Proposed Rule to Remove the Valley Elderberry Longhorn Beetle from the Federal List of Endangered and Threatened Wildlife* (withdrawal; Service 2014). Threats discussed in the withdrawal continue to act on the beetle, with loss of riparian habitat being the most significant effect. While there continue to be losses of beetle habitat throughout its range, to date no project has proposed a level of effect for which the Service has issued a biological opinion of jeopardy for the beetle. The Service is in the process of finalizing its most current 5-year review for the beetle.

Environmental Baseline

Environmental baseline refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline.

The project is located on SR 32, between the Sacramento River and the outskirts of the City of Chico. There are three dominant plant community in the general project area, valley foothill riparian, deciduous orchards, and cropland. The following natural communities have been recorded within and adjacent to the study area as described by the following:

Valley Foothill Riparian - Cottonwood, California sycamore and valley oak typically comprise the overstory of this habitat, with black walnut the most abundant within the project area. Subcanopy trees are white alder, boxelder and Oregon ash. The understory shrub layer includes wild grape, wild rose, blackberry, elderberry, poison oak, and willows. The herbaceous layer consists primarily of sedges, rushes, and grasses. In addition to the areas associated with the stream crossing, there is a narrow strip of riparian vegetation varying between 35 and 50 feet wide extending from the western bank of Pine Creek, along the north side of SR 32, for approximately 1625 feet.

Deciduous Orchards - Deciduous orchards include trees, such as, almonds, apples, apricots, cherries, figs, nectarines, peaches, pears, pecans, pistachios, plums, pomegranates, prunes and walnuts. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth.

Cropland - Vegetation in this habitat includes a variety of sizes, shapes, and growing patterns. Most croplands support annuals planted in spring and harvested during summer or fall. In many areas a second "winter" crop is planted after harvesting the first.

The action area is situated in an area where the valley foothill riparian habitat is present in pockets between disturbed areas. The vegetative landscape consists of invasive weeds, non-native annual grasses, and native trees within the right-of-way. The proposed project crosses three narrow riparian corridors associated with Pine Creek, Rock Creek, and Mud Creek with surrounding agricultural land and fruit and nut orchards. Elderberry shrubs are common along the edge of the riparian zone in areas where it will remain above the flood waters of winter flows.

The closest documented occurrence of the beetle in the California Natural Diversity Database (CNDDB) is approximately one mile from the action area within the Ord Ferry quad from 2014 (CNDDB 2021). Within the action area, there are 23 elderberry shrubs. Due to the fact that the life cycle of the beetle takes one or two years to complete, during which it spends most of its life in the larval stage living within the stems of the elderberry shrubs, it is not possible to know if the elderberry shrubs in the action area are currently inhabited by the beetle. However, since the proposed project is within the range of the beetle and the beetle is known to occur nearby, it is likely that the beetle may be present in one or more elderberry shrubs in the action area.

Effects of the Action

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.

Construction activities will result in effects to beetles inhabiting the two elderberry shrubs that will be removed and transplanted. Removal and relocation of these elderberry shrubs due to construction activities will result in the killing of an unknown number of individual beetle larvae inhabiting the stems. Occasionally, elderberry shrub stems are trimmed during transplanting activities in order to facilitate transport and enhance the survival of the transplanted shrub. Trimming may kill or interrupt the beetle's life cycle, whether the beetle is an egg, larva, pupa, or an adult, by equipment hitting/damaging a stem and killing a beetle within the stem. Transplantation of these elderberry shrubs that are reasonably likely to be occupied by beetle larvae is expected to adversely affect the beetle because the elderberry shrub may experience stress due to changes in soil, hydrology, microclimate, or associated vegetation; which will in turn adversely affect the host plant for the beetle and directly attribute to the decline of suitable beetle habitat. The elderberry shrubs may die as a result of transplantation; and branches containing larvae may be cut, broken, or crushed as a result of the transplantation process. Transplanting of elderberry shrubs will occur during their dormant phase, which will reduce effects by increasing the likelihood that the elderberry shrubs will survive the transplanting process and continue to provide habitat to the beetle.

Construction activities may occur within 20 feet and indirectly affect 13 elderberry shrubs within the action area which could result in disturbance to the root system. Root damage could result in stress or reduced vigor of the elderberry shrub which in turn will deplete suitable habitat which is reasonably likely to support the beetle. However, all elderberry shrubs not scheduled to be removed will be fenced with a 20 foot buffer and protected as much as possible during construction activities. Construction access will be limited surrounding any fenced elderberry shrub within the action area and Caltrans has proposed every effort to avoid all elderberry shrubs not scheduled to be removed. Trimming of these elderberry shrubs may be necessary to

complete construction activities; however, if trimming is required, it would only be small branches less than a half inch in diameter which is not optimal habitat for the beetle. To decrease the probability of indirect effects even further, the elderberry shrubs will only be trimmed during the dormant stage (November – February) and the trimmed material will be placed next to an established elderberry shrub. Indirect effects to the 13 elderberry shrubs are expected to be inconsequential due to the avoidance and minimization measures proposed by Caltrans, and the fact that any potential effects will be short in duration and temporary.

As noted previously in the *Description of the Proposed Action* section, Caltrans has also proposed a set of conservation measures, including the commitment to provide compensatory habitat as a condition of the action. This compensatory habitat is intended to minimize the effect on the species of the proposed project's anticipated incidental take, resulting from the permanent loss of habitat described above. The compensatory habitat proposed will be in the form of beetle habitat credits at a Service-approved beetle conservation bank with a service area that includes the proposed project, as well as transplantation of the two removed elderberry shrubs to a Service-approved beetle conservation bank. The survival rate of transplanted elderberry shrubs is estimated to be 72.8% in the first year following shrub relocation (Holyoak et al. 2010). Therefore, it is anticipated that one of the two transplanted elderberry shrubs may not survive in the first year following relocation, and that the remaining one transplanted elderberry shrubs may experience damage to stems either accidentally or from targeted trimming during transplanting activities.

This component of the action will have the effect of protecting and managing lands for the species' conservation in perpetuity. The compensatory lands will provide suitable habitat for breeding, feeding, or sheltering commensurate with or better than habitat lost as a result of the proposed project. Providing this compensatory habitat as part of a relatively large, contiguous block of conserved land may contribute to other recovery efforts for the species. Additionally, if the transplanted elderberry shrubs are occupied by both male and female larvae that successfully emerge, beetles can reproduce and colonize unoccupied neighboring elderberry shrubs at a conservation bank.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. During this consultation, the Service did not identify any future non-federal actions that are reasonably certain to occur in the action area of the proposed project.

Conclusion

After reviewing the current status of the beetle, the environmental baseline for the action area, the effects of the proposed State Route 32 Gianella-Muir Safety Project, and the cumulative effects, it is the Service's biological opinion that the State Route 32 Gianella-Muir Safety Project, as proposed, is not likely to jeopardize the continued existence of the beetle. The Service reached this conclusion because the project-related effects to the species, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding recovery or reducing the likelihood of survival of the species based on the following: (1) the 15 elderberry shrubs within the action area that will either be

directly or indirectly impacted, including the two elderberry shrubs that will be removed and transplanted, as well as the 13 elderberry shrubs that may be indirectly affected, represent a very small proportion of habitat available throughout the full range of the beetle; (2) adverse effects to the beetle will be reduced by implementation of the described conservation measures; and (3) the compensatory habitat provided will ensure that habitat for the species will be protected and managed in perpetuity.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by Service regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by Caltrans so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this incidental take statement. If the Caltrans (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or Extent of Take

The Service anticipates that incidental take of the beetle will be difficult to detect due to the fact that it is not possible to know how many larvae inhabit any one elderberry shrub providing habitat for the beetle. The beetle spends most of its time in the larval stage living within the stems of the elderberry shrub, and the life cycle of the beetle takes one or two years to complete. Beetle larval use of an elderberry shrub is not readily apparent, and in early stages of development beetle larvae can be present in stems that have no evidence of exit holes. The transplanting of the elderberry shrubs could result in harm and mortality to all larvae inhabiting the stems.

The two elderberry shrubs to be removed from the action area will be transplanted to a Service-approved beetle conservation bank with a service area that includes the proposed project. The Service anticipates one of the two transplanted elderberry shrubs may not survive in the first year following relocation, and that the remaining one transplanted elderberry shrub may experience

damage to stems either accidentally or from targeted trimming during transplanting activities. Therefore, the Service is authorizing take incidental to the proposed action as the harm or death of all beetle larvae within the one elderberry shrub anticipated to not survive transplanting, as well as any beetle larvae with stems greater or equal to 1-inch in diameter that may be trimmed or damaged during transplanting on the one remaining elderberry shrub.

Upon implementation of the following *Reasonable and Prudent Measure*, incidental take of the beetle associated with the State Route 32 Gianella-Muir Safety Project will become exempt from the prohibitions described in section 9 of the Act. No other forms of take are exempted under this opinion.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species.

Reasonable and Prudent Measures

All necessary and appropriate measures to avoid or minimize effects on the beetle resulting from implementation of this project have been incorporated into the project's proposed conservation measures. Therefore, the Service believes the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of the beetle:

1) All conservation measures, as described in the biological assessment and restated here in the *Project Description* section of this biological opinion, shall be fully implemented and adhered to. Further, this reasonable and prudent measure shall be supplemented by the terms and conditions below.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, Caltrans must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. Caltrans will include full implementation and adherence to the conservation measures as a condition of any permit or contract issued for the project.

2. Caltrans will provide a copy of the completed bill of sale and payment receipt to the Service upon the purchase of beetle conservation credits at a Service-approved conservation bank.

3. In order to monitor whether the amount or extent of incidental take anticipated from implementation of the proposed project is approached or exceeded, Caltrans will adhere to the following reporting requirement. Should this anticipated amount or extent of incidental take be exceeded, Caltrans must immediately reinitiate formal consultation, as per 50 CFR §402.16.

    a. For those components of the action that will result in habitat degradation or modification whereby incidental take in the form of harm is anticipated, Caltrans will provide a precise accounting of the elderberry shrubs impacted to the Service after the completion of construction. This report will also include any

information about changes in project implementation that result in habitat disturbance not described in the *Description of the Action* and not analyzed in this biological opinion, and which would therefore be cause for reinitiation.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the State Route 32 Gianella-Muir Safety Project. As provided in 50 CFR § 402.16(a), reinitiation of consultation is required and shall be requested by the federal agency or by the Service where discretionary federal involvement or control over the action has been retained or is authorized by law, and:

1) If the amount or extent of taking specified in the incidental take statement is exceeded;

2) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;

3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or written concurrence, or

4) If a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions regarding this biological opinion, please contact Adam Stewart (adam_stewart@fws.gov), or the Sacramento Valley Division Supervisor at (916) 414-6600.

Sincerely,

Michael Fris
Field Supervisor

LITERATURE CITED

California Natural Diversity Database (CNDDB). 2021. Biogeographic Data Branch, Department of Fish and Wildlife. Sacramento, California. Accessed March 25, 2021.

Holyoak, Talley, and Hogle. 2010. The effectiveness of US mitigation and monitoring practices for the threatened Valley elderberry longhorn beetle. Journal of Insect Conservation 14:43-52.

U.S. Fish and Wildlife Service (Service). 2014. Withdrawal of the Proposed Rule to Remove the Valley Elderberry Longhorn Beetle from the Federal List of Endangered and Threatened Wildlife. Federal Register 79:55874-55917. September 17, 2014.