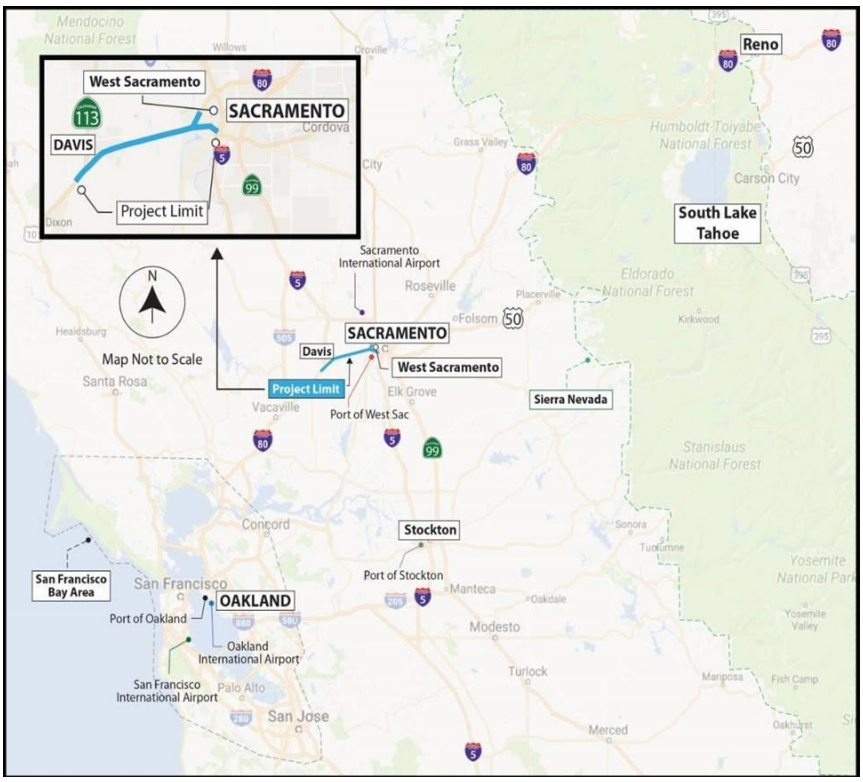
Yolo 80 Corridor Improvements Project

Caltrans District 3
703 B St, Marysville, CA 95901
04-SOL-80-40.7/R44.7; 03-YOL-80-0.00/R11.72; 03-YOL-50-0.00/3.12; 03-SAC-50-0.00/L0.617; 03-SAC-80-M0.00/M1.36
EA 03-3H900/EFIS 0318000085

Final Environmental Impact Report / Environmental Assessment with Finding of No Significant Impact

Appendixes



Prepared by the
State of California, Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016, and executed by Federal Highway Administration and Caltrans.

April 2024

List of Appendices

Appendix A Section 4(f) Findings

Section 4(f) No “Use” Determination Memorandum, April 2024

Section 4(f) Agency Concurrence Letters

California State Transportation Agency
DEPARTMENT OF TRANSPORTATION

Memorandum

To:	Project File	Date:	April 29, 2024
		File:	Yolo-80 Corridor Improvements Project EA 03-3H900
From:	Department of Transportation Office of Environmental Analysis Masum Patwary – Environmental Scientist C		
Subject:	Section 4(f) No "Use" Determination		

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

According to Caltrans SER website, Chapter 20 guidance, it is a best business practice to Document for the project record a "hard look" when one of the following conditions exist: parks, recreational facilities, wildlife refuges, and historic properties found within or next to the project area that do not trigger Section 4(f) protection because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, or 4) the project does not permanently use the property and does not hinder the preservation of the property.

Project Description

Caltrans proposes to make improvements on I-80 and US 50 from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to West El Camino Avenue on I-80 and on US 50 to I-5 in Sacramento County. The project would add managed lanes on I-80 and US-50 by a combination of lane conversion, restriping, and shoulder and median reconstruction with a concrete barrier. Drainage modifications would be required due to median reconstruction in the locations to which sheet flow currently drains. Existing ITS elements and infrastructure would be modified, and new ITS elements would be added, including ramp meters, fiber-optic conduit and cables, and overhead signs.

The applicability of Section 4(f) was considered as there are nine (9) public parks including a dog park and bike park, two (2) nature areas, and one (1) wildlife area within the 500-foot buffer, with eight (8) of the recreation areas being directly adjacent to the proposed project and existing Caltrans right-of-way. These facilities would meet the criterion to be protected under Section 4(f) because they are officially designated as parkland, are publicly owned, and opened to the public. These resources are described and depicted in further detail in the information below.

Section 4(f) Conclusion

The purpose of this memorandum is to document for the project file the determination that the project will not have a Section 4(f) "use" on any of the recreational resources under any of the proposed Build Alternatives as described in the information below. None of the Build Alternatives would result in a permanent use, constructive use, or a temporary occupancy that would adversely affect the activities, features, or attributes of the recreational resources located adjacent to the project area.

1. Section 4(f) Overview

Section 4(f), codified in federal law in 49 USC 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." Section 4(f) protected resources include publicly owned parks; recreational areas of national, state or local significance; publicly owned school playgrounds, wildlife, or waterfowl refuges; or lands from a historic site of national, state, or local significance. One of the first steps in the Section 4(f) consultation process is identifying the entities and individuals who are considered the officials with jurisdiction for various types of property under Section 4(f). In the case of historic sites, the State Historic Preservation Officer (SHPO) has jurisdiction. For publicly owned refuges, recreation areas and parks, the public agency that owns the park is the official with jurisdiction.

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned park land; recreation area; or wildlife and waterfowl refuge of national, state, or local significance; or land of a historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if the following applies:

- there is no prudent and feasible alternative to using that land; and
- the program or project would include all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

If historic sites are involved, then coordination with the SHPO is also needed.

1.1. Section 4(f) Use Definitions

When a proposed project is adjacent to or on a property protected under Section 4(f), the impacts of the proposed project on that property must be evaluated. Section 4(f) defines the impact level by types of "use." These uses occur when any of the conditions discussed in the following subsections are met.

1.1.1. PERMANENT/DIRECT USE

A permanent use of a Section 4(f) resource occurs when property is permanently incorporated into a transportation facility. Permanent use may occur as a result of partial or full acquisition or a permanent easement that allows permanent access onto the property for maintenance or other transportation-related purposes.

1.1.2. CONSTRUCTIVE USE

A constructive use of a Section 4(f) resource occurs when a transportation project does not permanently incorporate land from the resource, but the project's proximity results in impacts so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only if the protected activities, features, or attributes of the resource are substantially diminished.

1.1.3. TEMPORARY OCCUPANCY

A temporary occupancy of a Section 4(f) resource occurs when a Section 4(f) property is required for project construction-related activities, the property is not permanently incorporated into a transportation facility, and the activity is not considered adverse by the agency with jurisdiction in terms of the preservation purpose of Section 4(f).

Temporary impacts to a Section 4(f) property may trigger the application of Section 4(f). 23 Code of Federal Regulations (CFR) 774.13(d) defines the following five temporary occupation exception criteria that must be met to determine that a temporary occupancy does not rise to the level of permanent/direct or constructive use for the purposes of Section 4(f):

- Duration is temporary (i.e., the occupancy is shorter than the time needed for construction of the project, and there is no change in ownership of the property).
- Scope of work is minor (i.e., the nature and magnitude of the changes to the Section 4(f) properties are minimal).
- There are no anticipated permanent adverse physical impacts or permanent interference with the protected activities, features, or attributes of the property.
- The property is restored to the same or better condition that existed prior to the project.
- There is documented agreement from the appropriate federal, state, or local officials having jurisdiction over the property regarding the previously listed conditions.

1.2. *De Minimis* Impact Determinations

When impacts to a Section 4(f) property are minor, as agreed to by the agency with jurisdiction over that property, Section 4(f) regulations can be satisfied through a *de minimis* determination.

De minimis impact is defined in 23 CFR 774.17 as follows:

- For parks, recreational areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that would not adversely affect the activities, features, or attributes qualifying the property for protection under Section 4(f).
- For historical sites, a *de minimis* impact means that the California Department of Transportation (Caltrans) has determined that, in accordance with 36 CFR 800, no historical property is affected by the project or the project would have “no adverse effect” on the property in question. The SHPO and Advisory Council on Historic Preservation, if involved, must be notified that Caltrans intends to enter a *de minimis* finding for properties where the project results in “no adverse effect.”
- The officials with jurisdiction must concur in writing with a *de minimis* determination. For recreational or refuge properties, concurrence from the officials having jurisdiction over the properties is required. For historical sites, concurrence from the SHPO is required.

1.3. Section 6(F) of the Land And Water Conservation Fund Act (16 U.S.C. § 460l-8(F) and 36 C.F.R. Part 59.1)

State and local governments often obtain grants through the Land and Water Conservation Fund (LWCF) Act to acquire or make improvements to parks and recreation areas. Section 6(f) of this act prohibits the conversion of property acquired or developed with these grants to a non-recreational purpose without the approval of the Department of Interior's (DOI) National Park Service. Section 6(f) directs the DOI to ensure that replacement lands of equal value, location and usefulness are provided as conditions to such conversions. Consequently, where conversions of Section 6(f) lands are proposed for highway projects, replacements will be necessary."

2. Project Description

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the project, while avoiding or minimizing environmental impacts.

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the project while avoiding or minimizing environmental impacts. Caltrans proposes to make improvements on I-80 and US 50 from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to West El Camino Avenue on I-80 and on US 50 to I-5 in Sacramento County.[1] The project would add managed lanes on I-80 and US-50 by a combination of lane conversion, restriping, and shoulder and median reconstruction with a concrete barrier. Drainage modifications would be required due to median reconstruction in the locations to which sheet flow currently drains. Existing ITS elements and infrastructure would be modified, and new ITS elements would be added, including ramp meters, fiber-optic conduit and cables, and overhead signs.

2.1. Project Alternatives

This section describes alternatives that were developed to meet the purpose and need of the project. The No Build Alternative (Alternative 1) is described below. Build Alternatives 2a, 3a, 4a, 5a, and 6a propose the same geometric footprint, but would incorporate different managed lane types. Build Alternatives 2b, 3b, 4b, 5b, and 6b propose the same geometric footprint, include an I-80 managed lane direct connector, but would incorporate different managed lane types. Build Alternatives 7a and 7b would not construct new lanes but would repurpose an existing lane instead; however, Build Alternative 7b would include the I-80 managed lane direct connector.

- Build Alternative 2a: Add a high-occupancy vehicle lane in each direction for use by vehicles with two or more riders (HOV 2+).

- Build Alternative 2b: Add a high-occupancy vehicle lane in each direction for use by vehicles with two or more riders (HOV 2+), and build an I-80 managed lane direct connector.

[1] I-80 corridor between PM 40.7 and PM 44.7 in Solano County, between PM 0.00 and PM 11.72 in Yolo County, and between PM 0.00 and PM 1.36 in Sacramento County; and US-50 between PM 0.00 and PM 3.12 in Yolo County and between PM 0.00 and PM 0.617 in Sacramento County.

- Build Alternative 3a: Add a high-occupancy toll lane in each direction for free use by vehicles with two or more riders (HOT 2+). Single-occupied vehicles would pay a fee for the lane usage.

- Build Alternative 3b: Add a high-occupancy toll lane in each direction for free use by vehicles with two or more riders (HOT 2+), and build an I-80 managed lane direct connector. Single-occupied vehicles would pay a fee for the lane usage.

- Build Alternative 4a: Add a high-occupancy toll lane in each direction for free use by vehicles with three or more riders (HOT 3+). Vehicles with less than three riders would pay a fee for lane usage.

- Build Alternative 4b: Add a high-occupancy toll lane in each direction for free use by vehicles with three or more riders (HOT 3+), and build an I-80 managed lane direct connector. Vehicles with less than three riders would pay a fee for lane usage.

- Build Alternative 5a: Add an express lane in each direction (i.e., everyone would pay a fee to use the lane, regardless of number of riders).

- Build Alternative 5b: Add an express lane in each direction (i.e., everyone would pay a fee to use the lane, regardless of number of riders), and build an I-80 managed lane direct connector.

- Build Alternative 6a: Add a transit-only lane in each direction.

- Build Alternative 6b: Add a transit-only lane in each direction, and build an I-80 managed lane direct connector.

- Build Alternative 7a: Repurpose the current number one general-purpose lane for use by vehicles with two or more riders (HOV 2+); no new lanes would be constructed.

- Build Alternative 7b: Repurpose the current number one general-purpose lane for use by vehicles with two or more riders (HOV 2+); no new lanes would be constructed. Build an I-80 managed lane direct connector.

This project contains a number of standardized measures, which are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project.

The Build Alternatives consist of the following three geographic segments.

Segment 1

Segment 1 stretches from Kidwell Road in Eastern Solano County through Davis to the Eastern end of the Yolo Causeway east of Enterprise Boulevard in West Sacramento. Segment 1 consists of three sub-segments:

- *Segment 1a* is from Kidwell Road to Solano County/Yolo County Line.
- *Segment 1b* is from the Solano/Yolo County Line to west end of the Yolo Causeway.
- *Segment 1c* is from the start of the Yolo Causeway to east of Enterprise Boulevard.

Segment 2

Segment 2 starts just east of Enterprise Boulevard and continues north on I-80 to West El Camino Avenue.

Segment 3

Segment 3 starts at the I-80/US-50 Separation and continues east along US-50 to I-5 near downtown Sacramento. Segment 3 consists of two sub-segments:

- *Segment 3a* is the I-80/US-50 Separation to Jefferson Boulevard Undercrossing.
- *Segment 3b* is the Jefferson Boulevard Undercrossing to just east of I-5.

2.1.1. COMMON DESIGN FEATURES OF THE BUILD ALTERNATIVES

Common design features and standardized measures are shared among the Build Alternatives.

Managed Lanes

Managed lanes are highway facilities or a set of lanes where operational strategies are implemented to manage overall traffic congestion or in response to changing conditions (FHWA 2008). Managed lanes can include pricing, vehicle eligibility, or access control concepts. The lanes have flexibility to be used by different types of vehicles, depending on the need and can be actively managed to accommodate peak travel demands. Managed lanes would be designated using a striping pattern to distinguish between the mixed-flow.

Intelligent Transportation System/Transportation Management Systems

Each of the Build Alternatives would include placement of ramp meters and other ITS/Transportation Management Systems (TMS) such as closed-circuit television (CCTV) and changeable message signs. Several maintenance pullouts are proposed adjacent to I-80 on-ramps to accommodate an electrical cabinet for proposed ramp meters or other ITS/TMS infrastructure.

Proposed ITS elements would be installed on a new pole foundation; some existing ITS infrastructure in these locations would be abandoned or replaced. Accordingly, it is assumed that each ITS pole foundation would have up to a 6-foot radius permanent footprint with up to 10-foot radius temporary area for construction.

Structure Modifications

As summarized in Table 1, Build Alternatives would add improvements to existing structures to accommodate proposed Managed Lanes.

Table 1 Structure Modifications

Structure Name	Structure Number	Route	Post Mile	Alternative	Structure Work
South Fork Putah Creek	23-0054 R	Sol 80	42.36	All Build Alternatives	Place fiber optic conduit
Old Davis Rd Undercrossing	23-0155R	Sol 80	R43.5	All Build Alternatives	Place fiber optic conduit

Structure Name	Structure Number	Route	Post Mile	Alternative	Structure Work
South Davis Overhead	23-0156R	Sol 80	R43.93	All Build Alternatives	Place fiber optic conduit
S113/ E80 Connector Separation	23-0178F	Sol 113	R22.08	All Build Alternatives	Place fiber optic conduit
S113/ E80 Connector Separation	23-0179F	Sol 113	R22.17	All Build Alternatives	Place fiber optic conduit
Putah Creek Pedestrian Undercrossing	22-0194	Yol 80	0.01	All Build Alternatives	Place fiber optic conduit
Richard Boulevard Overcrossing RW NO. 3	TBD	Yol 80	0/0.60	All Build Alternatives	Retaining wall at abutment along eastbound I-80 off-ramp to Richards Boulevard
I-80 Managed Lane Direct Connector	TBD	Yol 80	9.5/10.0	Build Alternatives 2b, 3b, 4b, 5b, 6b, 7b	Proposed managed lane connector retaining wall #1; Proposed managed lane connector retaining wall #2

Source: Caltrans Draft Project Report (July 2021)

Ramp Modifications

Within Segment 2, eastbound ramp modifications would be constructed at I-80 eastbound on-ramp from Richards Boulevard to accommodate realignment within the right-of-way. In addition, ramp modifications would occur at the westbound I-80 off-ramp to County Road (CR)-32A/Chiles Road to accommodate additional bicycle/pedestrian pathway within the right-of-way. Bicycle/Pedestrian Facilities

Bicycle/Pedestrian Facilities

The Build Alternatives would replace the existing bicycle pathway pavement behind the gas station located north of West Capitol Avenue from PM 9.15 to PM 9.35. The existing bicycle pathway would be rerouted during repaving activities for up to two months, but repaving activities may occur at nighttime to minimize access disruption. To maintain access, bicycles traveling westbound would be redirected along West Capitol Avenue. Bicycles traveling eastbound would be redirected along a short segment of sidewalk on West Capitol Avenue and use the crosswalk at the West Capitol Avenue/westbound I-80 off-ramp intersection[2]. Bicyclists would then continue eastbound along West Capitol Avenue using the existing bicycle lane. Caltrans would add crosswalk pavement marking across the westbound I-80 off-ramp to West Capitol Avenue and near the existing West Capitol Avenue crosswalk. In addition, Caltrans would add advanced warning signs to alert the motorists traveling on the westbound I-80 off-ramp to West Capitol Avenue before reaching the proposed crosswalk. Caltrans would place

[2] City of West Sacramento Municipal Code 10.32.020 states that bicycles are permitted on the public sidewalk but shall yield to any pedestrian.

signage as part of the traffic management plan to note the access updates and identify the bicycle/pedestrian detours.

The Build Alternatives would also replace the existing bicycle pathway pavement from PM 9.1 to the Yolo Causeway bridge deck approach at approximately PM 8.9. The bicycle pathway will be closed at night due to asphalt repaving activities or reversing control will be provided to pedestrians/ bicylcists. The existing Class I bicycle pathway along the Yolo Causeway would not require closure during construction activities.

The Build Alternatives would extend the westernmost limit of the existing Class I bicycle pathway from I-80 along Yolo Causeway to connect to CR-32A. The pathway extension would be located adjacent to the westbound I-80 off-ramp to CR 32A and would be approximately 12-feet-wide. The area surrounding the pathway extension would be graded to comply with the Americans with Disabilities Act of 1990 (ADA) regulations. A concrete barrier would separate the pathway extension from westbound off-ramp vehicular traffic. Once construction of the pathway extension along westbound I-80 off-ramp is complete, the Build Alternatives would conduct pavement rehabilitation from CR 32A to western Yolo Causeway Levee Road. During pavement rehabilitation activities, Levee Road would be closed. Bicycles would be redirected along the newly constructed pathway extension on westbound I-80 off-ramp to access the existing Class I bicycle pathway along Yolo Causeway, which would be built prior to rehabilitation activities on Levee Road.

The Build Alternatives would include widening the shoulders of CR-32A from the existing Levee Road path to just east of CR-105 to accommodate a standard Class I bicycle path. A future Yolo County project proposes widening the shoulders of CR-32A from CR-105 to the proposed Class I bicycle path along CR-32A to accommodate a standard Class II bicycle lane. Construction of the Class II bicycle lane would involve widening the shoulders by 4 feet for the Class II 6-foot lane on both sides with standard edge line striping. No barriers would be constructed. Caltrans would coordinate with Yolo County Public Works Department to complete this bicycle pathway design along CR 32A. Caltrans is clearing the environmental studies for the proposed Yolo County biek lane along CR32A.

Park-and-Ride Facility

Within Segment 2 of each of the Build Alternatives, a Park-and-Ride Facility would be constructed on the east side of Enterprise Boulevard in a 4.5-acre lot and would provide for approximately 300 parking spaces. Users of the Park-and-Ride Facility would have the option to park their cars for the day and connect to several county and regional transit services. The facility would be located partially within the existing Caltrans right-of-way and partially outside the existing Caltrans right-of-way.

Signage

The Build Alternatives would include roadside signs and overhead signs to provide symbolic or text messages that would guide and warn motorists and regulate the flow of traffic. Some of the signs would have hours of operation that restrict certain classes of vehicles during peak periods. Other signs would have information for motorists of the conditions or hazards that they are approaching.

Roadside signs would include regulatory and warning signs, route shields, and guide signs. These signs would be located on wood or metal posts. Wood posts would be approximately 6-inches by 6-inches while metal posts would be approximately 2.5-inches by 2.5-inches.

Roadside signs would be mounted on the freeway concrete median barrier or placed adjacent to the edge of the travel way up to 30 feet. However, placement of roadway signs would avoid environmentally sensitive areas.

Overhead signs would be mounted on versatile truss structures spanning above the travel lanes. The total height of the overhead sign structure (including the sign) would depend on the type of sign being mounted but would not likely exceed 40 feet in height. Overhead sign structures would have a concrete foundation of up to 6.5 feet diameter and would either be supported on a cast-in-drilled-hole pile foundation or supported by a structure.

Lighting

Street lighting would be added near CR-32A at the proposed bicycle pathway extension adjacent to the westbound off-ramp. Within Segment 2, bridge deck lighting with Type 21 Barrier-Rail-Mounted Lighting Standards would be constructed. Additional street lighting would be added to the Bryte Bend Bridge (I-80 Sacramento River Bridge Overhead), but it may also be added at proposed auxiliary lane locations if determined necessary during the design phase. Some nighttime lighting would occur during nighttime construction work activities. Signage would use reflective lettering.

Road Cut/Fill

Some locations would require full structural section reconstruction, and other locations would require cut or fill of the embankment due to road widening.

Grinding

Cold planing, the process of removing part of the surface of a paved area, would be required throughout the project limits. Cold planing would be required for ramp conforms at all ramps and may be required at other locations along the travel way wherever hot mix asphalt is currently in place. A mill (cold planing) and fill operation may be proposed to repair roadway surface scarring that occurs during temporary restriping associated with some stage construction operations.

Site Preparation

Site preparation would include delineating construction work areas, installing environmentally sensitive area (ESA) fencing around sensitive habitats and cultural resource areas, installing wildlife exclusion fencing around staging areas, installing best management practices (BMPs) in accordance with the project's Stormwater Pollution Prevention Plan (SWPPP), and removing vegetation, as summarized in Appendix E.

Utilities

Build Alternatives 2a, 3a, 4a, 5a, 6a, and 7a would not result in potential conflicts with existing utilities that are present along the I-80/US-50 corridor Utility companies would require verification of facilities and involvement in construction plans. Accordingly, prior to construction, an estimated 15 test hole sites would be drilled at eight different locations for natural gas lines running transversely underneath I-80, the Yolo Causeway, and West Capitol Avenue in Sacramento where the new managed lane would be constructed with retaining walls and columns. Positive findings would verify whether the gas line would require relocation or how to redesign the project components to avoid conflicts with existing utilities.

Under all Build Alternatives, removal of an existing overhead sign near Westacre Park, within Caltrans right-of-way, would require an overhead electrical distribution line to be temporarily de-energized. Under Build Alternatives 2b, 3b, 4b, 5b, 6b, and 7b, up to four 115-kilovolt overhead utility towers may be relocated or tower height increased near the new I-80 managed lane direct connector at the I-80/US-50 separation in West Sacramento.

Fiber-Optic Cable

The Build Alternatives would install a fiber-optic cable and associated fiber-optic splice boxes within the roadbed at the eastbound outside shoulder of I-80 from west of Kidwell Road in Solano County at PM 40.7 to PM 4.35 in Yolo County. Cut and cover or trenching would be the primary construction method and would require excavation of up to 42 inches deep to install within a 12-foot buffer surrounding the running line. Fiber-optic cable may also be placed via directional borings to avoid conflicts with existing utilities.

Right-of-Way and Temporary Construction Easements

The Build Alternatives would require Caltrans to acquire two private fee parcels to construct the proposed park-and-ride facility at Enterprise Boulevard (2.8 acres). A total of seven TCEs would be required along the project alignment.

Staging Areas

Staging areas would be located at the I-80/West El Camino Avenue interchange, South River Road, I-80/Richards Boulevard interchange, the I-80 and SR-113 interchange, West Capitol Avenue, and along Kidwell Road. These areas total 53.31 acres and would be used for equipment maintenance and storage of equipment, construction materials, fuels, lubricants, solvents, and other possible contaminants during construction.

Traffic Management During Construction

Various Transportation Management Plan (TMP) elements such as portable changeable message signs (CMS) and the California Highway Patrol Construction Zone Enhanced Enforcement Program would be used to minimize delays to the traveling public. Flaggers would be used to divert traffic. Prior to construction, a detailed TMP would be prepared.

Ramp closures are anticipated at all ramp locations adjacent to proposed widening or proposed mainline paving. Traffic would be detoured to the next interchange. Caltrans would also place signage as part of the TMP to note the access updates and identify the bicycle/pedestrian detours. Caltrans would install a cross walk at the westbound I-80 off-ramp across right turn movement to West Capitol Avenue as well as a temporary flashing beacon located upstream.

Build Alternatives 2b, 3b, 4b, 5b, 6b, and 7b may require a temporary, full closure on westbound US-50. Full closures would occur during the hours of the lowest volume of traffic (e.g., nighttime) or during a continuous 24- or 48-hour operation. The primary detour for westbound US-50 traffic would be to use northbound I-5 to westbound I-80. Local traffic would use other interchanges in the area.

Vegetation and Tree Removal

Vegetation clearing would be required and would be confined to the area within the project footprint, including construction access routes. Vegetation removal and clearing would be

completed with hand tools where possible. Chainsaws, grinders, and excavators would be used for vegetation that cannot be removed by hand. All vegetation would be removed within proposed cut and fill lines as well as within temporary impact lines where ITS components would be constructed. Within areas of temporary impact, vegetation removal would be avoided to the extent possible.

Construction Equipment

The equipment used for the proposed work of the Build Alternatives would be similar among the Build Alternatives. Center median work would use excavators, scrapers, motor graders, loaders, backhoes, pavers, concrete barrier slip form pavers, truck mounted cranes, 18-wheel trucks, dump trucks, and water trucks. Reconstruction and modification of ramps/gores/shoulder embankments would use excavators, motor graders, loaders, backhoes, pavers, 18-wheel trucks, dump trucks, and water trucks. Road surfacing work, including placement for sensors in the road surface, would use core drillers, trailers containing and dispersing sealant, and water trucks.

Construction of the I-80 managed lane direct connector under Build Alternatives 2b, 3b, 4b, 5b, 6b, and 7b would require pile driving to install the footings to a depth of up to 40 feet. Equipment would also include a crane (for pile driving), excavator, dozer, loader, manlift, articulated 4x4 forklift, truck, dump truck, trailer unit air compressor, and water truck. This construction equipment would also be used for structural sign mounts along with a truck mounted crane for all Build Alternatives. A truck-mounted auger would be used for installing roadside signs.

Ground Disturbance

The depth of ground disturbance would vary throughout the project limits. At locations where CMS, sign structures, or piles would be installed, disturbance could be up to 30 feet deep. As described, construction of the I-80 managed lane direct connector under Build Alternatives 2b, 3b, 4b, 5b, 6b, and 7b would require pile driving to install the footings to a depth of up to 40 feet. At locations of culverts, depth of ground disturbance could vary from 3 feet to 10 feet (i.e., the estimated depth to the bottom of a culvert or inlet). At locations of linear electrical facilities such as fiber-optic and conduit installations, the ideal depth is typically 4 feet, assuming 42 inches of cover; however, depth could be increased to avoid conflicts with existing or proposed drainage or existing utilities.

Site Cleanup and Post-Construction Activities

All construction materials and debris would be removed from the construction work areas and recycled or properly disposed of off-site. Caltrans would restore all areas temporarily disturbed by project activities, such as staging areas and access roads, to near or better than pre-construction conditions in accordance with applicable permits and Caltrans requirements.

2.1.2. Unique Features of the Build Alternatives

Build Alternatives 2a and 2b: HOV 2+ Managed Lane

Lane Configuration – Build Alternatives 2a and 2b

Build Alternatives 2a and 2b would begin at the Solano/Yolo County Line west of Davis to West El Camino Avenue on I-80 and end at I-5 on US-50 in Sacramento County. Build Alternatives 2a and 2b would include an HOV 2+ managed lane in the eastbound and westbound direction. This would be accomplished by constructing in the median from the Solano/Yolo County line to west

of the Yolo Causeway and continuing eastward by restriping to West El Camino Avenue on I-80 and to I-5 on US-50 in Sacramento County.

Build Alternative 2b would involve construction of an I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 2a. The I-80 managed lane direct connector would provide a direct connection of the HOV 2+ managed lane by flying over US-50 at the I-80/US-50 Interchange. The connector would include a retaining wall on either side and would travel underneath the existing eastbound connector from I-80 to US-50. The proposed managed lane direct connector would be constructed of columns and include concrete barrier type 842 railings.

Segment 1

Segments 1a, 1b, and 1c would be restriped with 6-inch thermoplastic traffic stripes for three mixed-flow lanes and one managed lane in each direction, westbound and eastbound.

Within Segment 1b, from just west of the Solano/Yolo County Line to the west end of the Yolo Causeway, the project would involve replacement of the existing inside shoulders and construction of the eastbound and westbound median from around Richards Boulevard to 1.5 miles east of Mace Boulevard to accommodate managed lanes in the eastbound and westbound directions. The new shoulders and construction areas would be asphalt concrete material. The median barriers would be upgraded from a metal beam guard rail to a reinforced concrete barrier.

Segment 2

Within Segment 2, the Bryte Bend Bridge would be restriped to accommodate the HOV 2+ managed lane in each direction. Reducing lane and shoulder widths would accommodate a fourth lane on the Bryte Bend Bridge. The bridge striping would change from three lanes (two 12-foot lanes and one 11.5-foot lane) to four lanes (four 11-foot lanes) with 1-foot inside and 2.5-foot outside shoulders.

Segment 3

Within Segment 3a, from I-80/US-50 Separation to Jefferson Boulevard Undercrossing, the pavement would be restriped to convert one mixed-flow lane in each direction to managed lanes.

Within Segment 3b, from the Jefferson Boulevard Undercrossing to just east of I-5, the Jefferson Boulevard Undercrossing (Br. No. 22-0106 L/R), and the Sacramento River viaduct (Br. No. 24-0014 R/L) between Jefferson Boulevard and the I-5/US-50 interchange would be restriped to add an additional managed lane in each direction.

Lane Access – Build Alternatives 2a and 2b

An HOV lane is a type of managed lane that allows qualified users, who meet the minimum number of passengers, to use the managed lane. The number of vehicle occupants required to qualify can vary depending on location. Under Build Alternatives 2a and 2b, vehicles with two or more occupants would be permitted to access the HOV lane, and all other vehicles would be prohibited from using those lanes. The HOV lanes would be designated using a striping pattern and a diamond marking to distinguish them from mixed-flow lanes and would operate only during peak commute hours.

Signage – Build Alternatives 2a and 2b

Approximately 45 overhead signs would be replaced or proposed within the project area. Several existing overhead signs would be removed and not replaced. In addition, 311 roadside signs would be replaced and 221 roadside signs are proposed within the median or the shoulder. Proposed signage would be the same for Build Alternatives 2a and 2b.

Drainage/Culverts – Build Alternatives 2a and 2b

Anticipated work includes extending existing culverts through existing unpaved medians, extending existing culverts at locations where construction may occur outside the existing edge of pavement lining, and possibly abandoning existing culverts where median construction would occur in crowned sections of the roadway. New drainage inlets and culverts are proposed to be replaced or repaired to accommodate areas where existing shoulders are being narrowed, to accommodate additional runoff due to the increased pavement area, or to perpetuate existing drainage patterns. The linings of one pipe would occur using cast-in-place-pipe lining (CIPP). CIPP is a method to repair pipes without needing to trench by inserting a liner inside the existing culvert pipe.

Build Alternative 2a and Build Alternative 2b would construct 5 new culverts and replace or improve 21 existing culverts. As described, many of the proposed drainage features would be located within the construction footprint of the median for the new HOV 2+ managed lane. In addition, proposed culverts would traverse beneath the freeway to convey drainage to a new outlet. In these instances, the freeway would be trenched using an excavator and the barrel would be installed. Once the barrel is installed, the trench would be backfilled and compacted back to preconstruction conditions. Trenching across the freeway travel lanes would occur in segments during low peak (nighttime) traffic hours to maintain access. Construction of each new or replaced culvert would occur over approximately 2 nights; however, construction of several culverts could occur concurrently as further described in the construction schedule. It is assumed each of these culvert repair or replacement areas would have a 20-foot by 20-foot temporary construction impact footprint, not to exceed the roadway right of way. Proposed drainage features for the I-80 managed lane direct connector, under Build Alternative 2b, would occur within the construction footprint of the I-80 managed lane direct connector.

Construction Schedule – Build Alternatives 2a and 2b

Construction of Build Alternative 2a is anticipated to take approximately 443 construction working days over 22 months. Construction of Build Alternative 2b is anticipated to take approximately 732 construction working days over 36 months. Construction would potentially commence in Spring 2025. Due to high daytime traffic volumes, nighttime work would be expected. Both daytime and nighttime work should be anticipated throughout the project duration.

Build Alternatives 3a and 3b: HOT 2+ Managed Lane

Build Alternatives 3a and 3b would be the same as Build Alternatives 2a and 2b, respectively, but would include an HOT 2+ managed lane instead of an HOV 2+ lane. Build Alternative 3b would involve construction of the I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 3a.

The HOT managed lane would allow vehicles with a minimum two-person occupancy to use the lane for free, while single-occupied vehicles would pay for the lane usage. All other project

components would be the same as Build Alternatives 2a and 2b, respectively, with the exception of signage locations.

Approximately 79 overhead signs would be replaced or proposed within the project area. Several existing overhead signs would be removed and not replaced. In addition, 311 roadside signs would be replaced and 373 roadside signs are proposed within the median or the shoulder.

Build Alternatives 4a and 4b: HOT 3+ Managed Lane

Build Alternatives 4a and 4b would be the same as Build Alternatives 2a and 2b, respectively, but would include an HOT 3+ managed lane instead of an HOV 2+ lane. Build Alternative 4b would involve construction of the I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 4a.

The HOT managed lane would allow vehicles with a minimum three-person occupancy to use the lane for free. Vehicles with less than three riders would pay for the lane usage. Vehicles with two passengers may pay reduced or full tolls to travel within the HOT lane. All other project components would be the same as Build Alternatives 2a and 2b, respectively, with the exception of signage locations.

Proposed signage for Build Alternatives 4a and 4b would be the same as Build Alternatives 3a and 3b, respectively.

Build Alternatives 5a and 5b: Express Managed Lane

Build Alternatives 5a and 5b would be the same as Build Alternatives 2a and 2b, respectively, but would include an express lane instead of an HOV 2+ lane. Build Alternative 5b would involve construction of the I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 5a. An express lane is a managed lane that allows vehicles of any occupancy to access a dedicated lane once a toll is paid. All other project components would be the same as Build Alternatives 2a and 2b, respectively, with the exception of signage locations.

Proposed signage for Build Alternatives 5a and 5b would be the same as Build Alternatives 3a and 3b, respectively.

Build Alternatives 6a and 6b: Transit-Only Managed Lane

Build Alternatives 6a and 6b would be the same as Build Alternatives 2a and 2b, respectively, but would include transit-only managed lanes instead of HOV 2+ lanes. Build Alternative 6b would involve construction of the I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 6a. A transit-only lane is a managed lane that allows only approved public transit vehicles, such as bus services, to access a dedicated lane. All other project components would be the same as Build Alternatives 2a and 2b, including the proposed signage for Build Alternatives 6a and 6b, respectively.

Build Alternatives 7a and 7b: Repurpose Lanes to HOV 2+ Managed Lane

Build Alternatives 7a and 7b would repurpose the current number one general-purpose lanes to HOV 2+ managed lanes. No new lanes would be constructed. Build Alternative 7b would involve

construction of the I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 7a.

Lane Configuration - Build Alternatives 7a and 7b

Build Alternatives 7a and 7b would maintain the existing median pavement delineation, unpaved median, and add an HOV 2+ lane by repurposing an existing mixed-flow lane (lane number one). As a result, Build Alternatives 7a and 7b would not shift the edge of travel way into the median or require barrier beam removal within the median.

Lane Access - Build Alternatives 7a and 7b

Vehicles with two or more occupants would be permitted to access the HOV 2+ lane, and all other vehicles would be prohibited from using them. The HOV 2+ lanes would be designated using a striping pattern and a diamond marking to distinguish them from mixed-flow lanes. HOV 2+ lanes would only operate during peak commute hours.

Signage – Build Alternatives 7a and 7b

Proposed signage for Build Alternatives 7a and 7b would be the same for Build Alternatives 2a and 2b, respectively.

Drainage/Culverts – Build Alternatives 7a and 7b

Build Alternatives 7a and 7b would repurpose the current number one general-purpose lanes to HOV 2+ managed lanes. Therefore, culvert construction associated with Build Alternative 7a would only be related to replacements or improvements to 18 existing culverts. Build Alternative 7b would construct 5 new culverts associated with the I-80 managed lane direct connector. Construction methods would be the same as Build Alternative 2a and 2b, respectively. The lining of one pipe would also occur using CIPP. As stated earlier, CIPP is a method to repair pipes without needing to trench by inserting a liner inside the existing culvert pipe.

Construction Schedule – Build Alternatives 7a and 7b

Construction of Build Alternative 7a is anticipated to take approximately 180 construction working days over 10 months. Construction of Build Alternative 7b is anticipated to take 732 construction working days over 36 months to complete. Construction would potentially commence in Spring 2025. Due to high daytime traffic volumes, nighttime work would be expected. Both daytime and nighttime work should be anticipated throughout the project duration.

Alternative 1 – No Build Alternative

Alternative 1, the No Build Alternative, would maintain the existing conditions, and no work would be conducted to relieve current traffic congestion to improve traffic flow, mobility, and travel time reliability while at the same time reducing vehicle emissions and travel costs. The No Build Alternative would not provide a transportation facility that functions for all users, including bicyclists, pedestrians, local transit services, and freight. Recurring travel demand would continue to exceed the current design capacity of the highway, resulting in severe traffic congestion and impaired mobility. Additionally, the transportation network would not include adequate facilities for all modes of transportation.

The No Build Alternative assumes programmed and planned improvements to the current corridor. While there are numerous planned or programmed transportation projects within the region that can impact future travel patterns, this section focuses only on those future baseline improvements that directly impact the project area. The baseline improvement projects within the project area are listed in Table 2.

3. Description of Section 4(f) Resources

Section 4(f) resources in the project area include publicly owned recreational resources and historic properties. The study area for Section 4(f) was 500 feet from the edge of the proposed project. This distance is based on the nature of the proposed project.

3.1. Historic Properties

The Caltrans Office of Cultural Resources Studies conducted research, architectural history surveys, extended phase I studies, and evaluations of cultural resources within the area of potential effects (APE) in various dates in 2021. Caltrans, pursuant to Section 106 PA Stipulation IX.A, has determined a Finding of No Historic Properties Affected is appropriate for this undertaking because there are no historic properties within the APE. Based on these studies and findings summarized in the Historic Property Survey Report (December 6,2020),.no portion of any historic properties will be physically incorporated into the project and as evidenced by the Finding of No Historic Properties Affected and there are no proximity impacts that are anticipated to rise to the level of substantial impairment. As such, the undertaking would not result in any Section 4(f) use or *de minimis* finding to any historic properties or historical resources, regardless of alternative.

3.2. Public Parks and Wildlife Facilities

Table 1 summarizes public parks and wildlife areas within 500 feet of the project area, which are also depicted on Figure 2 at the end of this report. There are nine (9) public parks including a dog park and bike park, two (2) nature areas, and one (1) wildlife area within the 500-foot buffer, with eight (8) of the recreation areas being directly adjacent to the proposed project and existing Caltrans right-of-way.

Table 1. Public Parks and Wildlife Areas within 500 Feet of the Proposed Project, Listed Generally East to West.

Park Name	Facility Type	Distance/Relationship to Project
River Otter Park	Public Park	Adjacent
Sand Cove Park	Public Park	400 feet
Meadowdale Park	Public Park	Adjacent
Southside Park	Public Park	500 feet
O'Neil Park	Public Park	500 feet
Westacre Park	Public Park	Adjacent
Roland Hensley Bike Park	Public Bike Park	Adjacent and Underneath
Yolo Bypass Wildlife Area*	Wildlife Area	Adjacent and Underneath
Playfields Park*	Public Park	50 feet

Toad Hallow Dog Park	Public Dog Park	400 feet
Putah Creek Riparian Reserve	Trails/Nature Area	Adjacent
U.C. Davis Arboretum	Trails/ Nature Area	Adjacent

*These resources received funds form the LWCF Act and are therefore also 6(f) resources

3.2.1. RIVER OTTER PARK

River Otter Park is managed by the City of Sacramento and is located adjacent to the project area at 2303 Barandas Drive, Sacramento. The small (1.88-acre) park features a playground, volleyball court, and picnic tables.

3.2.2. SAND COVE PARK

Sand Cove Park is a beach and river access park maintained by the City of Sacramento that spans 9.88 acres and is approximately 400 feet from the project area. Fishing and other water activities are common, with a small parking lot and access off the Garden Highway.

3.2.3. MEADOWDALE PARK

Meadowdale Park is located at 3625 West Capitol Avenue in West Sacramento and is adjacent to the project area. The 4-acre park is managed by the City of West Sacramento and includes picnic tables, barbeques, a playground, and parking. Access is from West Capitol Avenue.

3.2.4. SOUTHSIDE PARK

Southside Park is managed by the City of Sacramento and is located at 2115 6th Street, Sacramento. It is approximately 500 feet from the proposed project area. The 20-acre park has numerus facilities including tennis courts, basketball courts, wading pool, jogging path, picnic tables, and age-specific playgrounds.

3.2.5. O'NEIL PARK

O'Neil Park is located at 715 Broadway, Sacramento, and consists of a lighted soccer field and a baseball/softball field with restroom facilities and parking. It is maintained and managed by the City of Sacramento and is approximately 500 feet from the project area, with access and street parking is along Broadway and 8th Streets.

3.2.6. WESTACRE PARK

Westacre Park is located adjacent to the project area at 1755 Evergreen Avenue in West Sacramento. The City of West Sacramento maintains the 5-acre park which features an enclosed skateboard park, picnic tables, and shade areas. The parking lot for Westacre Park is accessed from Evergreen Avenue.

3.2.7. ROLAND HENSLEY BIKE PARK

The small (0.5 acre) Roland Hensley Bike Park in West Sacramento is a Class one bicycle lane at 4940 West Capitol Avenue, which connects to the east end of the Yolo Causeway Bicycle

Path. It includes a picnic area and water fountain. Access to parking for the City of West Sacramento managed park is from Tule Jake Road.

3.2.8. YOLO BYPASS WILDLIFE AREA

The Yolo Bypass Wildlife Area is comprised of seventeen separate management units covering approximately 16,600 acres, with the portion along the project area managed by California Department of Fish and Wildlife, Bay Delta Region. It is protected habitat for fish, waterfowl, migratory birds, raptors, invertebrates, snakes, and turtles. Vegetation types include managed seasonal and permanent wetland, natural seasonal wetland, natural perennial wetland, and riparian woodland. The Wildlife Area is open daily to the public for wildlife viewing and fishing. The wildlife area includes designating self-driving tours along levees. Land also includes Tule Ranch, a working cattle ranch with extensive vernal pool areas and a Class 1 bicycle pathway on Levee Road managed by Yolo County.

3.2.9. PLAYFIELDS PARK

Playfields Park is maintained by the City of Davis and is located at 2500 Research Drive, Davis, and is approximately 16 acres in size and is approximately 50 feet from the project area. It features three baseball/softball fields, a soccer field, batting cages, basketball hoops and playground equipment. The large parking lot is accessed from Research Drive.

3.2.10. TOAD HOLLOW DOG PARK

Toad Hollow Dog Park is a 2.5 acre City of Davis off-leash dog park and is approximately 400 feet from the project area. The address is 1919 2nd Street, Davis. It has shade trees, benches, and parking accessed from 2nd Street.

3.2.11. PUTAH CREEK RIPARIAN RESERVE

The University of California, Davis (UC Davis) Putah Creek Riparian Reserve is a 640-acre natural riparian and grassland ecosystem that runs along the southern edge of the UC Davis campus. Most of the reserve is open to the public and is maintained and operated by the UC Davis Arboretum and Public Garden.

3.2.12. UNIVERSITY OF CALIFORNIA DAVIS ARBORETUM AND PUBLIC GARDEN

The UC Davis Arboretum and Public Garden spans the campus' 5,300-plus acres and includes the historic Arboretum. It connects with the Putah Creek Riparian Reserve and is open to the public. The gardens, natural areas and landscapes are open 24 hours a day, every day of the year. Access is at various locations, but the visto headquarters are located off of Le Rue Road.

3.3. Potential Impacts to Section 4(f) Resources

This section provides an evaluation of the potential use of recreation facilities subject to Section 4(f) evaluation within the 500-foot project study area. No public parks, recreation facilities, historic properties, or archaeological sites are expected to have a "permanent/direct use" under Section 4(f) because the project would not result in permanent partial or full acquisition or easement of a Section 4(f) resource. The nature of the project would not result in a constructive

("indirect") use that could substantially impair the key activities, features or attributes of protected facilities or resources due to the project's proximity.

Construction-related activities within Roland Hensley Bike Park and Yolo Bypass Wildlife Area would more likely result in a temporary occupancy as further described in Section 3.3.4, but the duration of the occupancy would be temporary, the scope of work would be minor, no adverse impacts to protected activities or access would occur, the property would be restored to same or better condition than existing prior to the project, and the local jurisdictions would be involved accordingly. Therefore, the requirements for an exception under 23 CFR 774.13(d) will be met. Concurrence with the official with jurisdiction for each of these properties will be obtained before approval of the final environmental document if it would occur temporary occupancy.

Of the public facilities subject to further Section 4(f) evaluation, there are seven (7) facilities close enough to the project to necessitate more detailed analysis (Figure 3). As confirmed with the additional analysis, the project would not result in any Section 4(f) use to any recreation resources, regardless of Build Alternative.

3.3.1. RIVER OTTER PARK

River Otter Park is located adjacent to project area at 2303 Barandas Drive, Sacramento. The park is currently located along the Interstate 80 (I-80) right-of-way, and access would not be disrupted under Build Alternatives 2a and 2b through 7a and 7b as no construction, staging, or other work is proposed near the park. As such, there is no Section 4(f) impact under any proposed alternative and there would be no proximity impacts.

Direct Use: There would be no acquisition of park property, and therefore no direct use of the park.

Constructive Use: The park is currently adjacent to the Caltrans I-80 right-of-way and is therefore currently subject to indirect air quality and noise impacts.

The Air Quality Report prepared for the project determined that dust would be generated during grading and construction operations (Caltrans 2023a). Diesel exhaust from construction vehicles may also pose both a health and nuisance impact to nearby receptors. However, these construction activities are expected to occur during a relatively short time. Caltrans special provisions and standard specifications include the requirement to minimize or eliminate dust through application of water or dust palliatives. The following construction dust and equipment exhaust emissions measures shall be implemented when practical, during all phases of construction work: Control measures will be implemented as specified in Caltrans 2018 Standard Specifications Section 10-5 "Dust Control", Section 14-9 "Air Quality" (Standard Measure GHG-1) and Section 18 "Dust Palliatives." The proposed project would also comply with rules and regulations pertaining to the control of fugitive dust and prevention of public nuisance published by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and the Yolo-Solano Air Quality Management District (YSAQMD).

The Noise Study Report prepared for the project determined that construction activities would result in temporary increases to noise and vibration at adjacent receptors (Caltrans 2022a). However, construction activities would follow applicable local regulations and would be short-term and intermittent. Furthermore, all construction equipment would be required to conform with Section 14-8.02, Noise Control, of the Caltrans Standard Specifications. In addition, noise-generating activities would be restricted between certain hours and unnecessary idling within 100 feet of residences would be prohibited. As a result, indirect air quality and noise impacts as

a result of the proposed project are not expected to result in substantial impairment to any of the park's activities, features or attributes. Therefore, there would not be a constructive use of River Otter Park.

Temporary Occupancy: No construction activities or project components are proposed within River Otter Park. Access to park facilities would not be disrupted, and park users would not be impacted. Standard measures would further reduce potential noise or air quality impacts during construction along the I-80 corridor, as described above.

3.3.2. MEADOWDALE PARK

Meadowdale Park is located at 3625 West Capitol Avenue in West Sacramento. Alternatives 2a and 2b through 7a and 7b would have no impact because no construction, staging, or work is planned near this resource. However, Build Alternative 2b, 3b, 4b, 5b, 6b, and 7b include cut and fill excavation for a new connector ramp approximately 100 feet from the park. There would be no proximity impacts.

Direct Use: There would be no acquisition of park property, and therefore no direct use of the park.

Constructive Use: Indirect air quality and noise impacts as a result of the proposed project are not expected to result in a constructive use of Meadowdale Park. The park is currently adjacent to the Caltrans I-80 right-of-way and is therefore currently subject to indirect air quality and noise impacts.

The Air Quality Report prepared for the project determined that dust would be generated during grading and construction operations (Caltrans 2023a). Diesel exhaust from construction vehicles may also pose both a health and nuisance impact to nearby receptors. However, these construction activities are expected to occur during a relatively short time. Caltrans special provisions and standard specifications include the requirement to minimize or eliminate dust through application of water or dust palliatives. The following construction dust and equipment exhaust emissions measures shall be implemented when practical, during all phases of construction work: Control measures will be implemented as specified in Caltrans 2018 Standard Specifications Section 10-5 "Dust Control", Section 14-9 "Air Quality" (Standard Measure GHG-1) and Section 18 "Dust Palliatives". The proposed project would also comply with rules and regulations pertaining to the control of fugitive dust and prevention of public nuisance published by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and the Yolo-Solano Air Quality Management District (YSAQMD).

The Noise Study Report prepared for the project determined that construction activities would result in temporary increases to noise and vibration at adjacent receptors (Caltrans 2022a). However, construction activities would follow applicable local regulations and would be short-term and intermittent. Furthermore, all construction equipment would be required to conform with Section 14-8.02, Noise Control, of the Caltrans Standard Specifications. In addition, noise-generating activities would be restricted between certain hours and unnecessary idling within 100 feet of residences would be prohibited. As a result, indirect air quality and noise impacts as a result of the proposed project are not expected to result in substantial impairment to any of the park's activities, features or attributes. Therefore, there would not be a constructive use that would substantially impair the activities, features, and attributes of the park.

Temporary Occupancy: There would be no temporary use of the park and access to the park would remain open.

3.3.3. WESTACRE PARK

Westacre Park is located adjacent to the project area at 1755 Evergreen Avenue in West Sacramento. The parking lot for Westacre Park is accessed from Evergreen Avenue, and access would not be disrupted. Build Alternatives 2a through 7a and 2b through 7b propose a CMS sign along westbound 50 (PM 2.01), about 850 feet west of Westacre Rd with the sign post located behind the soundwall, within State right of way and adjacent to Westacre Park. As detailed below, there would not be an impact under Build Alternatives 2a and 2b through 7a and 7b and no proximity impacts because no construction is proposed near the park.

Direct Use: There would be no acquisition of park property, and therefore no direct use of the park. Construction access will be made from Wesacre Road and State right of way only.

Constructive Use: Under all Build Alternatives, removal of an existing overhead sign near Westacre Park, within the Caltrans right-of-way, would require an overhead electrical distribution line to be temporarily de-energized. In addition, a roadway sign is proposed adjacent to Westacre Park, within the Caltrans I-80 right-of-way. According to the Visual Impact Analysis prepared for the project, potential visual effects are buffered by mature trees, which would remain (Caltrans 2022b).

The Air Quality Report prepared for the project determined that dust would be generated during grading and construction operations (Caltrans 2023a). Diesel exhaust from construction vehicles may also pose both a health and nuisance impact to nearby receptors. However, these construction activities are expected to occur during a relatively short time. Caltrans special provisions and standard specifications include the requirement to minimize or eliminate dust through application of water or dust palliatives. The following construction dust and equipment exhaust emissions measures shall be implemented when practical, during all phases of construction work: Control measures will be implemented as specified in Caltrans 2018 Standard Specifications Section 10-5 “Dust Control”, Section 14-9 “Air Quality” (Standard Measure GHG-1) and Section 18 “Dust Palliatives”. The proposed project would also comply with rules and regulations pertaining to the control of fugitive dust and prevention of public nuisance published by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and the Yolo-Solano Air Quality Management District (YSAQMD).

The Noise Study Report prepared for the project determined that construction activities would result in temporary increases to noise and vibration at adjacent receptors (Caltrans 2022a). However, construction activities would follow applicable local regulations and would be short-term and intermittent. Furthermore, all construction equipment would be required to conform with Section 14-8.02, Noise Control, of the Caltrans Standard Specifications. In addition, noise-generating activities would be restricted between certain hours and unnecessary idling within 100 feet of residences would be prohibited. As a result, indirect air quality and noise impacts as a result of the proposed project are not expected to result in substantial impairment to any of the park’s activities, features or attributes. Therefore, there would not be a constructive use that would substantially impair the activities, features, and attributes of the park. Therefore, impacts from the project would not constitute a constructive use.

Temporary Occupancy: Construction activities or project components are proposed adjacent to but not within Westacre Park. Access to park facilities would not be disrupted, and park users would not be impacted. Standard measures would further reduce potential noise or air quality impacts during construction along the I-80 corridor, as described above. Access to the park will be maintained during construction.

3.3.4. ROLAND HENSLEY BIKE PARK

Roland Hensley Bike Park in 4940 West Capitol Avenue, West Sacramento, connects to the east end of the Yolo Causeway Bicycle Path. Access to the bike park would not be permanently altered under any alternative. The existing bicycle pathway would be rerouted during repaving activities, but repaving activities may occur at nighttime to minimize access disruption or reversing pedestrian/ bicycle controls may be implemented during construction. To maintain access, bicycles traveling westbound would be detoured along West Capitol Avenue. Bicycles traveling eastbound would be redirected along a short segment of sidewalk on West Capitol Avenue and use the crosswalk at the West Capitol Avenue/westbound I-80 off-ramp intersection. Bicyclists would then continue eastbound along West Capitol Avenue using the existing bicycle lane. Caltrans would install a cross walk at the westbound I-80 off-ramp across right turn movement to West Capitol Avenue as well as a temporary flashing beacon located upstream. Because park and bicycle access would be continued, no Section 4(f) impacts would occur as a result of any Build Alternatives 2a and 2b through 7a and 7b, but constructive use is analyzed in more detail below.

Direct Use: There would be no acquisition of park property, and therefore no direct use of the park.

Constructive Use: Indirect air quality and noise impacts as a result of the proposed project are not expected to result in a constructive use of Roland Hensley Bike Park. Under Alternatives 2b, 3b, 4b, 5b, 6b, and 7b, construction of a connector ramp is proposed but this work is approximately 550 feet from the park, and noise or dust is not anticipated to impact the resource. Therefore, there are no proximity impacts that would rise to the level of substantial impairment.

Temporary Occupancy: As described, implementation of the any of the Build Alternatives would include repaving of the existing Class I bikeway through Roland Hensley Bike Park to improve the condition of the existing recreational resource to be better than existing prior to the project. During construction, bicycles would be detoured and connectivity would remain open, as described above. Users would not be impacted as required by Caltrans Standard Measure TT-1, which states that pedestrian and bicycle access would be maintained during construction. As part of Standard Measure TT-3, a traffic management plan would include the detour plan. In addition, a 0.2-acre construction staging area is located partially within the park; however, would be located in an areas that is already paved and fenced off from the bike path. As such, the construction staging area would have no effect on the recreational function of the park. None of the temporary construction-related impacts would adversely affect the activities, features, or attributes of the park.

Specifically, temporary occupancy is supported by the following: (1) the duration of the proposed work is temporary, less than the overall project construction period, and no change in property ownership would occur; (2) the work is confined to paving the trail portion and minor staging in an unused area only, and would result in minimal changes to the resource, including improvement to the trail; (3) no permanent adverse impacts to the park and no interference with the protected activities, features, or attributes of the park would occur, as detours and night work would ensure that access would not be impeded; (4) the disturbed land would be fully restored to at least as good condition, in this case improved; and, (5) concurrence by the City of West Sacramento, as the officials with jurisdiction, was obtained on April 15, 2024.

3.3.5. YOLO BYPASS WILDLIFE AREA

The Yolo Bypass Wildlife Area's approximately 16,600 acres, with 30 acres (0.02 percent) overlapping the Environmental Study Limit. No Section 4(f) impact is anticipated for the Yolo Bypass Wildlife Area. Build Alternatives 2a and 2b through 7a and 7b would not directly or temporarily use the wildlife area and would be no significant construction work which would/could cause a constructive use. There would be no proximity impacts.

Direct Use: Implementation of the any of the Build Alternatives would not require acquisition of park property, and therefore no direct use of the wildlife area.

Constructive Use: The project does not propose construction activities, beyond restriping, in the portion of I-80 that traverses above the Yolo Bypass Wildlife Area. Therefore, indirect air quality and noise impacts as a result of the proposed project are not expected to result in a constructive use.

Temporary Occupancy: Implementation of the Build Alternatives would include pavement rehabilitation from CR 32A to western Yolo Causeway Levee Road, of which a sliver of Levee Road appears to be partially located within the Yolo Bypass Wildlife Area. The Class 1 bicycle pathway along Levee Road is managed by Yolo County. During pavement rehabilitation activities, Levee Road would be closed. Bicycles would be detoured along the newly constructed pathway extension on westbound I-80 off-ramp to access the existing Class I bicycle pathway along Yolo Causeway, which would be built prior to rehabilitation activities on Levee Road. Access would not be disrupted, and users would not be impacted. In addition, the features of the wildlife area that qualify the resource under Section 4(f) and Section 6(f) are associated with the wildlife viewing and hiking trails located south of I-80, and are not associated with Levee Road (CDFW 2021).

Specifically, temporary occupancy is supported by the following: (1) the duration of the proposed work is temporary, less than the overall project construction period, and no change in property ownership would occur; (2) the work is confined to pavement rehabilitation activities on Levee Road, and would result in minimal changes to the resource; (3) no permanent adverse impacts to the resource and no interference with the protected activities, features, or attributes of the park would occur, and detours would ensure that access would not be impeded; (4) the disturbed land would be fully restored to at least as good condition, in this case improved; and, (5) concurrence by Yolo County, as the officials with encroachment permit jurisdiction (Issued Permit ENC 24-019), was obtained on April 10, 2024.

3.3.6. PUTAH CREEK RIPARIAN RESERVE

The UC Davis Putah Creek Riparian Reserve is a 640-acre natural riparian and grassland ecosystem that runs along the southern edge of the UC Davis campus. Most of the reserve is open to the public and is maintained and operated by the UC Davis Arboretum and Public Garden. Build Alternatives 2a and 2b through 7a and 7b would not result in a Section 4(f) impact because no project elements or construction is planned near the reserve besides placing fiber optic conduit along the existing structure at PM 42.36.

Direct Use: There would be no acquisition of park property, and therefore no direct use of the reserve would occur.

Constructive Use: Indirect air quality and noise impacts as a result of the proposed project are not expected to result in a constructive use of Putah Creek Riparian Reserve. Small portions of

the reserve are located near the project and is currently adjacent to the Caltrans I-80 right-of-way and is therefore currently subject to indirect air quality and noise impacts.

The Air Quality Report prepared for the project determined that dust would be generated during grading and construction operations (Caltrans 2023a). Diesel exhaust from construction vehicles may also pose both a health and nuisance impact to nearby receptors. However, these construction activities are expected to occur during a relatively short time. Caltrans special provisions and standard specifications include the requirement to minimize or eliminate dust through application of water or dust palliatives. The following construction dust and equipment exhaust emissions measures shall be implemented when practical, during all phases of construction work: Control measures will be implemented as specified in Caltrans 2018 Standard Specifications Section 10-5 “Dust Control”, Section 14-9 “Air Quality” (Standard Measure GHG-1) and Section 18 “Dust Palliatives”. The proposed project would also comply with rules and regulations pertaining to the control of fugitive dust and prevention of public nuisance published by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and the Yolo-Solano Air Quality Management District (YSAQMD).

The Noise Study Report prepared for the project determined that construction activities would result in temporary increases to noise and vibration at adjacent receptors (Caltrans 2022a). However, construction activities would follow applicable local regulations and would be short-term and intermittent. Furthermore, all construction equipment would be required to conform with Section 14-8.02, Noise Control, of the Caltrans Standard Specifications. In addition, noise-generating activities would be restricted between certain hours and unnecessary idling within 100 feet of residences would be prohibited. As a result, indirect air quality and noise impacts as a result of the proposed project are not expected to result in substantial impairment to any of the park’s activities, features or attributes. Therefore, there would not be a constructive use that would substantially impair the activities, features, and attributes of the park. Therefore, impacts from the project would not constitute a constructive use.

Temporary Occupancy: There would be no temporary use or impacts to access to the Putah Creek Riparian Reserve or to access to the reserve.

3.3.7. UNIVERSITY OF CALIFORNIA DAVIS ARBORETUM AND PUBLIC GARDEN

The UC Davis Arboretum and Public Garden spans the campus’s 5,300-plus acres and includes the historic Arboretum. It connects with the Putah Creek Riparian Reserve and is open to the public. The gardens, natural areas and landscapes are open 24 hours a day, every day of the year. Access is at various locations, but the visitor headquarters is located off of Le Rue Road. No alternative would result in a Section 4(f) use to the resource.

Direct Use: There would be no acquisition of park property, and therefore no direct use of the park

Constructive Use: Portions of the resources are located near the proposed project, However, indirect air quality and noise impacts as a result of the proposed project are not expected to result in a constructive use of UC Davis Arboretum and Public Garden. The resource is currently adjacent to the Caltrans I-80 right-of-way and is therefore currently subject to indirect air quality and noise impacts.

The Air Quality Report prepared for the project determined that dust would be generated during grading and construction operations (Caltrans 2023a). Diesel exhaust from construction vehicles may also pose both a health and nuisance impact to nearby receptors. However, these

construction activities are expected to occur during a relatively short time. Caltrans special provisions and standard specifications include the requirement to minimize or eliminate dust through application of water or dust palliatives. The following construction dust and equipment exhaust emissions measures shall be implemented when practical, during all phases of construction work: Control measures will be implemented as specified in Caltrans 2018 Standard Specifications Section 10-5 “Dust Control”, Section 14-9 “Air Quality” (Standard Measure GHG-1) and Section 18 “Dust Palliatives”. The proposed project would also comply with rules and regulations pertaining to the control of fugitive dust and prevention of public nuisance published by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and the Yolo-Solano Air Quality Management District (YSAQMD).

The Noise Study Report prepared for the project determined that construction activities would result in temporary increases to noise and vibration at adjacent receptors (Caltrans 2022a). However, construction activities would follow applicable local regulations and would be short-term and intermittent. Furthermore, all construction equipment would be required to conform with Section 14-8.02, Noise Control, of the Caltrans Standard Specifications. In addition, noise-generating activities would be restricted between certain hours and unnecessary idling within 100 feet of residences would be prohibited. As a result, indirect air quality and noise impacts as a result of the proposed project are not expected to result in substantial impairment to any of the park’s activities, features or attributes. Therefore, there would not be a constructive use that would substantially impair the activities, features, and attributes of the park. Therefore, impacts from the project would not constitute a constructive use.

A new overhead sign is proposed within Caltrans right-of-way but would be visible from the UC Davis Arboretum and Public Garden. According to the visual impact analysis prepared for the project (Caltrans 2022b), the overall level of visual impact is expected to be low because the of the sign’s distance from potential viewers and vegetative screening (as depicted below). Therefore, no proximity impacts that rise to the level of substantial impairment are anticipated.

Temporary Occupancy: There would be no temporary use of the University of California Davis Arboretum and access to the garden will be maintained during construction.

Existing View and Simulated Conditions from PM SOL R43.28 looking south.

Photo source and date: Stantec, April 2021

4. Description Of Section 6(f) Resources

The project is adjacent to two recreation areas, both in Yolo County, which were developed with LWCF federal assistance (Section 6, LWCF Act of 1965). These are the Yolo Bypass Wildlife Area and the Playfields Park at 2500 Research Drive, Davis. Known as Section 6(f) properties, properties acquired or developed with LWCF assistance shall be retained and used for public outdoor recreation; any conversion of use, wholly or partly, would require the approval of NPS. The proposed project would not result in any conversion or use of the Yolo Bypass Wildlife Area or the Playfields Park, nor would it restrict or reduce public access.

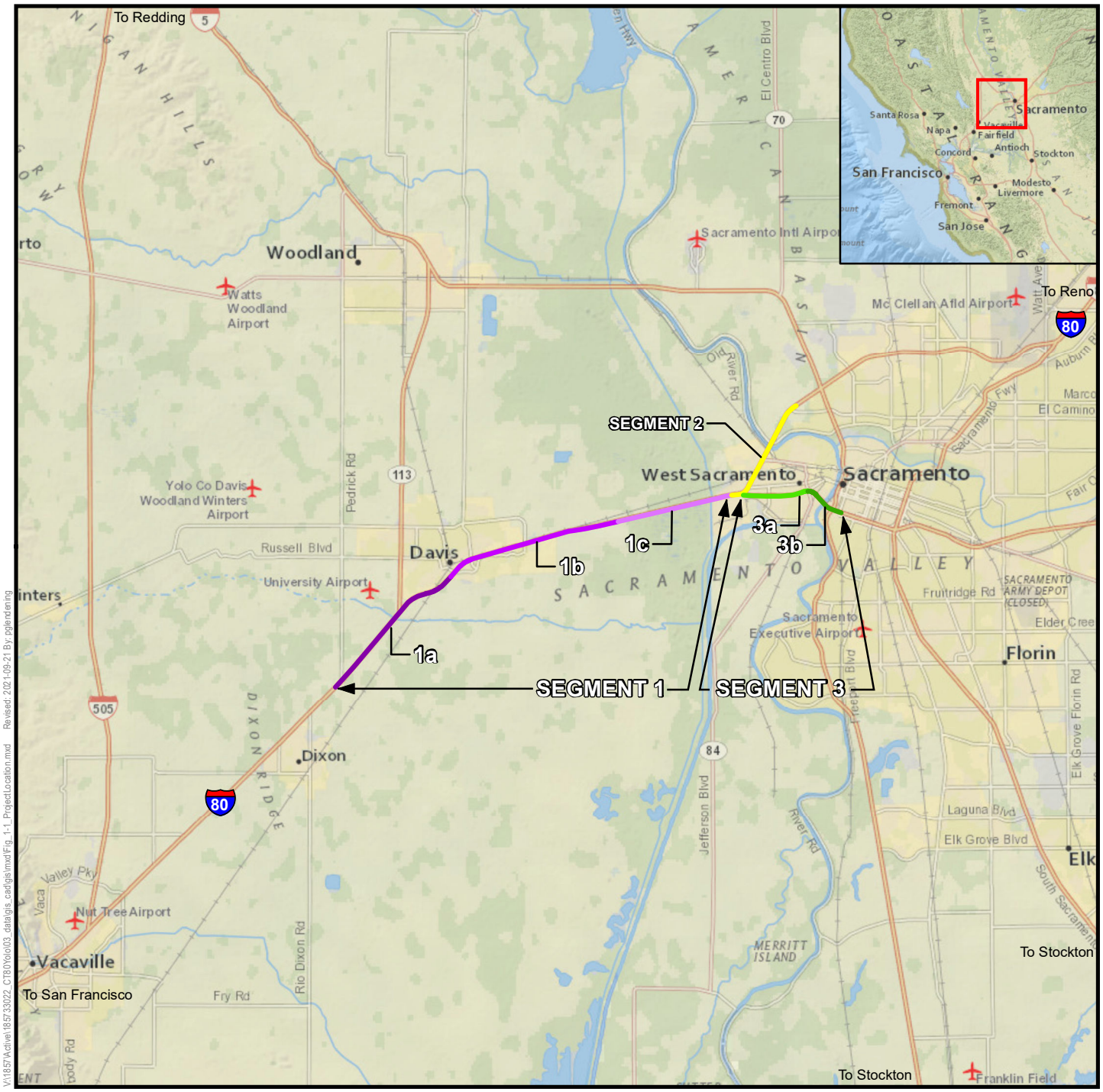


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Figure 1
Project Location and Vicinity

Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California

River Otter Park
Sand Cove Park
Meadowdale Park
Roland Hensley Bike Park
Yolo Bypass Wildlife Area (6f)
Westacre Park
Southside Park
O'Neil Park
Toad Hollow Dog Park
Putah Creek Parkway Greenbelt
UC Davis Arboretum
Yolo Bypass Wildlife Area
Putah Creek Parkway Greenbelt
Playfields Park (6f)
Putah Creek Parkway Greenbelt
Yolo Bypass Wildlife Area
Putah Creek Riparian Reserve

ESL
500-ft ESL Buffer
Potential Section 4(f) and Section 6(f) Recreation Areas

0 2
Miles

Caltrans

Figure 2
Overview of Recreation Areas within 500 feet of the Project
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano County, Yolo County, Sacramento County, California

Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2021
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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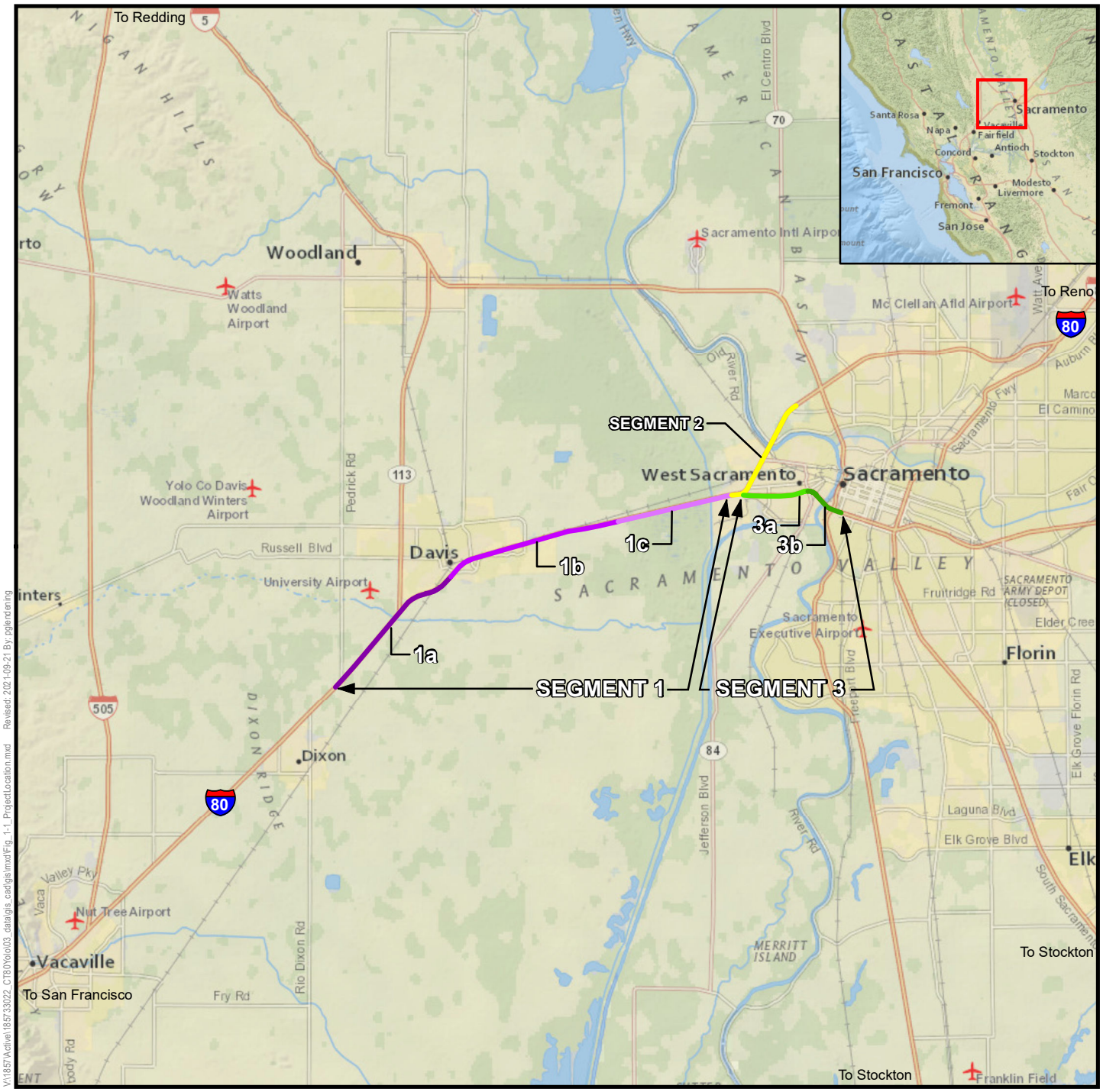
Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.



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Service Layer Credits:
ESRI, National Geographic, DigitalGlobe, GeoEye

Figure 1
Project Location and Vicinity

Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California

5. References

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California Department of Transportation

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April 9, 2024

Ms. Pamela Osborne
Engineering Division
City of West Sacramento
1110 West Capitol Avenue
West Sacramento, CA 95961
pamelao@cityofwestsacramento.org
916-617-4649

Dear Ms. Osborne:

The purpose of this letter is to request that the City of West Sacramento concur with the California Department of Transportation's (Caltrans) determination that the proposed replacement of asphalt bike path surfacing of multi-use bike paths within Roland Hensley Bike Park as part of the Yolo 80 Corridor Improvements Project (EA: 03-3H900) would not constitute a "use" as defined by Section 4(f) of the United States Department of Transportation Act of 1966. An encroachment permit (permit no. 24-0053) was issued for this work on 3/29/2024.

It is Caltrans's intent to apply the Section 4(f) Temporary Occupancy exception. The 4(f) regulations identify five conditions that all must be met to apply this exception. The enclosed memorandum outlines how each of the five conditions are met.

1) Duration of occupancy must be temporary, i.e., less than the time needed for construction of the project, and there would be no change in ownership of the land.

   The duration of the proposed work is temporary, less than the overall project construction period, and no change in property ownership would occur.

2) Scope of work must be minor, i.e., both the nature and magnitude of the changes to the 4(f) resource must be minimal.

   The work is confined to asphalt pavement replacement of the trail portion and minor staging in an unused area only, and would result in minimal changes to the resource, including improvement to the trail.

3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis.

   No permanent adverse impacts to the park and no interference with the protected activities, features, or attributes of the park would occur, as detours and night work would ensure that access would not be impeded.

4) The land being used must be fully restored, i.e., the resource must be returned to a condition, which is at least as good as that which existed prior to the project.

   The disturbed land would be fully restored to at least as good condition, in this case improved.

5) There must be documented agreement of the official(s) with jurisdiction of the Section 4(f) resource regarding the above conditions.

   The City of West Sacramento is the official with jurisdiction over the Roland Hensley Bike Park. Prior to applying the Section 4(f) exception, the City of West Sacramento must agree in writing that the project meets the conditions outlined above.

THE CITY OF WEST SACRAMENTO CONCURRENCE

Section 4(f) regulations require a documented agreement from the official with jurisdiction that the project would not constitute a Section 4(f) "use" of Roland Hensley Bike Park because the five conditions are met for the temporary occupancy exception. Caltrans requests that the City of West Sacramento provide concurrence with our temporary occupancy determination by signing below.

Concurrence:

Pamela Osborne

Ms. Pamela Osborne
City of West Sacramento

4/15/2024

Date

Should you have questions concerning this matter, please contact Robert Wall, Caltrans Senior Environmental Scientist, at (707) 834-2471 or Robert.wall@dot.ca.gov.

Sincerely,

Dotrik Wilson

Dotrik Wilson
Office Chief
California Department of Transportation
703 B Street
Marysville, CA 95901
Mobile: (530) 821-3054
Email: dotrik.wilson@dot.ca.gov

Enclosure: Encroachment Permit.

c: Robert Wall, Caltrans Senior Environmental Scientist, Caltrans District 3

California Department of Transportation

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April 9, 2024

Mr. Sam Sood
Engineering Technician I
Public Works Division
sambhav.sood@yolocounty.org
530-666-8857

Dear Mr. Sood:

The purpose of this letter is to request that Yolo County concur with the California Department of Transportation's (Caltrans) determination that the proposed rehabilitation from County Road 32A to western Yolo Causeway Levee Road, as part of the Yolo 80 Corridor Improvements Project (EA: 03-3H900) would not constitute a "use" as defined by Section 4(f) of the United States Department of Transportation Act of 1966. An encroachment permit (permit No. ENC24-019) was issued for this work on 2/28/2024.

It is Caltrans's intent to apply the Section 4(f) Temporary Occupancy exception. The 4(f) regulations identify five conditions that all must be met to apply this exception. These five conditions are outlined below.

1) Duration of occupancy must be temporary, i.e., less than the time needed for construction of the project, and there would be no change in ownership of the land.

   The duration of the proposed work is temporary, less than the overall project construction period, and no change in property ownership would occur.

2) Scope of work must be minor, i.e., both the nature and magnitude of the changes to the 4(f) resource must be minimal.

   The work is confined to rehabilitation from County Road 32A to western Yolo Causeway Levee Road, of which a sliver of Levee Road appears to be partially located within the Yolo Bypass Wildlife Area. During the proposed replacement of asphalt pavement, Levee Road would be closed. Bicycles would be detoured along the newly constructed pathway extension on westbound I-80 off-ramp to County Road 32A to access the existing Class I bicycle pathway along Yolo Causeway bridge. The proposed bicycle/pedestrian path along

westbound I-80 off-ramp to County Road 32A would be built prior to rehabilitation activities on Levee Road. Access would not be disrupted to Yolo Causeway bridge bicycle/pedestrian path, and users would not be impacted.

3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis.

   No permanent adverse impacts to the Levee Road and no interference with the protected activities, features, or attributes of the Levee Road would occur, as detours and night work would ensure that access would not be impeded.

4) The land being used must be fully restored, i.e., the resource must be returned to a condition, which is at least as good as that which existed prior to the project.

   The disturbed land would be fully restored to at least as good condition, in this case improved.

5) There must be documented agreement of the official(s) with jurisdiction of the Section 4(f) resource regarding the above conditions.

   Yolo County is the official with jurisdiction over the western Yolo Causeway Levee Road. Prior to applying the Section 4(f) exception, Yolo County must agree in writing that the project meets the conditions outlined above.

YOLO COUNTY CONCURRENCE

Section 4(f) regulations require a documented agreement from the official with jurisdiction that the project would not constitute a Section 4(f) "use" of western Yolo Causeway Levee Road because the five conditions are met for the temporary occupancy exception. Caltrans requests that Yolo County provide concurrence with our temporary occupancy determination by signing below.

Concurrence:

_____ 4/10/2024

Mr. Todd Riddiough
Yolo County, Director of
Public Works

Date

Should you have questions concerning this matter, please contact Robert Wall, Caltrans Senior Environmental Scientist, at (707) 834-2471 or robert.wall@dot.ca.gov.

Sincerely,

Dotrik Wilson

Dotrik Wilson
Office Chief
California Department of Transportation
703 B Street
Marysville, CA 95901
Mobile: (530) 821-3054
Email: dotrik.wilson@dot.ca.gov

Enclosure: Encroachment Permit.

c: Robert Wall, Caltrans Senior Environmental Scientist, Caltrans District 3

Appendix B Title VI Policy Statement

California Department of Transportation

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September 2022

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 non-discriminatory 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) 639-6392 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 PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 879-6768 (TTY 711); or at Title.VI@dot.ca.gov.

TONY TAVARES
Director

Appendix C Avoidance, Minimization, and/or Mitigation Measures Summary

Resource Area	Measure Reference	Avoidance, Minimization, and/or Mitigation Measure
Aesthetics	AMM AES-1: Avoid or minimize glare through the selection of materials and finishes	Implement paint finishes that are matte, satin, or non-glare producing only. Concrete colors/finishes be selected to reduce their potential to become a source of glare.
Aesthetics	AMM AES-2: Minimize high contrast rock slope protection	Colors and/or stains which match or complement the predominant immediately adjacent landscape color will be used where stormwater energy dissipation and/or slope stabilization devices are used.
Aesthetics	AMM AES-3: Account for the loss of plantings and vegetation by providing replacement highway plantings and vegetation	Plans will be prepared which maintain and repair corridor landscaping and vegetation where proper setbacks exist and where feasible. Plans will ensure work within any existing classified landscape freeway maintains the status of the landscaped freeway. Appropriate replacement planting will be provided when existing planting (including oleander) is removed to a level considered roughly proportionate, with a target of 100%/1:1 and not less than 60%. Plantings would occur as will to the original impacts as possible. When native, naturally occurring or specimen trees are removed, replacement plantings will reflect the visual importance of the plantings lost.
Aesthetics	AMM AES-4: Reduce views of new overhead signage and read points from visually sensitive locations	Where new overhead signage and/or read points are proposed, consider refinements to its final location to avoid or screen direct views from sensitive viewsheds such as those of homeowners and recreationalists. Integrate read points into existing and proposed overhead structures where feasible.
Aesthetics	AMM AES-5: Minimize I-80 connector structure design profile	The I-80 connector structure design refinements will be prioritized to minimize its prominence, scale, and mass and avoid the need to raise/relocate adjacent powerline towers.
Biological Resources	AMM BIO-1: USACE and RWQCB Permitting	Before any discharge of dredge or fill material into waters of the United States or waters of the State, the required permits/authorizations will be obtained from the USACE and the RWQCB. All terms and conditions of the required permits/authorizations will be implemented.
Biological Resources	AMM BIO-2: CDFW Permitting	Before any activities that will obstruct the flow of, or alter the bed, channel, or bank of any feature subject to Fish and Game Code Section 1600, notification of streambed alteration will be submitted to CDFW. If required, a streambed alteration agreement will be obtained from CDFW and all conditions of the agreement will be implemented.
Biological Resources	AMM BIO-3: Restoration of Aquatic Resources	Aquatic resources subject to agency jurisdiction that are temporarily affected by Project construction will be restored as close as practicable to their original contour and conditions within 10 days of the completion of construction activities.

Resource Area	Measure Reference	Avoidance, Minimization, and/or Mitigation Measure
Biological Resources	AMM BIO-4: Western Pond Turtle	If western pond turtles are encountered within the BSA during construction, work activity in the immediate vicinity will cease until any turtles have left the work area on their own or a CDFW approved biologist move the individual out of harm's way.
Biological Resources	AMM BIO-5: Worker Training for Western Pond Turtle	Prior to initiation of construction activities, workers shall participate in environmental awareness training provided by a qualified biologist. The training shall instruct workers regarding: (1) how to identify the turtle; (2) the habitats used by the turtle; (3) the potential for turtle egg clutches (i.e., nest sites) to be discovered during vegetation clearing; and (4) what to do if a turtle or suspected egg clutch is encountered during construction activities.
Biological Resources	AMM BIO-6: Preconstruction Tricolored Blackbird and Yellow-Headed Blackbird Surveys	Pre-construction surveys for tricolored blackbird and yellow-headed blackbird should be conducted prior to any ground-disturbing activities within 500-feet of mapped Potentially Suitable Habitat. Pre-construction surveys should be conducted in mid-March, mid-April, mid-May, and mid-June given that the dates of nesting in northern California are not consistent from year to year and the species may nest twice in the same nesting season at the same or different locations. The recommendation of a survey every 30 days during the nesting season is based on the potential length of the nesting season in the Sacramento Valley (i.e., mid-March to mid-July) and total time required for incubation and fledging (i.e., 21 to 25 days). Note that the full complement of four survey visits can be reduced accordingly if work starts after mid-March and surveys can be avoided entirely if work starts between August 1 and March 1 (outside the nesting season).
Biological Resources	AMM BIO-7: Preconstruction Burrowing Owl Surveys	A minimum of one pre-construction survey for occupied burrowing owl burrows within 500 feet of the BSA in suitable habitat (e.g., grasslands) will be conducted by a qualified biologist within 15 days prior to the initiation of construction activities, regardless of the timing of construction. If any occupied burrows are identified, appropriate conservation measures (as determined by a qualified biologist) will be implemented. No disturbance will occur within 150 feet of occupied burrows during the non-breeding season (September 1–January 31) or within 250 feet during the breeding season (February 1–August 31). These measures may also include establishing a construction free buffer zone around the active nest site in coordination with the CDFW, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.
Biological Resources	AMM BIO-8: Burrowing Owl Exclusion Plan	If burrowing owls are detected within the BSA during the non-breeding season and maintaining a 150-foot no-disturbance buffer is not practicable, a qualified biologist shall submit an exclusion plan to CDFW. The exclusion plan will generally follow the guidelines outlined in Appendix E of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The exclusion plan will consist of installing one-way doors in potential burrows, daily monitoring, and collapsing burrows once it is determined that the burrows are unoccupied. Exclusion may only take place during the non- breeding season (September 1 to January 31) and may be an ongoing effort during this time period. This will allow the owls to exit burrows if they are present, but not return.

Resource Area	Measure Reference	Avoidance, Minimization, and/or Mitigation Measure
Biological Resources	AMM BIO-9: Burrowing Owl Direct Disturbance	If occupied burrows are detected during the breeding season and maintaining a 250-foot no-disturbance buffer is not practicable, CDFW will be consulted to determine alternative measures to minimize the potential for disturbance to occupied burrows and nesting activities. Measures may include but are not limited to continuous biological monitoring by a qualified biologist until it has been determined that the young have fledged and are no longer reliant on the nest for parental care or survival, or the construction is complete. No direct disturbance of burrows with eggs or young can be conducted without written authorization from the CDFW.
Biological Resources	AMM BIO-10: White-Tailed Kite Consultation	If a no-disturbance buffer around an active northern harrier or white-tailed kite nest is not practicable, CDFW will be consulted to determine alternative measures to minimize the potential for Project-related disturbance to the nest site that could result in nest abandonment or other forms of take. Measures may include but are not limited to continuous biological monitoring by a qualified biologist until it has been determined that the young have fledged and are no longer reliant on the nest or parental care for survival or the construction is complete. If the nesting pair shows signs of distress (i.e., adults leaving the nest when eggs or young chicks are present) as a result of Project-related activities, the monitoring biologist shall have authority to stop work until it is determined that the adults have returned and are no longer showing signs of distress.
Biological Resources	AMM BIO-11: White-Tailed Kite Avoidance	If consultation with CDFW results in a determination that take of a white-tailed kite nest may not be avoidable, then all activities that are likely to result in such take will be delayed until a qualified biologist has determined that the young have fledged and are no longer reliant on the nest or parental care for survival. White-tailed kites are a fully protected species, and CDFW is not able to provide an Incidental Take Permit for this species.
Biological Resources	AMM BIO-12: Tree Removal	To the extent practicable, removal of large trees with cavities shall occur before bat maternity colonies form (i.e., prior to March 1) or after young bats are volant (i.e., after August 31). To the greatest extent practicable, trees will be removed in pieces, rather than felling the entire tree. It is recommended that removal be done late in the day or in the evening to reduce the likelihood of evicted bats falling prey to diurnal predators and will take place during warm weather conditions conducive to bat activity.
Biological Resources	AMM BIO-13: Preconstruction Bat Surveys	If construction (including the removal of large trees) occurs during the non-volant season (March 1 through August 31), a qualified biologist shall conduct a pre-construction survey of the areas identified as high and moderate roosting potential in the Bat Habitat Assessment for maternity colonies. The pre-construction survey will be performed no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be performed. If any maternity colonies are detected, appropriate conservation measures (as determined by a qualified biologist) shall be implemented. These measures may include but are not limited to establishing a construction-free buffer zone around the maternity colony site, biological monitoring of the maternity colony, and delaying construction activities in the vicinity of the maternity site.

Resource Area	Measure Reference	Avoidance, Minimization, and/or Mitigation Measure
Biological Resources	AMM BIO-14: Bat Protection Plan	A bat species protection survey plan will be developed. The plan will include items such as having a qualified biologist present on-site to conduct monitoring during construction in/near bat roosting habitat.
Biological Resources	AMM BIO-15: Structural Changes to Bat Roosting Habitat	To the greatest extent practicable, structural changes may be made to any known roost proposed for removal (determined by pre-construction surveys), to create conditions in the roost that are undesirable to roosting bats and encourage the bats to leave on their own (e.g., open additional portals so that temperature, wind, light, and precipitation regime in the roost change). Structural changes to the roost will be performed during the appropriate exclusion timing (listed above) to avoid harming bats.
Biological Resources	AMM BIO-16: VELB Avoidance Area	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 drip-line, depending on the type of activity.
Biological Resources	AMM BIO-17: Worker Education for VELB	A qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for noncompliance.
Biological Resources	AMM BIO-18: VELB Timing	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 VELB (March - July).
Biological Resources	AMM BIO-19: Erosion Control and Re-Vegetation	Erosion control will be implemented, and the affected area will be re-vegetated with appropriate native plants.
Biological Resources	AMM BIO-20: Elderberry Shrub Transplanting	If the elderberry shrub cannot be avoided, or if indirect effects will result in the death of stems or the entire shrub, then it should be relocated following the transplanting guidelines: • Monitor. A qualified biologist will be on-site for the duration of transplanting activities to assure compliance with avoidance and minimization measures and other conservation measures. • Exit Holes. Exit-hole surveys will be completed immediately before transplanting. The number of exit holes found, GPS location of the plant to be relocated, and the GPS location of where the plant is transplanted will be reported to the Service and to the CNDDB. • Timing. Elderberry shrubs will be transplanted when the shrubs are dormant (November through the first two weeks in February) and after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the shrub and increase transplantation success. Transplanting Procedure. Transplanting will follow the most current version of the ANSI A300 (Part 6) guidelines for transplanting (http://www.tcia.org/). • Trimming Procedure. Trimming will occur between November and February and should minimize the removal of branches or stems that exceed 1 inch in diameter.
Biological Resources	AMM BIO-21: Compensation for Loss of VELB Habitat	To mitigate for the removal of elderberry shrubs, Caltrans will purchase credits at a 1:1 ratio at a USFWS-approved conservation bank

Resource Area	Measure Reference	Avoidance, Minimization, and/or Mitigation Measure
Biological Resources	AMM BIO-22: GGS Timing	Ground disturbing activity will be conducted between May 1 and October 1, which is the active season for GGS, in order to minimize impacts to the species.
Biological Resources	AMM BIO-23: GGS Exclusionary Fencing	Where practicable, snake exclusion fencing will be placed around the BSA (fenced area) before construction during the active period for GGS (May 1–October 1) and be maintained through the construction period until the Project has been completed.
Biological Resources	AMM BIO-24: Agency Notification for GGS	Caltrans will notify CDFW and the USFWS one week prior to when construction is scheduled to commence.
Biological Resources	AMM BIO-25: Worker Education for GGS	A Worker Environmental Awareness Training Program for construction personnel will be conducted by a USFWS/CDFW-approved biologist for all construction workers including contractors, prior to the start of construction activities. This training will instruct workers to recognize GGS and their habitats.
Biological Resources	AMM BIO-26: Preconstruction Survey for GGS	Twenty-four hours prior to construction activities, BSA shall be surveyed for GGS by USFWS/CDFW-approved biologist. Surveys of the BSA should be repeated if a 2-week or greater lapse in construction activity occurs. If GGS is encountered during construction, activities will cease until appropriate corrective measures have been completed or it has been determined that the GGS will not be harmed. Any sightings and any incidental take will be reported to the USFWS and CDFW immediately by telephone at (916) 414-6600 or (916) 358-2900, respectively, and e-mail or written letter addressed to the Chief, Sacramento Division (USFWS) or North Central Region (CDFW), within 1 working day of the incident.
Biological Resources	AMM BIO-27: GGS Environmentally Sensitive Area	The canals and rice fields adjacent to the BSA will be flagged and designated as an Environmentally Sensitive Area during the construction period.
Biological Resources	AMM BIO-28: GGS Post Construction Report	Upon completion of the Project, all disturbed areas within the BSA will be revegetated using native plant species, and post-monitoring work and pictures will be reported to USFWS and CDFW showing that temporary impacts have been restored to pre-construction conditions.
Biological Resources	AMM BIO-29: GGS Escape Ramp	At the end of each workday, permittee shall place an escape ramp at each end of any open trenches. This will allow any animals that may have been entrapped in the trench overnight to climb out. The escape ramp may be constructed of dirt fill, wood planking, or other suitable material and placed at an angle no greater than 30 degrees.
Biological Resources	AMM BIO-30: Compensation for Loss of GGS Habitat	Caltrans will mitigate for the permanent loss of GGS habitat through the purchase of GGS mitigation bank credits. These mitigation credits will be purchased from a USFWS- and CDFW-approved GGS mitigation bank possessing a conservation easement in perpetuity with available credits located in the Sacramento County service area prior to impacts to the species. Caltrans shall purchase these credits and provide a bill of sale acceptable and approved by CDFW/USFWS before construction begins. To compensate for the permanent loss of approximately 4.299 acres of GGS habitat, Caltrans will purchase 12.897 acres (a 3:1 ratio) of GGS credits.

Resource Area	Measure Reference	Avoidance, Minimization, and/or Mitigation Measure
Biological Resources	AMM BIO-31: Preconstruction SWHA Survey	If construction is to occur between February 1 and September 30, a qualified biologist will conduct preconstruction surveys for nesting Swainson's hawk, white-tailed kite, and northern harrier. The pre-construction surveys will include the project footprint and a 0.5-mile buffer for Swainson's hawk. The survey will be conducted no more than 15 days prior to the initiation of construction to ensure no active nests will be disturbed.
Biological Resources	AMM BIO-32: SWHA Agency Consultation	If a no-disturbance buffer around an active Swainson's hawk nest is not practicable, CDFW will be consulted to determine alternative measures to minimize the potential for Project-related disturbance to the nest site that could result in nest abandonment or other forms of take. Measures may include but are not limited to continuous biological monitoring by a qualified biologist until it has been determined that the young have fledged and are no longer reliant on the nest or parental care for survival or the construction is complete. If the nesting pair shows signs of distress (i.e., adults leaving the nest when eggs or young chicks are present) as a result of Project-related activities, the monitoring biologist shall have authority to stop work until it is determined that the adults have returned and are no longer showing signs of distress.
Energy	AMM ENERGY-1: Construction Energy Efficiency Plan.	As part of the Plans, Specifications, and Estimates (PS&E), the Resident Engineer will prepare a Construction Energy Efficiency Plan, which may include the following: • Reuse of existing rail, steel, and lumber, wherever possible, such as for falsework, shoring, and other applications during the construction process • Recycling of asphalt taken up from roadways, if practicable and cost-effective • Use of newer, more energy-efficient equipment, where feasible, and maintenance of older construction equipment to keep in good working order • Promoting of scheduling of construction operations to efficiently use construction equipment (i.e., only haul waste when haul trucks are full and combine smaller dozer operations into a single comprehensive operation, where possible) • Promotion of construction employee carpooling.
Environmental Justice	AMM EJ-1 (3a, 3b, 4a, 4b, 5a, and 5b)	Caltrans will establish a variable pricing for express lanes or provide discounted per-mile tolls, credits, rebates and/or exemptions based on income levels and cost of living.
Environmental Justice	AMM EJ-2 (Build Alternatives (3a, 3b, 4a, 4b, 5a, and 5b)	Caltrans will offset the financial burden of enrolling in electronic tolling program. The toll authority will consider improving methods for environmental justice communities and other users to obtain toll tags/transponders. For example, the toll authority will ensure that drivers without a credit card or bank accounts can receive toll tags and waive or redefine the monthly minimum balance requirements for low-income users and provide translation services to community travelers with Limited English Proficiency (LEP).
Environmental Justice	AMM EJ-3 (Build Alternatives 3a, 3b, 4a, 4b, 5a, and 5b):	Caltrans will use no less than 50 percent of excess toll revenue to improve multi-modal transit, expand transportation choice, and other transportation improvements that will distribute benefits to environmental justice communities identified in this report.

Resource Area	Measure Reference	Avoidance, Minimization, and/or Mitigation Measure
Geology/Soils/ Seismic/Topography	AMM GEO-1: Culvert Replacement Best Management Practices and Construction Monitoring	During construction, Caltrans or its contractor will be responsible for evaluating potential damage to existing facilities, implementing necessary preventative measures, and monitoring effects on facilities during construction.
Geology/Soils/ Seismic/Topography	AMM GEO-2	With respect to worker safety during construction, Caltrans' Standard Specifications and California Division of Occupational Safety and Health Administration (Cal OSHA) requires employers to comply with hazard-specific safety and health standards. Pursuant to Section 5(a) (1) of OSHA, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm.
Geology/Soils/ Seismic/Topography	AMM GEO-3	As part of the final design phase, Caltrans requires preparation of the geotechnical design reports that incorporate the results of additional subsurface field work and laboratory testing. Site specific subsurface soil conditions, slope stabilities, and groundwater conditions within the Build Alternative area will be verified during the preparation of these geotechnical design reports. The identification of the site-specific soil conditions within the project limits will be used to determine the appropriate final design for the foundations and footings that will support the proposed Build Alternative improvements. Caltrans' standard design and construction guidelines incorporate engineering standards that address seismic risks. Proposed structures constructed within the geologic study area will consider seismically induced liquefaction and settlement during the final design phase.
Hazardous Waste and Materials	AMM HAZ-1 Asbestos and Lead-Based Paint Survey.	During the design phase, existing bridge or structures that will be disturbed by the project will be tested for asbestos and lead-based paint by a qualified and licensed inspector prior to construction. All asbestos-containing material or lead-based paint, if found, will be removed by a certified contractor in accordance with local, state, and federal requirements.
Hazardous Waste and Materials	AMM HAZ-2 National Emission Standards for Hazardous Air Pollutants Notification.	Prior to construction, the contractor will prepare a demolition/renovation/rehabilitation notification/permit form and attachments to be submitted to the Air Pollution Control District (APCD) or Air Quality Management District (AQMD) as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR Part 61, Subpart M, and California Health and Safety Code section 39658(b)(1).
Hazardous Waste and Materials	AMM HAZ-3 Aerially Deposited Lead Preliminary Site Investigation.	Prior to construction, Caltrans will conduct a preliminary site investigation for aerially deposited lead. Soil samples collected to evaluate aerially deposited lead will be analyzed for total lead and soluble lead in accordance with Department of Toxic Substances Control's requirements to determine appropriate actions that will ensure the protection of construction workers, future site users, and the environment.

Resource Area	Measure Reference	Avoidance, Minimization, and/or Mitigation Measure
Hazardous Waste and Materials	AMM HAZ-4 Hazardous Materials Incident Contingency Plan.	Prior to construction, the contractor will prepare a hazardous materials incident contingency plan to report, contain, and mitigate roadway spills. The plan will designate a chain of command for notification, evacuation, response, and cleanup of roadway spills. This plan is to be prepared by the contractor.
Hydrology and Floodplain	AMM HF-1 (Build Alternatives 2a and 2b)	Increased peak flows will be moderated by the use of detention basin risers in existing infrastructure. Caltrans will install detention basin risers to tie into existing storm drains on the upstream side at two locations in the city of Davis—one detention basin rise inlet is proposed at the storm drain crossing on Mace Boulevard south of I-80 and the other will be at the WB I-80 off-ramp to Chiles Road.
Noise	AMM NOI-1	Noise-generating construction activities shall be restricted to between 7:00 a.m. and 7:00 p.m. on weekdays, with no construction occurring on weekends or holidays. If work is necessary outside of these hours, Caltrans shall require the contractor to implement a construction noise monitoring program and provide additional noise controls where practical and feasible. Pile driving activities shall be limited to daytime hours only.
Paleontological Resources	AMM PALEO-1: Paleontological Evaluation Report	During the design phase, a qualified paleontologist must prepare a PER. If the PER results in an evaluation that the project does not risk encountering paleontological resources, no further measures are required.
Paleontological Resources	AMM PALEO-2: Paleontological Resources Management Plan	During the design phase, a qualified paleontologist will prepare a PMP. The PMP will incorporate the results of the PER along with design details to develop a plan for where and when construction activities are at risk of encountering fossils and construction monitoring will occur. The PMP will also include procedures for worker training, and actions for construction staff to follow if fossils are encountered. It will also include a curation agreement for the housing and identification of any fossils found.
Paleontological Resources	AMM PALEO-3: Paleontological Resources Monitoring	During construction, areas of high paleontological sensitivity identified during the PER and PMP will be monitored by a qualified paleontological monitor. The monitor will spot-check locations where foundation, utility, and/or culvert work extends deeper than 4 feet below ground surface into native soils (not fill material).
Traffic and Transportation	AMM TRANS-1: Reduce Induced VMT	Reduce the induced VMT effects of the project Alternatives 2a/b through 5a/b, and 7a/b by contributing funding to regional VMT reducing measures. Caltrans will contribute $55 million, roughly 15 percent of the total capital construction cost, to the following eight measures: 1) Voluntary trip reduction program in Yolo County ($20.7 million); 2) Expand Capitol Corridor Frequency between Martinez and Sacramento ($15 million) ; 3) Microtransit in Yolo County ($4.5 million); 4) Expand YoloBus Route 42 ($6.9 million); 5) Expand causeway connection Route 138 ($2.4 million); 6) Expand Unitrans ($3.5 million); 7) Expand Putah Creek Trail to connect to future Nishi Student Housing Development site ($2 million). Mitigation funding may be supplemented beyond the $55 million with excess net tolling revenue. In addition, Caltrans will initiate a Project Initiation Document (PID) for a new project in July 2025 which will include, but not be limited to, alternatives such as the addition of toll lanes and the conversion of general-purpose lanes.

Resource Area	Measure Reference	Avoidance, Minimization, and/or Mitigation Measure
Wildfire	AMM WF-1: Implement Fire Prevention Practices	During the construction, Caltrans will implement the following fire prevention practices to reduce the potential for wildfire. • Prepare names and emergency telephone numbers of the nearest fire suppression agencies before the start of job site activities and post at a prominent place at the job site. • Prepare a fire prevention plan required by the California Division of Occupational Safety and Health before the start of job site activities. • Cooperate with fire prevention authorities in performance of the work. • Immediately report fires occurring within and near the project limits by dialing 911 and to the nearest fire suppression agency by using the emergency phone numbers retained at the job site. • Prevent Project personnel from setting open fires that are not part of the work. • Prevent the escape of and extinguish fires caused directly or indirectly by job site activities.

Key:
APCD=Air Pollution Control District
AQMD=Air Quality Management District
NESHAP=National Emission Standards for Hazardous Air Pollutants
PS&E=Plans, Specifications, and Estimates
BSA=Biological Study Area
CDFW=California Department of Fish and Wildlife
GGS=giant garter snake
OSHA=Occupational Safety and Health Act
PER= Paleontological Evaluation Report
PMP= Paleontological Resources Management Plan
RWQCB=Regional Water Quality Control Board
SWHA= Swainson's hawk
USACE=U.S. Army Corps of Engineers
USFWS=U.S. Fish and Wildlife Service
VELB=Valley elderberry longhorn beetle

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Appendix E Standard Measures

Resource Area	Standard Measure Number	Standard Measure Title and Description
Air Quality	Standard Measure AQ-1	Caltrans special provisions and standard specifications include the requirement to minimize or eliminate dust through application of water or dust palliatives. The following construction dust and equipment exhaust emissions measures shall be implemented when practical, during all phases of construction work: Control measures will be implemented as specified in Caltrans 2018 Standard Specifications Section 10-5 “Dust Control”, Section 14-9 “Air Quality” and Section 18 “Dust Palliatives”. The proposed project would also comply with rules and regulations pertaining to the control of fugitive dust and prevention of public nuisance published by the SMAQMD and YSAQMD.
Aesthetics/ Visual Resources	Standard Measure AR-1	Aesthetic treatment (such as tribal patterns) to the bridges/guardrails/retaining walls would be included to address context sensitivity.
Aesthetics/ Visual Resources	Standard Measure AR-2	Temporary access roads, construction easements, and staging areas that were previously vegetated would be restored to a natural contour and revegetated with regionally-appropriate native vegetation.
Aesthetics/ Visual Resources	Standard Measure AR-3	Where feasible, guardrail terminals would be buried; otherwise, an appropriate terminal system would be used, if appropriate.
Aesthetics/ Visual Resources	Standard Measure AR-4	Where feasible, construction lighting would be limited to within the area of work.
Aesthetics/ Visual Resources	Standard Measure AR-5	Where feasible, the removal of established trees and vegetation would be minimized. Environmentally sensitive areas would have Temporary High Visibility Fencing (THVF) installed before start of construction to demarcate areas where vegetation would be preserved and root systems of trees protected.
Biological Resources	Standard Measure BIO-1	**General.** Before start of work, as required by permit or consultation conditions, a Caltrans biologist would meet with the contractor to brief them on environmental permit conditions and requirements relative to each stage of the proposed project, including, but not limited to, work windows, drilling site management, and how to identify and report regulated species within the project areas.

Resource Area	Standard Measure Number	Standard Measure Title and Description
Biological Resources	Standard Measure BIO-2	**Animal Species.** A. To protect migratory and nongame birds (occupied nests and eggs), if possible, vegetation removal would be limited to the period outside of the bird breeding season (removal would occur between September 16 and January 31). If vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist within one week prior to vegetation removal. If an active nest is located, the biologist would coordinate with CDFW to establish appropriate species-specific buffer(s) and any monitoring requirements. The buffer would be delineated around each active nest and construction activities would be excluded from these areas until birds have fledged, or the nest is determined to be unoccupied. B. Pre-construction surveys for active raptor nests within one-quarter mile of the construction area would be conducted by a qualified biologist within one week prior to initiation of construction activities. Areas to be surveyed would be limited to those areas subject to increased disturbance because of construction activities (i.e., areas where existing traffic or human activity is greater than or equal to construction-related disturbance need not be surveyed). If any active raptor nests are identified, appropriate conservation measures (as determined by a qualified biologist) would be implemented. These measures may include, but are not limited to, establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities near the active nest site until the young have fledged. C. To prevent attracting corvids (birds of the Corvidae family which include jays, crows, and ravens), no trash or foodstuffs would be left or stored on-site. All trash would be deposited in a secure container daily and disposed of at an approved waste facility at least once a week. Also, on-site workers would not attempt to attract or feed any wildlife. D. Artificial night lighting may be required. To reduce potential disturbance to sensitive resources, lighting would be temporary, and directed specifically on the portion of the work area actively under construction. Use of artificial lighting would be limited to Cal/OSHA work area lighting requirements. E. Protocol surveys would be performed for Swainson's hawk, burrowing owl, and giant garter snake during the breeding season for each construction season (every year of construction). If species are discovered during construction, work would stop in the area of discovery and coordination with the appropriate resource agencies would occur. F. An Aquatic Giant Garter Snake (GGS) Habitat Dewatering Plan would be prepared. The plan would include appropriate measures, including the identification of dewatering areas. The Contractor will dewater suitable habitat (e.g., wetlands, drainages, rice fields) and ensure the habitat remains dry for at least 15 consecutive days after April 15 and prior to excavating or filling potential habitat. Dewatering would be limited to April 15 to October 1.

Resource Area	Standard Measure Number	Standard Measure Title and Description
Biological Resources	Standard Measure BIO-3	**Invasive Species.** Invasive non-native species control would be implemented. Measures would include: • Straw, straw bales, seed, mulch, or other material used for erosion control or landscaping which would be free of noxious weed seed and propagules. • All equipment would be thoroughly cleaned of all dirt and vegetation prior to entering the job site to prevent importing invasive non-native species. Project personnel would adhere to the latest version of the California Department of Fish and Wildlife Aquatic Invasive Species Cleaning/Decontamination Protocol (Northern Region) for all field gear and equipment in contact with water.
Biological Resources	Standard Measure BIO-4	A. Plant Species, Sensitive Natural Communities, and Environmentally Sensitive Habitat Areas. B. Seasonally appropriate, pre-construction surveys for sensitive plant species would be completed (or updated) by a qualified biologist prior to construction in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018). C. A Revegetation Plan would be prepared which would include a plant palette, establishment period, watering regimen, monitoring requirements, and pest control measures. The Revegetation Plan would also address measures for wetland and riparian areas temporarily impacted by the project. D. Prior to the start of work, Temporary High Visibility Fencing (THVF) and/or flagging would be installed around sensitive natural communities, environmentally sensitive habitat areas, rare plant occurrences, intermittent streams, and wetlands and other waters, where appropriate. No work would occur within fenced/flagged areas. E. Where feasible, the structural root zone would be identified around each large diameter tree (>2-foot DBH) directly adjacent to project activities, and work within the zone would be limited. F. When possible, excavation of roots of large diameter trees (>2-foot DBH) would not be conducted with mechanical excavator or other ripping tools. Instead, roots would be severed using a combination of root-friendly excavation and severance methods (e.g., sharp-bladed pruning instruments or chainsaw). At a minimum, jagged roots would be pruned away to make sharp, clean cuts. G. After completion, all superfluous construction materials would be completely removed from the site. The site would then be restored by regrading and stabilizing with a hydroseed mixture of native species along with fast growing sterile erosion control seed, as required by the Erosion Control Plan.
Community Character and Cohesion	Standard Measure COM-1*	**Public Outreach Program.** Caltrans will prepare and implement a planned public outreach program to keep the area residents, businesses, emergency service providers, and transit operators informed of the Project construction schedule.

Resource Area	Standard Measure Number	Standard Measure Title and Description
Cultural Resources	Standard Measure CR-3	If cultural materials are discovered during construction, work activity within a 60-foot radius of the discovery would be stopped and the area secured until a qualified archaeologist can assess the nature and significance of the find in consultation with the State Historic Preservation Officer (SHPO).
Cultural Resources	Standard Measure CR-4	If human remains and related items are discovered on private or State land, they would be treated in accordance with State Health and Safety Code § 7050.5. Further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to California Public Resources Code (PRC) § 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendant (MLD). Human remains and related items discovered on federally-owned lands would be treated in accordance with the Native American Graves Repatriation Act of 1990 (NAGPRA) (23 USC 3001). The procedures for dealing with the discovery of human remains, funerary objects, or sacred objects on federal land are described in the regulations that implement NAGPRA 43 CFR Part 10. All work in the vicinity of the discovery shall be halted and the administering agency's archaeologist would be notified immediately. Project activities in the vicinity of the discovery would not resume until the federal agency complies with the 43 CFR Part 10 regulations and provides notification to proceed.
Equity	Standard Measure EQ-1*	If a tolled lane option (Alternatives 3a, 3b, 4a, 4b, 5a, or 5b) is selected as the preferred alternative, Caltrans' future-appointed tolling authority would be required to implement a tolling program in alignment with Caltrans Language Access Plan (2020) and Deputy Directive 91-R2, which would accommodate use of toll lane options by limited English proficiency community members. Caltrans 2020 Language Access Plan lays out reasonable steps to provide limited English proficiency individuals with meaningful access to all Caltrans activities, including the provision of translation and interpretation services to the public. The tolling authority would adhere to these policies.
Geological Resources	Standard Measure GS-1	The project would be designed to minimize slope failure, settlement, and erosion using recommended construction techniques and Best Management Practices (BMPs). New earthen slopes would be vegetated to reduce erosion potential
Geological Resources	Standard Measure GS-2	In the unlikely event that paleontological resources (fossils) are encountered, all work within a 60-foot radius of the discovery would stop, the area would be secured, and the work would not resume until appropriate measures are taken.
Greenhouse Gas	Standard Measure GHG-1	Caltrans Standard Specification "Air Quality" requires compliance by the contractor with all applicable laws and regulations related to air quality (Caltrans Standard Specification [SS] 14-9).
Greenhouse Gas	Standard Measure GHG-2	Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of diesel-fueled commercial motor vehicles and equipment with gross weight ratings of greater than 10,000 pounds to no more than 5 minutes.

Resource Area	Standard Measure Number	Standard Measure Title and Description
Greenhouse Gas	Standard Measure GHG-3	Caltrans Standard Specification "Emissions Reduction" ensures construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board (CARB) (Caltrans SS 7-1.02C).
Greenhouse Gas	Standard Measure GHG-4	Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. As part of this, traffic would be scheduled and directed to reduce congestion and related air quality impacts caused by idling vehicles along the highway during peak travel times.
Greenhouse Gas	Standard Measure GHG-5	All areas temporarily disturbed during construction would be revegetated with appropriate native species, as appropriate. Landscaping reduces surface warming and, through photosynthesis, decreases CO_2. This replanting would help offset any potential CO_2 emissions increase.
Greenhouse Gas	Standard Measure GHG-6	Pedestrian and bicycle access will be maintained during project activities.
Hazards and Hazardous Materials	Standard Measure 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.
Hazards and Hazardous Materials	Standard Measure HW-2	When identified as containing hazardous levels of lead, traffic stripes would be removed and disposed of in accordance with Caltrans Standard Special Provision "Residue Containing Lead from Paint and Thermoplastic."
Hazards and Hazardous Materials	Standard Measure HW-3	If treated wood waste (such as removal of sign posts or guardrail) is generated during this project, it would be disposed of in accordance with Standard Specification "Treated Wood Waste."
Noise	Standard Measure NOI-1*	**Construction Equipment.** All construction equipment shall conform to Section 14-8.02, Noise Control, of the latest Standard Specifications. • Control and monitor noise resulting from work activities. • Do not exceed 86 dBA Lmax at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. • Equip an internal combustion engine with the manufacturer recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler
Noise	Standard Measure NOI-2*	**Maintaining Internal Combustion Engines.** All internal combustion engines would be maintained properly to minimize noise generation. Equip all internal combustion engine driven equipment with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.
Noise	Standard Measure NOI-3*	**Idling of Internal Combustion Engines.** Unnecessary idling of internal combustion engines within 100 feet of residences shall be strictly prohibited.

Resource Area	Standard Measure Number	Standard Measure Title and Description
Noise	Standard Measure NOI-4*	**Sensitive Receptors.** Noise-generating equipment shall be located as far as practical from sensitive receptors when sensitive receptors adjoin or are near the construction project area.
Noise	Standard Measure NOI-5*	**Quiet Air Compressors.** "Quiet" air compressors and other "quiet" equipment shall be utilized where such technology exists.
Transportation and Traffic	Standard Measure TT-1	Pedestrian and bicycle access would be maintained during construction.
Transportation and Traffic	Standard Measure TT-2	The contractor would be required to schedule and conduct work to avoid unnecessary inconvenience to the public and to maintain access to driveways, houses, and buildings within the work zones.
Transportation and Traffic	Standard Measure TT-3	A Transportation Management Plan (TMP) would be applied to the project.
Utilities and Service Systems	Standard Measure UE-1	All emergency response agencies in the project area would be notified of the project construction schedule and would have access to I-80 and US 50 throughout the construction period.
Utilities and Service Systems	Standard Measure UE-2	Caltrans would coordinate with utility providers to plan for relocation of any utilities to ensure utility customers would be notified of potential service disruptions before relocation.
Utilities and Service Systems	Standard Measure UE-3	The contractor would be required to submit a jobsite fire prevention plan as required by Cal OSHA before starting job site activities. In the event of an emergency or wildfire, the contractor would cooperate with fire prevention authorities.

Resource Area	Standard Measure Number	Standard Measure Title and Description
Water Quality	Standard Measure WQ-1	The project would comply with the Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order 2012-0011-DWQ) as amended by subsequent orders, which became effective July 1, 2013, for projects that result in a land disturbance of one acre or more, 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) or Water Pollution Control Program (WPCP) (projects that result in a land disturbance of less than one acre) that includes erosion control measures and construction waste containment measures to protect Waters of the State during project construction. The SWPPP or WPCP 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 Caltrans 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 or WPCP would be continuously updated to adapt to changing site conditions during the construction phase. Construction may require one or more of the following temporary construction site BMPs: • Any spills or leaks from construction equipment (i.e., fuel, oil, hydraulic fluid, and grease) would be cleaned up in accordance with applicable local, state, and/or federal regulations. • Accumulated stormwater, groundwater, or surface water from excavations or temporary containment facilities would be removed by dewatering. • Water generated from the dewatering operations would be discharged on-site for dust control and/or to an infiltration basin, or disposed of offsite. • Temporary sediment control and soil stabilization devices 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.

Resource Area	Standard Measure Number	Standard Measure Title and Description
Water Quality	Standard Measure WQ-2	The project would incorporate pollution prevention and design measures consistent with the 2016 Caltrans Storm Water Management Plan. This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2012-0011-DWQ) as amended by subsequent orders. The project design may include one or more of the following: • 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. • Where possible, stormwater would be directed in such a way as to sheet flow across vegetated slopes, thus providing filtration of any potential pollutants.
Water Quality	Standard Measure WQ-3*	**Dewatering.** During the design phase, if groundwater dewatering activities are anticipated, Caltrans will coordinate with the District NPDES Coordinator to prepare a dewatering and discharge work plan in compliance with the 2018 Caltrans Standard Specifications (2018 CSS), Section 13-4.03G, which will include parameters and requirements for monitoring during construction activities.
Water Quality	Standard Measure WQ-4*	**Stormwater Data Report**. During design, Caltrans will prepare a Stormwater Data Report which will describe whether Permanent Treatment BMPs will be considered.

Notes:* = Standard Measures that were not identified in the Caltrans North Region Standard Measures and Best Management Practices, dated June 9, 2021.

Appendix F Abbreviations and Acronyms

°F	degrees Fahrenheit
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ADA	American with Disabilities Act of 1990
ADL	aerially deposited lead
AMM	avoidance and minimization measure
AP	Agricultural Preserve
APE	area of potential effect
APN	Assessor's Parcel Number
ARB	Air Resources Board
BA	Biological Assessment
BFE	base flood elevation
BMP	best management practice
BSA	biological study area
CAFE	Corporate Average Fuel Economy
Cal OSHA	California Division of Occupational Safety and Health Administration
CALFIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAPTI	California Action Plan for Transportation Infrastructure
CARB	California Air Resources Board
CARB	California Air Resources Board
CCP	Congested Corridor Plan
CCTV	closed-circuit television
CD	consistency determination
CDFG	California Fish and Game Code
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
CIA	Community Impact Assessment
CIPP	cast-in-place-pipe
CMS	changeable message signs
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CR	County Road
CRHR	California Register of Historical Resources
CSMP	Corridor System Management Plan
CTC	California Transportation Commission

CTP	California Transportation Plan
CTP	California Transportation Plan
CVFPB	Central Valley Flood Protection Board
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
dBA	A-weighted decibels
DDT	dichlorodiphenyltrichloroethane
Department	California Department of Transportation
DPS	distinct population segment
DSA	Disturbed Soil Area
EA	Environmental Assessment
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EMFaC	EMission FACtors
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	environmentally sensitive area
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FONSI	Finding of No Significant Impact
FP	fully protected
FPPA	Farmland Protection Policy Act
GDP	gross domestic product
GGS	giant garter snake
GHG	greenhouse gas
GSRD	gross solid removal device
GWP	global warming potential
GWP	global warming potential
H&SC	Health and Safety Code
HCP	Habitat Conservation Plan
HCP/NCCP	Habitat Conservation Plan/Natural Community Conservation Plan
HFC	hydrofluorocarbon
HFC	hydrofluorocarbon
HFCs	hydrofluorocarbons
HMA	hot mix asphalt
HMMP	Habitat Mitigation and Monitoring Plan
HOT	high-occupancy toll
HOV	high-occupancy vehicle
I-5	Interstate 5
I-80	Interstate 80
ITP	Incidental Take Permit
ITS	intelligent transportation system

KV	key value
LCFS	low carbon fuel standard
LCP	Lead-Containing Paint
LEDPA	least environmentally damaging practicable alternative
$L_{eq[h]}$	The 1-hour A-weighted equivalent sound level
LOS	level of service
LOTBs	log of test borings
LRA	Local responsibility area
LRDP	Long-range Development Plan
MBTA	Migratory Bird Treaty Act
MLD	most likely descendants
MM	mitigation measure
MMT	million metric tons
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
MOU	memorandum of understanding
MPO	Metropolitan Planning Organization
MS4	municipal separate storm sewer system
MTC	Metropolitan Transportation Commission
MTIP/SCS	Metropolitan Transportation Improvement Program/Sustainable Communities Strategy
N_2O	nitrous oxide
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NAVD 88	North American Vertical Datum of 1988
NCCP	Natural Communities Conservation Plan
NEPA	National Environmental Policy Act of 1969
NES	Natural Environment Study
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic and Safety Administration
NMFS	National Marine Fisheries Service
NO2	nitrogen dioxide
NOA	naturally occurring asbestos
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OHWM	ordinary high-water mark
OPR	Office of Planning and Research
PA	Programmatic Agreement
PA&ED	Project Approval and Environmental Document
pcb	polychlorinated biphenyl
PDT	Project Development Team
PER	Paleontological Evaluation Report
PG&E	Pacific Gas and Electric
PID	Project Initiation Document
PM	post mile

PM_{10}	respirable particulate matter
$PM_{2.5}$	fine particulate matter
PM_{10}	respirable particulate matter
PMP	Paleontological Mitigation Plan
PPV (in/sec)	peak particle velocity (inches per second)
PQS	Professionally Qualified Staff
PRC	Public Resources Code
project	Yolo 80 Corridor Improvement/YOL 80 Bus/Carpool Lanes Project
PSR-PDS	Project Study Report-Project Development Support
RCRA	Resource Conservation and Recovery Act
RD	Reclamation District
RTIP	Regional Transportation Improvement Program
RTP	regional transportation plan
RTPA	Regional Transportation Planning Agency
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Governments
SACSIM	regional travel forecasting model system
SB	Senate Bill
SCCP	Solutions for Congested Corridor Program
SCS	Sustainable Communities Strategy
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SFHA	Special Flood Hazard Area
SHOPP	State Highway Operation and Protection Program
SHPO	State Historic Preservation Officer
SHS	State Highway System
SLR	sea-level rise
SMAQMD	Sacramento Metro Air Quality Management District
SMF	Sacramento International Airport
SR	State Route
SSC	Species of Special Concern
STA	Solano Transportation Authority
STIP	State Transportation Improvement Program
SVAB	Sacramento Valley Air Basin
SWDR	Stormwater Data Report
SWHA	Swainson’s hawk
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAR	traffic analysis report
TCE	temporary construction easement
TCR	Interstate 5 Transit Corridor Report
TDM	Transportation Demand Management
TMDL	Total Maximum Daily Load
TMP	Transportation Management Plan
TMS	Transportation Management Systems

TSM	Transportation System Management
TWW	Treated wood waste
UAIC	United Auburn Indian Community
UC Davis	University of California, Davis
US-50	U.S. Route 50
USACE	U.S. Army Corps of Engineers
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VAU	visual assessment unit
VELB	Valley elderberry longhorn beetle
VIA	Visual Impact Assessment
VMT	vehicle miles traveled
VOC	volatile organic compound
vph	vehicles per hour
WDR	Waste Discharge Requirement
Williamson Act	California Land Conservation Act of 1965
YBWA	Yolo Bypass Wildlife Area
YSAQMD	Yolo-Solano Air Quality Management District
YoloTD	Yolo Transportation District

Appendix G Notice of Preparation

Notice of Preparation

To: Responsible/Trustee Agency

(Address)

From: Department of Transportation, D03

703 B Street - Marysville, CA 95901

(Address)

Subject: Notice of Preparation of a Draft Environmental Impact Report

California Department of Transportation (Caltrans), District 03 will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☐ is ☒ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Attn: Masum Patwary, Yolo80Corridor@dot.ca.gov at the address shown above. We will need the name for a contact person in your agency.

Project Title: I-80 Corridor Improvement Project

Project Applicant, if any: Caltrans D03

Date 6/7/2021

Signature

Title Environmental Office Chief

Telephone 530-933-8071

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Notice of Preparation

Project Title: I- 80 Corridor Improvements Project
EA: 03-3H900

Project Location:
The project is located in Solano, Yolo, and Sacramento Counties on the I-80 corridor between post miles (PMs) 40.7 and 44.7 in Solano County, PMs between PMs 0.00 and 11.72 in Yolo County, and between PMs 0.00 and 1.36 in Sacramento County; on the US-50 corridor between PMs 0.00 and 3.12 in Yolo County and between PMs 0.00 and 0.617 in Sacramento County. The total project length is approximately 20.8 centerline miles.

Project Background:
I-80 is the primary freeway serving the movement of people and goods between Northern California and the eastern United States. Within the Sacramento region, the route serves local and commute traffic, traffic to and from the Bay Area, and recreational traffic to and from the Reno/Tahoe region, and is a primary corridor for goods movement. Within the corridor, the Yolo Bypass Wildlife Area and floodplain limits east-west linkages, funneling many modes and forms of transportation into the narrow I-80 corridor between the cities of Davis and West Sacramento.

I-80 provides direct linkages between agricultural and manufacturing industries in the Central Valley; the Bay Area; and the Ports of Oakland, Richmond, Stockton, West Sacramento, and to the eastern United States. The segment of I-80 within the project limits also serves daily commuters from Sacramento and surrounding cities, such as the City of Davis. It is also the primary access route to the Port of West Sacramento, Sacramento International Airport (SMF), and large distribution centers.

The I-80/US-50 corridor experiences heavy congestion during the commute periods due to high vehicular demand. Data analysis shows that the peak hour and direction occurs during the 5:00 PM to 6:00 PM in the eastbound direction and significant AM peak period delay on westb ound I-80 occurs between 8:00 AM to 10:00 AM. The corridor has infrastructure deficiencies, such as short weaving and merging areas, lane drops that create bottlenecks, incomplete ramp metering and auxiliary lane systems, and inadequate ITS elements. The corridor also experiences heavy recreational traffic, leading to heavy congestion on weekends and holidays.

Project Description:
The California Department of Transportation (Caltrans) proposes to construct improvements consisting of managed lanes, pedestrian/bicycle facilities, and Intelligent Transportation System (ITS) elements along Interstate 80 (I-80) and United States Route 50 (US-50) from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to West El Camino Avenue on I-80 and Interstate 5 (I-5) on US-50 in Sacramento County.

The project proposes to add auxiliary lanes at eastbound I-80 between Old Davis Rd and Richards Blvd and WB I-80 between Jefferson Blvd and Harbor Blvd, widen the roadway to the median or to the outside, cold planning, reconstruction of roadway structural sections, construction of Clear Recovery Zone (CRZ), extension or replacement of existing cross culverts, installation of Intelligent Transportation System (ITS) components and overhead signs, restriping, potential construction of soundwalls, modification of roadside ditches, bicycle and pedestrian facility improvements, and installation of a new park and ride facility.

Alternatives:
"Managed lanes" is a broad term for implementation of various lane configurations that may be used by specific types of vehicles, maximum number of riders in the vehicle, paying for use of a certain lane, or a combination. This project is evaluating different managed lanes alternatives to determine the one with the least impact which best meets the need of the project. The alternatives are:

- No build alternative – no change to the current conditions
- Build – Add a new High Occupancy Vehicle (HOV) lane in each direction for use by vehicles with two or more riders (HOV2+) in each direction.
- Build – Add a High Occupancy Toll (HOT) lane for use by vehicles with two or more riders (HOT 2+) in each direction widen median
- Build – Add a High Occupancy Toll lane for use by vehicles with three or more riders (HOT 3+) in each direction
- Build - Add an Express Lane in each direction (Everyone using the lane pays to use the lane, regardless of number of riders).
- Build – Add a transit-only lane in each direction
- Build - Repurpose current #1 lane to a High Occupancy Vehicle lane for use by vehicles with two or more riders (HOV 2+) in each direction. (no build alt)
- Build – Add a High Occupancy Vehicle lane for use by vehicles with two or more riders (HOV 2+) in each direction with HOV to HOV connector at the I-80/Hwy 50 interchange

Probable Environmental Effects:
The proposed project is expected to result in temporary and permanent environmental effects. The draft Environmental Impact Report/Environmental Assessment will determine what resources would be affected, the level of significance, and feasible measures to reduce impacts. Probable environmental effects of the proposed project are outlined below.

Aesthetics
The proposed project may result in impacts to visual resources and the visual quality of the site and its surroundings. During the environmental phase of the project, studies will be conducted to determine potential impacts to visual resources.

Air Quality
The proposed project may result in long-term air quality impacts from operational activities and will generate temporary short-term air quality impacts from construction activities, however the impacts are not expected to be significant and minimization measures will be implemented during construction. Caltrans will analyze project impacts to air quality including criteria pollutants and operational air quality.

Biological Resources
There is a potential for biological resources to be located within the proposed project area. During the environmental phase of the project, studies will be conducted to determine potential impacts toward special status plant and animal species and associated critical habitat. Studies will also be conducted to determine potential effects toward riparian and wetland habitats as well as Waters of the State/United States.

Cultural
There is potential for cultural resources to be located within the proposed project area. Studies will be conducted during the environmental phase to determine the potential impacts to these resources.

Paleontological Resources
There is potential for paleontological resources to be located within the project area. Studies will be conducted during the environmental phase to determine the potential impacts to paleontological resources.

Hazards/Hazardous Materials
There is potential for hazards/hazardous materials to be located within the proposed project area. During the environmental phase of the project, studies will be conducted to determine potential impacts.

Hydrology and Water Quality
The proposed project could impact water quality. Studies will be conducted during the environmental phase to evaluate potential water quality impacts or degradation to receiving waters as a result of the proposed project.

Noise
The proposed project could result of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies. Studies will be conducted during the environmental phase to evaluate potential noise impacts.

Energy/Greenhouse Gases
The proposed project could increase the number of through-lanes and vehicle miles traveled. Studies will be conducted during the environmental phase to evaluate potential impacts to energy and greenhouse gases.

Transportation
The proposed project could increase the number of through-lane traffic and may contribute to induced travel. Studies will be conducted during the environmental phase to evaluate potential impacts induced VMT has on the corridor.

Utilities/Service Systems
The proposed project could require the relocation of existing facilities; including but not limited to gas, electric and communications facilities. Studies will be conducted during the environmental phase to evaluate potential impacts to utilities and service systems.

NOP Scoping Meeting
NOP scoping meeting will be held virtually on July 28, 2021.

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

Memorandum

Making Conservation a California Way of Life

To: Governor's Office of Planning and Research
State Clearinghouse and Planning Unit
All Reviewing Agencies

Date: August 17, 2021

From: CA Department of Transportation (Caltrans) D3

Subject: RE: SCH # 2021060117; 03-3H900 Yolo 80 Corridor Improvements Project

The Lead Agency (Caltrans) is providing notice regarding the above project that a *rescheduled* virtual open house/ scoping meeting will be held on August 25, 2021 from 6:00 to 8:00 PM. Access to the virtual open house meeting can be found at:

https://deavpm.wixsite.com/yolo80corridor/live-meeting

Caltrans previously submit a Notice of Preparation (NOP) to the State Clearinghouse, dated June 6, 2021 for the Yolo 80 Corridor Improvements Project. A revised NOP is attached here, with the new virtual meeting date noted.

Attachment

1. Revised Notice of Preparation, dated August 16, 2021

Notice of Preparation

To: Responsible/Trustee Agency

(Address)

From: Department of Transportation, D03

703 B Street - Marysville, CA 95901

(Address)

Subject: Notice of Preparation of a Draft Environmental Impact Report

California Department of Transportation (Caltrans), District 03 will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☐ is ☒ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Attn: Masum Patwary, Yolo80Corridor@dot.ca.gov at the address shown above. We will need the name for a contact person in your agency.

Project Title: I-80 Corridor Improvement Project

Project Applicant, if any: Caltrans D03

Date 08/16/2021

Signature Mike Bartlett

Title Environmental Office Chief

Telephone 530-933-8071

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Notice of Preparation

Project Title:
Yolo 80 Bus/Carpool Lanes (Yolo 80 Corridor Improvements Project; EA: 03-3H900)

Project Location:
The project is located in Solano, Yolo, and Sacramento Counties on the I-80 corridor between post miles (PMs) 40.7 and 44.7 in Solano County, PMs between PMs 0.00 and 11.72 in Yolo County, and between PMs 0.00 and 1.36 in Sacramento County; on the US-50 corridor between PMs 0.00 and 3.12 in Yolo County and between PMs 0.00 and 0.617 in Sacramento County. The total project length is approximately 20.8 centerline miles.

Project Background:
I-80 is the primary freeway serving the movement of people and goods between Northern California and the eastern United States. Within the Sacramento region, the route serves local and commute traffic, traffic to and from the Bay Area, and recreational traffic to and from the Reno/Tahoe region, and is a primary corridor for goods movement. Within the corridor, the Yolo Bypass Wildlife Area and floodplain limits east-west linkages, funneling many modes and forms of transportation into the narrow I-80 corridor between the cities of Davis and West Sacramento.

I-80 provides direct linkages between agricultural and manufacturing industries in the Central Valley; the Bay Area; and the Ports of Oakland, Richmond, Stockton, West Sacramento, and to the eastern United States. The segment of I-80 within the project limits also serves daily commuters from Sacramento and surrounding cities, such as the City of Davis. It is also the primary access route to the Port of West Sacramento, Sacramento International Airport (SMF), and large distribution centers.

The I-80/US-50 corridor experiences heavy congestion during the commute periods due to high vehicular demand. Data analysis shows that the peak hour and direction occurs during the 5:00 PM to 6:00 PM in the eastbound direction and significant AM peak period delay on westbound I-80 occurs between 8:00 AM to 10:00 AM. The corridor has infrastructure deficiencies, such as short weaving and merging areas, lane drops that create bottlenecks, incomplete ramp metering and auxiliary lane systems, and inadequate ITS elements. The corridor also experiences heavy recreational traffic, leading to heavy congestion on weekends and holidays.

Project Description:
The California Department of Transportation (Caltrans) proposes to construct improvements consisting of managed lanes, pedestrian/bicycle facilities, and Intelligent Transportation System (ITS) elements along Interstate 80 (I-80) and United States Route 50 (US-50) from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to West El Camino Avenue on I-80 and Interstate 5 (I-5) on US-50 in Sacramento County.

The project proposes to add auxiliary lanes at eastbound I-80 between Old Davis Rd and Richards Blvd and WB I-80 between Jefferson Blvd and Harbor Blvd, widen the roadway to the median or to the outside, cold planning, reconstruction of roadway structural sections, construction of Clear Recovery Zone (CRZ), extension or replacement of existing cross culverts, installation of Intelligent Transportation System (ITS) components and overhead signs, restriping, potential construction of soundwalls, modification of roadside ditches, bicycle and pedestrian facility improvements, and installation of a new park and ride facility.

Alternatives:
"Managed lanes" is a broad term for implementation of various lane configurations that may be used by specific types of vehicles, maximum number of riders in the vehicle, paying for use of a certain lane, or a combination. This project is evaluating different managed lanes alternatives to determine the one with the least impact which best meets the need of the project. The alternatives are:

- No build alternative – no change to the current conditions
- Build – Add a new High Occupancy Vehicle (HOV) lane in each direction for use by vehicles with two or more riders (HOV2+) in each direction.
- Build – Add a High Occupancy Toll (HOT) lane for use by vehicles with two or more riders (HOT 2+) in each direction widen median
- Build – Add a High Occupancy Toll lane for use by vehicles with three or more riders (HOT 3+) in each direction
- Build - Add an Express Lane in each direction (Everyone using the lane pays to use the lane, regardless of number of riders).
- Build – Add a transit-only lane in each direction
- Build - Repurpose current #1 lane to a High Occupancy Vehicle lane for use by vehicles with two or more riders (HOV 2+) in each direction. (no build alt)
- Build – Add a High Occupancy Vehicle lane for use by vehicles with two or more riders (HOV 2+) in each direction with HOV to HOV connector at the I-80/Hwy 50 interchange

Probable Environmental Effects:
The proposed project is expected to result in temporary and permanent environmental effects. The draft Environmental Impact Report/Environmental Assessment will determine what resources would be affected, the level of significance, and feasible measures to reduce impacts. Probable environmental effects of the proposed project are outlined below.

Aesthetics
The proposed project may result in impacts to visual resources and the visual quality of the site and its surroundings. During the environmental phase of the project, studies will be conducted to determine potential impacts to visual resources.

Air Quality
The proposed project may result in long-term air quality impacts from operational activities and will generate temporary short-term air quality impacts from construction activities, however the impacts are not expected to be significant and minimization measures will be implemented during construction. Caltrans will analyze project impacts to air quality including criteria pollutants and operational air quality.

Biological Resources
There is a potential for biological resources to be located within the proposed project area. During the environmental phase of the project, studies will be conducted to determine potential impacts toward special status plant and animal species and associated critical habitat. Studies will also be conducted to determine potential effects toward riparian and wetland habitats as well as Waters of the State/United States.

Cultural

There is potential for cultural resources to be located within the proposed project area. Studies will be conducted during the environmental phase to determine the potential impacts to these resources.

Paleontological Resources
There is potential for paleontological resources to be located within the project area. Studies will be conducted during the environmental phase to determine the potential impacts to paleontological resources.

Hazards/Hazardous Materials
There is potential for hazards/hazardous materials to be located within the proposed project area. During the environmental phase of the project, studies will be conducted to determine potential impacts.

Hydrology and Water Quality
The proposed project could impact water quality. Studies will be conducted during the environmental phase to evaluate potential water quality impacts or degradation to receiving waters as a result of the proposed project.

Noise
The proposed project could result of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies. Studies will be conducted during the environmental phase to evaluate potential noise impacts.

Energy/Greenhouse Gases
The proposed project could increase the number of through-lanes and vehicle miles traveled. Studies will be conducted during the environmental phase to evaluate potential impacts to energy and greenhouse gases.

Transportation
The proposed project could increase the number of through-lane traffic and may contribute to induced travel. Studies will be conducted during the environmental phase to evaluate potential impacts induced VMT has on the corridor.

Utilities/Service Systems
The proposed project could require the relocation of existing facilities; including but not limited to gas, electric and communications facilities. Studies will be conducted during the environmental phase to evaluate potential impacts to utilities and service systems.

NOP Scoping Meeting
NOP scoping meeting will be held virtually on August 25, 2021 at 6:00 pm to 8:00 pm. The meeting website is https://deavpm.wixsite.com/yolo80corridor/live-meeting

Memorandum

Making Conservation
a California Way of Life

To: Governor's Office of Planning and Research
State Clearinghouse and Planning Unit
All Reviewing Agencies

Date: October 17, 2022

From: CA Department of Transportation (Caltrans) D3

Subject: RE: SCH # 2021060117; 03-3H900 Yolo 80 Corridor Improvements Project

The Lead Agency (Caltrans) previously submitted a Notice of Preparation (NOP) to the State Clearinghouse, dated June 6, 2021 (revised August 16, 2021), for the Yolo 80 Corridor Improvements Project. A second revised NOP is attached to this memorandum. The second NOP revision includes clarification of the proposed managed lane strategies and alternatives.

Attachment
1. Revised Notice of Preparation, dated October 17, 2022

Notice of Preparation

To: Responsible/Trustee Agency

(Address)

From: Department of Transportation, D03

703 B Street - Marysville, CA 95901

(Address)

Subject: Notice of Preparation of a Draft Environmental Impact Report

California Department of Transportation (Caltrans), District 03 will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☒ is ☐ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Attn: Masum Patwary, Yolo80Corridor@dot.ca.gov at the address shown above. We will need the name for a contact person in your agency.

Project Title: Yolo 80 Corridor Improvements Project

Project Applicant, if any: Caltrans D03

Date 10/17/2022

Signature Mike Bartlett

Title Environmental Office Chief

Telephone 530-933-8071

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Notice of Preparation

Project Title:
Yolo 80 Corridor Improvements Project; EA: 03-3H900

Project Location:
The project is located in Solano, Yolo, and Sacramento Counties on the I-80 corridor between post miles (PMs) 40.7 and R44.7 in Solano County, PMs between PMs 0.00 and R11.72 in Yolo County, and between PMs 0.00 and M3.63 in Sacramento County; on the US-50 corridor between PMs 0.00 and 3.12 in Yolo County and between PMs 0.00 and L2.48 in Sacramento County.

Project Background:
I-80 is the primary freeway serving the movement of people and goods between Northern California and the eastern United States. Within the Sacramento region, the route serves local and commute traffic, traffic to and from the Bay Area, and recreational traffic to and from the Reno/Tahoe region, and is a primary corridor for goods movement. Within the corridor, the Yolo Bypass Wildlife Area and floodplain limits east-west linkages, funneling many modes and forms of transportation into the narrow I-80 corridor between the cities of Davis and West Sacramento.

I-80 provides direct linkages between agricultural and manufacturing industries in the Central Valley; the Bay Area; and the Ports of Oakland, Richmond, Stockton, West Sacramento, and to the eastern United States. The segment of I-80 within the project limits also serves daily commuters from Sacramento and surrounding cities, such as the Cities of Davis, West Sacramento, and Sacramento. It is also the primary access route to the Port of West Sacramento, Sacramento International Airport (SMF),and large distribution centers.

The I-80/US-50 corridor experiences heavy congestion during the commute periods due to high vehicular demand. Data analysis shows that the peak period and direction occur approximately from 2:15 PM to 6:45 PM in the eastbound direction from SR 113 in Davis to the I-5/US 50 separation, and in the westbound direction from 4:30 PM to 6:30 PM. The AM peak period delays occur on I-80 eastbound and westbound from 6:15 AM to 10:30 AM from Davis to the I-5/I-80 separation. The corridor has infrastructure deficiencies, such as short weaving and merging areas, lane drops that create bottlenecks, incomplete ramp metering and auxiliary lane systems, and inadequate ITS elements. The corridor also experiences heavy recreational traffic, leading to heavy congestion on weekends and holidays.

Need:
Interstate 80 (I-80) from the Kidwell Road Interchange in eastern Solano County, through Yolo County, and to I-80 / West El Camino Interchange, and United State Route 50 (US 50) from the US-50 / I-80 Junction in Yolo County to US-50 / Interstate 5 (I-5) Junction in Sacramento County are vitally important transcontinental routes for commuters, transit, freight and recreational traffic. Short weaving and merging areas result in traffic incidents, inefficient throughput of automobile and transit, and significantly impacts freight economic competitiveness and efficiencies. Bottlenecks caused by the morning, evening, and weekend recreational travel at the I-80 Yolo Causeway between Davis and West Sacramento limits person throughput; leads to unreliable automobile, transit, and freight travel times; and produces pollution directly to fifteen disadvantage communities living within the limits of the project. Limited travel time incentives for carpool/vanpool/transit usage promotes single occupancy vehicles, higher number of vehicles, higher VMT, and deficient person throughput within the project limits. The lack of Intelligent Transportation Systems (ITS) infrastructure exacerbates the inefficient throughput and contributes to unreliable automobile, freight, and transit travel times which impedes local, regional, and interstate economic sustainability.

Purpose:
The proposed project will extend the Managed Lane network to provide multimodal transportation options including dedicated bicycle/pedestrian facilities, a new Mobility Hub/Park n Ride facility with transit transfer services which will further reduce the number of vehicles on the state highway system, interchange modernization, freight reliability, transit prioritization and ITS elements to improve safety, transit time reliability, manage Vehicle Miles Travelled (VMT) and reduce GHG and other traffic-related emissions. Included in the project are preemptive transit signals at ramp meters and traffic signals at adjacent ramp intersections within the project limits to allow buses to move quicker than passenger vehicles further improving transit reliability and making transit a more viable alternative to driving. The reduced traffic-related emissions will greatly benefit those living along the corridor, especially people living in disadvantaged communities in West Sacramento that are within the project limits. The addition of ITS infrastructure, like Changeable Message Signs (CMS) and Closed Caption Television's (CCTV), will help expedite traveler information to warn the public of changing travel conditions, enhance incident response time and reduce secondary collisions.

The project will improve transit access and viability for YoloBus, Fairfield/Suisun Transit, Sacramento Regional Transit including existing or planned electric bus service between University of California, Davis (UCD) campus, UCD Medical Center in Sacramento, Kaiser Permanente Medical Center in downtown Sacramento, and Sacramento International Airport. The termini to the bike and pedestrian facility and crossing on each side of the causeway will be improved to enhance access, safety, and mobility. Roadway congestion pricing identified in SACOG's (MTP/SCS) will also manage VMT.

Project Description:
The California Department of Transportation (Caltrans) proposes to construct improvements consisting of tolled managed lanes with direct I-80 connectors at the I-80/US 50 separation, pedestrian/bicycle facilities, and Intelligent Transportation System (ITS) elements along Interstate 80 (I-80) and United States Route 50 (US-50) from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to Truxel Road on I-80 and to State Route 99 (SR 99) on US-50 in Sacramento County. The project will construct new managed lanes on I-80 from Solano/Yolo County line to El Camino Avenue, and on US 50 from I-80/US 50 separation to I-5 in Sacramento County, for a total length of approximately 17 centerline or 34 lane miles.

The project proposes to add auxiliary lanes at eastbound I-80 between Old Davis Rd and Richards Blvd and WB I-80 between Jefferson Blvd and Harbor Blvd, widen the roadway to the median or to the outside, cold planning, reconstruction of roadway structural sections, construction of Clear Recovery Zone (CRZ), extension or replacement of existing cross culverts, installation of Intelligent Transportation System (ITS) components and overhead signs, restriping, potential construction of soundwalls, modification of roadside ditches, bicycle and pedestrian facility improvements, and installation of a new Mobility hub/Park n Ride facility.

Alternatives:
"Managed lanes" is a broad term for implementation of various lane configurations that may be used by specific types of vehicles, maximum number of riders in the vehicle, paying for use of a certain lane, or a combination. The draft environmental impact report will analyze the following managed lane alternatives in addition to the "no build" alternative:

- No build alternative – no change to the current conditions.
- Build – Construct a new High Occupancy Vehicle (HOV) lane in each direction for use by vehicles with two or more riders (HOV2+) in each direction.
- Build – Construct a high-occupancy toll lane in each direction for vehicles with two or more riders (HOT 2+) and other exempt vehicles without charge; other vehicles will pay a variable fee adjusted in response to demand.
- Build – Construct a high-occupancy toll lane in each direction for vehicles with three or more riders (HOT 3+) and other exempt vehicles without charge; other vehicles will pay a variable fee adjusted in response to demand.
- Build - Construct an Express Lane in each direction; all vehicles (with exceptions for some exempt vehicles like transit) pay a variable fee based on number of riders and in response to

demand.
- Build – Construct a transit-only lane in each direction.
- Build - Repurpose current #1 lane to a HOT 3+ lane or transit only lane in each direction.

Probable Environmental Effects:
The proposed project is expected to result in temporary and permanent environmental effects. The draft Environmental Impact Report/Environmental Assessment will determine what resources would be affected, the level of significance, and feasible measures to reduce impacts. Probable environmental effects of the proposed project are outlined below.

Aesthetics
The proposed project may result in impacts to visual resources and the visual quality of the site and its surroundings. During the environmental phase of the project, studies will be conducted to determine potential impacts to visual resources.

Air Quality
The proposed project may result in long-term air quality impacts from operational activities and will generate temporary short-term air quality impacts from construction activities, however the impacts are not expected to be significant and minimization measures will be implemented during construction. Caltrans will analyze project impacts to air quality including criteria pollutants and operational air quality.

Biological Resources
There is a potential for biological resources to be located within the proposed project area. During the environmental phase of the project, studies will be conducted to determine potential impacts toward special status plant and animal species and associated critical habitat. Studies will also be conducted to determine potential effects toward riparian and wetland habitats as well as Waters of the State/United States.

Cultural
There is potential for cultural resources to be located within the proposed project area. Studies will be conducted during the environmental phase to determine the potential impacts to these resources.

Paleontological Resources
There is potential for paleontological resources to be located within the project area. Studies will be conducted during the environmental phase to determine the potential impacts to paleontological resources.

Hazards/Hazardous Materials
There is potential for hazards/hazardous materials to be located within the proposed project area. During the environmental phase of the project, studies will be conducted to determine potential impacts.

Hydrology and Water Quality
The proposed project could impact water quality. Studies will be conducted during the environmental phase to evaluate potential water quality impacts or degradation to receiving waters as a result of the proposed project.

Noise
The proposed project could result of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies. Studies will be conducted during the environmental phase to evaluate potential noise impacts.

Energy/Greenhouse Gases
The proposed project could increase the number of through-lanes and vehicle miles traveled. Studies will be conducted during the environmental phase to evaluate potential impacts to energy

and greenhouse gases.

Transportation (VMT)
The proposed project could increase the number of through-lane traffic and may contribute to induced travel. Studies will be conducted during the environmental phase to evaluate potential impacts induced VMT has on the corridor.

Utilities/Service Systems
The proposed project could require the relocation of existing facilities; including but not limited to gas, electric and communications facilities. Studies will be conducted during the environmental phase to evaluate potential impacts to utilities and service systems.

Equity
The proposed project is within fifteen disadvantage communities. The project will conduct equity studies during the environmental phase to evaluate potential impacts.

Appendix H List of Technical Studies

Air Quality and Greenhouse Gas

Caltrans. 2024. Air Quality Report. April 2024.

Biological Resources

Caltrans. 2021. Nesting Swainson's Hawk Protocol Survey Report. August 2021.

Caltrans 2022. Bat Species of Special Concern Habitat Assessment. July 2022.

Caltrans. 2022. Botanical Resources Survey Report. September 2022.

Caltrans 2022. Giant Garter Snake Habitat Assessment. August 2022.

Caltrans. 2022. Nesting Burrowing Owl Protocol Survey. July 2022.

Caltrans. 2022. Tricolored Blackbird Nesting Habitat Assessment. August 2022.

Caltrans. 2022. Valley Elderberry Longhorn Beetle Habitat Assessment. August 2022.

Caltrans. 2023. Aquatic Resources Delineation Report. March 2023.

Caltrans. 2023. Biological Assessment. March 2023.

Caltrans 2023. Natural Environment Study. March 2023.

Community/Environmental Justice

Caltrans. 2023. Community Impacts Assessment (draft). Revised July 2023.

Cultural

Caltrans. 2021. Cultural resources study. September 2021.

Cumulative

Caltrans. 2023. Cumulative Impacts Assessment (draft). Revised August 2023.

Drainage

Wood Rodgers, Inc. 2021. Preliminary Drainage Report. Prepared for Caltrans District 3. May 2021.

Energy

Caltrans. 2023. Environmental Impact Evaluation – Energy. Revised August 28, 2023.

Geological/Geotech

Caltrans. 2020. Structure Preliminary Geotechnical Report for I-80 HOV Connector. January 22, 2020.

Caltrans. 2021. Structure Preliminary Geotechnical Report for Richards Blvd. OC Retaining Wall (RW) No. 3. March 2021.

Caltrans. 2021. Structure Preliminary Geotechnical Report for I-80 HOV Connector Retaining Wall (RW) No. 1 & 2. May 14, 2021.

Caltrans. 2021. District Preliminary Geotechnical Report (DPGR) for I-80 Corridor Improvement Project. July 2, 2021.

Hazards and Hazardous Materials

Caltrans. 2021. Hazardous Waste Initial Site Assessment. February 2021.

Hydrology and Floodplain

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Visual

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Appendix I Preliminary Design Plans

Preliminary plan sheets for each Build Alternative are available upon request or can be downloaded from the State Clearinghouse website here:
https://ceqanet.opr.ca.gov/2021060117/4

Appendix J Air Quality Calculations and Conformity Determination

Air Quality Report April 2024

Construction Emissions Model Results
- Roadway
- Bridge

Sacramento Metropolitan Air Quality Management District Strategic Area Project Health Effects Tool
- Opening Year
- Year 2049

Interagency Consultation Concurrence

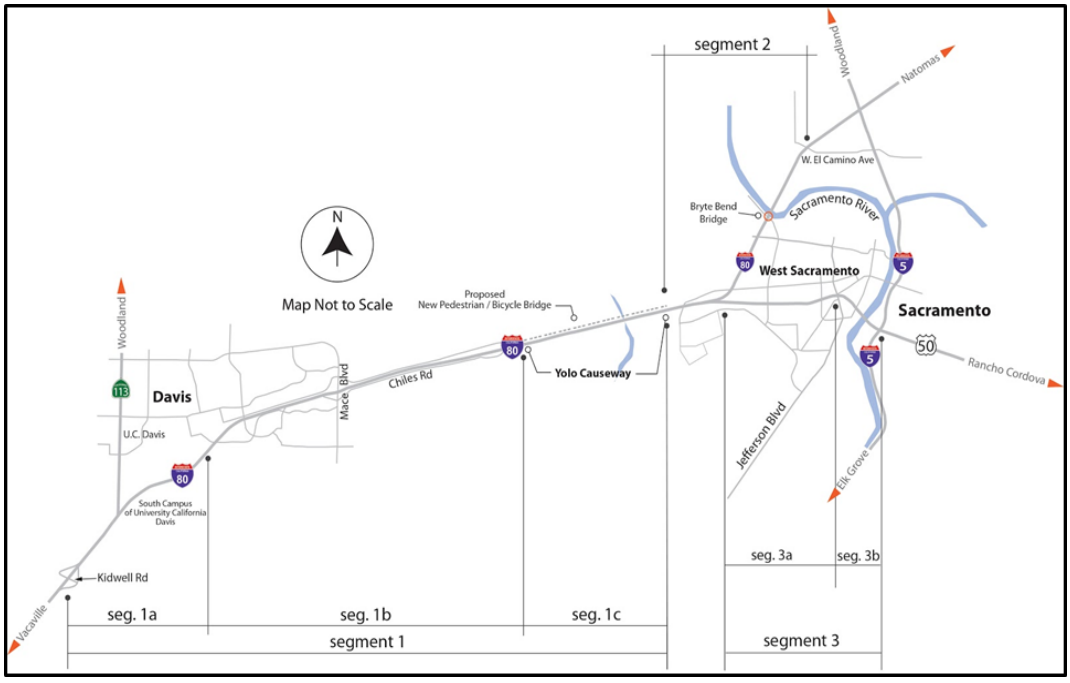
FHWA Conformity Determination

Air Quality Report

YOLO 80 Corridor Improvements Project

YOL/SAC-80, PM 0.0/11.72 & 0.0/1.36

US-50 PM 0.0/0.617 in Sacramento County and
US-50 PM 0.0/3.12 in Yolo County
EA: 03-3H900
E-FIS: 0318000085



April 2024

U.S. Department of Transportation

State of California

Prepared By: _____ Date: 4/26/2024

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Caltrans District 3

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Section 1. Introduction and Project Description

1.1. Introduction

The California Department of Transportation (Caltrans), District3, in collaboration with stakeholders, proposes to construct improvements consisting of managed lanes, pedestrian/bicycle facilities, and Intelligent Transportation System (ITS) elements along Interstate 80 (I-80) and United States Route 50 (US-50) from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to West El Camino Avenue on I-80 and Interstate 5 (I-5) on US-50 in Sacramento County. The purpose of this project is to improve multimodal mobility on the I-80 and US-50 corridors in Solano, Yolo, and Sacramento Counties. This project will decrease congestion growth through the corridor and the effects congestion has on transit and freight. It will improve travel transit times, reliability, access, and viability through the corridor. This project will also increase people throughput by increasing transit, bicycle/pedestrian, and carpool use. The project will also address non-recurrent congestion caused by incidents, including collisions, by improving incident detection, verification, response and clearing.

Caltrans is both, the lead agency for the project's CEQA document, and as assigned by the FHWA, is the lead agency for the project's NEPA document. This air quality report addresses the potential short-term and long-term air quality impacts of the proposed improvements.

1.2. Project Description

The proposed alternatives for this project includes with a flyover connector (option b) or without a flyover connector (option a). The option "b" would further improve operations by providing a direct connection of the managed lanes by flying over US-50 at the I-80/US-50 interchange:

- Alternative 1: No-Build.
- Build Alternative 2: Add a High Occupancy Vehicle (HOV) lane in each direction for use by vehicles with two or more riders (HOV 2+), and build an I-80 managed lane direct connector (Alt 2b) or without (Alt 2a).
- Build Alternative 3: Add a High Occupancy Toll (HOT) in each direction for use by vehicles with two or more riders (HOT 2+), and build an I-80 managed lane direct connector (Alt 3b) or without (Alt 3a). Single-occupied vehicles would pay a fee for the lane usage.
- Build Alternative 4: Add a HOT lane in each direction for use by vehicles with three or more riders (HOT 3+) Lane in Each Direction, and build an I-80 managed lane direct

connector (Alt 4b) or without (Alt 4a). Vehicles with less than three riders would pay a fee for lane usage.

- Build Alternative 5: Add an Express Lane in each direction (everyone using the lane pays to use the lane, regardless of number of riders.), and build an I-80 managed lane direct connector (Alt 5b) or without (Alt 5a).
- Build Alternative 6: Add a Transit-only lane in each direction, and build an I-80 managed lane direct connector (Alt 6b) or without (Alt 6a).
- Build Alternative 7: Repurpose the current number one general-purpose lane for use by vehicles with two or more riders (HOV 2+); no new lanes would be constructed. Build an I-80 managed lane direct connector (Alt 7b) or without (Alt 7a).

A few common design features and standardized measures are shared among the Build Alternatives. They include:

- Managed Lanes - The Build Alternatives each have managed lane options. Alternatives 2 and 8 includes a new High Occupancy Vehicle (HOV 2+) lane in each direction, while Alternatives 3 and 4 include new High Occupancy Toll (HOT) lanes, HOT 2+ and HOT 3+ respectively. Alternative 5 adds an Express Lane in each direction (i.e., everyone using the lane pays to use the lane, regardless of number of riders). Alternative 6 adds a Transit-only lane in each direction. Alternative 7 repurposes the current #1 general purpose lane to HOV 2+ and no new lanes would be constructed. Alternative 8 adds a HOV 2+ lane in each direction with I-80 connector ramp.
- Integrated Corridor Management – An Integrated Corridor Management system would be installed that incorporates data collected from traffic sensors, control devices, probe vehicles, transit monitoring systems, and user-generated data through mobile applications and social media networks to inform signal timing plans at intersections and/or ramp metering rates for freeway on-ramps.
- Intelligent Transportation System (ITS) - Each of the Build Alternatives would include placement (or relocation) of ramp meters, street lighting, traffic monitoring stations, closed-circuit television (CCTV), and changeable message signs (CMS).

- Signage - Each Build Alternative would include several different types and placement of new signs to provide graphic or text messages that inform motorists of toll zones and lane operating rules.

This Project is included in the SACOG Regional Transportation Plan (RTP), 2020 Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategies (SCS), as project number CAL21276. It is also included in SACOG's 2021-2024 Metropolitan Transportation Improvement Program (TIP) as Project 12 of 552.

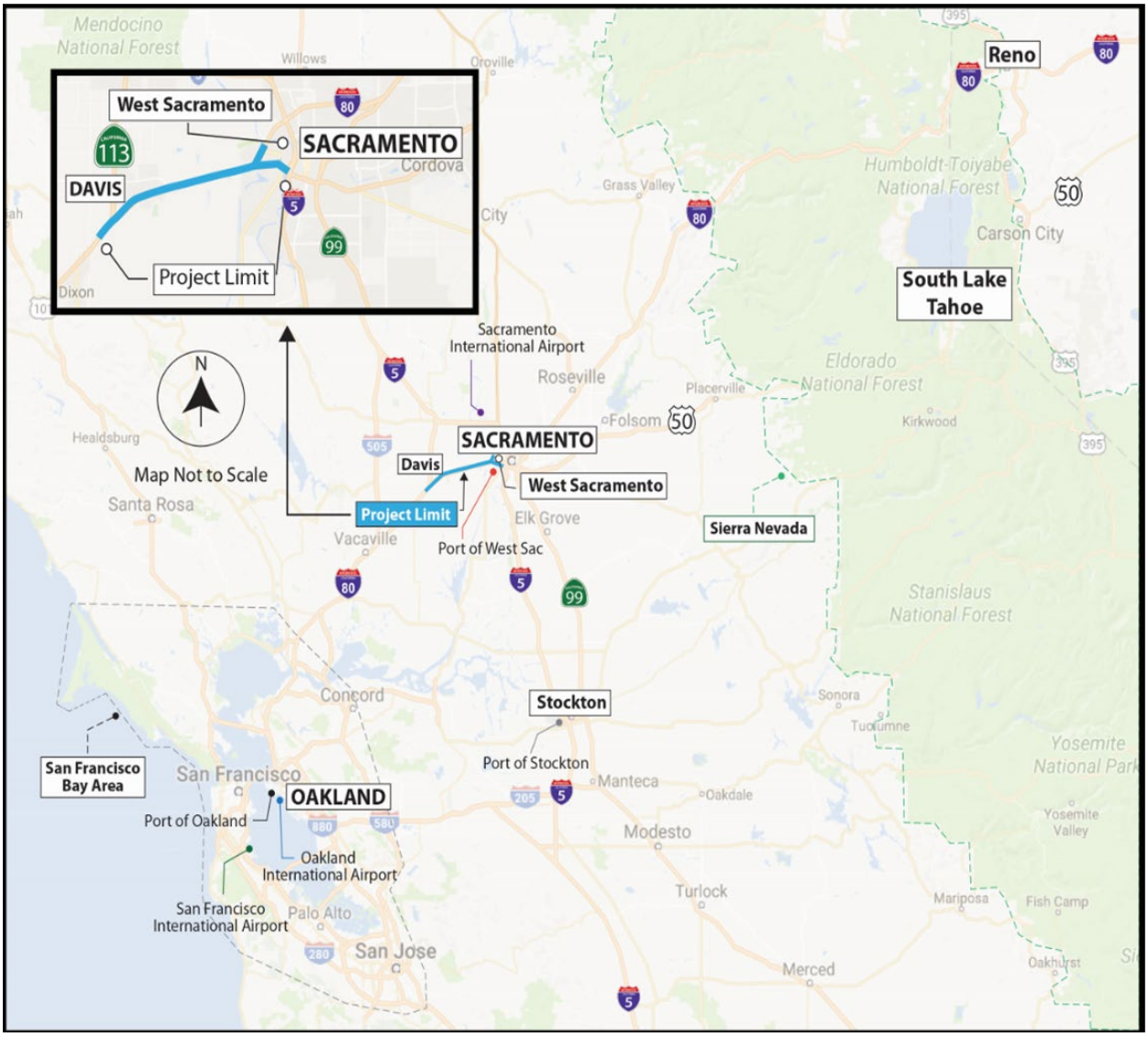


Figure 1. Vicinity Map

Section 2. Air Quality Setting

Air quality of a region is determined by the climatological conditions, topography, and the types and amounts of pollutants. California is divided geographically into 15 air basins. An air basin generally has similar meteorological and geographic conditions. The proposed project is located in Solano, Yolo, and Sacramento Counties, which is governed by the Yolo-Solano County Air Pollution Control District (YSAQMD) and the Sacramento Metropolitan Air Quality Management District (SMAQMD), which are located in the Sacramento Valley Air Basin (SVAB). The SVAB includes Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, Yuba, and portions of Placer and Solano Counties.

The SVAB is bounded by the Sierra Nevada Mountain Range to the east and the Coastal Mountain Ranges to the west. Topography in the Sacramento Valley is generally flat, with elevations anywhere from slightly below sea level near the Sacramento/San Joaquin Delta to over 2,150 feet above sea level at the Sutter Buttes. Hot dry summers and mild rainy winters characterize the Mediterranean climate of the SVAB. During the year, the temperature may range from 20 to 115 degrees Fahrenheit with summer highs usually in the 90s and winter lows occasionally below freezing.

Average annual rainfall is about 20 inches with about 75 percent occurring during the rainy season generally from November through March. The prevailing winds are moderate in strength and vary from moist clean breezes from the south to dry land flows from the north.

The mountains surrounding the SVAB create a barrier to airflow, which can trap air pollutants when certain meteorological conditions exist. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the Sacramento Valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of particulate matter pollutants are highest when these conditions are combined with smoke or when temperature inversions trap cool air, fog and pollutants near the ground.

The ozone season (May through October) in the Sacramento Valley is characterized by stagnant morning air or light winds, with the delta sea breeze arriving in the afternoon out of the southwest.

In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between ROG and NOx, which result in ozone formation. Likewise, $PM_{2.5}$ peak concentrations typically occur during the winter season (November – February) when temperature

inversion and low wind speeds trap and concentrate $PM_{2.5}$ emissions, cooler temperature and high humidity increase the secondary formation of particulates.

As an air basin, air quality in the Sacramento region is impacted not only by pollutants generated within the region, but also by pollutants generated in the San Francisco Bay Area and the San Joaquin Valley, which are carried into the Sacramento region by Delta breezes. The effect of pollutants transported from the San Francisco Bay Area or from the San Joaquin Valley on air quality in the Sacramento region can vary from substantial to inconsequential on any given day, largely determined by accompanying meteorological conditions. Thus, the success of the Sacramento region in attaining better air quality is partially contingent on the achievement of better air quality in nearby areas that affect Sacramento's air quality.[1]

2.1. Regulatory Background

The project area is subject to air quality planning programs established by the Federal Clean Air Act of 1970 and the California Clean Air Act of 1988. Both of these acts provide for the protection of public health, timetables for achieving and maintaining ambient standards, and a requirement to develop a plan to assist in guiding air quality improvement efforts of state and local agencies. National and state ambient air quality standards have been identified for a number of criteria pollutants, which include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), and particulate matter, both PM_{10} and $PM_{2.5}$.

In addition to the above listed legislation, the Environmental Protection Agency (EPA) regulates a list of hazardous air pollutants (HAPs) or air toxics (64 Federal Register [FR] 38706). HAPs are air contaminants that are known or suspected to cause cancer, serious illness, or death. These contaminants originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), air sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Transportation conformity is required under Clean Air Act section 176(c) to ensure that federally supported highway and transit project activities are consistent with the purpose of State Implementation Plans (SIPs) to attain and maintain national ambient air quality standards (NAAQS). Conformity currently applies to areas that are designated nonattainment, and those re-designated to attainment after 1990 ("maintenance areas" with plans developed under Clean Air Act section 175A) for the following transportation-related criteria pollutants: O_3, $PM_{2.5}$, PM_{10}, CO, and NO_2. Conformity to the SIP means that transportation activities will not cause new air quality

[1] SACOG. Conformity Analysis for the 2021/2024 Metropolitan Improvement Program and amendment #1 to the Metropolitan Transportation Plan and Sustainable Communities Strategy 2040, adopted November 2019.

violations, worsen existing violations, or delay timely attainment of the relevant NAAQS. The transportation conformity regulation is found in 40 CFR part 93 and provisions related to conformity SIPs are found in 40 CFR 51.390.

2.1.1. Federal Standards

NAAQS were established by the Federal Clean Air Act of 1970 (amended in 1977 and 1990) for six "criteria" pollutants. These criteria pollutants now include CO, O_3, NO_2, PM_{10}, sulfur dioxide (SO_2), and lead (Pb). In 1997, the EPA added $PM_{2.5}$ as a criteria pollutant. The air pollutants standards that have been established are considered for the most prevalent air pollutants that are known to be hazardous to human health. At the federal level, the U.S. EPA requires states to attain and maintain compliance with the federal standards as mandated by the Clean Air Act. The U.S. EPA requires non-compliant states to prepare and submit air quality plans showing how the standards will be met. The U.S. EPA also has programs to prevent significant deterioration of air quality and to identify and regulate toxic air pollutants.

2.1.2. State Standards

California established ambient air quality standards as early as 1969 through the Mulford-Carrol Act. Air pollutants regulated under the 1989 California Clean Air Act (amended in 1992) are similar to those regulated under the Federal Clean Air Act. In many cases, California standards are more stringent than the NAAQS. The California Clean Air Act requires attainment of California ambient air quality standards (CAAQS). The California Air Resources Board (CARB) regulates mobile emissions sources and oversees the activities of county and regional air quality districts. CARB regulates local air quality indirectly by establishing vehicle emission standards through its planning, coordinating, and research activities.

2.1.3. Local Air Quality Management District Rules and Regulations

The SMAQMD operates at the local level with primary responsibility for attaining and maintaining the Federal and State ambient air quality standards in Sacramento County. The SMAQMD works jointly with U.S. EPA, CARB, SACOG, other air districts in the Sacramento region, county and city transportation and planning departments, and various non-governmental organizations to improve air quality through a variety of programs. These programs include the adoption of regulations, policies and guidance, extensive education and public outreach programs, as well as emission reducing incentive programs.

The YSAQMD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws for Yolo-Solano County. The two districts are located in Northern California in the Sacramento Valley Air Basin. All projects are subject to SMAQMD and YSAQMD rules and regulations in effect at the time of construction.

2.2. Attainment Status

Areas that do not violate ambient air quality standards are considered to have attained the standard. Violations of ambient air quality standards are based on air pollutant monitoring data and are evaluated for each air pollutant. Table 1 lists the state and federal attainment status for all regulated pollutants. Under the federal standards, the regional O_3 designation is Nonattainment (Severe 15). Yolo County is in attainment of all other NAAQS. Sacramento County is designated as Maintenance (Moderate) for PM_{10} and Nonattainment (Moderate) for $PM_{2.5}$. For the more stringent CAAQS, both Sacramento County and Yolo County are designated Nonattainment for O_3 and PM_{10} and are in attainment of all other State standards.

Table 1 - Attainment Status for Sacramento/Yolo Counties

Pollutant	State Status	Federal Status
Ozone (O_3)	Sacramento and Yolo Counties: Nonattainment	Sacramento and Yolo Counties: 2008 (8-hour): Nonattainment – Severe 15 2015 (8-hour): Nonattainment – Serious
Particulate Matter (PM_{10})	Sacramento and Yolo Counties: Nonattainment	Sacramento County: Maintenance – Moderate Yolo County: Attainment – Unclassifiable
Fine Particulate Matter ($PM_{2.5}$)	Sacramento County: Attainment Yolo County: Unclassified	Sacramento County: Nonattainment – Moderate Yolo County: Nonattainment – Moderate
Carbon Monoxide (CO)	Sacramento and Yolo Counties: Attainment	Sacramento and Yolo Counties: Unclassifiable/Attainment
Nitrogen Dioxide (NO_2)	Sacramento and Yolo Counties: Attainment	Sacramento and Yolo Counties: Unclassifiable/Attainment
Sulfur Dioxide (SO_2)	Sacramento and Yolo Counties: Attainment	Sacramento and Yolo Counties: Unclassifiable/Attainment
Sulfates	Sacramento and Yolo Counties: Attainment	Sacramento and Yolo Counties: Unclassifiable/Attainment
Lead	Sacramento and Yolo Counties: Attainment	Sacramento and Yolo Counties: Unclassifiable/Attainment
Visibility Reducing Particles	Sacramento and Yolo Counties: Unclassified	Sacramento County: N/A Yolo County: N/A
Sulfates	Sacramento and Yolo Counties: Unclassified	Sacramento County: N/A Yolo County: N/A
Hydrogen Sulfide	Sacramento and Yolo Counties: Unclassified	Sacramento County: N/A Yolo County: N/A

Pollutant	State Status	Federal Status
Vinyl Chloride	Sacramento and Yolo Counties: No Information Available	Sacramento County: N/A Yolo County: N/A
Sources: CARB Map of State and Federal Area Designations: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations EPA Greenbook: https://www3.epa.gov/airquality/greenbook/anayo_ca.html		

2.3. Criteria Pollutants

The Clean Air Act requires the U.S. EPA to set National Ambient Air Quality Standards (NAAQS) for six criteria air contaminants: ozone, particulate matter, carbon monoxide, nitrogen dioxide, lead, and sulfur dioxide. It also permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants. Table 1 documents the current air quality standards. Air quality studies generally focus on six pollutants that are most commonly measured and regulated: Lead, CO, O_3, NO_2, SO_2, and suspended particulate, i.e., PM_{10} and $PM_{2.5}$. These are referred to as "criteria" air pollutants (Table 2).

Table 2. Table of State and Federal Ambient Air Quality Standards

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

2.3.1. Ozone (O_3)

Ground-level ozone is the principal component of smog. Ozone is not directly emitted into the atmosphere, but instead forms through a photochemical reaction of reactive organic gases (ROG) and nitrogen oxides (NOx), which are known as ozone precursors. Ozone levels are highest from late spring through autumn when precursor emissions are high and meteorological conditions are warm and stagnant. Motor vehicles create the majority of ROG and NOx emissions in California. Evidence from the reviewed studies indicated that significant harmful health effects could occur among both adults and children if exposed to levels above these standards. Ozone exposure is also associated with symptoms such as coughing, chest tightness, shortness of breath, and the worsening of asthma symptoms. The greatest risk for harmful health effects belongs to outdoor workers, athletes, children, and others who spend greater amounts of time outdoors during periods where ozone levels exceed air quality standards. Elevated ozone levels can reduce crop and timber yields, as well as damage native plants. Ozone can also damage materials such as rubber, fabrics, and plastics.

2.3.2. Nitrogen Dioxide (NO_2)

NO_2, a reddish-brown gas, irritates the lungs. It can cause breathing difficulties at high concentrations. Like O_3, NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as nitrogen oxides (NOx) and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM_{10} (see discussion of PM_{10} below). Elevated NO_2 levels can aggravate acute and chronic respiratory diseases. NO_2 concentrations in the air basin have been below ambient air quality standards; therefore, NO_2 concentrations from land use projects are not a concern.

2.3.3. Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter (PM) is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials, such as metals, soot, soil, and dust. Particles 10 microns or less in diameter are defined as "respirable particulate matter" or "PM_{10}". Fine particles are 2.5 microns or less in diameter ($PM_{2.5}$) and can contribute significantly to regional haze and reduction of visibility. Inhalable particulates found in the region come from smoke, vehicle exhaust, and dust. Although particulates are found naturally in the air, most particulate matter found in the region is emitted either directly or indirectly by wood burning, motor vehicles, construction, agricultural activities, and wind erosion of disturbed areas.

Most $PM_{2.5}$ is comprised of combustion products such as smoke or vehicle exhaust. Respirable particulate matter, especially $PM_{2.5}$, is unhealthy to breathe and has been associated with premature

mortality and other serious health effects. PM_{10} poses a health concern because these particulates can be inhaled into and accumulate in the respiratory system. $PM_{2.5}$ is believed to pose the greatest health risks. Because of their small size (approximately three percent of the average width of a human hair), fine particles can lodge deeply into the lungs.

Extensive research reviewed by CARB indicates that exposure to outdoor PM_{10} and $PM_{2.5}$ levels exceeding current ambient air quality standards is associated with increased risk of hospitalization for lung and heart-related respiratory illness, including emergency room visits for asthma. PM exposure is also associated with increased risk of premature deaths, especially in the elderly and people with pre-existing cardiopulmonary disease. In children, studies have shown associations between PM exposure and reduced lung function, increased respiratory symptoms, and illnesses. Besides reducing visibility, the acidic portion of PM (e.g., nitrates and sulfates) can harm crops, forests, aquatic, and other ecosystems.

2.3.4. Carbon Monoxide (CO)

Carbon monoxide (CO), a colorless and odorless gas, interferes with the transfer of oxygen to the brain. It can cause dizziness and fatigue, and can impair central nervous system functions. CO is emitted from the incomplete combustion of fossil fuels. Automobile exhausts account for the majority of the CO emissions; however, burning wood in fireplaces and wood stoves can contribute a substantial amount as well. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic.

2.3.5. Sulfur Dioxide (SO_2)

Sulfur oxides, primarily SO_2, are a product of high-sulfur fuel combustion. The main sources of SO_2 are coal and oil used in power stations, in industries, and for domestic heating. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 concentrations have been reduced to levels well below the state and national standards, but further reductions in emissions are needed to attain compliance with standards for PM_{10}, of which SO_2 is a contributor. Regional SO_2 concentrations have been well below ambient air quality standards; therefore, SO_2 concentrations from land use projects are not a concern.

2.3.6. Lead (Pb)

Lead is normally not an air quality issue for transportation projects unless the project involves disturbance of soils containing high levels of aerially deposited lead or painting or modification of structures with lead-based coatings. In these cases, construction impact analysis should

describe monitoring and abatement requirements of Caltrans' Standard Specifications and Standard Special Provisions for aerially deposited lead or for lead paint removal and sandblasting. Identify any portions of the project site that will be subject to aerially deposited lead management or soil-bound lead management related to bridges during construction. Note whether the project is near an industrial lead emissions source, especially one related to a nonattainment designation, if applicable. Determine and document whether expected soil disturbance would generate lead concentrations high enough to trigger regulatory involvement. Disturbance of lead paint must meet U.S. EPA and air district rules (Caltrans Standard Specifications 14-9.02, 2015). Disclose any local and air district rules that apply to sandblasting and other activities related to lead paint removal or disturbance, if applicable.

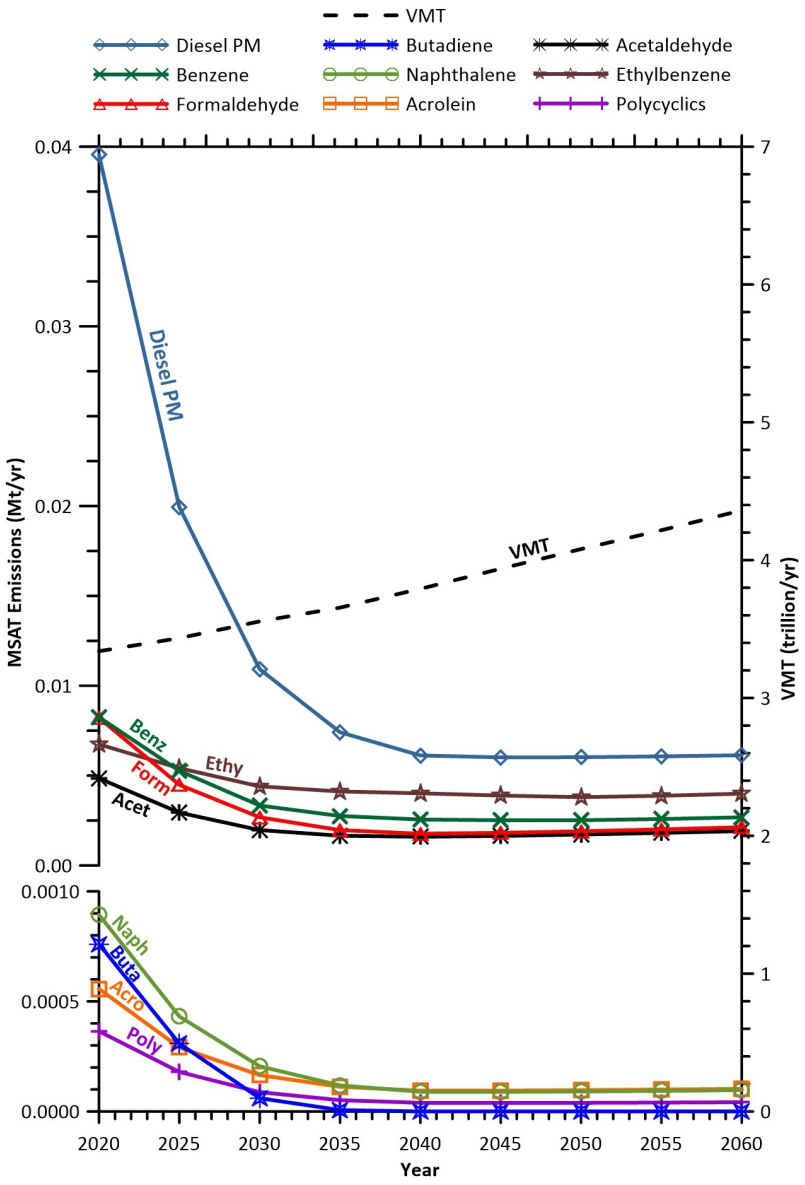
2.4. Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. EPA regulate 188 air toxics, also known as hazardous air pollutants. The U.S. EPA has assessed this expansive list in its rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are part of U.S. EPA's Integrated Risk Information System (IRIS) (https://www.epa.gov/iris). In addition, the U.S. EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-hazard contributors from the 2011 National Air Toxics Assessment (NATA) (https://www.epa.gov/national-air-toxics-assessment). These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While the Federal Highway Administration (FHWA) considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future U.S. EPA rules.

The 2007 U.S. EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using U.S. EPA's MOVES2014a model, even if vehicle activity (vehicle-miles traveled, VMT) increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emission rate for the priority MSATs is projected for the same time period, as shown in Figure 2.

Using EPA's MOVES3 model, as shown in Figure 2, FHWA estimates that even if VMT increases by 31 percent from 2020 to 2060 as forecast, a combined reduction of 76 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Figure 2. FHWA PROJECTED NATIONAL MSAT EMISSION TRENDS 2020 – 2060 FOR VEHICLES OPERATING ON ROADWAYS



Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors

Source: EPA MOVES3 model runs conducted by FHWA, March 2021.

2.5. Climate Change

The term greenhouse gas (GHG) is used to describe atmospheric gases that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. These gases include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and water vapor, among others. A growing body of research attributes long-term

changes in temperature, precipitation, and other elements of Earth's climate to large increases in GHG emissions since the mid-nineteenth century, particularly from human activity related to fossil fuel combustion. Anthropogenic GHG emissions of particular interest include CO_2, CH_4, N_2O, and fluorinated gases.

GHGs differ in how much heat each traps in the atmosphere (global warming potential, or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the warming potential of other gases is assessed as multiples of CO2. For example, the 2007 International Panel on Climate Change Fourth Assessment Report calculates the GWP of CH_4 as 25 and the GWP of N_2O as 298, over a 100-year time horizon. Generally, estimates of all GHGs are summed to obtain total emissions for a project or given time period, usually expressed in metric tons ($MTCO_2e$), or million metric tons ($MMTCO_2e$).

As evidence has mounted for the relationship of climate changes to rising GHGs, federal and state governments have established numerous policies and goals targeted to improving energy efficiency and fuel economy, and reducing GHG emissions. Nationally, electricity generation is the largest source of GHG emissions, followed by transportation. In California, however, transportation is the largest contributor to GHGs.

At the federal 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.

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. However, the U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) issued the first corporate fuel economy (CAFE) standards in 2010, requiring cars and light-duty vehicles to achieve certain fuel economy targets by 2016, with the intention of gradually increasing the targets and the range of vehicles to which they would apply.

California has enacted aggressive GHG reduction targets, starting with Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 is California's signature climate change legislation. It set the goal of reducing statewide GHG emissions to 1990 levels by 2020, and required the ARB to develop a Scoping Plan that describes the approach California will take to achieve that goal and to update it every 5 years. In 2015, Governor Jerry Brown enhanced the overall adaptation planning effort with Executive Order (EO) B-30-15, establishing an interim GHG reduction goal of 40 percent below 1990 levels by 2030, and requiring state agencies to factor climate change into all planning and investment decisions.

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, furthered state climate action goals by mandating coordinated transportation and land use planning through preparation of sustainable communities strategies (SCS). The ARB sets GHG emissions reduction targets for passenger vehicles for each region. Each regional metropolitan planning organization must include in its regional transportation plan an SCS proposing actions toward achieving the regional emissions reduction targets.

With these and other State Senate and Assembly bills and executive orders, California advances an innovative and proactive approach to dealing with GHG emissions and climate change.

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light duty trucks, other trucks, buses, and motorcycles make up the largest source (second to electricity generation) of GHG emitting sources. The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. “Adaptation," refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)[2].

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing the growth of vehicle miles traveled (VMT), 3) transitioning to lower GHG emitting fuels, and 4) improving vehicle technologies. To be most effective all four strategies should be pursued cooperatively. The following Regulatory Setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

2.5.1. Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly bills and Executive Orders, California launched an innovative and proactive approach to dealing with GHG emissions and climate change.

Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

[2] http://climatechange.transportation.org/ghg_mitigation/

Executive Order (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 the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Senate Bill 97 (SB 97) Chapter 185, 2007, Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board (CARB) to set regional emissions reduction targets from 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 for the achievement of the emissions target for their region.

Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under AB 32.

Federal

Although climate change and GHG reduction are a concern at the federal level, currently no regulations or legislation have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level GHG analysis.[3] FHWA supports the approach that climate change considerations should be integrated throughout the transportation decision-making

[3] To date, no national standards have been established regarding mobile source GHGs, nor has U.S. EPA established any ambient standards, criteria or thresholds for GHGs resulting from mobile sources.

process–from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies outlined by FHWA to lessen climate change impacts correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and EO 13514 - Federal Leadership in Environmental, Energy and Economic Performance.

Executive Order 13514 (October 5, 2009): This order is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

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 greenhouse gases 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. U.S. EPA in conjunction with NHTSA issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010.[4]

The U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations.

[4] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On August 28, 2012, U.S. EPA and NHTSA issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards this program is projected to save approximately four billion barrels of oil and two billion metric tons of GHG emissions.

The complementary U.S. EPA and NHTSA standards that make up the Heavy-Duty National Program apply to combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce CO_2 emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

Project Analysis

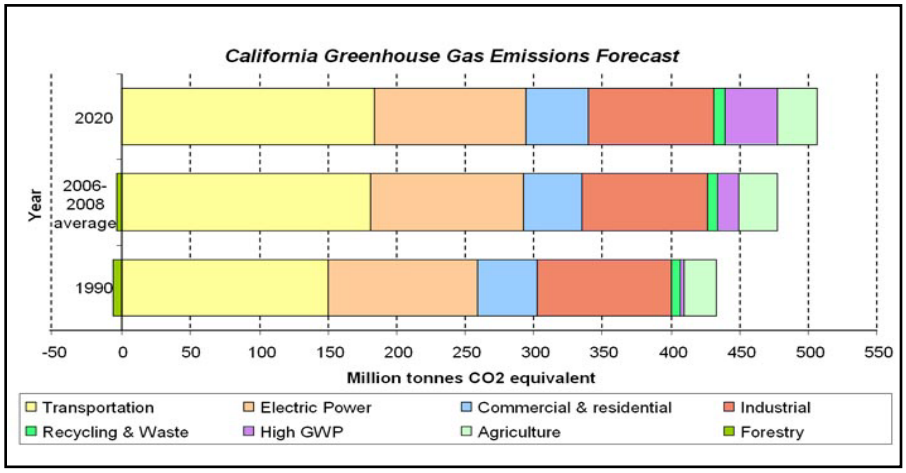
An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined with the contributions of all other sources of GHG.[5] 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. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 includes the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, the

[5] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

ARB released the GHG inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

Figure 3. California Greenhouse Gas Forecast



Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

The Department and its parent agency, the Transportation Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the Department has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.[6]

Section 3. Existing Conditions

The California Air Resources Board maintains the only monitoring station that collects ambient air quality data in the vicinity of Sacramento County. The nearest monitoring location (Figure 4, 1309 T street, Sacramento) is located in Sacramento County approximately 0.75 miles northeast of the project location. Data from the monitoring station is shown in Table 2.

[6] Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

Table 3-Criteria Air Pollutants Data (Sacramento T St Monitoring Station)

Pollutant	Averaging Time	Applicable Standard	2017	2018	2019	2020	2021
Ozone (O_3)	1-Hour	Maximum Concentration (ppm)	0.107	0.097	0.100	0.112	0.091
		Number of Days State Standard Exceeded	0	0	0	0	0
	8-Hour	Maximum Concentration (ppm)	0.077	0.084	0.074	0.076	0.080
		Number of Days National Standard Exceeded (>0.07ppm)	3	1	1	3	1
		Number of Days State Standard Exceeded (>0.07ppm)	3	1	1	3	1
Particulate Matter (PM_{10})	24-Hour	Maximum Concentration (μg/m^3)	150.3	309.5	179.1	298	132
		Number of Days National Standard Exceeded	0	6	1	4	0
		Number of Days State Standard Exceeded	0	22	24	25	59
	Annual	State Annual Average (20 μg/m^3)	0	29.7	20.7	20.2	31.2
Particulate Matter ($PM_{2.5}$)	24-Hour	Maximum Concentration (μg/m^3)	46.0	263.3	37.1	30.7	26.2
		Number of Days Standard Exceeded	6.1	0	0	17.1	4.0
	Annual	National Annual (12.0 μg/m^3)	9.2	11.4	7.7	14.8	8.8
Carbon Monoxide (CO)*	1-Hour	Maximum Concentration (ppm)	1.8	3.2	1.4	4.3	2.2
		Number of Days National Standard Exceeded	0	0	0	0	0
		Number of Days State Standard Exceeded	0	0	0	0	0
	8-Hour	Maximum Concentration (ppm)	1.2	3.0	1.3	1.6	1.3
		Number of Days State Standard Exceeded	0	0	0	0	0

* Carbon monoxide concentrations have not been measured at the T Street station since 2006; the nearest monitoring station is located approximately 1 mile north to the project location at 100 Bercut Dr, Sacramento

Source: http://www.epa.gov/airdata/

Sensitive receptors are locations where people susceptible to the effects of air pollution may stay for extended periods of time. These locations include land uses such as residential, schools, playgrounds, parks, childcare centers and hospitals. There are several land uses and many residences that are within close vicinity of the project (Table 4). The project limits are depicted with a map in Appendix D.

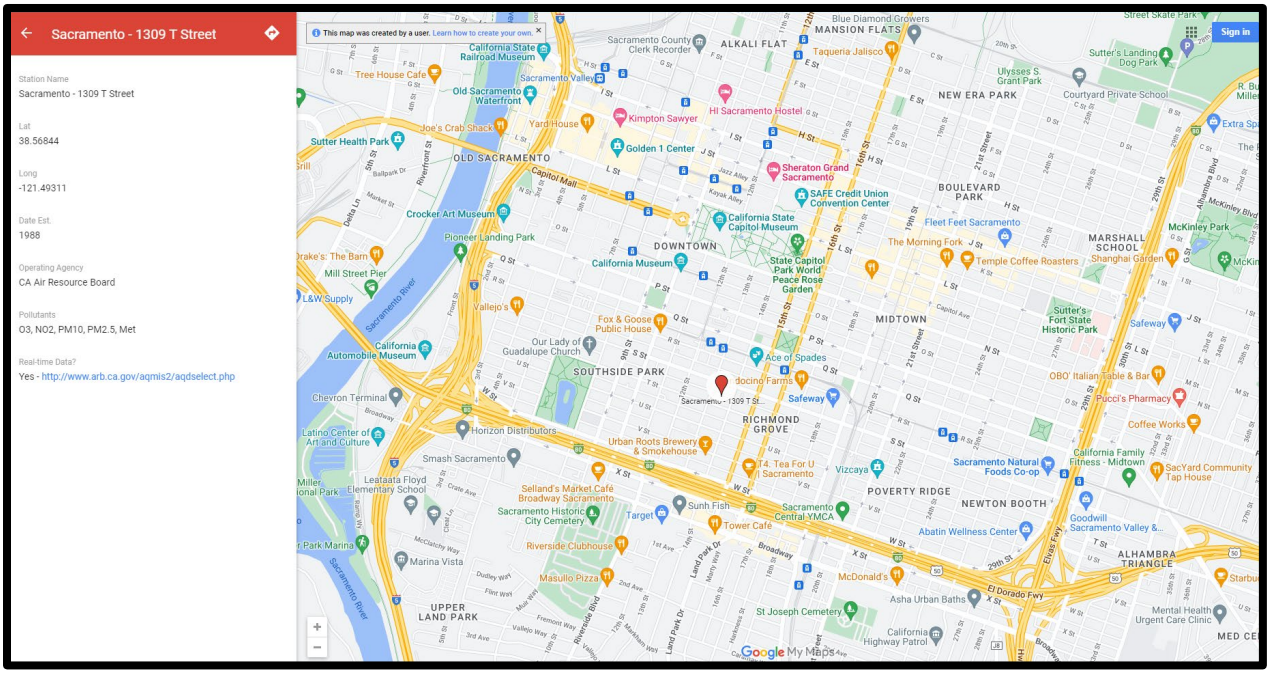


Figure 4. AQ Monitoring Station located in Downtown Sacramento

Table 4-List of Sensitive Receptors within 500 feet of the project limits

Receptor	Description	Distance Between Receptor and Project (ft)
UC Davis	University	500
Toad Hollow Dog Park	Park	300
Play Fields Park	Park	350
Playground at New Harmony Mutual Housing Community	Playground	350
Merryhill Preschool	Preschool	500
Yolo High School	School	450
Westacre Park	Playground	150
River Otter Park	Park	100
Davis Urgent Care	Medical Facility	400
Concentra Urgent Care	Medical Facility	250
Davita West	Medical Facility	250
Sacramento Valley Charter School	School	200
River Bend Nusring Center	Medical Facility	300

The No-Build (No Action) Alternative consists of those transportation projects that are already planned for construction by or before 2029. Consequently, the No-Build alternative represents future travel conditions in the YOL-80 Corridor Improvement study area without the YOL-80 Corridor Improvement project and is the baseline against which the other YOL-80 Corridor Improvement Project alternatives will be assessed to meet NEPA requirements.

Section 4. Transportation Conformity

The Sacramento Area Council of Governments (SACOG) is an association of local governments in the six-county Sacramento Region. Its members include the counties of El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba and the 22 cities within. SACOG provides transportation planning and funding for the region, and serves as a forum for the study and resolution of regional issues.

SACOG prepares the MTIP and MTP/SCS. The MTIP is a short-term listing of surface transportation projects that receive federal funds, require federal action, or are regionally significant. SACOG prepares and adopts the MTIP every two years.

Only projects included in the MTP/SCS may be incorporated into the MTIP. The MTIP derives all its projects either directly from the MTP/SCS or indirectly from the policies within it. The MTP/SCS is the long range policy and planning document while the MTIP is the short range implementing document that enables those planned project to begin work. Specifically, the MTIP

lists those projects from the MTP/SCS that have committed or reasonably available funding and intend to begin a phase of work during the four years of the MTIP.

Transportation projects in nonattainment or maintenance areas receiving federal funding or approval must be found to conform to the current State Implementation Plan or SIP. Each region in the state submits its emissions budgets and strategies for reducing air emissions of pollutants that are above NAAQS to the CARB. After review and approval, CARB submits these plans for the entire State as the SIP for each nonattainment or maintenance pollutant. The primary requirements of the transportation conformity rule are that implementation of transportation plans or programs cannot produce more emissions of pollutants than budgeted in the latest SIP.

Transportation planning is coordinated with this "conformity" process. The MTIP must conform to the SIP by having an emissions budget from on-road mobile sources including estimated emissions from planned projects that does not exceed the emissions budget in the SIP. For an individual project to conform to the SIP, it must be contained in a conforming MTIP. SACOG analyzes the MTIP for air quality conformity and FHWA is responsible for determining that the MTIP conforms to the latest approved SIP.

Sacramento and Yolo Counties are currently designated as nonattainment for fine particulate matter ($PM_{2.5}$) and Ozone. Since this area is considered a nonattainment area for one of the NAAQS it is subject to the Federal Clean Air Act conformity requirements. With Federal Conformity requirements, PM2.5 analysis in this Air Quality Report suffices because of the level of Project Analysis' requirements. Furthermore, the YOL-80 Managed Lanes project is a capacity increasing project, which is required to meet conformity requirements including a project level analysis and an Interagency Consultation. This project was submitted to the conformity-working group on October 4, 2021and the group determined the project was not a POAQC on October 18, 2021 (see Appendix C).

Section 5. Impact Analysis

The operational emissions analysis compares emissions for existing/baseline conditions to the forecasted conditions for the No-Build and Build alternatives given the Project's opening year (2029), RTP horizon year (2040), and design year (2049) with and without a HOV-HOV connector based on the traffic data provided from the Traffic Forecasting from Caltrans (Table 5). Air pollutant emissions associated with the roadways in the Project area were estimated using specific traffic data and conditions provided by the Caltrans District 3 traffic forecasting and the CT-EMFAC2021 emission model.

Table 5. Project Total AADT, Truck AADT, and VMT for Opening, MTIP, and Design Years

Opening Year 2029	Alt 1 (No Build)	Alt 2 (HOV)	Alt 3 (HOT)	Alt 4 (HOT 3+)	Alt 5 (Express Lane)	Alt 6 (Transit)	Alt 7 (Take–A-Lane)
AADT	157,663	173,786	173,806	171,958	169,971	160,847	156,565
*Truck%	*7.7						
Truck%	7.4						
*Truck AADT	11,667	*13,352	*13,354	*13,212	*13,059	*12,359	*12,029
Truck AADT		12,860	12,862	12,725	12,578	11,903	11,586
VMT	3,880,995	4,237,651	4,239,821	4,196,181	4,176,124	3,953,571	3,867,187
MTIP Year 2040	Alt 1 (No Build)	Alt 2 (HOV)	Alt 3 (HOT)	Alt 4 (HOT 3+)	Alt 5 (Express Lane)	Alt 6 (Transit)	Alt 7 (Take–A-Lane)
AADT	162,995	175,741	175,832	173,350	172,582	163,081	159,511
*Truck%	*7.7						
Truck%	7.4						
*Truck AADT	12,062	*13,504	*13,511	*13,320	*13,261	*12,531	*12,257
Truck AADT		13,005	13,012	12,828	12,771	12,068	11,804
VMT	4,026,381	4,324,520	4,329,187	4,272,099	4,252,533	4,025,319	3,931,677
Design Year 2049	Alt 1 (No Build)	Alt 2 (HOV)	Alt 3 (HOT)	Alt 4 (HOT 3+)	Alt 5 (Express Lane)	Alt 6 (Transit)	Alt 7 (Take–A-Lane)
AADT	180,290	190,023	190,807	187,630	186,647	176,866	174,064
*Truck%	*7.7						
Truck%	7.4						
*Truck AADT	13,341	14,599*	14,624*	14,465*	14,318*	13,587*	13,372*
Truck AADT		14,062	14,120	13,885	13,812	13,088	12,881
VMT	4,495,673	4,683,131	4,691,980	4,642,888	4,599,005	4,381,640	4,276,831

*The numbers were resulted in no connector between I-80 and SR50 (option a)

5.1. Carbon Monoxide Analysis

U.S. EPA declared that Transportation Conformity requirements related to CO in Sacramento ended on June 1, 2018. That date marked 20 years from the redesignation of the areas to attainment

and implementation of a maintenance plan. The approved maintenance plan for Sacramento did not extend the maintenance plan period beyond 20 years from redesignation. Consequently, Transportation Conformity requirements for CO ceased to apply after June 1, 2018 (i.e., 20 years after the effective date of the U.S. EPA's approval of the first ten-year maintenance plan and redesignation of the areas to attainment for the CO NAAQS.

5.2. $PM_{2.5}/PM_{10}$ Analysis

In November 2015, the U.S. EPA released an updated version of Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas (Guidance) for quantifying the local air quality impacts of transportation projects and comparing them to the PM NAAQS (75 FR 79370). The U.S. EPA originally released the quantitative guidance in December 2010, and released a revised version in November 2013 to reflect the approval of EMFAC 2011 and U.S. EPA's 2012 PM NAAQS final rule. The November 2015 version reflects MOVES2014 and its subsequent minor revisions such as MOVES2014a, to revise design value calculations to be more consistent with other U.S. EPA programs, and to reflect guidance implementation and experience in the field. Note that EMFAC, not MOVES, should be used for project hot-spot analysis in California. The Guidance requires a hot-spot analysis to be completed for a project of air quality concern (POAQC). The following explanations are why this project is not a POAQC in italic with the final rule in 40 CFR 93.123(b)(1) defines a POAQC as:

(i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;

The 2029, 2040 and 2049 average annual daily traffic (AADT), along the project limits are projected to be above 150,000 average daily traffic, as shown in Table 3. The average diesel truck percentage within the project limit (see Table 5) was estimated about 7.7% without a HOV-HOV connector and 7.4% with a HOV-HOV connector. This is less than the percentage of diesel trucks (i.e., 8%) considered to be significant pursuant to the PM Guidance. Furthermore, the projected fleet mix will not change significantly through the horizon year.

(ii) Projects affecting intersections that are at Level-of-Service (LOS) D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;

The project would not introduce a significant number of diesel vehicles to the project area.

(iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;

The project does not comprise a bus or rail terminal or transfer point.

(iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and

The project does not comprise expansion of a bus or rail terminal.

(v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM2.5 and PM10 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The project is not in, nor will it affect, a location of violation or possible violation.

The proposed project has undergone Interagency Consultation regarding POAQC determination.

Interagency Consultation participants concurred that the project is not a POAQC on October 15, 2021 by EPA and on October 18, 2021 by FHWA. The proposed project is not considered a POAQC because it does not meet the definition as defined in U.S. EPA's Transportation Conformity Guidance. Therefore, PM hot-spot analysis is not required. Documentation of concurrence are provided in this section and in Appendix C.

This project is located in a particulate matter $PM_{2.5}$ maintenance area and has been determined that the project is not a project of air quality concern (see Appendix C). Project-level hot-spot analysis for particulate matter is therefore not required for a conformity determination.

Table 6 and 7 show that the total daily PM_{10} and $PM_{2.5}$ emissions with a HOV-HOV connector for the Build and No Build alternatives in the opening year and the horizon year would be higher than existing conditions. However, the increase of total daily PM_{10} emissions considers not substantial as estimated about 9.1%, 6.4%, 3.1% of PM_{10} of Alternative 2 with opening year 2029, MTP year 2040, and Design year 2049, respectively. For $PM_{2.5}$ with a HOV-HOV connector, it considers not large as estimated about 8.6%, 5.6%, 1.9% of Alternative 2 with opening year 2029, MTP year 2040, and Design year 2049, respectively. It would anticipate that the decreases of PM10/2.5 with build would be greater due to less traffic generated without a HOV-HOV connector. Therefore, the difference between Build and No Build would be not significant in terms of PM_{10} and $PM_{2.5}$ in regard to the increase of total AADT between Build and No Build with a HOV-HOV connector. The approved RTP and TIP for the project area has no PM mitigation or control measures that relate to the project's construction or operation. Therefore, a written commitment to implement PM control measures is not required.

Table 6. Total Daily PM_{10} Emissions with *option a and option b

Opening Year 2029	Baseline (Existing Yr 2019)	Alt 1 (No Build)	Alt 2 (HOV)	Alt 3 (HOT)	Alt 4 (HOT 3+)	Alt 5 (Express Lane)	Alt 6 (Transit)	Alt 7 (Take–A-Lane)
*PM_{10} (lb)	610.8	632.2	*597.4	*597.2	*593.4	*589.7	*561.5	*544.0
PM_{10} (lb)	610.8	632.2	689.9	687.9	672.9	648.6	628.6	628.4
*%Change between Build/No-Build	NA	NA	-5.5	-5.5	-6.1	-6.7	-11.2	-14.0
%Change between Build/No-Build	NA	NA	9.1	8.8	6.4	2.6	-0.6	-0.6
*%Change between Existing/Build	NA	3.5	-2.2	-2.2	-2.9	-3.5	-8.1	-10.9
%Change between Existing/Build	NA	3.5	13.0	12.6	10.2	6.2	2.9	2.9
MTIP Year 2040	Baseline (Existing Yr 2019)	Alt 1 (No Build)	Alt 2 (HOV)	Alt 3 (HOT)	Alt 4 (HOT 3+)	Alt 5 (Express Lane)	Alt 6 (Transit)	Alt 7 (Take–A-Lane)
*PM_{10} (lb)	610.8	660.6	*609.3	*607.6	*597.6	*594.4	*571.6	*555.8
PM_{10} (lb)	610.8	660.6	703.0	702.4	690.9	686.3	660.8	642.3
*%Change between Build/No-Build	NA	NA	-7.8	-8.0	-9.5	-10.0	-13.5	-15.9
%Change between Build/No-Build	NA	NA	6.4	6.3	4.6	3.9	0.1	-2.8
*%Change between Existing/Build	NA	8.2	-0.2	-0.5	-2.2	-2.7	-6.4	-9.0
%Change between Existing/Build	NA	8.2	15.1	15.0	13.1	12.4	8.2	5.2
Design Year 2049	Baseline (Existing Yr 2019)	Alt 1 (No Build)	Alt 2 (HOV)	Alt 3 (HOT)	Alt 4 (HOT 3+)	Alt 5 (Express Lane)	Alt 6 (Transit)	Alt 7 (Take–A-Lane)
*PM_{10} (lb)	610.8	746.3	*668.6	*671.5	*665.5	*659.4	*630.8	*613.8
PM_{10} (lb)	610.8	746.3	772.0	775.0	764.4	762.8	729.1	709.0
*%Change between Build/No-Build	NA	NA	-10.4	-10.0	-10.8	-11.6	-15.5	-17.8
%Change between Build/No-Build	NA	NA	3.5	3.9	3.0	2.2	-2.3	-5.0
*%Change between Existing/Build	NA	22.2	9.5	9.9	9.0	8.0	3.3	0.5
%Change between Existing/Build	NA	22.2	26.4	26.9	25.1	24.9	19.4	6.1

*All results from emissions without a HOV-HOV connector (option a)

Table 7. Total Daily $PM_{2.5}$ Emissions with *option a and option b

Opening Year 2029	Baseline (Existing Yr 2019)	Alt 1 (No Build)	Alt 2 (HOV)	Alt 3 (HOT)	Alt 4 (HOT 3+)	Alt 5 (Express Lane)	Alt 6 (Transit)	Alt 7 (Take–A-Lane)
*$PM_{2.5}$ (lb)	139.2	127.5	*120.0	*119.8	*119.3	*118.9	*113.8	*110.9
PM2.5 (lb)	139.2	127.5	138.5	137.6	135.5	134.5	131.4	128.0
*%Change between Build/No-Build	NA	NA	-6.3-	-6.0	-6.4	-6.7	-10.7	-13.0
%Change between Build/No-Build	NA	NA	8.6	7.9	6.3	5.5	3.1	0.4
*%Change between Existing/Build	NA	-8.4	-13.7	-13.9	-14.3	-14.6	-18.2	-20.3
%Change between Build/No-Build	NA	-8.4	-0.5	-1.1	-2.7	-3.4	-5.6	-8.0
MTIP Year 2040	Baseline (Existing Yr 2019)	Alt 1 (No Build)	Alt 2 (HOV)	Alt 3 (HOT)	Alt 4 (HOT 3+)	Alt 5 (Express Lane)	Alt 6 (Transit)	Alt 7 (Take–A-Lane)
*$PM_{2.5}$ (lb)	139.2	128.2	*117.5	*116.8	*114.6	*113.9	*110.9	*108.0
PM2.5 (lb)	139.2	128.2	135.4	135.0	132.5	131.4	128.2	124.8
*%Change between Build/No-Build	NA	NA	-8.3	-8.9	-10.6	-11.2	-13.5	-15.8
%Change between Build/No-Build	NA	NA	5.6	5.3	3.4	0.8	0.1	-2.7
*%Change between Existing/Build	NA	-7.9	-15.6	-16.0	-17.7	-18.2	-20.3	-22.4
%Change between Existing/Build	NA	-7.9	-2.7	-3.0	-4.8	-5.6	-7.9	-10.3
Design Year 2049	Baseline (Existing Yr 2019)	Alt 1 (No Build)	Alt 2 (HOV)	Alt 3 (HOT)	Alt 4 (HOT 3+)	Alt 5 (Express Lane)	Alt 6 (Transit)	Alt 7 (Take–A-Lane)
*$PM_{2.5}$ (lb)	139.2	145.4	*128.4	*129.1	*128.1	*127.0	*122.5	*118.4
PM2.5 (lb)	139.2	145.4	148.1	148.5	146.8	146.7	141.5	136.6
*%Change between Build/No-Build	NA	NA	-11.7	-11.2	-11.9	-12.7	-15.7	-18.6
%Change between Build/No-Build	NA	NA	1.9	2.1	1.0	0.9	-2.7	-6.1
*%Change between Existing/Build	NA	4.5	-7.8	-7.3	-8.0	-8.8	-12.0	-14.9
%Change between Build/No-Build	NA	4.5	6.4	6.7	5.5	5.4	1.7	-1.9

*****All results from emissions without a HOV-HOV connector (option a)

5.3. Climate Change

The proposed project will improve traffic flow and reduce congestion within the project limits. These improvements will most likely result in a slight increase in GHG emitted for the opening year 2029 and MTIP year 2040 since they will improve traffic flow with increasing vehicle miles traveled. However, in the design year 2049, GHG emissions Alt 2-7 are anticipated to be less produced than Alt 1 (Table 8). Please note that this project would produce lesser GHG due to less traffic anticipated without a HOV-HOV connector. For the comparison under NEPA with Build and No Build of Alternative 2, the project would produce more GHG in Opening year 2029 (10.9%) and result in reduction of GHG in Design year 2049 (-2.1%) with the connector. For the comparison under CEQA with Build and Baseline of Alternative 2, GHG would anticipate with increase of Opening year 2029 (11.0%) and decrease of Design year 2049 (-2.1%) with the connector. It is noted that GHG emissions would be improved with the project resulted in from the increase of 2.2 to 10.9% in Opening Year 2029 to the reduction indicating -1.4 to -5.1% in Design Year 2049 regarding all the alternatives 2-7 between build and no build (Table 7). Furthermore, the improved reduction of GHG would be anticipated between existing and build in the comparison of Opening year 2029 (2.3 ~ 11.0%) and Design year 2049 (-2.1 ~ -5.8%).

Table 8. Daily GHG Emissions (US ton) with *option a and option b

Opening Year 2029	Baseline (Existing Yr 2019)	Alt 1 (No Build)	Alt 2 (HOV)	Alt 3 (HOT)	Alt 4 (HOT 3+)	Alt 5 (Express Lane)	Alt 6 (Transit)	Alt 7 (Take–A-Lane)
*CO_2e (Metric ton)	1039.5	*1040.6	*1005.1	*986.4	*970.5	*915.7	*902.1	*1062.7
CO2e (Metric ton)	1039.5	1040.6	1154.0	1148.0	1132.0	1117.5	1063.4	1097.9
*%Change between Build/No-Build	NA	NA	-3.4	-5.2	-6.7	-12.0	-13.3	2.1
%Change between Build/No-Build	NA	NA	10.9	10.3	8.8	7.4	2.2	5.5
*%Change between Existing/Build	NA	0.1	-3.3	-5.1	-6.6	-11.9	-13.2	2.2
%Change between Existing/Build	NA	0.1	11.0	10.4	8.9	7.5	2.3	5.6
Design Year 2049	Baseline (Existing Yr 2019)	Alt 1 (No Build)	Alt 2 (HOV)	Alt 3 (HOT)	Alt 4 (HOT 3+)	Alt 5 (Express Lane)	Alt 6 (Transit)	Alt 7 (Take–A-Lane)
*CO_2e (Metric ton)	1039.5	*1031.4	*939.0	*931.2	*920.5	*909.5	*880.2	*863.6
CO2e (Metric ton)	1039.5	1031.4	1017.2	1006.6	993.4	979.2	996.4	981.3
*%Change between Build/No-Build	NA	NA	-9.0	-9.7	-10.8	-11.8	-14.7	-16.3
%Change between Build/No-Build	NA	NA	-1.4	-2.4	-3.7	-5.1	-3.4	-4.9

*%Change between Existing/Build	NA	-0.8	-9.7	-10.4	-11.5	-12.5	-15.3	-16.9
%Change between Existing/Build	NA	-0.8	-2.1	-3.2	-4.4	-5.8	-4.1	-5.6

5.4. Mobile Source Air Toxins

FHWA released updated guidance in Jan. 18, 2023 for determining when and how to address MSAT impacts in the NEPA process for transportation projects. FHWA identified three levels of analysis:

- No analysis for exempt projects or projects with no potential for meaningful MSAT effects;
- Qualitative analysis for projects with low potential MSAT effects; and
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Projects with no impacts generally include those that a) qualify as a categorical exclusion under 23 CFR 771.117, b) qualify as exempt under the FCAA conformity rule under 40 CFR 93.126, and c) are not exempt, but have no meaningful impacts on traffic volumes or vehicle mix.

Projects that have low potential MSAT effects are those that serve to improve highway, transit, or freight operations or movement without adding substantial new capacity or creating a facility that is likely to substantially increase emissions. The large majority of projects fall into this category.

Projects with high potential MSAT effects include those that:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of Diesel Particulate Matter in a single location; or
- Create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000, or greater, by the design year; and
- Are proposed to be located in proximity to populated areas or, in rural areas, in proximity to concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals).

The latest version of CT-EMFAC, CT-EMFAC2021, was used to estimate emissions of benzene, 1,3-butadiene, acetaldehyde, formaldehyde, acrolein, ethylbenzene, naphthalene, DPM, and POM. Please note that appendix D illustrates the extent of the area considered in the MSAT analysis. Traffic activity data were estimated for each of different periods of a representative day in the baseline, opening 2029, and horizon 2049 years. Emissions were estimated for all MSATs using CT-EMFAC2021, based on EMFAC2021 and speciation factors provided by ARB and U.S. EPA.

Table 9. Daily MSAT Emissions (lbs) with *option a and option b

Scenario/ Analysis Year		1,3-butadiene	Acetaldehyde	Acrolein	Benzene	Diesel PM	Ethylbenzene	Formaldehyde	Naphthalene	POM
2019	Baseline (Existing Conditions)	0.84	3.89	0.08	11.84	24.57	4.59	8.87	0.77	0.22
2029	No-Build Alt1	0.36	1.82	0.04	6.23	7.32	2.77	4.09	0.34	0.10
	*Build Alt 2	*0.34	*1.68	*0.03	*5.64	*7.67	*2.48	*3.78	*0.31	*0.09
	Build Alt 2	0.39	1.94	0.04	6.61	8.64	2.90	4.37	0.37	0.11
	*Build Alt 3	*0.33	*1.64	*0.03	*5.52	*7.56	*2.42	*3.69	*0.31	*0.09
	Build Alt 3	0.38	1.88	0.04	6.42	8.59	2.82	4.24	0.36	0.10
	*Build Alt 4	*0.33	*1.64	*0.03	*5.52	*7.56	*2.42	*3.69	*0.31	*0.09
	Build Alt 4	0.37	1.84	0.04	6.30	8.39	2.77	4.14	0.35	0.10
	*Build Alt 5	*0.32	*1.64	*0.03	*5.53	*7.04	*2.45	*3.69	*0.30	*0.09
	Build Alt 5	0.37	1.83	0.04	6.26	8.23	2.76	4.12	0.35	0.10
	*Build Alt 6	0.32	1.65	0.03	5.55	6.57	2.47	3.69	0.30	0.30
	Build Alt 6	0.37	1.90	0.04	6.50	7.40	2.90	4.26	0.35	0.10
	*Build Alt 7	0.36	1.80	0.04	6.17	7.16	2.72	4.06	0.33	0.10
	Build Alt 7	0.42	2.08	0.04	7.23	8.07	3.20	4.70	0.39	0.12
	*% Diff. between Alt 2 and No Build	-6.7	-7.6	-6.7	-9.5	4.7	-10.7	-7.5	-6.4	-7.3
	% Diff. between Alt 2 and No Build	9.2	6.5	14.5	6.0	18.0	4.7	6.9	9.5	8.4
	*% Diff. between Alt 3 and No Build	-8.8	-9.7	-8.5	-11.5	3.3	-12.6	-9.6	-8.6	-9.7
	% Diff. between Alt 3 and No Build	6.2	3.4	12.1	3.0	17.4	1.7	3.7	6.8	5.3
	*% Diff. between Alt 4 and No Build	-9.9	-9.8	-11.5	-11.5	-0.6	-12.2	-9.8	-9.7	-10.0
	% Diff. between Alt 4 and No Build	3.8	1.1	7.9	1.0	14.7	0.0	1.4	4.5	2.9
	*% Diff. between Alt 5 and No Build	-10.5	-9.5	-11.5	-11.3	-3.9	-11.6	-9.6	-10.3	-10.4
	% Diff. between Alt 5 and No Build	2.8	0.5	6.7	0.4	12.5	-0.5	0.8	3.4	2.2
	*% Diff. between Alt 6 and No Build	-11.5	-9.4	-13.3	-10.9	-10.3	-10.9	-9.7	-11.3	-10.8
	% Diff. between Alt 6 and No Build	3.6	4.3	4.8	4.2	1.1	4.4	4.2	3.7	3.5
	*% Diff. between Alt 7 and No Build	-0.1	-0.7	0.6	-1.1	-2.2	-1.7	-0.6	-0.7	0.0

Scenario/ Analysis Year		1,3-butadiene	Acetaldehyde	Acrolein	Benzene	Diesel PM	Ethylbenzene	Formaldehyde	Naphthalene	POM
	% Diff. between Alt 7 and No Build	17.1	14.7	20.6	16.0	10.2	15.3	15.0	16.4	16.4
2049	No-Build Alt1	0.26	0.95	0.03	5.45	4.58	2.64	2.24	0.22	0.06
	*Build Alt 2	*0.18	*0.68	*0.02	*3.72	*4.99	*1.78	*1.60	*0.16	*0.04
	Build Alt 2	0.21	0.78	0.02	4.28	5.70	2.05	1.82	0.18	0.05
	*Build Alt 3	*0.17	*0.66	*0.02	*3.63	*4.84	*1.74	*1.56	*0.15	*0.04
	Build Alt 3	0.20	0.75	0.02	4.16	5.61	1.99	1.77	0.17	0.05
	*Build Alt 4	0.17	0.65	0.02	3.60	4.69	1.73	1.54	0.15	0.04
	Build Alt 4	0.20	0.75	0.02	4.13	5.38	1.98	1.75	0.17	0.05
	*Build Alt 5	0.17	0.65	0.02	3.59	4.55	1.73	1.53	0.15	0.04
	Build Alt 5	0.20	0.75	0.02	4.13	5.18	1.99	1.75	0.17	0.05
	*Build Alt 6	0.20	0.77	0.02	4.32	4.10	2.09	1.80	0.18	0.05
	Build Alt 6	0.24	0.89	0.02	5.05	4.63	2.44	2.09	0.20	0.05
	*Build Alt 7	0.19	0.72	0.02	4.04	4.55	1.94	1.70	0.17	0.04
	Build Alt 7	0.23	0.84	0.02	4.72	5.16	2.27	1.97	0.20	0.05
	*% Diff. between Alt 2 and No Build	-29.7	-28.8	-30.5	-31.8	8.9	-32.6	-28.8	-29.5	-28.7
	% Diff. between Alt 2 and No Build	-18.3	-18.7	-18.6	-21.5	24.4	-22.5	-18.7	-18.6	-18.0
	*% Diff. between Alt 3 and No Build	-32.0	-30.5	-32.2	-33.4	5.7	-34.0	-30.6	-31.6	-30.7
	% Diff. between Alt 3 and No Build	-21.0	-21.0	-21.2	-23.6	22.5	-24.5	-21.0	-21.0	-21.1
	*% Diff. between Alt 4 and No Build	-33.0	-31.2	-33.1	-34.0	2.2	-34.5	-31.3	-32.5	-31.4
	% Diff. between Alt 4 and No Build	-22.2	-21.8	-22.0	-24.3	17.4	-25.0	-21.9	-22.3	-21.1
	*% Diff. between Alt 5 and No Build	-33.4	-31.6	-34.7	-34.2	-0.7	-34.6	-31.7	-33.1	-32.2
	% Diff. between Alt 5 and No Build	-22.8	-21.9	-23.7	-24.2	13.1	-24.7	-22.1	-22.8	-21.5
	*% Diff. between Alt 6 and No Build	-21.1	-19.5	-21.2	-20.8	-10.6	-20.9	-19.6	-20.4	-19.9
	% Diff. between Alt 6 and No Build	-6.9	-6.9	-8.5	-7.4	1.1	-7.5	-7.0	-7.0	-6.1
	*% Diff. between Alt 7 and No Build	-24.4	-24.2	-25.4	-25.9	-0.8	-26.5	-24.1	-24.0	-24.1
	% Diff. between Alt 7 and No Build	-10.9	-12.4	-12.7	-13.4	12.6	-14.1	-12.2	-11.0	-11.1

The proposed project would be categorized under high potential MSAT effects which require a Quantitative analysis to differentiate alternatives.

Considering the differences in projected corridor-level vehicle miles traveled (VMT) for each of the build alternatives, Alternatives 2 and 3 were analyzed for air quality purposes along with the No-Build Alternative based on a HOV-HOV connector and without (Table 9). Build Alternatives 2 and 3 have traffic forecasts very similar to each other and expected to be built as preferred alternatives in the future, the difference being the operation of HOV lanes (Alternative 2) versus HOT lanes (Alternatives 3) along the corridor was tabulated. Therefore, the impacts from Build Alternative 2 and 3 are used to represent the air quality impacts of this project provides the most conservative estimate of potential emissions among the seven alternatives.

The increases in MSAT emissions under Alternatives 2 and 3 in 2029 relative to the No Build Alternative would likely be associated with addition of HOV sections that would be built across the Sacramento and Yolo Counties in the vicinity. But, MSAT emissions in Design Year 2049 resulted in reductions of 8 out of 9 toxic chemicals (Table 9). Even if some increases of MSAT do occur relative to the No Build Alternative in Opening year 2029, they too will be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations. Furthermore, it would result in the greater decreased MSAT (minus % Differences in Table 9) in the absence of a HOV-HOV connector due to lesser induced traffic.

As shown in Figure 2, MSAT emission rates are anticipated to decrease substantially, especially for diesel PM, by the opening year of 2029 and even further by the horizon year of 2049. The area surrounding the project is not heavily industrialized and comprises only approximately six percent heavy trucks. The project would not substantially increase the percentage of trucks traveling along I-80 of the project limits, and local truck emissions may in fact decrease in future analysis years 2029 and 2049 due to penetration of electric heavy duty trucks. In sum, under all Build Alternatives in the opening year and design year it is expected there would be negligible increases in MSAT emissions relative to the No Build Alternative due to the dispersion across the SACOG region and to EPA's MSAT reduction programs.

Moreover, U.S. EPA regulations for vehicle engines and fuels will cause overall MSATs to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES3 model forecasts a combined reduction of over 76 percent in the total annual emission rate for the priority MSAT from 2020 to 2060 while vehicle-miles of travel are projected to increase by over 31 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

INCOMPLETE OR UNAVAILABLE INFORMATION FOR PROJECT-SPECIFIC MSAT HEALTH IMPACTS ANALYSIS

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in mobile source air toxic (MSAT) emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, https://www.epa.gov/iris/). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). A number of HEI studies are summarized in Appendix D of FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are: cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI Special Report 16, https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects) or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (Special Report 16, https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-

exposure-and-health-effects). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA states that with respect to diesel engine exhaust, "[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk." (EPA IRIS database, Diesel Engine Exhaust, Section II.C. https://iris.epa.gov/static/pdfs/0642_summary.pdf).

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable (https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/$file/07-1053-1120274.pdf).

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Section 6. Construction Impacts

Construction is expected to begin in 2024 and last less than four years. Although construction is planned to last approximately four years, no construction activities are anticipated to last more than five years at any individual site. Emissions from construction-related activities are thus considered temporary as defined in 40 CFR 93.123(c)(5); and are not required to be included in PM hot-spot analyses to meet conformity requirements. Construction-related emissions are generally short-term in duration but may still cause adverse air quality impacts.

6.1. Construction Dust

Dust would be generated during grading and construction operations. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed, amount of activity, soil conditions and meteorological conditions.

Although grading and construction activities would be temporary, they would have the potential to cause both nuisance and health air quality impacts. PM_{10} is the pollutant of greatest concern associated with dust. If uncontrolled, elevated PM_{10} levels could occur downwind of actively disturbed areas. In addition, dust fall on adjacent properties could be a nuisance. If uncontrolled, dust generated by grading and construction activities would have an adverse effect on air quality.

6.2. Construction Equipment Exhaust

Daily Maximum construction emissions were estimated using the latest version of Caltrans' CAL-CET2021 emissions model which uses emission factors from EMFAC2021 developed by CARB. Detailed construction plans were not available at the time of this analysis. Therefore, equipment quantities and construction phases provided by CAL-CET2021 (version 1.0.2) were used along with maximum Project durations provided by the Caltrans' design engineering team. Appendix E lists all the construction inputs provided and entered into CAL-CET2021. (see Appendix E for model inputs and outputs). Inputs to the model included the construction start date, total construction cost, estimated working days, and project length. Table 10 shows the maximum construction emissions per project phase.

Table 10. Maximum Construction Emissions

Project Phase	ROG	NOx	PM_{10}	$PM_{2.5}$
Grubbing/Land Clearing	10.0 lbs/day	67.4 lbs/day	214.1 lbs/day	25.2 lbs/day
Roadway Excavation/Removal	13.8 lbs/day	107.7 lbs/day	96.0 lbs/day	15.0 lbs/day
Structure Excavation/Removal	10.6 lbs/day	59.2 lbs/day	135.7 lbs/day	16.4 lbs/day
Base/Subbase/Imported Borrow	15.2 lbs/day	129.7 lbs/day	139.6 lbs/day	20.2 lbs/day
Structure Concrete	11.7 lbs/day	67.8 lbs/day	4.3 lbs/day	4.2 lbs/day
Paving	13.7 lbs/day	105.9 lbs/day	5.7 lbs/day	5.5 lbs/day
Drainage/Utilities/Sub-Grade	11.0 lbs/day	48.5 lbs/day	67.8 lbs/day	4.4 lbs/day
Traffic Signalization	17.4 lbs/day	137.3 lbs/day	6.6 lbs/day	6.4 lbs/day

Total (Tons/Construction project)	2.0	13.5	6.1	1.3
SMAQMD Standard Levels	-	85 lbs/day	80 lbs/day	82 lbs/day
YSAQMD Standard Levels	55 lbs/day	55 lbs/day	80 lbs/day	-

Caltrans has statewide jurisdiction on projects within its right of way. Since the setting for projects varies extensity across the state, Caltrans has not and will not develop standard levels for CEQA. Further, because most air district thresholds have not been established by regulation or by delegation from a federal or state agency with regulatory authority over Caltrans, Caltrans is not required to adopt those standard levels in Caltrans' documents. The SMAQMD and YSAQMD standard levels are provided for reference.

Construction equipment and associated heavy-duty truck traffic generate diesel exhaust. Diesel exhaust poses both a health and nuisance impact to nearby receptors. These construction activities are expected to occur during a relatively short time. See the next section for a list of construction-related mitigation measures.

6.3. GHG Construction Emissions

Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from 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 reduced to some degree by longer intervals between maintenance and rehabilitation events. Currently, neither Caltrans nor SMAQMD/YSAQMD have adopted GHG standard levels that apply to construction projects. For informational purposes, GHG emissions from project construction were estimated using CAL-CET2021 version 1.0.2. There will be approximately 5532 tons of CO_2 generated over the course of the entire construction project.

Section 7. Avoidance, Minimization, and Mitigation Measures

7.1. Operational Minimization

No avoidance or minimization, measures are required, as the project would not produce substantial operational air quality impacts.

7.2. Construction Minimization

Caltrans special provisions and standard specifications include the requirement to minimize or eliminate dust through application of water or dust palliatives. The following construction dust and equipment exhaust emissions measures shall be implemented when practical, during all phases of construction work:

Control measures will be implemented as specified in Caltrans 2018 Standard Specifications Section 10-5 “Dust Control”, Section 14-9 “Air Quality” and Section 18 “Dust Palliatives”.

The proposed project would also comply with rules and regulations pertaining to the control of fugitive dust and prevention of public nuisance published by the SMAQMD and YSAQMD.

Appendix A. Conformity Checklist

Transportation Air Quality Conformity Findings Checklist

PROJECT INFORMATION

Project Name: YOLO 80 Corridor Improvements Project

DIST-CO-RTE-PM: 03-YOL/SAC-80, PM0.0/11.72 & 0.0/1.36 and US-50 PM0.0/0.617 in Sacramento County and US-50 PM0.0/0.3 in Yolo County

EA: 03-3H900 **Federal Aid Number:**

Document Type: ☐ 23 USC 326 CE ☐ 23 USC 327 CE ☒ EA ☐ EIS

CHECKLIST

Step 1. Is the project located in a nonattainment or maintenance area for ozone, nitrogen dioxide, carbon monoxide (CO), PM2.5, or PM10 per EPA's Green Book listing of non-attainment areas?

☐ If no, go to Step 18. **Transportation conformity does not apply to the project.**

☒ If yes, go to Step 2.

Step 2. Is the project exempt from conformity per 40 CFR 93.126 or 40 CFR 93.128?

☐ If yes, go to Step 18. **The project is exempt from all project-level conformity requirements (40 CFR 93.126 or 128)** (check one box below and identify the project type, if applicable).

☐ 40 CFR 93.126[1]
Project type from Table 2:

☐ 40 CFR 93.128

☒ If no, **go** to Step 3.

Step 3. Is the project exempt from regional conformity per 40 CFR 93.127?

☐ If yes, go to Step 8. **The project is exempt from regional conformity requirements (40 CFR 93.127)** (identify the project type).
Project type:

☒ If no, go to Step 4.

Step 4. Is the project located in a region with a currently conforming RTP and TIP?

☒ If yes, t**he project is included in a currently conforming RTP and TIP per 40 CFR 93.115. The project's design and scope have not changed significantly from what was assumed in RTP conformity analysis (40 CFR 93.115[b])** Go to Step 8.

☐ If no and the project is located in an isolated rural area, go to Step 5.

☐ If no and the project is not located in an isolated rural area, STOP and do not proceed until a conforming RTP and TIP are adopted.

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[1] Please refer to Clarifications on Exempt Project Determinations to verify exempt project type from Table 2. Road diets, auxiliary lanes less than one-mile, and ramp metering may be exempt under "projects that correct, improve, or eliminate a hazardous location or feature."

Step 5. For isolated rural areas, is the project regionally significant per 40 CFR 93.101, based on review by Interagency Consultation?

☐ If yes, go to Step 6.

☐ If no, go to Step 8. **The project, located in an isolated rural area, is not regionally significant and does not require a regional emissions analysis (40 CFR 93.101 and 93.109[e]).**

Step 6. Is the project included in another regional conformity analysis that meets the isolated rural area analysis requirements per 40 CFR 93.109, including Interagency Consultation and public involvement?

☐ If yes, go to Step 8. **The project, located in an isolated rural area, has met its regional analysis requirements through inclusion in a previously-approved regional conformity analysis that meets current requirements (40 CFR 93.109[e]).**

☐ If no, go to Step 7.

Step 7. The project, located in an isolated rural area, requires a separate regional emissions analysis.

☐ **Regional emissions analysis for regionally significant project, located in an isolated rural area, is complete. Regional conformity analysis was conducted that includes the project and reasonably foreseeable regionally significant projects for at least 20 years. Interagency Consultation and public participation were conducted. Based on the analysis, the interim or emission budget conformity tests applicable to the area are met (40 CFR 93.109[e] and 95.105).**[2] Go to Step 8.

Step 8. Is the project located in a CO nonattainment or maintenance area? (South Coast Air Basin only)

☒ If no, go to Step 9. **CO conformity analysis is not required.**

☐ If yes, **hot-spot analysis requirements for CO per the** CO Protocol (or per EPA's modeling guidance, CAL3QHCR can be used with EMFAC emission factors[3]) **have been met. Project will not cause or contribute to a new localized CO violation (40 CFR 93.116 and 93.123)**[4]. Go to Step 9.

Step 9. Is the project located in a PM10 and/or a PM2.5 nonattainment or maintenance area?

☐ If no, go to Step 13. **PM2.5/PM10 conformity analysis is not required.**

☒ If yes, go to Step 10.

[2] The analysis must support this conclusion before going to the next step.
[3] Use of the CO Protocol is strongly recommended due to its use of screening methods to minimize the need for modeling. When modeling is needed, the Protocol simplifies the modeling approach. Use of CAL3QHCR must follow U.S. EPA's latest CO hot spot guidance, using EMFAC instead of MOVES; see: http://www.epa.gov/otaq/stateresources/transconf/projectlevel-hotspot.htm#co-hotspot.
[4] As of October 1, 2007, there are no CO nonattainment areas in California. Therefore, the requirements to not worsen existing violations and to reduce/eliminate existing violations do not apply.

Step 10. Is the project considered to be a Project of Air Quality Concern (POAQC), as described in EPA's Transportation Conformity Guidance for PM 10 and PM 2.5?

☒ If no, **the project is not a project of concern for PM10 and/or PM2.5 hot-spot analysis based on 40 CFR 93.116 and 93.123 and EPA's Hot-Spot Analysis Guidance. Interagency Consultation concurred with this determination on** October 18, 2021. Go to Step 12.

☐ If yes, go to Step 11.

Step 11. The project is a POAQC.

☐ **The project is a project of concern for PM10 and/or PM2.5 hot-spot analysis based on 40 CFR 93.116 and 93.123, and EPA's Hot-Spot Guidance. Interagency Consultation concurred with this determination on** _____. **Detailed PM hot-spot analysis, consistent with 40 CFR 93.116 and 93.123 and EPA's Hot-Spot Guidance, shows that the project would not cause or contribute to, or worsen, any new localized violation of PM10 and/or PM2.5 standards.** Go to Step 12.

Step 12. Does the approved PM SIP include any PM10 and/or PM2.5 control measures that apply to the project, and has a written commitment been made as part of the air quality analysis to implement the identified SIP control measures? [Control measures can be found in the applicable Federal Register notice at: https://www.epa.gov/state-and-local-transportation/conformity-adequacy-review-region-9#ca.]

☐ If yes, **a written commitment is made to implement the identified SIP control measures for PM10 and/or PM2.5 through construction or operation of this project (40 CFR 93.117).** Go to Step 14.

☒ If no, go to Step 13.

Step 13a. Have project-level mitigation or control measures for CO, PM10, and/or PM2.5, included as part of the project's design concept and scope, been identified as a condition of the RTP or TIP conformity determination? AND/OR

Step 13b. Are project-level mitigation or control measures for CO, PM10, and/or PM2.5 included in the project's NEPA document? AND

Step 13c (applies only if Step 13a and/or 13b are answered "yes"). Has a written commitment been made as part of the air quality analysis to implement the identified measures?

☐ If yes to 13a and/or 13b and 13c, **a written commitment is made to implement the identified mitigation or control measures for CO, PM10, and/or PM2.5 through construction or operation of this project. These mitigation or control measures are identified in the project's NEPA document and/or as conditions of the RTP or TIP conformity determination (40 CFR 93.125(a)).** Go to Step 14.

☒ If no, go to Step 14.

Step 14. Does the project qualify for a Categorical Exclusion pursuant to 23 USC 326?

☐ If yes, go to step 15.

☒ If no, the project requires preparation of a Categorical Exclusion, EA, or EIS pursuant to 23 USC 327. Go to Step 16.

Step 15. Is any analysis required by steps 1-13 of this form?[5]

☐ If yes, then Caltrans prepares the appropriate analysis and documentation for the project file and makes the conformity determination through its signature on the CE form. No FHWA involvement is required. See the AQCA Annotated Outline. Go to Step 18.

☐ If no, then Caltrans makes the conformity determination through its signature on the CE form. No FHWA involvement is required. Go to Step 18.

Step 16. Is the project located in a non-attainment/maintenance area for **ozone only** and considered not regionally significant/non-exempt?

☐ If yes, go to Step 18.[6]

☒ If no, then **an AQCA is needed**. See the AQCA Annotated Outline. Caltrans submits a conformity determination request to FHWA for FHWA's conformity determination. Go to Step 17.

Step 17. Send FHWA Request for Conformity Determination package and FHWA Submittal Package Checklist to DOTP- Air Quality (rodney.tavitas@dot.ca.gov) and DEA-Air Quality (daisy.laurino@dot.ca.gov) for completeness review. Please direct technical questions to DOTP-Air Quality office. Headquarters staff will coordinate with FHWA on behalf of the district.

Date of FHWA air quality conformity determination: April 26, 2024

Step 18. STOP as all air quality conformity requirements have been met.

SIGNATURE

Christopher Dennis	CBR	4/26/2024
AQ Specialist	Signature	Date

[5] Please note that not all projects that qualify for a categorical exclusion will be exempt from air quality conformity requirements. Many types of projects that may qualify for a CE (such as the addition of auxiliary lanes less than one-mile, weaving lanes less than one-mile, turning lanes less than one-mile, climbing lanes less than one-mile, parking, road diets, ramp metering, and even many bridge projects) MAY require some level of project level conformity analysis and may even require interagency consultation. Additionally, please note that for ALL projects the project file must include evidence that one of the three following situations apply: 1) Conformity does not apply to the project area; or 2) The project is exempt from all conformity analysis requirements; or 3) The project is subject to project-level conformity analysis (and possibly regional conformity analysis) and meets the criteria for a conformity determination. The project file must include all supporting documentation and this checklist.

[6] Project-level conformity analysis shows that the project will conform to the State Implementation Plan. Because the project area is Attainment/Unclassified for carbon monoxide (CO) and particulate matter (PM10 and PM2.5), no hot spot analysis is required for the project-level conformity determination by 40 CFR 93.116 and 93.123. The project comes from a conforming Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP). Include documentation of interagency consultation review in the final CE/EA/EIS, if applicable.

Appendix B. SAGOC MTP/SCS, MTIP, and FTIP Information (ID: CAL21276)

SAGOC MTP/SCS and MTIP Information (ID: CAL21276)

ID	County	Status (Planned, Programmed or Project Development Only)	Lead Agency	Budget Category	Title	Description	Total Project Cost (2018 dollars)	Year of Expenditure Cost for planned projects	Completion Timing
SUT10340	SUT	Planned	Sutter County	B- Road & Highway Capacity	Riego Rd Widening	Widen Riego Rd to 4 lanes, Route 99 to Placer Co.	3,142,000	4,550,553	By 2035
SUT18850	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Bridge Preventive Maintenance Program	Bridge Preventive Maintenance Program, Various locations.: See http://www.dot.ca.gov/hq/LocalPrograms/hbrr99/HBP_MPO.html#SACOG web site for backup list of locations.	1,046,028	-	By 2030
SUT18925	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Bridge Replacement On Howsley Rd Over Pleasant Grove Creek Canal	Howsley Rd Over Pleasant Grove Creek Canal at Natomas Rd. Replace 2 lane bridge with 2 lane bridge. No added capacity.. Toll Credits for ENG	15,003,179	-	By 2030
SUT18876	SUT	Project Development Only	Sutter County	C- Maintenance & Rehabilitation	Howsley Rd Widening	Widen Howsley Rd between Pleasant Grove Rd and Natomas Rd	3,960,000	4,059,000	Post-2044
SUT18875	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Kent Road Bridge at Sutter Butte Canal.	Kent Road over Sutter Butte Canal, 0.2 Mi South of McDonald Ave.: Replace two lane bridge with two lane bridge.. Toll Credits for ENG, ROW, CON	3,179,000	-	By 2030
SUT18856	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Larkin Rd. Bridge Replacement	Larkin Rd. over South Birch Sutter-Butte Canal, 0.2 miles north of Encinal Rd.: Replace the existing 2-lane bridge with a new 2-lane bridge.	1,158,000	-	By 2030
SUT10370	SUT	Project Development Only	Sutter County	C- Maintenance & Rehabilitation	Lincoln Rd. Widening C	Widen: 2 lanes from Jones Rd. to Walton Rd. Includes: center lane.	3,000,000	3,075,000	Post-2044
SUT18855	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Nicolaus Ave. Bridge Replacement	Nicolaus Ave., over Coon Creek, 1 mile west of Pleasant Grove Rd.: Replace the existing 2-lane bridge with a new 2-lane bridge.	1,422,000	-	By 2030
SUT18935	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Nuestro Rd Over Snake River - Bridge Replacement	Nuestro Rd over Snake River, 0.7 miles east of East Butte Rd. Replace existing 2 lane bridge with new 2 lane bridge.. Toll Credits for ENG, ROW, CON	1,513,100	-	By 2030
SUT18936	SUT	Planned	Sutter County	C- Maintenance & Rehabilitation	Nuestro Road Bridge over Snake River	On Nuestro Road, 0.7 miles east of East Butte Road, Replace the existing structurally deficient bridge and the approach 300 feet east and west of the bridge for a total length of 640 feet. The width of the project site will be within the County right-of-way.	1,339,550	1,373,039	By 2030
CAL18590	SUT	Project Development Only	Sutter County	C- Maintenance & Rehabilitation	Route 99, New Interchange	Sutter County, north of Sacramento: along Route 99 between Riego Road and Sankey Road, construct new interchange	22,000,000	22,550,000	Post-2044
SUT18934	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Sanders Rd Over Sutter Co Extension Canal - Bridge Replacement	Sanders Rd over Sutter County Extension Canal, 1.2 miles west of Broadway. Replace existing 2 lane bridge with new 2 lane bridge.. Toll Credits for ENG, ROW, CON	1,511,600	-	By 2030
SUT18937	SUT	Planned	Sutter County	C- Maintenance & Rehabilitation	Sanders Road Bridge over Sutter Butte Canal	On Sanders Road, 1.2 miles west of Broadway, Replace the existing structurally deficient bridge and the approach 300 feet east and west of the bridge for a total length of 640 feet. The width of the project site will be within the County right-of-way.	1,338,220	1,371,676	By 2030
SUT10500	SUT	Project Development Only	Sutter County	C- Maintenance & Rehabilitation	Sankey Rd.	Widen: 4 lanes from Pleasant Grove Blvd. to Hwy. 99 / Hwy. 70.	2,500,000	2,562,500	Post-2044
SUT18830	SUT	Planned	Sutter County	C- Maintenance & Rehabilitation	SR 99 Intersection Improvements	Intersection improvements to add turn lanes, address drainage issues and sound attenuation as needed along both sides of State Route 99 at Bogue Rd, Lincoln Rd, Richland Rd and Franklin Rd.	3,800,000	3,895,000	By 2030
SUT18873	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Tisdale Rd, Over Westside Canal-Sutter County	Tisdale Rd., over Westside Canal, 100 E Cranmore Rd.: Replace the existing structurally deficient 2 lane bridge with a new 2 lane bridge.. Toll Credits for ENG, ROW, CON	2,845,000	-	By 2030
CAL21276	VAR	Programmed	Caltrans D3	B- Road & Highway Capacity	I-80 and US 50 Managed Lanes	On I-80 just from the I-80/Kidwell Road interchange in Solano County, through Yolo County, and to the W. El Camino interchange; also on US 50 from the I-80/US 50 interchange to the I-5/US 50 interchange in Sacramento County: Construct improvements consisting of managed lanes in each direction, pedestrian/bicycle facilities, park-n-ride, and Intelligent Transportation System (ITS) elements.. Toll Credits for ENG, ROW, CON	465,000,000	-	By 2030
CAL21424	VAR	Programmed	Caltrans D3	B- Road & Highway Capacity	YOL 80 Managed Lanes - Phase 1	On I-80 from the I-80/Kidwell Road interchange in Solano County, through Yolo County, to the I-80/US 50 Interchange: Construct improvements consisting of managed lanes in each direction, pedestrian/bicycle improvements, and Intelligent Transportation System (ITS) elements.	1,000,000	-	By 2030

SACOG 2023-2026 MTIP Information (ID: CAL21276)

Section 2 Individually Listed Projects and Grouped Project Listings (with Detailed Back-up)

SACOG ID **CAL21276** | **VAR** | Lead Agency **Caltrans D3** | **Project 1 of 63**

Project Title

I-80 and US 50 Managed Lanes

EA Number: 3H900 | Last Revised 23-16 | Completion Year **2029**

FED ID: 6203-062

PPNO: 8922

Project Description

On I-80 just from the I-80/Kidwell Road interchange in Solano County, through Yolo County, and to the W. El Camino interchange; also on US 50 from the I-80/US 50 interchange to the I-5/US 50 interchange in Sacramento County: Construct improvements consisting of a High Occupancy Toll (HOT) 3+ lane in each direction with direct connectors, pedestrian/bicycle facilities, park-n-ride, and Intelligent Transportation System (ITS) elements. Phase 1 EA 03-3H901 will utilize $105,000,000 from TCEP funds and $85,900,000 from federal INFRA funds. $85,900,000 from federal INFRA funds per Federal Project Number 6203(070). Total project cost $466,000,000). Toll Credits for ENG, ROW, CON

Emission Benefits in kg/day: [6.98] ROG, [-1.34] NOx, [2.13] PM 2.5

Federal Project Total Cost **$466,000,000**

Fed FY	Revenue Source	Engineering	Right of Way	Construction	Total Revenue
<23		$8,000,000	$0	$0	$8,000,000
2023	INFRA	$3,000,000	$0	$0	$3,000,000
2023	Regional Surface Transportation Program	$950,000	$0	$0	$950,000
2024	Congestion Mitigation and Air Quality	$60,000	$0	$0	$60,000
2024	INFRA	$0	$0	$82,900,000	$82,900,000
2024	Regional Surface Transportation Program	$50,000	$0	$0	$50,000
2024	State Bond - Trade Corridor Program	$0	$0	$105,000,000	$105,000,000
>26		$6,000,000	$9,440,000	$250,600,000	$266,040,000
		$18,060,000	**$9,440,000**	**$438,500,000**	**$466,000,000**

Sacramento Area Council of Governments

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Thursday, April 11, 2024

Sacramento Area Council of Governments - Federal Transportation Improvement Program
(Dollars in Whole)
State Highway System

DIST:	PPNO:	EA:	CTIPS ID:	TITLE (DESCRIPTION):	
03	8922	3H900	207-0000-1850	I-80 and US 50 Managed Lanes (On I-80 just from the I-80/Kidwell Road interchange in Solano County, through Yolo County, and to the W. El Camino interchange; also on US 50 from the I-80/US 50 interchange to the I-5/US 50 interchange in Sacramento County: Construct improvements consisting of a High Occupancy Toll (HOT) 3+ lane in each direction with direct connectors, pedestrian/bicycle facilities, park-n-ride, and Intelligent Transportation System (ITS) elements. Phase 1 EA 03-3H901 will utilize $105,000,000 from TCEP funds and $85,900,000 from federal INFRA funds. $85,900,000 from federal INFRA funds per Federal Project Number 6203(070). Total project cost $466,000,000). Toll Credits for ENG, ROW, CON)	
CT PROJECT ID:			MPO ID.: CAL21276		MPO Aprv: 04/11/2024
COUNTY: Various Counties	ROUTE:		PM: 0.000 / 0.000		State Aprv: Federal Aprv: EPA TABLE II or III EXEMPT CATEGORY Null

IMPLEMENTING AGENCY: Caltrans
PROJECT MANAGER: Nawid Nessar PHONE: (530) 682-3679 EMAIL:

PROJECT VERSION HISTORY (Printed Version is Shaded) *(Dollars in whole)*

Version	Status	Date	Updated By	Change Reason	Amend No.	Prog Con	Prog RW	PE
12	Official	04/11/2024	AHSACOG	Amendment - Cost/Scope/Sch. Change	16	438,500,000	9,440,000	18,060,000
11	Official	03/08/2024	AHSACOG	Amendment - Cost/Scope/Sch. Change	15	438,000,000	10,000,000	17,950,000
10	Official	09/20/2023	AHSACOG	Amendment - Cost/Scope/Sch. Change	9	438,000,000	10,000,000	17,950,000
9	Official	09/15/2022	AHSACOG	Adoption - Carry Over	0	438,000,000	10,000,000	17,000,000
8	Official	05/11/2022	AHSACOG	Amendment - Cost/Scope/Sch. Change	14	438,000,000	10,000,000	17,000,000
7	Official	11/23/2021	AHSACOG	Amendment - Cost/Scope/Sch. Change	6	550,000,000	21,560,000	18,500,000
6	Official	09/03/2021	AHSACOG	Amendment - Cost/Scope/Sch. Change	5	550,000,000	21,560,000	18,500,000
5	Official	02/24/2021	AHSACOG	Adoption - Carry Over	0	550,000,000	21,560,000	14,500,000
4	Official	11/10/2020	AHSACOG	Amendment - Cost/Scope/Sch. Change	30	550,000,000	21,560,000	14,500,000

* Federal Disc. -		PRIOR	22-23	23-24	24-25	25-26	26-27	27-28	BEYOND	TOTAL
* Fund Source 1 of 8	PE	4,000,000								4,000,000
* Fund Type: COVID Relief Funds - STIP	RW									
* Funding Agency:	CON									
	Total:	4,000,000								4,000,000

* CMAQ -		PRIOR	22-23	23-24	24-25	25-26	26-27	27-28	BEYOND	TOTAL
* Fund Source 2 of 8	PE			60,000						60,000
* Fund Type: Congestion Mitigation	RW									
* Funding Agency:	CON									
	Total:			60,000						60,000

* Federal Disc. -		PRIOR	22-23	23-24	24-25	25-26	26-27	27-28	BEYOND	TOTAL
* Fund Source 3 of 8	PE		3,000,000							3,000,000
* Fund Type: INFRA Grants Program	RW									
* Funding Agency:	CON									
	Total:		3,000,000							3,000,000

* State Bond -		PRIOR	22-23	23-24	24-25	25-26	26-27	27-28	BEYOND	TOTAL
* Fund Source 4 of 8	PE									
* Fund Type: Trade Corridor Program	RW									
* Funding Agency:	CON			105,000,000						105,000,000
	Total:			105,000,000						105,000,000

* CMAQ -		PRIOR	22-23	23-24	24-25	25-26	26-27	27-28	BEYOND	TOTAL
* Fund Source 5 of 8	PE	4,000,000								4,000,000
* Fund Type: Congestion Mitigation	RW									
* Funding Agency:	CON									
	Total:	4,000,000								4,000,000

* Future Need -		PRIOR	22-23	23-24	24-25	25-26	26-27	27-28	BEYOND	TOTAL
* Fund Source 6 of 8	PE						6,000,000			6,000,000
* Fund Type: Future Funds	RW						9,440,000			9,440,000
	CON						250,600,000			250,600,000

Products of CTIPS Page 1 04/22/2024 11:41:09

* Funding Agency:	Total:	266,040,000	266,040,000

Sacramento Area Council of Governments - Federal Transportation Improvement Program
(Dollars in Whole)
State Highway System

* RSTP -		PRIOR	22-23	23-24	24-25	25-26	26-27	27-28	BEYOND	TOTAL
* Fund Source 7 of 8	PE		950,000	50,000						1,000,000
* Fund Type: STP Local	RW									
* Funding Agency:	CON									
	Total:		950,000	50,000						1,000,000

* Federal Disc. -		PRIOR	22-23	23-24	24-25	25-26	26-27	27-28	BEYOND	TOTAL
* Fund Source 8 of 8	PE									
* Fund Type: INFRA Grants Program	RW									
* Funding Agency:	CON			82,900,000						82,900,000
	Total:			82,900,000						82,900,000

Project Total:		PRIOR	22-23	23-24	24-25	25-26	26-27	27-28	BEYOND	TOTAL
	PE	8,000,000	3,950,000	110,000			6,000,000			18,060,000
	RW						9,440,000			9,440,000
	CON			187,900,000			250,600,000			438,500,000
	Total:	8,000,000	3,950,000	188,010,000			266,040,000			466,000,000

Comments:
Other ** Moved $60k of CMAQ in FFY24 from ROW to PE, adding TCEP in FFY24 for CON to prepare for CTC advancement. If TCEP not advanced, will update programming. This project was administratively split resulting in CAL21424, but now CAL21424 is administratively combined back into this project (CAL21276). No change in project scope or total project cost.

Appendix C. 2021 and 2024 Interagency Consultation

From: Jackie Kahrs <jkahrs@sacog.org>
Sent: Friday, April 26, 2024 11:25 AM
To: antonio.johnson <antonio.johnson@dot.gov>; jasmine.amanin <jasmine.amanin@dot.gov>; michelle.ruan@dot.gov; mervin.acebo@dot.gov; Ledezma.Andrew@epa.gov; Oconnor, Karina (she/her/hers) <OConnor.Karina@epa.gov>; Tavitas, Rodney A@DOT <rodney.tavitas@dot.ca.gov>; Espinosa Araiza, Erika@DOT <Erika.Espinosa.Araiza@dot.ca.gov>; Fong, Alexander Y@DOT <alexander.fong@dot.ca.gov>; Cho, Youngil@DOT <Youngil.Cho@dot.ca.gov>; Kalandiyur, Nesamani@ARB <nesamani.kalandiyur@arb.ca.gov>; David Yang <DYang@airquality.org>; JANICE LAM <jlam@airquality.org>; mwright@airquality.org; Paul Philley <pphilley@airquality.org>; mloutzenhiser@airquality.org; sspaethe@fraqmd.org; YChang@placer.ca.gov; PHensleigh@ysaqmd.org; Rick Carter <rcarter@pctpa.net>; Jerry Barton <jbarton@edctc.org>; rania.serieh@edcgov.us; Miguel Mendoza <mmendoza@sacog.org>; Kathleen Hanley <khanley@sacog.org>; Lee, Jason@DOT <jason.lee@dot.ca.gov>; Becha, Karishma@DOT <Karishma.Becha@dot.ca.gov>; Vaca, Erika@DOT <Erika.Vaca@dot.ca.gov>; Maggioncalda, Emma@DOT <Emma.Maggioncalda@dot.ca.gov>
Cc: Clint Holtzen <CHoltzen@sacog.org>; Kacey Lizon <KLizon@sacog.org>; Erik Johnson <EJohnson@sacog.org>; Kathleen Hanley <khanley@sacog.org>; Kristina Svensk <KSvensk@sacog.org>; Dennis, Christopher@DOT <Christopher.Dennis@dot.ca.gov>; Bhattal, Gurtej@DOT <Gurtej.Bhattal@dot.ca.gov>; Randhawa, Jasdeep S@DOT <jasdeep.randhawa@dot.ca.gov>; Wilson, Dotrik T@DOT <Dotrik.Wilson@dot.ca.gov>; Laurino, Daisy Loida S@DOT <daisy.laurino@dot.ca.gov>; Brian Abbanat <babbanat@Yctd.org>; Autumn Bernstein <abernstein@yctd.org>; Kirk Trost <ktrost@ktrostlaw.com>; Melim, Suzanne M@DOT <suzanne.melim@dot.ca.gov>
Subject: Project Level Conformity: I-80 and US-50 Managed Lanes - Determination

EXTERNAL EMAIL. Links/attachments may not be safe.
Good Morning Project Level Conformity Group,

On April 26, 2024, the EPA and FHWA concurred with the determination that the I-80 and U.S.-50 Managed Lanes project is not a project of air quality concern.

Please contact me if you have any questions.

Thank you,

Jackie Kahrs | Transportation Programs & Funding Analyst
Sacramento Area Council of Governments
1415 L Street, Suite 300 | Sacramento, CA | 95814
(916) 340-6248
jkahrs@sacog.org

From:	Shengyi Gao
To:	"Vaughn, Joseph (FHWA)"; Alexander Fong; Johnson, Antonio (FHWA); Dave Johnston; David Yang; Douglas Coleman; Heather Phillips ; Janice Lam Snyder; Jerry Barton; John Ungvarsky; Jose Luis Caceres; Karina O"Connor; Kathleen Hanley; Lucas Sanchez; Mark Loutzenhiser; Pittenger, Patrick (FHWA); Paul Hensleigh; Paul Philley; Renee DeVere-Oki; Rodney Tavitas; Shalanda Christian; Sondra Spaethe; Wright Molly; Youngil Cho; Kalandiyur, Nesamani@ARB; Yu-Shuo Chang ; Hendrawan, Kevin@ARB
Cc:	Lee, Jason@DOT
Subject:	RE: POAQC of Caltrans I80 improvements project (CAL21276), due 10/15
Date:	Monday, October 18, 2021 5:35:00 PM

Hi all,

The Project Level Conformity Group has determined that the Caltrans I80 improvements project (CAL21276) is NOT a Project of Air Quality Concern (POAQC).

EPA concurred on 10/15/2021 and FHWA concurred on 10/18/2021.

Thanks to you all!

Shengyi Gao
Sacramento Area Council of Governments
916.340.6239

From: Vaughn, Joseph (FHWA) <Joseph.Vaughn@dot.gov>
Sent: Monday, October 18, 2021 10:17 AM
To: Shengyi Gao <SGao@sacog.org>; Alexander Fong <alexander.fong@dot.ca.gov>; Johnson, Antonio (FHWA) <antonio.johnson@dot.gov>; Dave Johnston <dave.johnston@edcgov.us>; David Yang <DYang@airquality.org>; Douglas Coleman <douglas.coleman@dot.ca.gov>; Heather Phillips <Heather.Phillips@arb.ca.gov>; Janice Lam Snyder <JLam@airquality.org>; Jerry Barton <jbarton@edctc.org>; John Ungvarsky <Ungvarsky.John@epa.gov>; Jose Luis Caceres <JCaceres@sacog.org>; Karina O'Connor <oconnor.karina@epa.gov>; Kathleen Hanley <khanley@pctpa.net>; Lucas Sanchez <lucas.sanchez@dot.ca.gov>; Mark Loutzenhiser <mloutzenhiser@airquality.org>; Pittenger, Patrick (FHWA) <patrick.pittenger@dot.gov>; Paul Hensleigh <PHensleigh@ysaqmd.org>; Paul Philley <pphilley@airquality.org>; Renee DeVere-Oki <RDeVere-Oki@sacog.org>; Rodney Tavitas <rodney.tavitas@dot.ca.gov>; Shalanda Christian <shalanda_christian@dot.ca.gov>; Sondra Spaethe <sspaethe@fraqmd.org>; Wright Molly <mwright@airquality.org>; Youngil Cho <Youngil.Cho@dot.ca.gov>; Yu-Shuo Chang <YChang@placer.ca.gov>
Cc: Lee, Jason@DOT <jason.lee@dot.ca.gov>
Subject: RE: POAQC of Caltrans I80 improvements project (CAL21276), due 10/15

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FHWA concurs that this is not a project of air quality concern. Thanks.

Joseph Vaughn

Environmental Specialist
FHWA, CA Division
(916) 498-5346

From: Shengyi Gao <SGao@sacog.org>
Sent: Monday, October 4, 2021 8:15 AM
To: Alexander Fong <alexander.fong@dot.ca.gov>; Johnson, Antonio (FHWA) <antonio.johnson@dot.gov>; Dave Johnston <dave.johnston@edcgov.us>; David Yang <DYang@airquality.org>; Douglas Coleman <douglas.coleman@dot.ca.gov>; Heather Phillips <Heather.Phillips@arb.ca.gov>; Janice Lam Snyder <JLam@airquality.org>; Jerry Barton <jbarton@edctc.org>; John Ungvarsky <Ungvarsky.John@epa.gov>; Jose Luis Caceres <JCaceres@sacog.org>; Vaughn, Joseph (FHWA) <Joseph.Vaughn@dot.gov>; Karina O'Connor <oconnor.karina@epa.gov>; Kathleen Hanley <khanley@pctpa.net>; Lucas Sanchez <lucas.sanchez@dot.ca.gov>; Mark Loutzenhiser <mloutzenhiser@airquality.org>; Pittenger, Patrick (FHWA) <patrick.pittenger@dot.gov>; Paul Hensleigh <PHensleigh@ysaqmd.org>; Paul Philley <pphilley@airquality.org>; Renee DeVere-Oki <RDeVere-Oki@sacog.org>; Rodney Tavitas <rodney.tavitas@dot.ca.gov>; Shalanda Christian <shalanda_christian@dot.ca.gov>; Sondra Spaethe <sspaethe@fraqmd.org>; Wright Molly <mwright@airquality.org>; Youngil Cho <Youngil.Cho@dot.ca.gov>; Yu-Shuo Chang <YChang@placer.ca.gov>
Cc: Lee, Jason@DOT <jason.lee@dot.ca.gov>
Subject: RE: POAQC of Caltrans I80 improvements project (CAL21276), due 10/15

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Project Level Conformity Group,

Attached for interagency review is the Caltrans I80 improvements project (CAL21276)**.** As part of project level conformity under NEPA, it requires a determination of whether it is a project of air quality concern.

Please confirm that you concur that this is NOT a Project of Air Quality Concern (POAQC). **Please email questions and comments by 5 p.m., Friday, Oct. 15.**

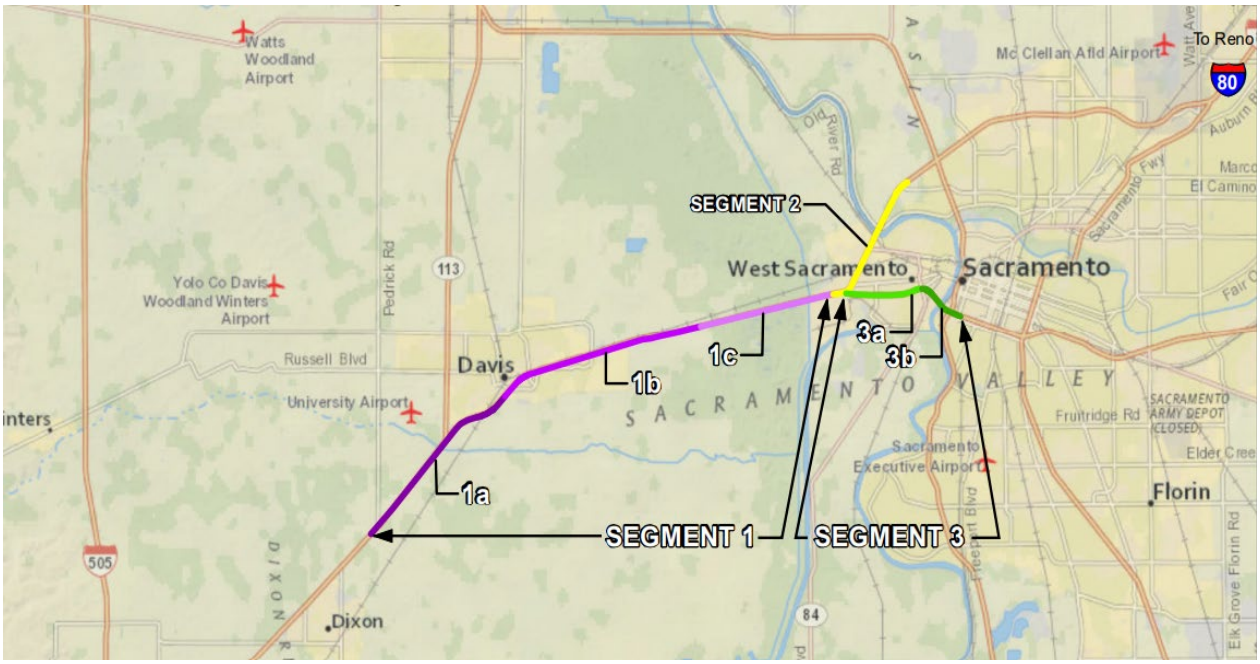
This project falls under the 23 USC 327 (formerly 6005) federal process. As such, it requires written concurrence by EPA (Karina O'Conner) and FHWA (Joseph Vaughn). Please remember to use "reply all," to make comments to the group. Otherwise, you may also contact the sponsor directly:

Jason Lee

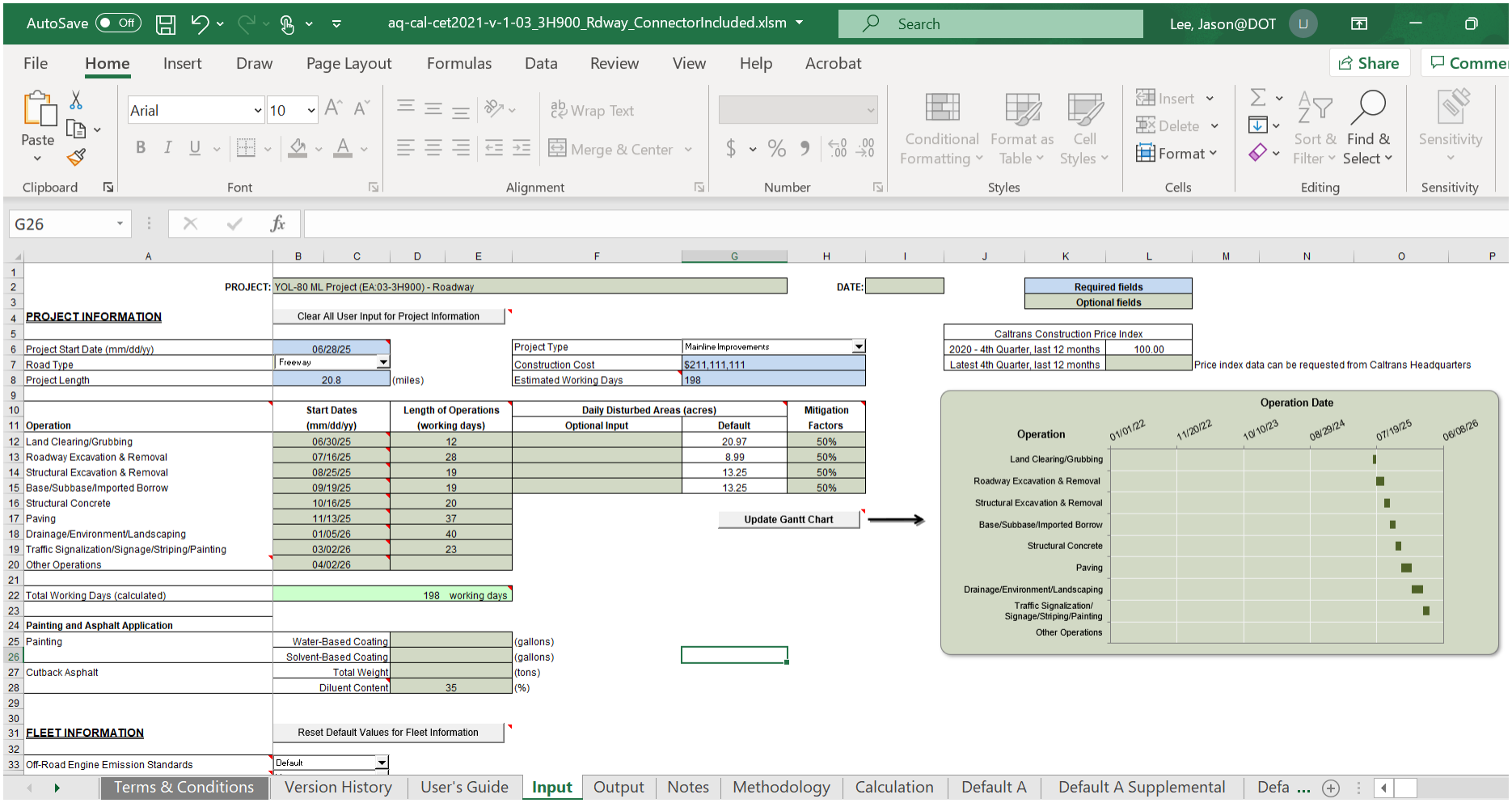
Caltrans

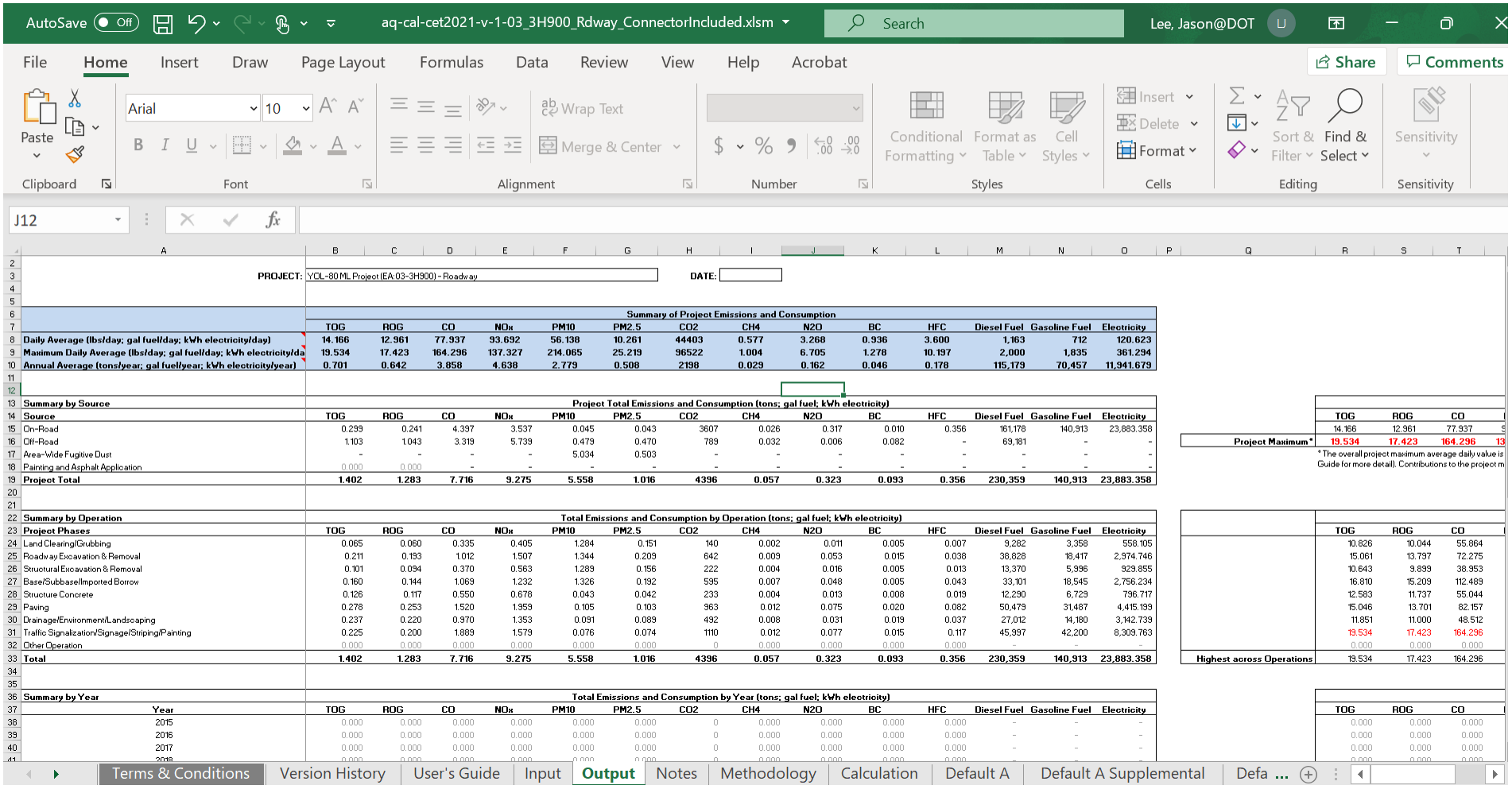
Tel: (530)720-1707

Appendix D. Project Limits with Segments 1-3



Appendix E. Road Construction Emission Model Inputs and Outputs





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J12

PROJECT: YOL-80 ML Project (EA:03-3H900) - Roadway DATE:

Summary of Project Emissions and Consumption

	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; gal fuel/day; kWh electricity/day)	14.166	12.961	77.937	93.692	56.138	10.261	44403	0.577	3.268	0.936	3.600	1,163	712	120.623
Maximum Daily Average (lbs/day; gal fuel/day; kWh electricity/da	19.534	17.423	164.296	137.327	214.065	25.219	96522	1.004	6.705	1.278	10.197	2,000	1,835	361.294
Annual Average (tons/year; gal fuel/year; kWh electricity/year)	0.701	0.642	3.858	4.638	2.779	0.508	2198	0.029	0.162	0.046	0.178	115,179	70,457	11,941.679

Summary by Source — Project Total Emissions and Consumption (tons; gal fuel; kWh electricity)

Source	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	Diesel Fuel	Gasoline Fuel	Electricity
On-Road	0.299	0.241	4.397	3.537	0.045	0.043	3607	0.026	0.317	0.010	0.356	161,178	140,913	23,883.358
Off-Road	1.103	1.043	3.319	5.739	0.479	0.470	789	0.032	0.006	0.082	-	69,181	-	-
Area-Wide Fugitive Dust	-	-	-	-	5.034	0.503	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	**1.402**	**1.283**	**7.716**	**9.275**	**5.558**	**1.016**	**4396**	**0.057**	**0.323**	**0.093**	**0.356**	**230,359**	**140,913**	**23,883.358**

	TOG	ROG	CO
	14.166	12.961	77.937
Project Maximum*	**19.534**	**17.423**	**164.296**

* The overall project maximum average daily value is
Guide for more detail). Contributions to the project m

Summary by Operation — Total Emissions and Consumption by Operation (tons; gal fuel; kWh electricity)

Project Phases	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	Diesel Fuel	Gasoline Fuel	Electricity
Land Clearing/Grubbing	0.065	0.060	0.335	0.405	1.284	0.151	140	0.002	0.011	0.005	0.007	9,282	3,358	558.105
Roadway Excavation & Removal	0.211	0.193	1.012	1.507	1.344	0.209	642	0.009	0.053	0.015	0.038	38,828	18,417	2,974.746
Structural Excavation & Removal	0.101	0.094	0.370	0.563	1.289	0.156	222	0.004	0.016	0.005	0.013	13,370	5,996	929.855
Base/Subbase/Imported Borrow	0.160	0.144	1.069	1.232	1.326	0.192	595	0.007	0.048	0.005	0.043	33,101	18,545	2,756.234
Structure Concrete	0.126	0.117	0.550	0.678	0.043	0.042	233	0.004	0.013	0.008	0.019	12,290	6,729	796.717
Paving	0.278	0.253	1.520	1.959	0.105	0.103	963	0.012	0.075	0.020	0.082	50,479	31,487	4,415.139
Drainage/Environment/Landscaping	0.237	0.220	0.970	1.353	0.091	0.089	492	0.008	0.031	0.019	0.037	27,012	14,180	3,142.739
Traffic Signalization/Signage/Striping/Painting	0.225	0.200	1.889	1.579	0.076	0.074	1110	0.012	0.077	0.015	0.117	45,997	42,200	8,309.763
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	-	-	-
Total	**1.402**	**1.283**	**7.716**	**9.275**	**5.558**	**1.016**	**4396**	**0.057**	**0.323**	**0.093**	**0.356**	**230,359**	**140,913**	**23,883.358**

	TOG	ROG	CO
	10.826	10.044	55.864
	15.061	13.797	72.275
	10.643	9.899	38.953
	16.810	15.209	12.489
	12.583	11.737	55.044
	15.046	13.701	82.157
	11.851	11.000	48.512
	19.534	17.423	164.296
	0.000	0.000	0.000
Highest across Operations	19.534	17.423	164.296

Summary by Year — Total Emissions and Consumption by Year (tons; gal fuel; kWh electricity)

Year	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	Diesel Fuel	Gasoline Fuel	Electricity
2015	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	-	-	-
2016	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	-	-	-
2017	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	-	-	-
2018	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	-	-	-

	TOG	ROG	CO
	0.000	0.000	0.000
	0.000	0.000	0.000
	0.000	0.000	0.000
	0.000	0.000	0.000

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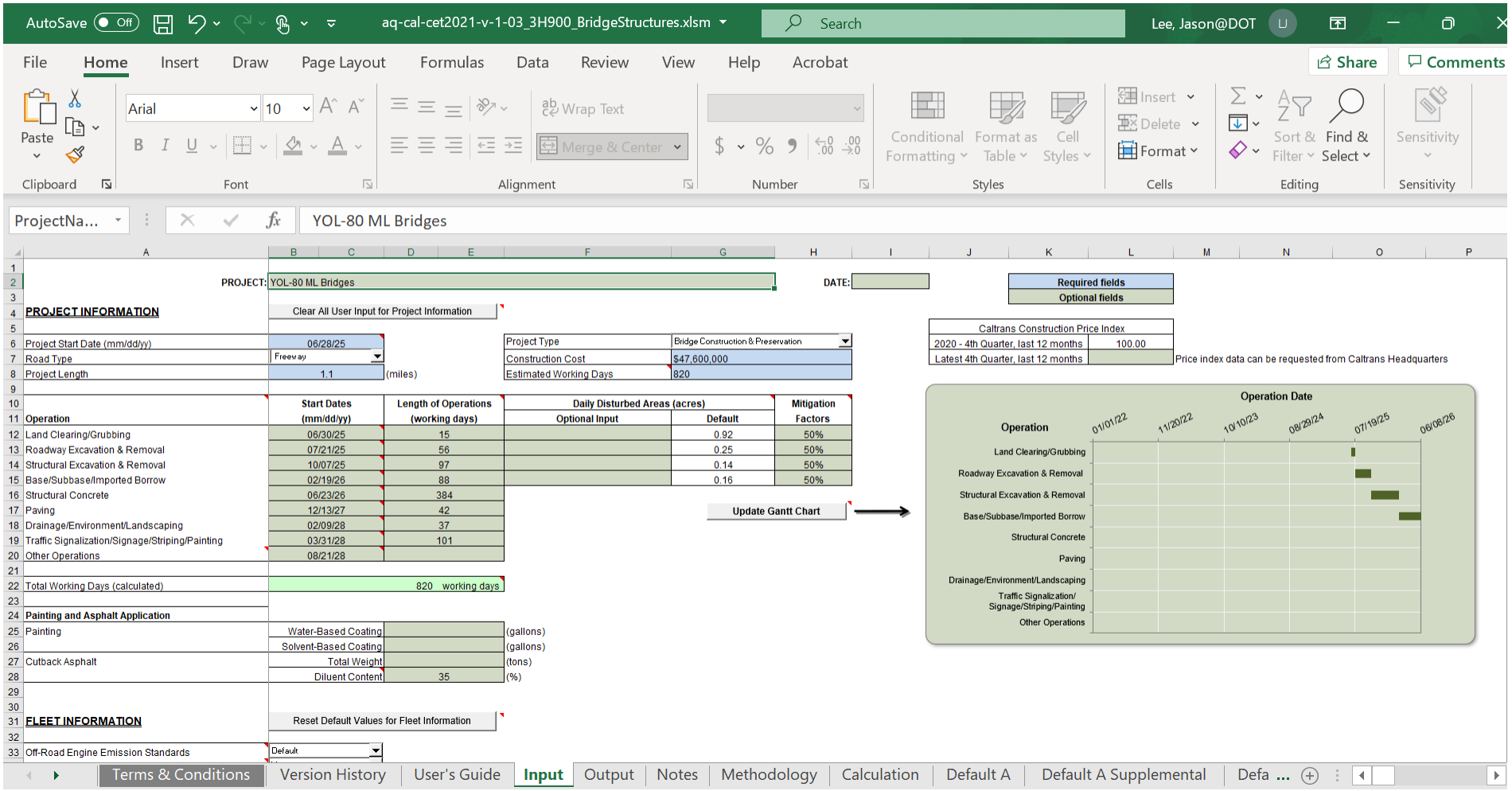
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PROJECT: YOL-80 ML Bridges
DATE:
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Optional fields
PROJECT INFORMATION
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Project Start Date (mm/dd/yy) 06/28/25
Road Type Freeway
Project Length 1.1 (miles)
Project Type Bridge Construction & Preservation
Construction Cost $47,600,000
Estimated Working Days 820
Caltrans Construction Price Index
2020 - 4th Quarter, last 12 months 100.00
Latest 4th Quarter, last 12 months
Price index data can be requested from Caltrans Headquarters
Operation
Start Dates (mm/dd/yy)
Length of Operations (working days)
Daily Disturbed Areas (acres)
Optional Input
Default
Mitigation Factors
Land Clearing/Grubbing 06/30/25 15 0.92 50%
Roadway Excavation & Removal 07/21/25 56 0.25 50%
Structural Excavation & Removal 10/07/25 97 0.14 50%
Base/Subbase/Imported Borrow 02/19/26 88 0.16 50%
Structural Concrete 06/23/26 384
Paving 12/13/27 42
Drainage/Environment/Landscaping 02/09/28 37
Traffic Signalization/Signage/Striping/Painting 03/31/28 101
Other Operations 08/21/28
Update Gantt Chart
Total Working Days (calculated) 820 working days
Painting and Asphalt Application
Painting Water-Based Coating (gallons)
Solvent-Based Coating (gallons)
Cutback Asphalt Total Weight (tons)
Diluent Content 35 (%)
FLEET INFORMATION
Reset Default Values for Fleet Information
Off-Road Engine Emission Standards Default
Operation Date
01/01/22 11/20/22 10/10/23 08/29/24 07/19/25 06/08/26
Land Clearing/Grubbing
Roadway Excavation & Removal
Structural Excavation & Removal
Base/Subbase/Imported Borrow
Structural Concrete
Paving
Drainage/Environment/Landscaping
Traffic Signalization/ Signage/Striping/Painting
Other Operations
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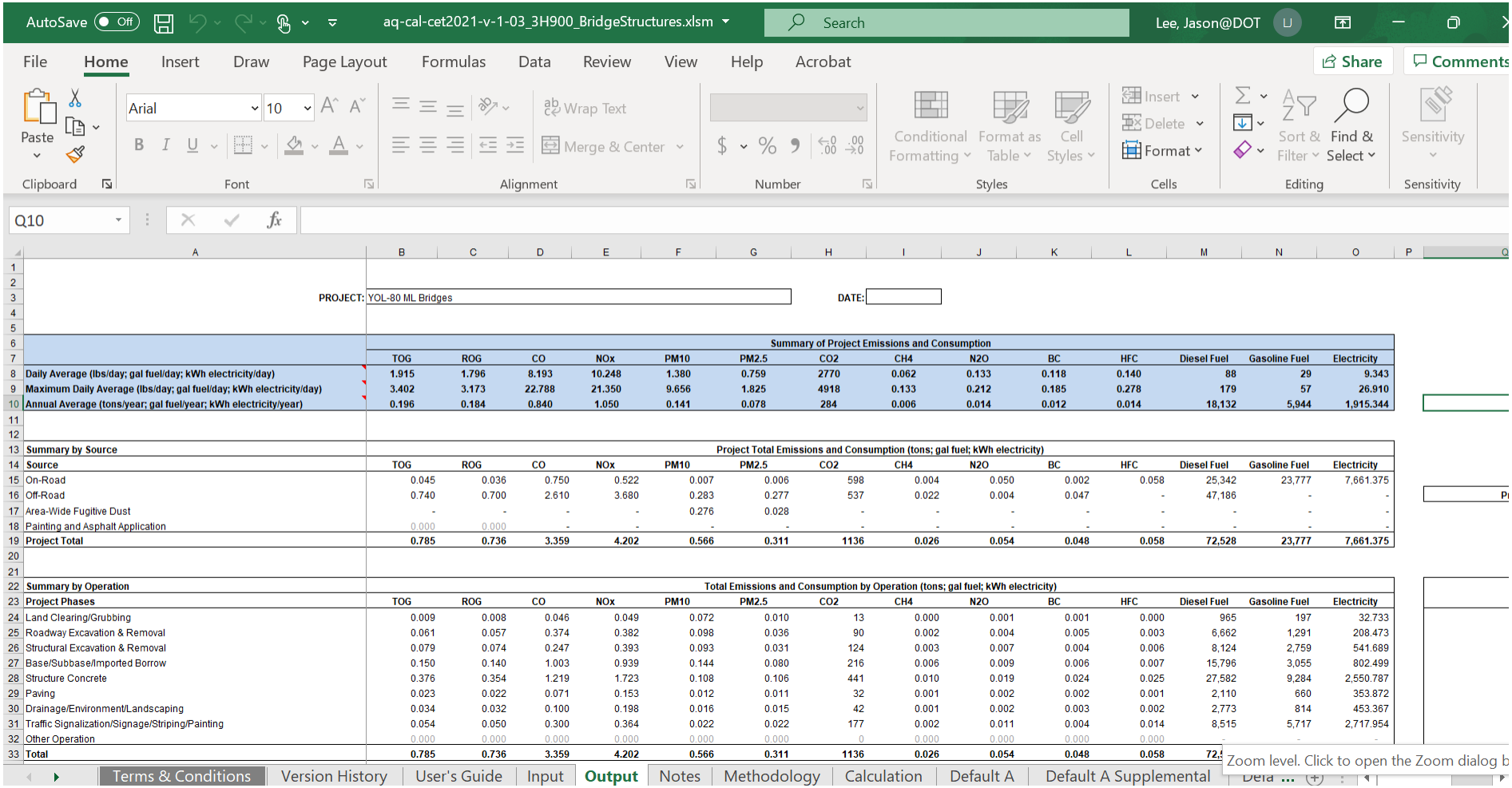

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Q10

PROJECT: YOL-80 ML Bridges DATE:

Summary of Project Emissions and Consumption

	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (lbs/day; gal fuel/day; kWh electricity/day)	1.915	1.796	8.193	10.248	1.380	0.759	2770	0.062	0.133	0.118	0.140	88	29	9.343
Maximum Daily Average (lbs/day; gal fuel/day; kWh electricity/day)	3.402	3.173	22.788	21.350	9.656	1.825	4918	0.133	0.212	0.185	0.278	179	57	26.910
Annual Average (tons/year; gal fuel/year; kWh electricity/year)	0.196	0.184	0.840	1.050	0.141	0.078	284	0.006	0.014	0.012	0.014	18,132	5,944	1,915.344

Summary by Source — Project Total Emissions and Consumption (tons; gal fuel; kWh electricity)

Source	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	Diesel Fuel	Gasoline Fuel	Electricity
On-Road	0.045	0.036	0.750	0.522	0.007	0.006	598	0.004	0.050	0.002	0.058	25,342	23,777	7,661.375
Off-Road	0.740	0.700	2.610	3.680	0.283	0.277	537	0.022	0.004	0.047	-	47,186	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.276	0.028	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	0.785	0.736	3.359	4.202	0.566	0.311	1136	0.026	0.054	0.048	0.058	72,528	23,777	7,661.375

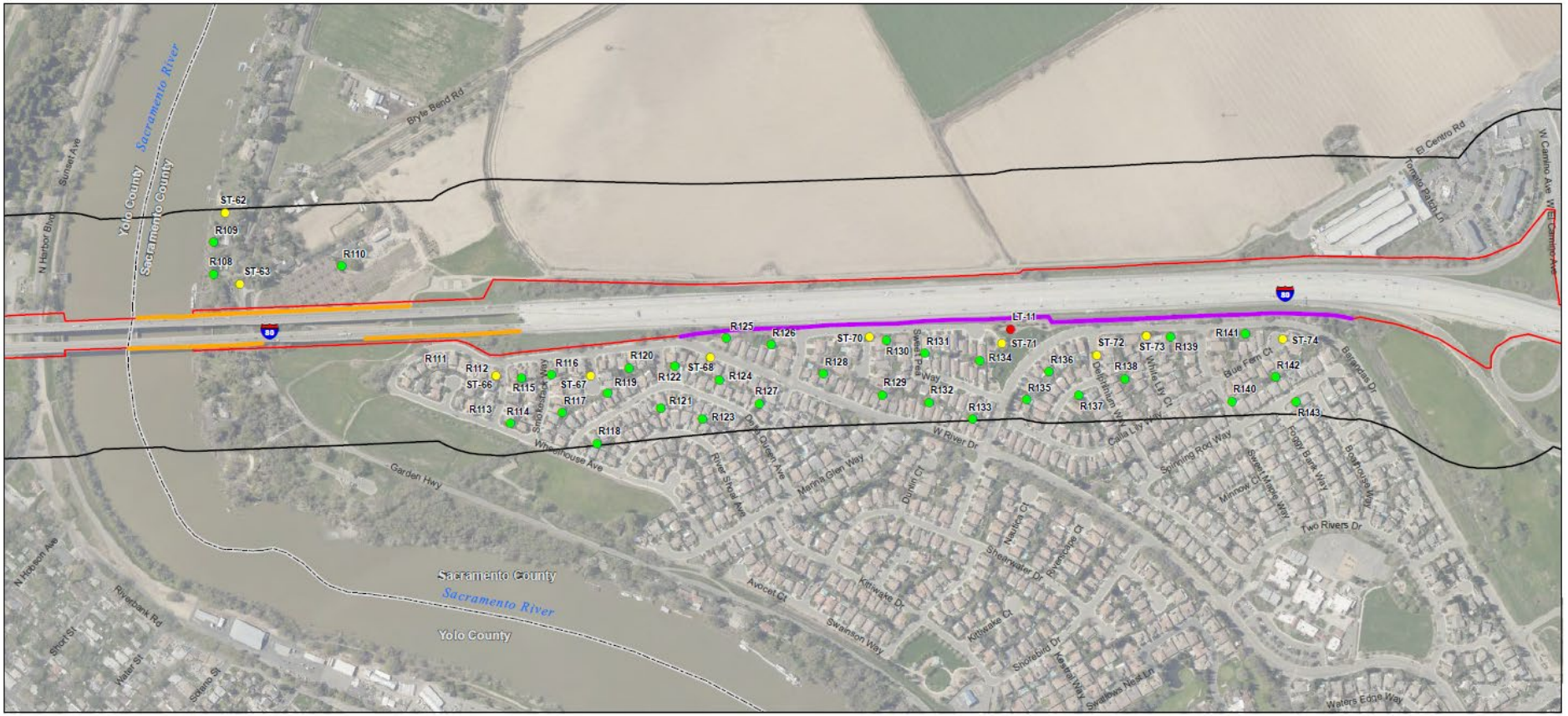
Summary by Operation — Total Emissions and Consumption by Operation (tons; gal fuel; kWh electricity)

Project Phases	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	Diesel Fuel	Gasoline Fuel	Electricity
Land Clearing/Grubbing	0.009	0.008	0.046	0.049	0.072	0.010	13	0.000	0.001	0.001	0.000	965	197	32.733
Roadway Excavation & Removal	0.061	0.057	0.374	0.382	0.098	0.036	90	0.002	0.004	0.005	0.003	6,662	1,291	208.473
Structural Excavation & Removal	0.079	0.074	0.247	0.393	0.093	0.031	124	0.003	0.007	0.004	0.006	8,124	2,759	541.689
Base/Subbase/Imported Borrow	0.150	0.140	1.003	0.939	0.144	0.080	216	0.006	0.009	0.006	0.007	15,796	3,055	802.499
Structure Concrete	0.376	0.354	1.219	1.723	0.108	0.106	441	0.010	0.019	0.024	0.025	27,582	9,284	2,550.787
Paving	0.023	0.022	0.071	0.153	0.012	0.011	32	0.001	0.002	0.002	0.001	2,110	660	353.872
Drainage/Environment/Landscaping	0.034	0.032	0.100	0.198	0.016	0.015	42	0.001	0.002	0.003	0.002	2,773	814	453.367
Traffic Signalization/Signage/Striping/Painting	0.054	0.050	0.300	0.364	0.022	0.022	177	0.002	0.011	0.004	0.014	8,515	5,717	2,717.954
Other Operation	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	-	-	-
Total	0.785	0.736	3.359	4.202	0.566	0.311	1136	0.026	0.054	0.048	0.058	72,5		

Zoom level. Click to open the Zoom dialog b

Terms & Conditions | Version History | User's Guide | Input | Output | Notes | Methodology | Calculation | Default A | Default A Supplemental | Defa ...

Appendix F. Sensitive Receptors Map



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

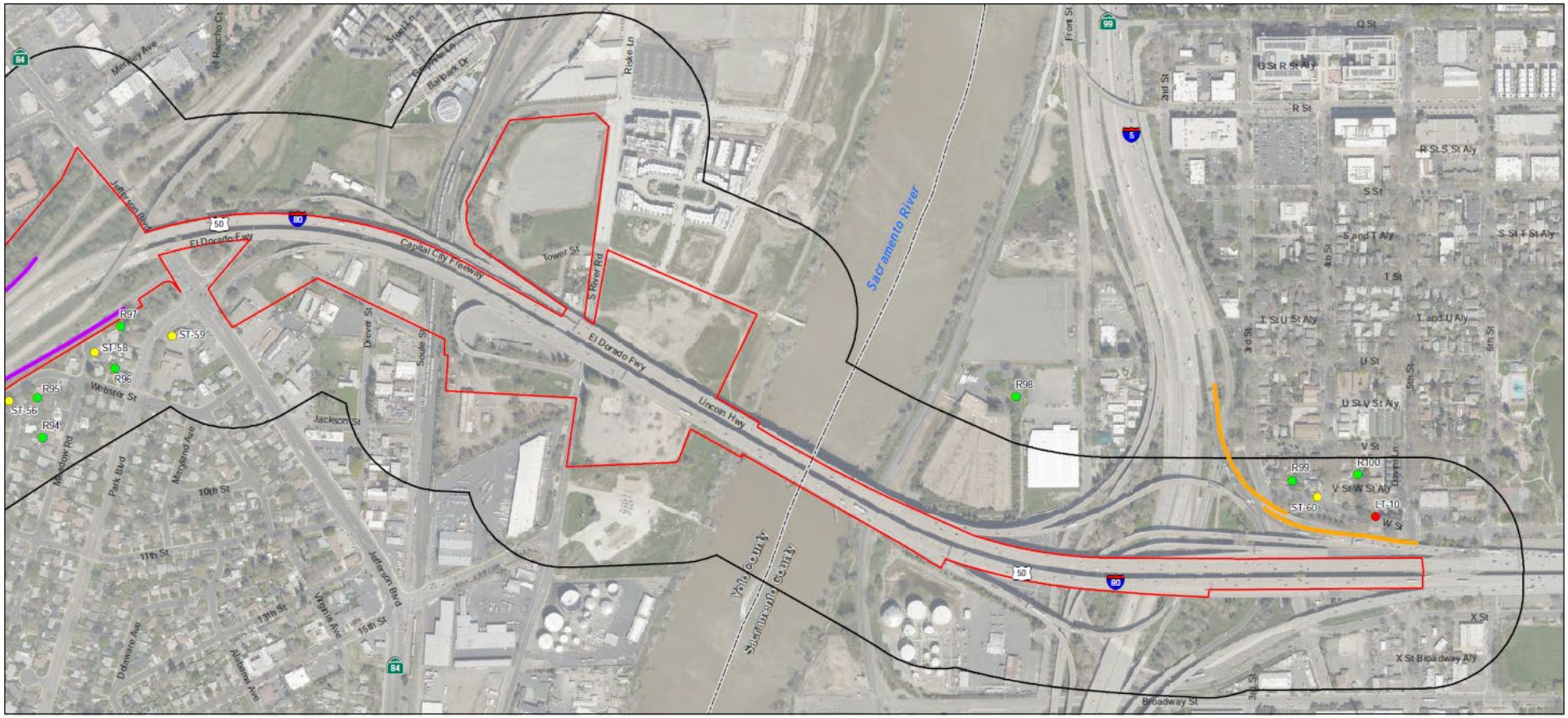
ESL
500-foot ESL Buffer

Sensitive Receptors
Long-term Measurement
Short-term Measurement
Modeled Receptor

Noise Barriers
Evaluated Barrier
Existing Barrier

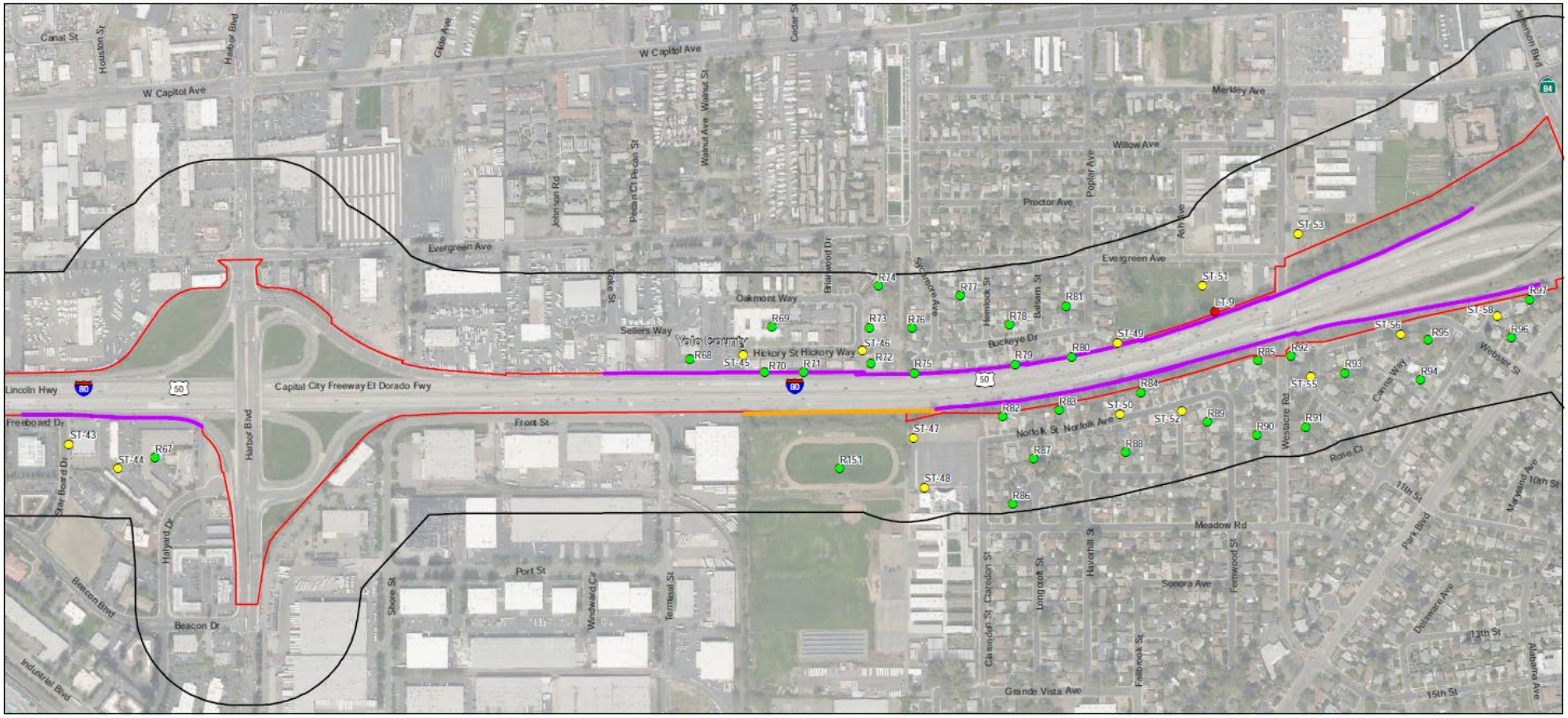
0 1,000
Feet

Figure 1
Sensitive Receptor Locations and Noise Barriers
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California



Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 2
Sensitive Receptor Locations and Noise Barriers
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California



ESL
500-foot ESL Buffer

Sensitive Receptors
Long-term Measurement
Short-term Measurement
Modeled Receptor

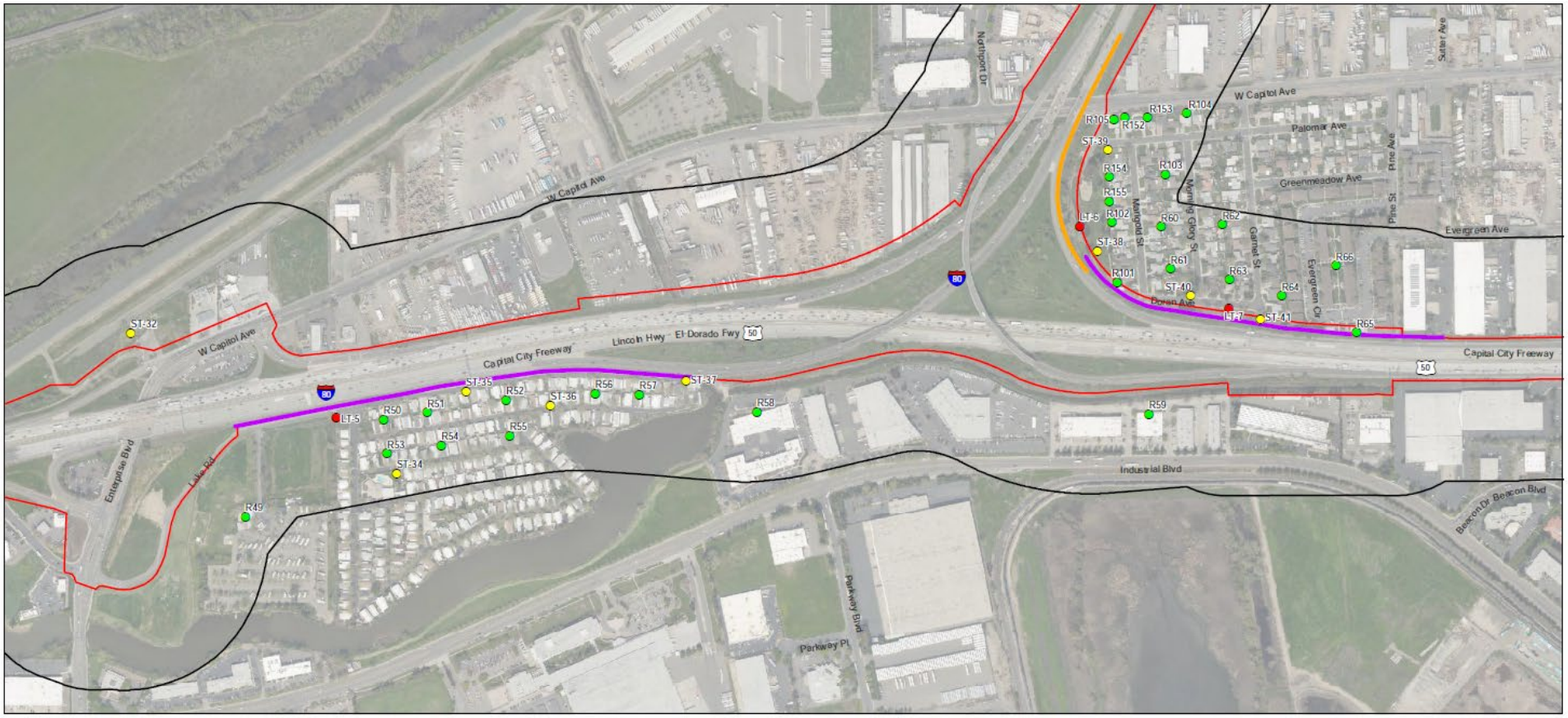
Noise Barriers
Evaluated Barrier
Existing Barrier

0 1,000
Feet

Caltrans

Figure 3
Sensitive Receptor Locations and Noise Barriers
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California

Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



ESL
500-foot ESL Buffer

Sensitive Receptors
- Long-term Measurement
- Short-term Measurement
- Modeled Receptor

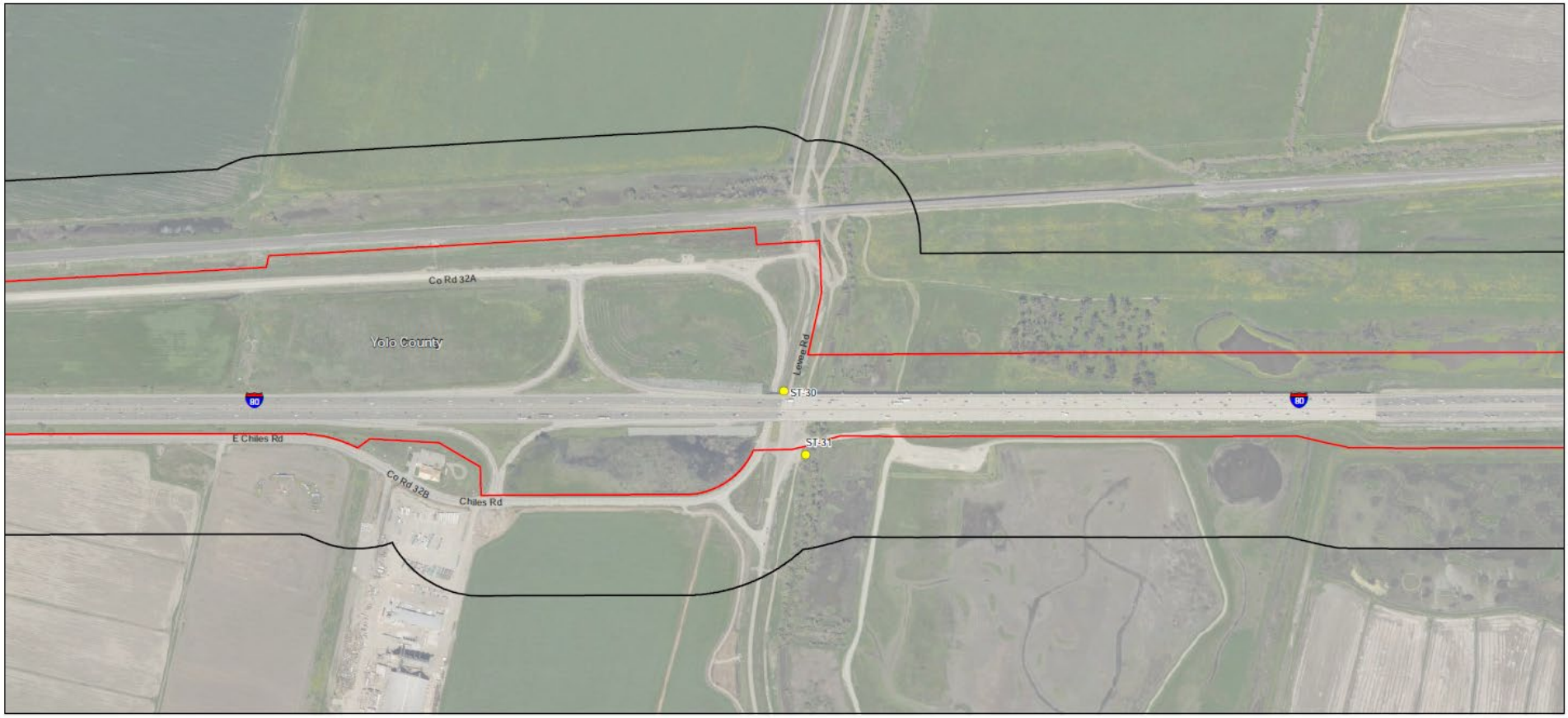
Noise Barriers
- Evaluated Barrier
- Existing Barrier

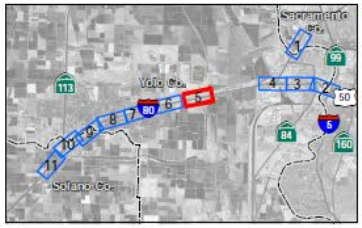
0 1,000
Feet

Caltrans

Figure 4
Sensitive Receptor Locations and Noise Barriers
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California

Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: Caltrans, Stantec, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





ESL
500-foot ESL Buffer

Sensitive Receptors
- Long-term Measurement
- Short-term Measurement
- Modeled Receptor

Noise Barriers
- Evaluated Barrier
- Existing Barrier

0 1,000
Feet

Caltrans

Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure **5**
Sensitive Receptor Locations and Noise Barriers
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California

ESL
500-foot ESL Buffer

Sensitive Receptors
Long-term Measurement
Short-term Measurement
Modeled Receptor

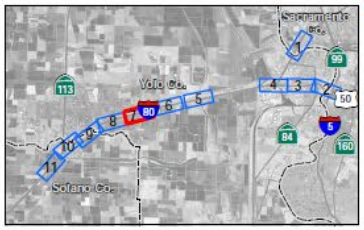
Noise Barriers
Evaluated Barrier
Existing Barrier

0 1,000
Feet

Caltrans

Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 6
Sensitive Receptor Locations and Noise Barriers
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California



ESL
500-foot ESL Buffer

Sensitive Receptors
Long-term Measurement
Short-term Measurement
Modeled Receptor

Noise Barriers
Evaluated Barrier
Existing Barrier

0 1,000
Feet

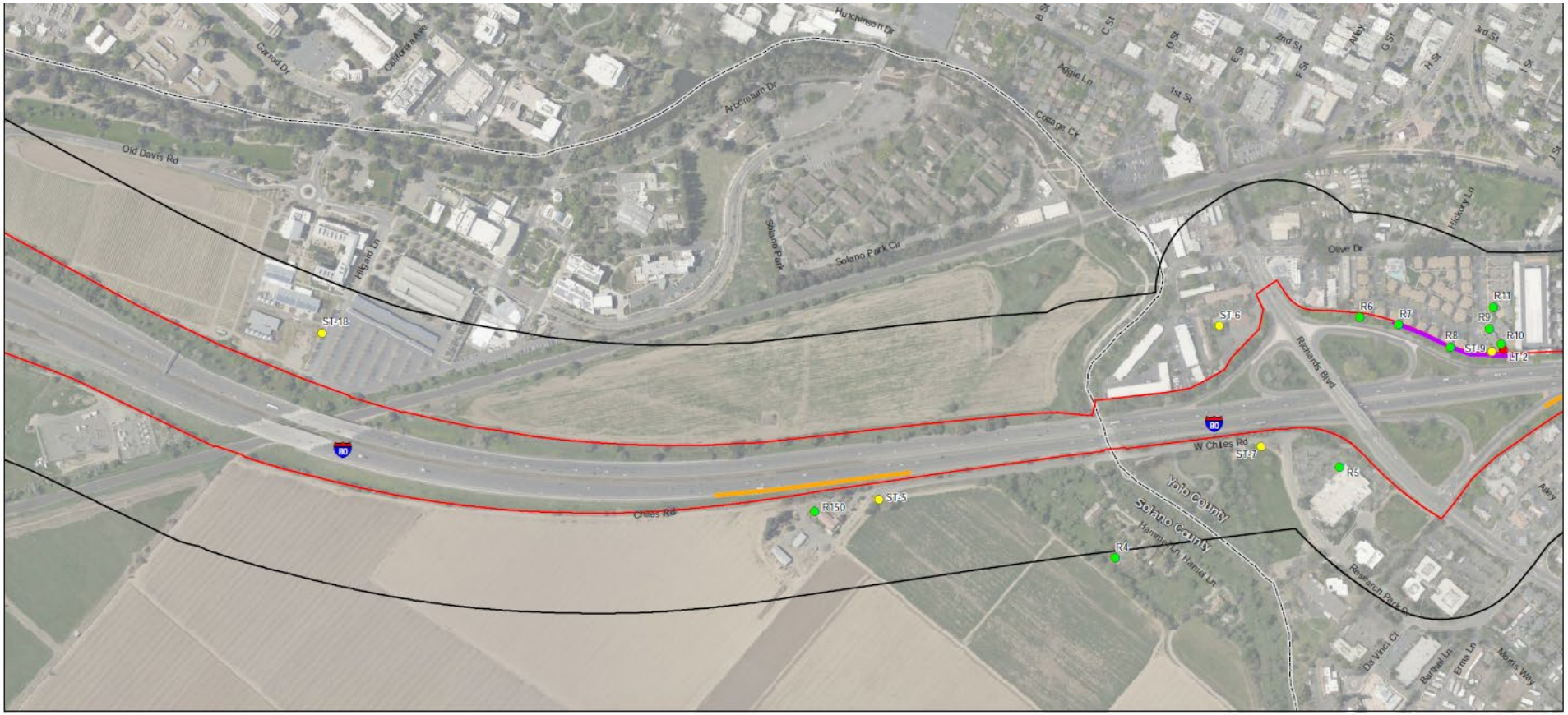
Caltrans

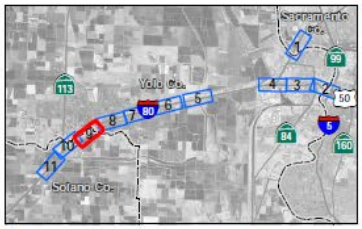
Figure 7
Sensitive Receptor Locations and Noise Barriers
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California
Sheet 7 of 11

Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: Caltrans, Stantec, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 8
Sensitive Receptor Locations and Noise Barriers
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California





Notes
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: Caltrans, Stantec, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

ESL
500-foot ESL Buffer

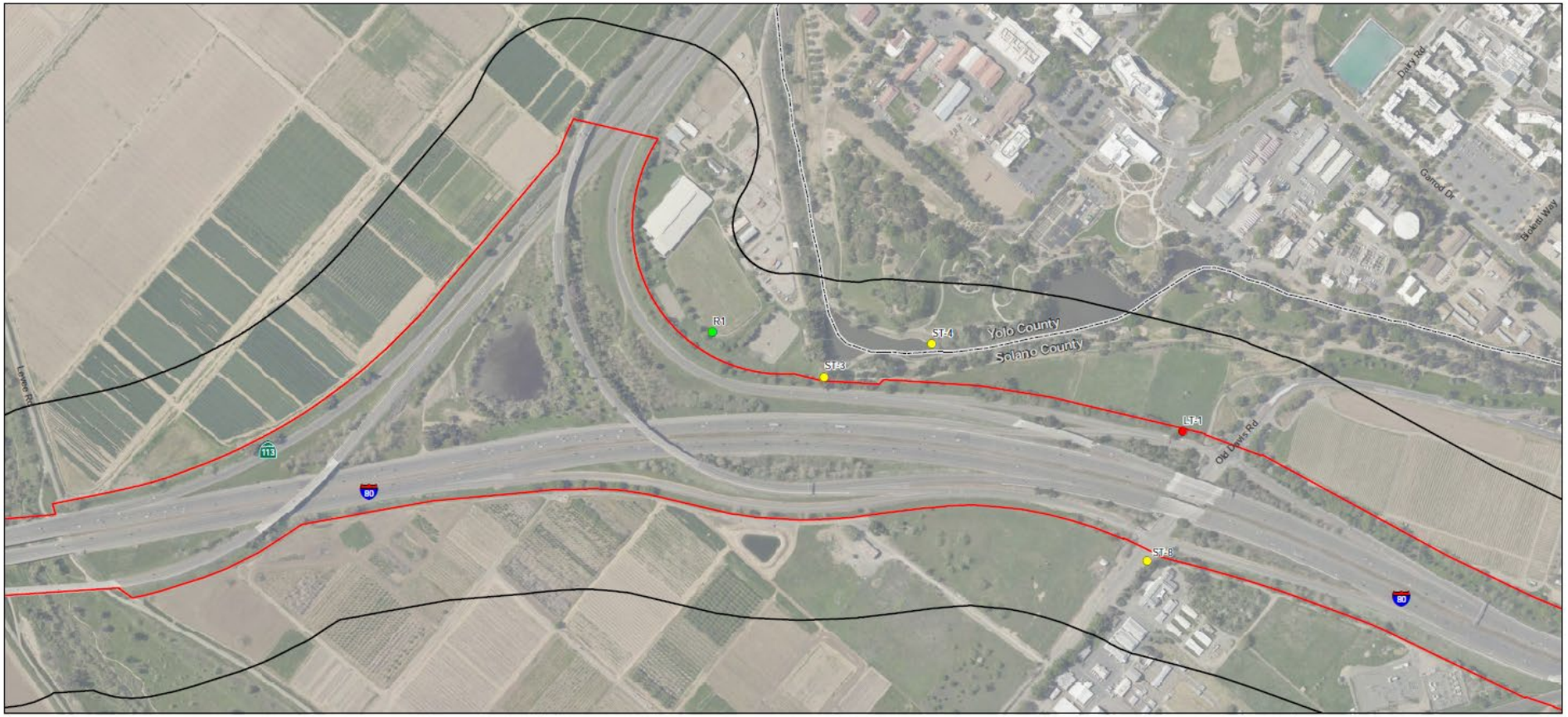
Sensitive Receptors
Long-term Measurement
Short-term Measurement
Modeled Receptor

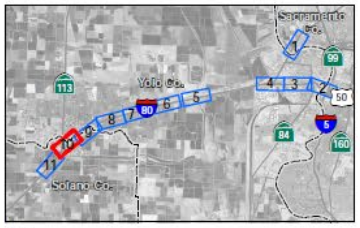
Noise Barriers
Evaluated Barrier
Existing Barrier

0 1,000
Feet

Caltrans

Figure **9**
Sensitive Receptor Locations and Noise Barriers
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California





Notes:
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

ESL
500-foot ESL Buffer

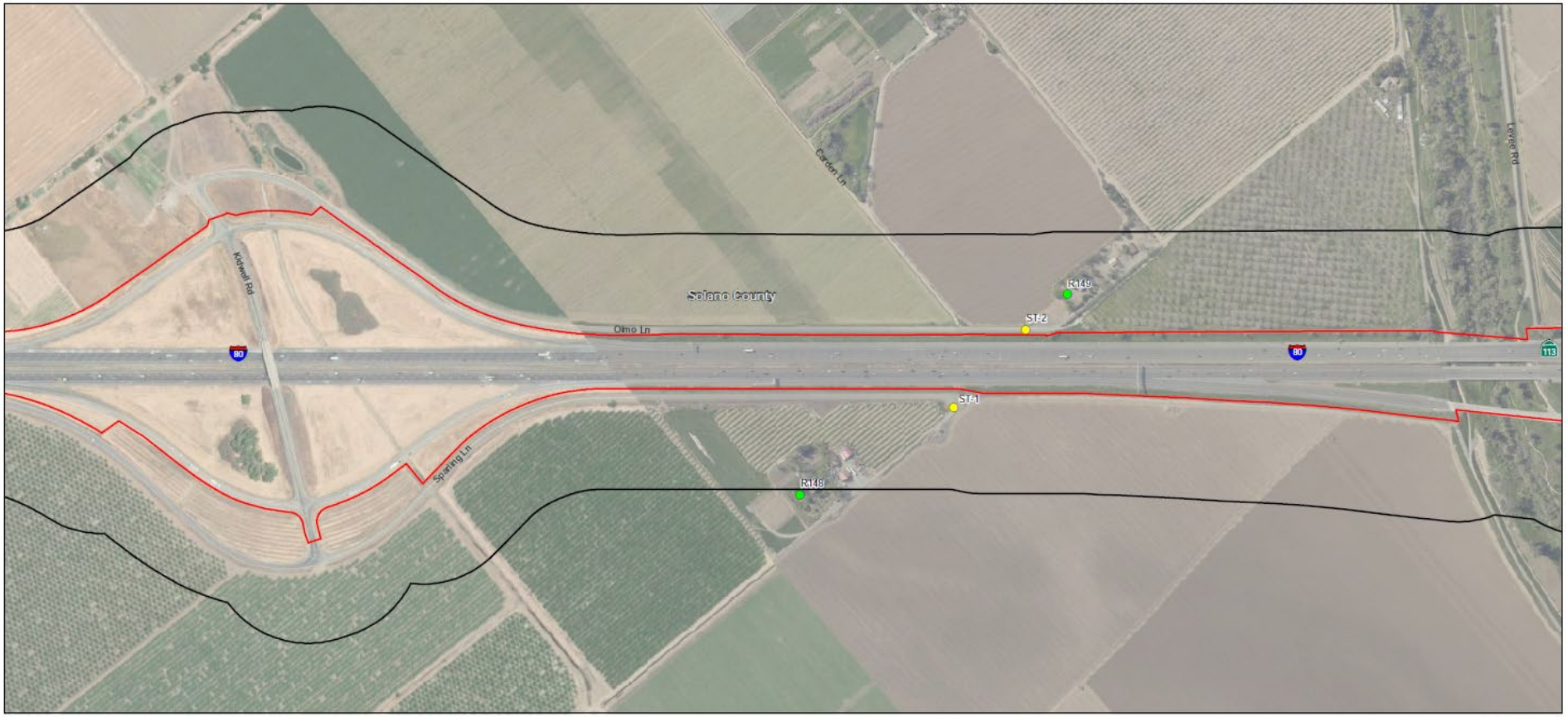
Sensitive Receptors
- Long-term Measurement
- Short-term Measurement
- Modeled Receptor

Noise Barriers
- Evaluated Barrier
- Existing Barrier

0 1,000
Feet

Caltrans

Figure 10
Sensitive Receptor Locations and Noise Barriers
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California



Notes:
1. Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
2. Data Sources: CalTrans, Stantec, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

ESL
500-foot ESL Buffer

Sensitive Receptors
Long-term Measurement
Short-term Measurement
Modeled Receptor

Noise Barriers
Evaluated Barrier
Existing Barrier

0 1,000
Feet

Figure 11
Sensitive Receptor Locations and Noise Barriers
Yolo 80 Corridor Improvement Project
EA 03-3H900
Solano, Yolo, and Sacramento Counties, California

Appendix G. Summary Tables of CT-EMFAC Results

File Name:	Yolo (SV) - 2049 - Alt2 OptionB YOL80.EM							
CT-EMFAC2021 Version:	1.0.2.0							
Run Date:	8/26/2023 17:01							
Area:	Yolo (SV)							
Analysis Year:	2049							
Season:	Annual							
==========								
Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction					
	Across Category	Within Category	Within Category					
Truck 1	0.02	0.256	0.279					
Truck 2	0.054	0.691	0.008					
Non-Truck	0.926	0.004	0.9					
==========								
Road Type:	Freeway							
Silt Loading Factor:	CARB	0.015 g/m2						
Precipitation Correction:	None	P = NA	N = NA					
==========								
Road Length:	20.8	miles						
Volume:	7,918	vehicles per hour						
Number of Hours:	24	hours						
VMT:	3952666	miles						
VMT Distribution by Speed Bin (mph):								
	<= 5 mph		0.00%					
	10 mph		0.00%					
	15 mph		0.00%					
	20 mph		1.54%					
	25 mph		5.73%					
	30 mph		1.14%					
	35 mph		4.89%					
	40 mph		5.68%					
	45 mph		7.07%					
	50 mph		14.85%					
	55 mph		17.36%					
	60 mph		22.65%					
	65 mph		19.09%					
	70 mph		0.00%					
	75 mph		0.00%					
==========								
Summary of Emissions								
Pollutant Name	Running Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Road Dust (grams)	Total (grams)	Total (pounds)	Total (US tons)
PM2.5	3,830.90	-	8,968.60	13,714.20	40,657.10	67,170.80	148.086	0.074
PM10	4,062.00	-	35,878.30	39,183.20	271,038.20	350,161.70	771.974	0.386
NOx	198,031.60	-	-	-	-	198,031.60	436.585	0.218
CO	1,555,065.40	-	-	-	-	1,555,065.40	3,428.33	1.714
HC	26,866.90	62,234.40	-	-	-	89,101.40	196.435	0.098
TOG	29,510.50	66,536.60	-	-	-	96,047.10	211.748	0.106
ROG	20,472.30	66,536.60	-	-	-	87,008.90	191.822	0.096
1,3-Butadiene	94.8	0	-	-	-	94.8	0.209	< 0.001
Acetaldehyde	351.9	-	-	-	-	351.9	0.776	< 0.001
Acrolein	9.6	-	-	-	-	9.6	0.021	< 0.001
Benzene	980.4	960.3	-	-	-	1,940.70	4.278	0.002
Diesel PM	2,585.80	-	-	-	-	2,585.80	5.701	0.003
Ethylbenzene	306.3	621.7	-	-	-	927.9	2.046	0.001
Formaldehyde	827.5	-	-	-	-	827.5	1.824	< 0.001
Naphthalene	81.2	0	-	-	-	81.2	0.179	< 0.001
POM	21.4	-	-	-	-	21.4	0.047	< 0.001
DEOG	2,766.50	-	-	-	-	2,766.50	6.099	0.003
CO2	1,004,578,875.60	-	-	-	-	1,004,578,875.60	2,214,717.17	1,107.36
N2O	40,958.70	-	-	-	-	40,958.70	90.299	0.045
CH4	7,855.50	-	-	-	-	7,855.50	17.318	0.009
BC	425.1	-	-	-	-	425.1	0.937	< 0.001
HFC	-	47.5	-	-	-	47.5	0.105	< 0.001
==========								
Summary of GHG Emissions								
Pollutant Name	Emissions (metric tons)		CO2e (metric tons)					
CO2	1,004.58		1,004.58					
N2O	0.041		12.206					
CH4	0.008		0.196					
BC	< 0.001		0.196					
HFC	< 0.001		0.068					
Total CO2e	-		1,017.24					
==========								
Summary of Consumptions								
Gasoline	100,144.01		gallons					
Diesel	18,375.59		gallons					
Natural Gas	269.969		diesel-equivalent gallons					
Electricity	241,193.27		kilowatt-hours					
==========END==========								

File Name:	Yolo (SV) - 2049 - Alt3 OptionB YOL80.EM							
CT-EMFAC2021 Version:	1.0.2.0							
Run Date:	8/26/2023 17:04							
Area:	Yolo (SV)							
Analysis Year:	2049							
Season:	Annual							
==========								
Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction					
	Across Category	Within Category	Within Category					
Truck 1	0.02	0.256	0.279					
Truck 2	0.054	0.691	0.008					
Non-Truck	0.926	0.004	0.9					
==========								
Road Type:	Freeway							
Silt Loading Factor:	CARB	0.015 g/m2						
Precipitation Correction:	None	P = NA	N = NA					
==========								
Road Length:	20.8	miles						
Volume:	7,932	vehicles per hour						
Number of Hours:	24	hours						
VMT:	3959654	miles						
VMT Distribution by Speed Bin (mph):								
	<= 5 mph		0.00%					
	10 mph		0.00%					
	15 mph		0.00%					
	20 mph		0.71%					
	25 mph		1.76%					
	30 mph		2.97%					
	35 mph		8.73%					
	40 mph		1.57%					
	45 mph		10.81%					
	50 mph		16.84%					
	55 mph		18.08%					
	60 mph		21.66%					
	65 mph		16.87%					
	70 mph		0.00%					
	75 mph		0.00%					

==========

Summary of Emissions

Pollutant Name	Running Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Road Dust (grams)	Total (grams)	Total (pounds)	Total (US tons)
PM2.5	3,739.30	-	8,984.50	13,759.20	40,729.00	67,211.90	148.177	0.074
PM10	3,964.20	-	35,941.80	39,311.80	271,517.50	350,735.20	773.239	0.387
NOx	189,460.20	-	-	-	-	189,460.20	417.688	0.209
CO	1,546,153.90	-	-	-	-	1,546,153.90	3,408.69	1.704
HC	25,973.90	60,699.90	-	-	-	86,673.80	191.083	0.096
TOG	28,533.10	64,896.00	-	-	-	93,429.10	205.976	0.103
ROG	19,784.30	64,896.00	-	-	-	84,680.30	186.688	0.093
1,3-Butadiene	91.5	0	-	-	-	91.5	0.202	< 0.001
Acetaldehyde	341.5	-	-	-	-	341.5	0.753	< 0.001
Acrolein	9.3	-	-	-	-	9.3	0.021	< 0.001
Benzene	947.5	936.6	-	-	-	1,884.10	4.154	0.002
Diesel PM	2,540.00	-	-	-	-	2,540.00	5.6	0.003
Ethylbenzene	296.1	606.3	-	-	-	902.4	1.989	< 0.001
Formaldehyde	802.5	-	-	-	-	802.5	1.769	< 0.001
Naphthalene	78.5	0	-	-	-	78.5	0.173	< 0.001
POM	20.9	-	-	-	-	20.9	0.046	< 0.001
DEOG	2,692.20	-	-	-	-	2,692.20	5.935	0.003
CO2	994,090,344.50	-	-	-	-	994,090,344.50	2,191,593.92	1,095.80
N2O	40,645.20	-	-	-	-	40,645.20	89.607	0.045
CH4	7,640.10	-	-	-	-	7,640.10	16.844	0.008
BC	411.7	-	-	-	-	411.7	0.908	< 0.001
HFC	-	46.3	-	-	-	46.3	0.102	< 0.001

==========

Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	994.09	994.09
N2O	0.041	12.112
CH4	0.008	0.191
BC	< 0.001	0.189
HFC	< 0.001	0.066
Total CO2e	-	1,006.65

File Name:	Yolo (SV) - 2049 - Alt4 OptionB YOL80.EM							
CT-EMFAC2021 Version:	1.0.2.0							
Run Date:	8/26/2023 17:06							
Area:	Yolo (SV)							
Analysis Year:	2049							
Season:	Annual							
==========								
Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction					
	Across Category	Within Category	Within Category					
Truck 1	0.02	0.256	0.279					
Truck 2	0.054	0.691	0.008					
Non-Truck	0.926	0.004	0.9					
==========								
Road Type:	Freeway							
Silt Loading Factor:	CARB	0.015 g/m2						
Precipitation Correction:	None	P = NA	N = NA					
==========								
Road Length:	20.8	miles						
Volume:	7,846	vehicles per hour						
Number of Hours:	24	hours						
VMT:	3916723	miles						
VMT Distribution by Speed Bin (mph):								
	<= 5 mph		0.00%					
	10 mph		0.00%					
	15 mph		0.00%					
	20 mph		1.03%					
	25 mph		1.26%					
	30 mph		2.29%					
	35 mph		10.31%					
	40 mph		6.40%					
	45 mph		5.97%					
	50 mph		18.52%					
	55 mph		18.66%					
	60 mph		20.03%					
	65 mph		15.53%					
	70 mph		0.00%					
	75 mph		0.00%					
==========								
Summary of Emissions								
	Running Exhaust	Running Loss	Tire Wear	Brake Wear	Road Dust	Total	Total	Total
Pollutant Name	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	(pounds)	(US tons)
PM2.5	3,638.90	-	8,887.00	13,991.70	40,287.40	66,805.00	147.28	0.074
PM10	3,858.80	-	35,552.10	39,976.10	268,573.60	347,960.60	767.122	0.384
NOx	187,799.50	-	-	-	-	187,799.50	414.027	0.207
CO	1,543,673.90	-	-	-	-	1,543,673.90	3,403.22	1.702
HC	25,751.00	60,926.70	-	-	-	86,677.60	191.091	0.096
TOG	28,289.80	65,138.40	-	-	-	93,428.20	205.974	0.103
ROG	19,604.90	65,138.40	-	-	-	84,743.30	186.827	0.093
1,3-Butadiene	90.6	0	-	-	-	90.6	0.2	< 0.001
Acetaldehyde	339.8	-	-	-	-	339.8	0.749	< 0.001
Acrolein	9.2	-	-	-	-	9.2	0.02	< 0.001
Benzene	938.8	940.1	-	-	-	1,878.90	4.142	0.002
Diesel PM	2,448.20	-	-	-	-	2,448.20	5.397	0.003
Ethylbenzene	293.3	608.6	-	-	-	901.9	1.988	< 0.001
Formaldehyde	798	-	-	-	-	798	1.759	< 0.001
Naphthalene	77.8	0	-	-	-	77.8	0.172	< 0.001
POM	20.6	-	-	-	-	20.6	0.046	< 0.001
DEOG	2,673.40	-	-	-	-	2,673.40	5.894	0.003
CO2	980,951,119.90	-	-	-	-	980,951,119.90	2,162,626.89	1,081.31
N2O	40,176.30	-	-	-	-	40,176.30	88.574	0.044
CH4	7,584.60	-	-	-	-	7,584.60	16.721	0.008
BC	408	-	-	-	-	408	0.899	< 0.001
HFC	-	46.5	-	-	-	46.5	0.102	< 0.001
==========								
Summary of GHG Emissions								
	Emissions		CO2e					
Pollutant Name	(metric tons)		(metric tons)					
CO2	980.951		980.951					
N2O	0.04		11.973					
CH4	0.008		0.19					
BC	< 0.001		0.188					
HFC	< 0.001		0.066					
Total CO2e	-		993.367					

File Name:	Yolo (SV) - 2049 - Alt5 OptionB YOL80.EM							
CT-EMFAC2021 Version:	1.0.2.0							
Run Date:	8/26/2023 17:09							
Area:	Yolo (SV)							
Analysis Year:	2049							
Season:	Annual							
==========								
Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction					
	Across Category	Within Category	Within Category					
Truck 1	0.02	0.256	0.279					
Truck 2	0.054	0.691	0.008					
Non-Truck	0.926	0.004	0.9					
==========								
Road Type:	Freeway							
Silt Loading Factor:	CARB	0.015 g/m2						
Precipitation Correction:	None	P = NA	N = NA					
==========								
Road Length:	20.8	miles						
Volume:	7,766	vehicles per hour						
Number of Hours:	24	hours						
VMT:	3876787	miles						
VMT Distribution by Speed Bin (mph):								
	<= 5 mph		0.00%					
	10 mph		0.00%					
	15 mph		0.00%					
	20 mph		1.06%					
	25 mph		0.78%					
	30 mph		2.91%					
	35 mph		10.44%					
	40 mph		6.31%					
	45 mph		11.94%					
	50 mph		17.09%					
	55 mph		15.24%					
	60 mph		20.33%					
	65 mph		13.90%					
	70 mph		0.00%					
	75 mph		0.00%					
==========								
Summary of Emissions								
	Running Exhaust	Running Loss	Tire Wear	Brake Wear	Road Dust	Total	Total	Total
Pollutant Name	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	(pounds)	(US tons)
PM2.5	3,526.90	-	8,796.40	14,262.80	39,876.60	66,462.80	146.525	0.073
PM10	3,740.90	-	35,189.60	40,750.50	265,835.20	345,516.20	761.733	0.381
NOx	185,466.10	-	-	-	-	185,466.10	408.883	0.204
CO	1,542,528.30	-	-	-	-	1,542,528.30	3,400.69	1.7
HC	25,469.50	61,108.70	-	-	-	86,578.20	190.872	0.095
TOG	27,982.10	65,333.00	-	-	-	93,315.20	205.725	0.103
ROG	19,376.90	65,333.00	-	-	-	84,709.90	186.753	0.093
1,3-Butadiene	89.4	0	-	-	-	89.4	0.197	< 0.001
Acetaldehyde	337.6	-	-	-	-	337.6	0.744	< 0.001
Acrolein	9	-	-	-	-	9	0.02	< 0.001
Benzene	927.4	942.9	-	-	-	1,870.30	4.123	0.002
Diesel PM	2,348.20	-	-	-	-	2,348.20	5.177	0.003
Ethylbenzene	289.7	610.4	-	-	-	900.1	1.984	< 0.001
Formaldehyde	792	-	-	-	-	792	1.746	< 0.001
Naphthalene	76.9	0	-	-	-	76.9	0.169	< 0.001
POM	20.4	-	-	-	-	20.4	0.045	< 0.001
DEOG	2,653.40	-	-	-	-	2,653.40	5.85	0.003
CO2	966,891,544.10	-	-	-	-	966,891,544.10	2,131,630.83	1,065.82
N2O	39,711.90	-	-	-	-	39,711.90	87.55	0.044
CH4	7,519.00	-	-	-	-	7,519.00	16.577	0.008
BC	403.4	-	-	-	-	403.4	0.889	< 0.001
HFC	-	46.6	-	-	-	46.6	0.103	< 0.001
==========								
Summary of GHG Emissions								
	Emissions		CO2e					
Pollutant Name	(metric tons)		(metric tons)					
CO2	966.892		966.892					
N2O	0.04		11.834					
CH4	0.008		0.188					
BC	< 0.001		0.186					
HFC	< 0.001		0.067					
Total CO2e	-		979.166					

File Name:	Yolo (SV) - 2049 - Alt6 OptionB YOL80.EM							
CT-EMFAC2021 Version:	1.0.2.0							
Run Date:	8/26/2023 17:12							
Area:	Yolo (SV)							
Analysis Year:	2049							
Season:	Annual							
==========								
Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction					
	Across Category	Within Category	Within Category					
Truck 1	0.02	0.256	0.279					
Truck 2	0.054	0.691	0.008					
Non-Truck	0.926	0.004	0.9					
==========								
Road Type:	Freeway							
Silt Loading Factor:	CARB	0.015 g/m2						
Precipitation Correction:	None	P = NA	N = NA					
==========								
Road Length:	20.8	miles						
Volume:	7,369	vehicles per hour						
Number of Hours:	24	hours						
VMT:	3678605	miles						
VMT Distribution by Speed Bin (mph):								
	<= 5 mph		0.00%					
	10 mph		0.00%					
	15 mph		9.25%					
	20 mph		0.77%					
	25 mph		9.56%					
	30 mph		0.39%					
	35 mph		9.47%					
	40 mph		1.61%					
	45 mph		8.76%					
	50 mph		12.27%					
	55 mph		18.07%					
	60 mph		22.95%					
	65 mph		6.90%					
	70 mph		0.00%					
	75 mph		0.00%					
==========								
Summary of Emissions								
	Running Exhaust	Running Loss	Tire Wear	Brake Wear	Road Dust	Total	Total	Total
Pollutant Name	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	(pounds)	(US tons)
PM2.5	3,564.80	-	8,346.80	14,444.00	37,838.10	64,193.70	141.523	0.071
PM10	3,792.00	-	33,390.70	41,268.30	252,245.60	330,696.60	729.061	0.365
NOx	225,202.40	-	-	-	-	225,202.40	496.486	0.248
CO	1,611,486.60	-	-	-	-	1,611,486.60	3,552.72	1.776
HC	30,787.80	75,874.90	-	-	-	106,662.70	235.151	0.118
TOG	33,812.80	81,120.00	-	-	-	114,932.80	253.383	0.127
ROG	23,417.20	81,120.00	-	-	-	104,537.20	230.465	0.115
1,3-Butadiene	108.1	0	-	-	-	108.1	0.238	< 0.001
Acetaldehyde	403.2	-	-	-	-	403.2	0.889	< 0.001
Acrolein	10.8	-	-	-	-	10.8	0.024	< 0.001
Benzene	1,118.90	1,170.80	-	-	-	2,289.70	5.048	0.003
Diesel PM	2,101.80	-	-	-	-	2,101.80	4.634	0.002
Ethylbenzene	349.9	757.9	-	-	-	1,107.80	2.442	0.001
Formaldehyde	947.1	-	-	-	-	947.1	2.088	0.001
Naphthalene	92.8	0	-	-	-	92.8	0.205	< 0.001
POM	24.5	-	-	-	-	24.5	0.054	< 0.001
DEOG	3,102.10	-	-	-	-	3,102.10	6.839	0.003
CO2	984,105,235.10	-	-	-	-	984,105,235.10	2,169,580.52	1,084.79
N2O	39,637.00	-	-	-	-	39,637.00	87.385	0.044
CH4	8,790.80	-	-	-	-	8,790.80	19.38	0.01
BC	477.9	-	-	-	-	477.9	1.054	< 0.001
HFC	-	57.9	-	-	-	57.9	0.128	< 0.001
==========								
Summary of GHG Emissions								
	Emissions		CO2e					
Pollutant Name	(metric tons)		(metric tons)					
CO2	984.105		984.105					
N2O	0.04		11.812					
CH4	0.009		0.22					
BC	< 0.001		0.22					
HFC	< 0.001		0.083					
Total CO2e	-		996.439					

File Name:	Yolo (SV) - 2049 - Alt7 OptionB YOL80.EM		
CT-EMFAC2021 Version:	1.0.2.0		
Run Date:	8/26/2023 17:14		
Area:	Yolo (SV)		
Analysis Year:	2049		
Season:	Annual		

==========

Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction
	Across Category	Within Category	Within Category
Truck 1	0.02	0.256	0.279
Truck 2	0.054	0.691	0.008
Non-Truck	0.926	0.004	0.9

==========

Road Type:	Freeway		
Silt Loading Factor:	CARB	0.015 g/m2	
Precipitation Correction:	None	P = NA	N = NA

==========

Road Length:	20.8	miles
Volume:	7,253	vehicles per hour
Number of Hours:	24	hours
VMT:	3620698	miles

VMT Distribution by Speed Bin (mph):	
<= 5 mph	0.00%
10 mph	0.82%
15 mph	6.80%
20 mph	3.99%
25 mph	1.87%
30 mph	2.91%
35 mph	0.37%
40 mph	7.72%
45 mph	3.91%
50 mph	11.16%
55 mph	16.65%
60 mph	31.88%
65 mph	11.92%
70 mph	0.00%
75 mph	0.00%

==========

Summary of Emissions

Pollutant Name	Running Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Road Dust (grams)	Total (grams)	Total (pounds)	Total (US tons)
PM2.5	3,726.10	-	8,215.40	12,772.70	37,242.50	61,956.70	136.591	0.068
PM10	3,957.50	-	32,865.10	36,493.00	248,274.90	321,590.40	708.985	0.354
NOx	213,321.90	-	-	-	-	213,321.90	470.294	0.235
CO	1,506,448.20	-	-	-	-	1,506,448.20	3,321.15	1.661
HC	29,355.60	69,517.90	-	-	-	98,873.50	217.979	0.109
TOG	32,237.50	74,323.60	-	-	-	106,561.10	234.927	0.117
ROG	22,366.00	74,323.60	-	-	-	96,689.60	213.164	0.107
1,3-Butadiene	103.4	0	-	-	-	103.4	0.228	< 0.001
Acetaldehyde	379.4	-	-	-	-	379.4	0.837	< 0.001
Acrolein	10.3	-	-	-	-	10.3	0.023	< 0.001
Benzene	1,068.80	1,072.70	-	-	-	2,141.50	4.721	0.002
Diesel PM	2,341.50	-	-	-	-	2,341.50	5.162	0.003
Ethylbenzene	334.1	694.4	-	-	-	1,028.50	2.267	0.001
Formaldehyde	893.9	-	-	-	-	893.9	1.971	< 0.001
Naphthalene	88.8	0	-	-	-	88.8	0.196	< 0.001
POM	23.2	-	-	-	-	23.2	0.051	< 0.001
DEOG	2,959.60	-	-	-	-	2,959.60	6.525	0.003
CO2	969,246,637.40	-	-	-	-	969,246,637.40	2,136,822.92	1,068.41
N2O	38,865.00	-	-	-	-	38,865.00	85.683	0.043
CH4	8,358.80	-	-	-	-	8,358.80	18.428	0.009
BC	456.4	-	-	-	-	456.4	1.006	< 0.001
HFC	-	53	-	-	-	53	0.117	< 0.001

==========

Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	969.247	969.247
N2O	0.039	11.582
CH4	0.008	0.209
BC	< 0.001	0.21
HFC	< 0.001	0.076
Total CO2e	-	981.323

File Name:	Yolo (SV) - 2029 - Alt1 OptionB YOL80I.EM							
CT-EMFAC2021 Version:	1.0.2.0							
Run Date:	8/26/2023 16:38							
Area:	Yolo (SV)							
Analysis Year:	2029							
Season:	Annual							
==========								
Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction					
	Across Category	Within Category	Within Category					
Truck 1	0.03	0.494	0.467					
Truck 2	0.044	0.918	0.02					
Non-Truck	0.926	0.007	0.929					
==========								
Road Type:	Freeway							
Silt Loading Factor:	CARB	0.015 g/m2						
Precipitation Correction:	None	P = NA	N = NA					
==========								
Road Length:	20.8	miles						
Volume:	6,569	vehicles per hour						
Number of Hours:	24	hours						
VMT:	3279245	miles						
VMT Distribution by Speed Bin (mph):								
	<= 5 mph		0.00%					
	10 mph		0.00%					
	15 mph		0.00%					
	20 mph		0.70%					
	25 mph		7.20%					
	30 mph		0.00%					
	35 mph		2.00%					
	40 mph		1.20%					
	45 mph		17.30%					
	50 mph		16.80%					
	55 mph		15.10%					
	60 mph		28.80%					
	65 mph		10.90%					
	70 mph		0.00%					
	75 mph		0.00%					

==========

Summary of Emissions

	Running Exhaust	Running Loss	Tire Wear	Brake Wear	Road Dust	Total	Total	Total
Pollutant Name	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	(pounds)	(US tons)
PM2.5	5,675.50	-	7,329.10	12,458.90	32,369.40	57,833.00	127.5	0.064
PM10	6,037.10	-	29,309.90	35,595.00	215,790.70	286,732.70	632.137	0.316
NOx	327,637.20	-	-	-	-	327,637.20	722.316	0.361
CO	2,013,745.60	-	-	-	-	2,013,745.60	4,439.55	2.22
HC	65,662.10	74,132.10	-	-	-	139,794.10	308.193	0.154
TOG	70,872.50	79,256.80	-	-	-	150,129.30	330.978	0.165
ROG	37,037.00	79,256.80	-	-	-	116,293.80	256.384	0.128
1,3-Butadiene	163.1	0	-	-	-	163.1	0.36	< 0.001
Acetaldehyde	824	-	-	-	-	824	1.817	< 0.001
Acrolein	16.5	-	-	-	-	16.5	0.036	< 0.001
Benzene	1,683.40	1,143.90	-	-	-	2,827.30	6.233	0.003
Diesel PM	3,320.40	-	-	-	-	3,320.40	7.32	0.004
Ethylbenzene	517.4	740.4	-	-	-	1,257.80	2.773	0.001
Formaldehyde	1,853.00	-	-	-	-	1,853.00	4.085	0.002
Naphthalene	152	0	-	-	-	152	0.335	< 0.001
POM	45.2	-	-	-	-	45.2	0.1	< 0.001
DEOG	7,305.50	-	-	-	-	7,305.50	16.106	0.008
CO2	1,024,217,277.20	-	-	-	-	1,024,217,277.20	2,258,012.43	1,129.01
N2O	46,321.40	-	-	-	-	46,321.40	102.121	0.051
CH4	30,488.10	-	-	-	-	30,488.10	67.215	0.034
BC	957.4	-	-	-	-	957.4	2.111	0.001
HFC	-	944.2	-	-	-	944.2	2.082	0.001

==========

Summary of GHG Emissions

	Emissions	CO2e
Pollutant Name	(metric tons)	(metric tons)
CO2	1,024.22	1,024.22
N2O	0.046	13.804
CH4	0.03	0.762
BC	< 0.001	0.44
HFC	< 0.001	1.35
Total CO2e	-	1,040.57

File Name:	Yolo (SV) - 2029 - Alt2 OptionB YOL80I.EM							
CT-EMFAC2021 Version:	1.0.2.0							
Run Date:	8/26/2023 16:41							
Area:	Yolo (SV)							
Analysis Year:	2029							
Season:	Annual							
==========								
Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction					
	Across Category	Within Category	Within Category					
Truck 1	0.03	0.494	0.467					
Truck 2	0.044	0.918	0.02					
Non-Truck	0.926	0.007	0.929					
==========								
Road Type:	Freeway							
Silt Loading Factor:	CARB	0.015 g/m2						
Precipitation Correction:	None	P = NA	N = NA					
==========								
Road Length:	20.8	miles						
Volume:	7,241	vehicles per hour						
Number of Hours:	24	hours						
VMT:	3614707	miles						
VMT Distribution by Speed Bin (mph):								
	<= 5 mph		0.00%					
	10 mph		0.00%					
	15 mph		0.00%					
	20 mph		0.74%					
	25 mph		0.00%					
	30 mph		6.46%					
	35 mph		0.66%					
	40 mph		2.30%					
	45 mph		4.39%					
	50 mph		17.19%					
	55 mph		17.61%					
	60 mph		24.89%					
	65 mph		25.76%					
	70 mph		0.00%					
	75 mph		0.00%					
==========								
Summary of Emissions								
	Running Exhaust	Running Loss	Tire Wear	Brake Wear	Road Dust	Total	Total	Total
Pollutant Name	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	(pounds)	(US tons)
PM2.5	6,497.60	-	8,078.90	12,555.90	35,680.80	62,813.10	138.479	0.069
PM10	6,905.90	-	32,308.20	35,871.70	237,865.80	312,951.60	689.94	0.345
NOx	362,534.50	-	-	-	-	362,534.50	799.252	0.4
CO	2,140,754.10	-	-	-	-	2,140,754.10	4,719.56	2.36
HC	71,559.00	75,234.20	-	-	-	146,793.30	323.624	0.162
TOG	77,171.10	80,435.10	-	-	-	157,606.20	347.462	0.174
ROG	40,315.50	80,435.10	-	-	-	120,750.60	266.209	0.133
1,3-Butadiene	178.2	0	-	-	-	178.2	0.393	< 0.001
Acetaldehyde	878	-	-	-	-	878	1.936	< 0.001
Acrolein	18.9	-	-	-	-	18.9	0.042	< 0.001
Benzene	1,835.30	1,160.90	-	-	-	2,996.20	6.605	0.003
Diesel PM	3,919.70	-	-	-	-	3,919.70	8.642	0.004
Ethylbenzene	565.3	751.4	-	-	-	1,316.70	2.903	0.001
Formaldehyde	1,980.70	-	-	-	-	1,980.70	4.367	0.002
Naphthalene	166.4	0	-	-	-	166.4	0.367	< 0.001
POM	49	-	-	-	-	49	0.108	< 0.001
DEOG	7,723.60	-	-	-	-	7,723.60	17.028	0.009
CO2	1,136,101,836.80	-	-	-	-	1,136,101,836.80	2,504,675.64	1,252.34
N2O	51,155.50	-	-	-	-	51,155.50	112.778	0.056
CH4	33,253.70	-	-	-	-	33,253.70	73.312	0.037
BC	1,038.00	-	-	-	-	1,038.00	2.288	0.001
HFC	-	958.2	-	-	-	958.2	2.113	0.001
==========								
Summary of GHG Emissions								
	Emissions		CO2e					
Pollutant Name	(metric tons)		(metric tons)					
CO2	1,136.10		1,136.10					
N2O	0.051		15.244					
CH4	0.033		0.831					
BC	0.001		0.477					
HFC	< 0.001		1.37					
Total CO2e	-		1,154.03					

File Name:	Yolo (SV) - 2029 - Alt3 OptionB YOL80.EM							
CT-EMFAC2021 Version:	1.0.2.0							
Run Date:	8/26/2023 16:43							
Area:	Yolo (SV)							
Analysis Year:	2029							
Season:	Annual							
==========								
Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction					
	Across Category	Within Category	Within Category					
Truck 1	0.03	0.494	0.467					
Truck 2	0.044	0.918	0.02					
Non-Truck	0.926	0.007	0.929					
==========								
Road Type:	Freeway							
Silt Loading Factor:	CARB	0.015 g/m2						
Precipitation Correction:	None	P = NA	N = NA					
==========								
Road Length:	20.8	miles						
Volume:	7,242	vehicles per hour						
Number of Hours:	24	hours						
VMT:	3615206	miles						
VMT Distribution by Speed Bin (mph):								
	<= 5 mph		0.00%					
	10 mph		0.00%					
	15 mph		0.00%					
	20 mph		0.73%					
	25 mph		0.29%					
	30 mph		1.00%					
	35 mph		1.08%					
	40 mph		5.85%					
	45 mph		4.73%					
	50 mph		10.02%					
	55 mph		25.00%					
	60 mph		33.30%					
	65 mph		18.00%					
	70 mph		0.00%					
	75 mph		0.00%					
==========								
Summary of Emissions								
	Running Exhaust	Running Loss	Tire Wear	Brake Wear	Road Dust	Total	Total	Total
Pollutant Name	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	(pounds)	(US tons)
PM2.5	6,394.20	-	8,080.00	12,252.30	35,685.70	62,412.30	137.595	0.069
PM10	6,794.60	-	32,312.70	35,004.20	237,898.70	312,010.20	687.865	0.344
NOx	353,552.20	-	-	-	-	353,552.20	779.449	0.39
CO	2,112,957.80	-	-	-	-	2,112,957.80	4,658.27	2.329
HC	70,101.60	73,040.30	-	-	-	143,141.90	315.574	0.158
TOG	75,546.30	78,089.50	-	-	-	153,635.80	338.709	0.169
ROG	39,207.50	78,089.50	-	-	-	117,297.00	258.596	0.129
1,3-Butadiene	173.3	0	-	-	-	173.3	0.382	< 0.001
Acetaldehyde	852.1	-	-	-	-	852.1	1.879	< 0.001
Acrolein	18.5	-	-	-	-	18.5	0.041	< 0.001
Benzene	1,786.10	1,127.00	-	-	-	2,913.10	6.422	0.003
Diesel PM	3,898.60	-	-	-	-	3,898.60	8.595	0.004
Ethylbenzene	550.4	729.5	-	-	-	1,280.00	2.822	0.001
Formaldehyde	1,922.30	-	-	-	-	1,922.30	4.238	0.002
Naphthalene	162.3	0	-	-	-	162.3	0.358	< 0.001
POM	47.6	-	-	-	-	47.6	0.105	< 0.001
DEOG	7,474.60	-	-	-	-	7,474.60	16.479	0.008
CO2	1,130,284,513.90	-	-	-	-	1,130,284,513.90	2,491,850.64	1,245.93
N2O	50,729.10	-	-	-	-	50,729.10	111.839	0.056
CH4	32,873.20	-	-	-	-	32,873.20	72.473	0.036
BC	1,011.10	-	-	-	-	1,011.10	2.229	0.001
HFC	-	930.3	-	-	-	930.3	2.051	0.001
==========								
Summary of GHG Emissions								
	Emissions		CO2e					
Pollutant Name	(metric tons)		(metric tons)					
CO2	1,130.29		1,130.29					
N2O	0.051		15.117					
CH4	0.033		0.822					
BC	0.001		0.465					
HFC	< 0.001		1.33					
Total CO2e	-		1,148.02					

File Name:	Yolo (SV) - 2029 - Alt4 OptionB YOL80.EM							
CT-EMFAC2021 Version:	1.0.2.0							
Run Date:	8/26/2023 16:46							
Area:	Yolo (SV)							
Analysis Year:	2029							
Season:	Annual							
==========								
Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction					
	Across Category	Within Category	Within Category					
Truck 1	0.03	0.494	0.467					
Truck 2	0.044	0.918	0.02					
Non-Truck	0.926	0.007	0.929					
==========								
Road Type:	Freeway							
Silt Loading Factor:	CARB	0.015 g/m2						
Precipitation Correction:	None	P = NA	N = NA					
==========								
Road Length:	20.8	miles						
Volume:	7,165	vehicles per hour						
Number of Hours:	24	hours						
VMT:	3576768	miles						
VMT Distribution by Speed Bin (mph):								
	<= 5 mph		0.00%					
	10 mph		0.00%					
	15 mph		0.00%					
	20 mph		1.01%					
	25 mph		0.00%					
	30 mph		0.67%					
	35 mph		1.15%					
	40 mph		1.54%					
	45 mph		5.49%					
	50 mph		16.86%					
	55 mph		25.37%					
	60 mph		34.32%					
	65 mph		13.59%					
	70 mph		0.00%					
	75 mph		0.00%					
==========								
Summary of Emissions								
	Running Exhaust	Running Loss	Tire Wear	Brake Wear	Road Dust	Total	Total	Total
Pollutant Name	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	(pounds)	(US tons)
PM2.5	6,239.20	-	7,994.10	11,940.70	35,306.30	61,480.30	135.541	0.068
PM10	6,629.90	-	31,969.10	34,114.00	235,369.20	308,082.30	679.205	0.34
NOx	344,717.90	-	-	-	-	344,717.90	759.973	0.38
CO	2,086,514.30	-	-	-	-	2,086,514.30	4,599.98	2.3
HC	68,729.30	72,057.20	-	-	-	140,786.50	310.381	0.155
TOG	74,047.90	77,038.50	-	-	-	151,086.40	333.088	0.167
ROG	38,298.30	77,038.50	-	-	-	115,336.80	254.274	0.127
1,3-Butadiene	169.4	0	-	-	-	169.4	0.373	< 0.001
Acetaldehyde	833.2	-	-	-	-	833.2	1.837	< 0.001
Acrolein	17.8	-	-	-	-	17.8	0.039	< 0.001
Benzene	1,745.30	1,111.90	-	-	-	2,857.20	6.299	0.003
Diesel PM	3,807.50	-	-	-	-	3,807.50	8.394	0.004
Ethylbenzene	537.9	719.7	-	-	-	1,257.60	2.772	0.001
Formaldehyde	1,879.40	-	-	-	-	1,879.40	4.143	0.002
Naphthalene	158.8	0	-	-	-	158.8	0.35	< 0.001
POM	46.5	-	-	-	-	46.5	0.103	< 0.001
DEOG	7,301.80	-	-	-	-	7,301.80	16.098	0.008
CO2	1,114,569,739.50	-	-	-	-	1,114,569,739.50	2,457,205.50	1,228.60
N2O	49,921.40	-	-	-	-	49,921.40	110.058	0.055
CH4	32,375.90	-	-	-	-	32,375.90	71.377	0.036
BC	988.4	-	-	-	-	988.4	2.179	0.001
HFC	-	917.8	-	-	-	917.8	2.023	0.001
==========								
Summary of GHG Emissions								
	Emissions		CO2e					
Pollutant Name	(metric tons)		(metric tons)					
CO2	1,114.57		1,114.57					
N2O	0.05		14.877					
CH4	0.032		0.809					
BC	< 0.001		0.455					
HFC	< 0.001		1.312					
Total CO2e	-		1,132.02					

File Name:	Yolo (SV) - 2029 - Alt5 OptionB YOL80.EM							
CT-EMFAC2021 Version:	1.0.2.0							
Run Date:	8/26/2023 16:49							
Area:	Yolo (SV)							
Analysis Year:	2029							
Season:	Annual							

Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction
	Across Category	Within Category	Within Category
Truck 1	0.03	0.494	0.467
Truck 2	0.044	0.918	0.02
Non-Truck	0.926	0.007	0.929

Road Type:	Freeway		
Silt Loading Factor:	CARB	0.015 g/m2	
Precipitation Correction:	None	P = NA	N = NA

Road Length:	20.8	miles
Volume:	7,082	vehicles per hour
Number of Hours:	24	hours
VMT:	3535334	miles

VMT Distribution by Speed Bin (mph):

<= 5 mph	0.00%
10 mph	0.00%
15 mph	0.00%
20 mph	1.05%
25 mph	0.00%
30 mph	0.69%
35 mph	1.42%
40 mph	2.32%
45 mph	9.12%
50 mph	12.61%
55 mph	25.99%
60 mph	33.77%
65 mph	13.03%
70 mph	0.00%
75 mph	0.00%

Summary of Emissions

Pollutant Name	Running Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Road Dust (grams)	Total (grams)	Total (pounds)	Total (US tons)
PM2.5	6,143.30	-	7,901.50	12,056.40	34,897.30	60,998.50	134.479	0.067
PM10	6,528.80	-	31,598.80	34,444.30	232,642.70	305,214.60	672.883	0.336
NOx	341,247.40	-	-	-	-	341,247.40	752.322	0.376
CO	2,073,282.00	-	-	-	-	2,073,282.00	4,570.80	2.285
HC	68,079.60	72,006.00	-	-	-	140,085.60	308.836	0.154
TOG	73,360.10	76,983.70	-	-	-	150,343.80	331.451	0.166
ROG	37,958.20	76,983.70	-	-	-	114,941.90	253.403	0.127
1,3-Butadiene	167.7	0	-	-	-	167.7	0.37	< 0.001
Acetaldehyde	828.5	-	-	-	-	828.5	1.826	< 0.001
Acrolein	17.6	-	-	-	-	17.6	0.039	< 0.001
Benzene	1,729.00	1,111.10	-	-	-	2,840.10	6.261	0.003
Diesel PM	3,734.50	-	-	-	-	3,734.50	8.233	0.004
Ethylbenzene	532.6	719.2	-	-	-	1,251.80	2.76	0.001
Formaldehyde	1,867.80	-	-	-	-	1,867.80	4.118	0.002
Naphthalene	157.2	0	-	-	-	157.2	0.347	< 0.001
POM	46.2	-	-	-	-	46.2	0.102	< 0.001
DEOG	7,272.90	-	-	-	-	7,272.90	16.034	0.008
CO2	1,100,222,809.50	-	-	-	-	1,100,222,809.50	2,425,575.93	1,212.79
N2O	49,364.20	-	-	-	-	49,364.20	108.83	0.054
CH4	32,053.70	-	-	-	-	32,053.70	70.666	0.035
BC	980	-	-	-	-	980	2.16	0.001
HFC	-	917.1	-	-	-	917.1	2.022	0.001

Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	1,100.22	1,100.22
N2O	0.049	14.711
CH4	0.032	0.801
BC	< 0.001	0.451
HFC	< 0.001	1.311
Total CO2e	-	1,117.50

File Name:	Yolo (SV) - 2029 - Alt6 OptionB YOL80.EM							
CT-EMFAC2021 Version:	1.0.2.0							
Run Date:	8/26/2023 16:51							
Area:	Yolo (SV)							
Analysis Year:	2029							
Season:	Annual							
==========								
Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction					
	Across Category	Within Category	Within Category					
Truck 1	0.03	0.494	0.467					
Truck 2	0.044	0.918	0.02					
Non-Truck	0.926	0.007	0.929					
==========								
Road Type:	Freeway							
Silt Loading Factor:	CARB	0.015 g/m2						
Precipitation Correction:	None	P = NA	N = NA					
==========								
Road Length:	20.8	miles						
Volume:	6,702	vehicles per hour						
Number of Hours:	24	hours						
VMT:	3345638	miles						
VMT Distribution by Speed Bin (mph):								
	<= 5 mph		0.00%					
	10 mph		0.00%					
	15 mph		0.00%					
	20 mph		1.16%					
	25 mph		6.77%					
	30 mph		0.28%					
	35 mph		3.33%					
	40 mph		13.69%					
	45 mph		3.19%					
	50 mph		17.13%					
	55 mph		16.65%					
	60 mph		27.38%					
	65 mph		10.42%					
	70 mph		0.00%					
	75 mph		0.00%					

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Summary of Emissions

Pollutant Name	Running Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Road Dust (grams)	Total (grams)	Total (pounds)	Total (US tons)
PM2.5	5,801.50	-	7,477.50	13,286.50	33,024.80	59,590.30	131.374	0.066
PM10	6,172.30	-	29,903.30	37,960.50	220,159.70	294,195.80	648.591	0.324
NOx	339,021.90	-	-	-	-	339,021.90	747.415	0.374
CO	2,083,389.20	-	-	-	-	2,083,389.20	4,593.09	2.297
HC	67,867.10	77,836.90	-	-	-	145,704.00	321.222	0.161
TOG	73,290.50	83,217.70	-	-	-	156,508.20	345.042	0.173
ROG	38,419.70	83,217.70	-	-	-	121,637.40	268.165	0.134
1,3-Butadiene	169	0	-	-	-	169	0.373	< 0.001
Acetaldehyde	859.7	-	-	-	-	859.7	1.895	< 0.001
Acrolein	17.3	-	-	-	-	17.3	0.038	< 0.001
Benzene	1,745.60	1,201.10	-	-	-	2,946.60	6.496	0.003
Diesel PM	3,357.70	-	-	-	-	3,357.70	7.402	0.004
Ethylbenzene	536.1	777.4	-	-	-	1,313.50	2.896	0.001
Formaldehyde	1,931.30	-	-	-	-	1,931.30	4.258	0.002
Naphthalene	157.6	0	-	-	-	157.6	0.347	< 0.001
POM	46.8	-	-	-	-	46.8	0.103	< 0.001
DEOG	7,648.00	-	-	-	-	7,648.00	16.861	0.008
CO2	1,046,584,274.40	-	-	-	-	1,046,584,274.40	2,307,323.21	1,153.66
N2O	47,489.60	-	-	-	-	47,489.60	104.697	0.052
CH4	31,377.10	-	-	-	-	31,377.10	69.175	0.035
BC	994.4	-	-	-	-	994.4	2.192	0.001
HFC	-	991.4	-	-	-	991.4	2.186	0.001

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Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	1,046.58	1,046.58
N2O	0.047	14.152
CH4	0.031	0.784
BC	< 0.001	0.457
HFC	< 0.001	1.418
Total CO2e	-	1,063.40

File Name:	Yolo (SV) - 2029 - Alt7 OptionB YOL80.EM		
CT-EMFAC2021 Version:	1.0.2.0		
Run Date:	8/26/2023 16:53		
Area:	Yolo (SV)		
Analysis Year:	2029		
Season:	Annual		

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Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.03	0.494	0.467
Truck 2	0.044	0.918	0.02
Non-Truck	0.926	0.007	0.929

==========

Road Type:	Freeway		
Silt Loading Factor:	CARB	0.015 g/m2	
Precipitation Correction:	None	P = NA	N = NA

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Road Length:	20.8	miles
Volume:	6,524	vehicles per hour
Number of Hours:	24	hours
VMT:	3256781	miles

VMT Distribution by Speed Bin (mph):

<= 5 mph	0.00%
10 mph	0.00%
15 mph	4.82%
20 mph	6.43%
25 mph	1.35%
30 mph	2.83%
35 mph	1.97%
40 mph	4.51%
45 mph	2.41%
50 mph	11.70%
55 mph	11.76%
60 mph	24.65%
65 mph	27.57%
70 mph	0.00%
75 mph	0.00%

==========

Summary of Emissions

Pollutant Name	Running Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Road Dust (grams)	Total (grams)	Total (pounds)	Total (US tons)
PM2.5	6,491.20	-	7,278.90	12,155.10	32,147.70	58,072.90	128.029	0.064
PM10	6,909.40	-	29,109.10	34,727.10	214,312.50	285,058.00	628.445	0.314
NOx	368,813.10	-	-	-	-	368,813.10	813.094	0.407
CO	2,068,954.30	-	-	-	-	2,068,954.30	4,561.26	2.281
HC	73,932.30	84,326.70	-	-	-	158,259.10	348.901	0.174
TOG	80,007.20	90,156.20	-	-	-	170,163.40	375.146	0.188
ROG	43,380.60	90,156.20	-	-	-	133,536.80	294.398	0.147
1,3-Butadiene	191.1	0	-	-	-	191.1	0.421	< 0.001
Acetaldehyde	945.5	-	-	-	-	945.5	2.084	0.001
Acrolein	19.9	-	-	-	-	19.9	0.044	< 0.001
Benzene	1,978.10	1,301.20	-	-	-	3,279.30	7.23	0.004
Diesel PM	3,658.60	-	-	-	-	3,658.60	8.066	0.004
Ethylbenzene	608.4	842.3	-	-	-	1,450.70	3.198	0.002
Formaldehyde	2,132.00	-	-	-	-	2,132.00	4.7	0.002
Naphthalene	177	0	-	-	-	177	0.39	< 0.001
POM	52.6	-	-	-	-	52.6	0.116	< 0.001
DEOG	8,340.40	-	-	-	-	8,340.40	18.387	0.009
CO2	1,080,600,359.20	-	-	-	-	1,080,600,359.20	2,382,315.84	1,191.16
N2O	48,426.40	-	-	-	-	48,426.40	106.762	0.053
CH4	32,411.30	-	-	-	-	32,411.30	71.455	0.036
BC	1,111.30	-	-	-	-	1,111.30	2.45	0.001
HFC	-	1,074.00	-	-	-	1,074.00	2.368	0.001

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Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	1,080.60	1,080.60
N2O	0.048	14.431
CH4	0.032	0.81
BC	0.001	0.511
HFC	0.001	1.536
Total CO2e	-	1,097.89

03-3H900 (Roadway) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	03-3H900 (Roadway)
Construction Start Date	6/28/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00
Precipitation (days)	35.4
Location	38.564026, -121.634885
County	Yolo
City	Unincorporated
Air District	Yolo/Solano AQMD
Air Basin	Sacramento Valley
TAZ	315
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Widening	20.8	Mile	1.00	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	45.3	0.07	1.46	183	184	1.35	18.4	19.8	9,260	0.34	0.12	6.13
Mit.	45.3	0.07	1.46	183	184	1.35	18.4	19.8	9,260	0.34	0.12	6.13
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	43.2	0.07	1.46	183	184	1.35	18.4	19.8	9,089	0.35	0.12	0.16
Mit.	43.2	0.07	1.46	183	184	1.35	18.4	19.8	9,089	0.35	0.12	0.16
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.3	0.02	0.39	56.4	56.8	0.36	5.69	6.06	2,570	0.09	0.04	0.90
Mit.	12.3	0.02	0.39	56.4	56.8	0.36	5.69	6.06	2,570	0.09	0.04	0.90
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.24	< 0.005	0.07	10.3	10.4	0.07	1.04	1.11	426	0.02	0.01	0.15

Un/Mit.	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Mit.	2.24	< 0.005	0.07	10.3	10.4	0.07	1.04	1.11	426	0.02	0.01	0.15
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2025	45.3	0.07	1.46	183	184	1.35	18.4	19.8	9,260	0.34	0.12	6.13
2026	18.4	0.02	0.30	153	153	0.28	15.4	15.7	3,106	0.09	0.06	4.74
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2025	43.2	0.07	1.46	183	184	1.35	18.4	19.8	9,089	0.35	0.12	0.16
2026	25.1	0.04	0.62	164	164	0.57	16.5	17.1	5,357	0.20	0.08	0.13
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2025	12.3	0.02	0.39	56.4	56.8	0.36	5.69	6.06	2,570	0.09	0.04	0.90
2026	3.84	0.01	0.09	25.8	25.9	0.08	2.61	2.69	773	0.03	0.01	0.38
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.24	< 0.005	0.07	10.3	10.4	0.07	1.04	1.11	426	0.02	0.01	0.15
2026	0.70	< 0.005	0.02	4.72	4.73	0.01	0.48	0.49	128	< 0.005	< 0.005	0.06

2.3. Construction Emissions by Year, Mitigated

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

Year	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Year	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
2025	45.3	0.07	1.46	183	184	1.35	18.4	19.8	9,260	0.34	0.12	6.13
2026	18.4	0.02	0.30	153	153	0.28	15.4	15.7	3,106	0.09	0.06	4.74
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2025	43.2	0.07	1.46	183	184	1.35	18.4	19.8	9,089	0.35	0.12	0.16
2026	25.1	0.04	0.62	164	164	0.57	16.5	17.1	5,357	0.20	0.08	0.13
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2025	12.3	0.02	0.39	56.4	56.8	0.36	5.69	6.06	2,570	0.09	0.04	0.90
2026	3.84	0.01	0.09	25.8	25.9	0.08	2.61	2.69	773	0.03	0.01	0.38
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.24	< 0.005	0.07	10.3	10.4	0.07	1.04	1.11	426	0.02	0.01	0.15
2026	0.70	< 0.005	0.02	4.72	4.73	0.01	0.48	0.49	128	< 0.005	< 0.005	0.06

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2025) – Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.50	0.01	0.24	—	0.24	0.22	—	0.22	632	0.03	0.01	—
Dust From Material Movement	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	34.6	< 0.005	< 0.005	—
Dust From Material Movement	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.73	< 0.005	< 0.005	—
Dust From Material Movement	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.60	0.00	0.00	140	140	0.00	14.1	14.1	1,243	0.02	0.04	4.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.00	0.00	6.93	6.93	0.00	0.70	0.70	62.3	< 0.005	< 0.005	0.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Worker	0.05	0.00	0.00	1.26	1.26	0.00	0.13	0.13	10.3	< 0.005	< 0.005	0.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Linear, Grubbing & Land Clearing (2025) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.50	0.01	0.24	—	0.24	0.22	—	0.22	632	0.03	0.01	—
Dust From Material Movement	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	34.6	< 0.005	< 0.005	—
Dust From Material Movement	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.73	< 0.005	< 0.005	—

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Dust From Material Movement	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.60	0.00	0.00	140	140	0.00	14.1	14.1	1,243	0.02	0.04	4.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.00	0.00	6.93	6.93	0.00	0.70	0.70	62.3	< 0.005	< 0.005	0.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.00	0.00	1.26	1.26	0.00	0.13	0.13	10.3	< 0.005	< 0.005	0.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Linear, Grading & Excavation (2025) - Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Off-Road Equipment	36.9	0.07	1.46	—	1.46	1.35	—	1.35	7,645	0.31	0.06	—
Dust From Material Movement	—	—	—	3.71	3.71	—	0.40	0.40	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	36.9	0.07	1.46	—	1.46	1.35	—	1.35	7,645	0.31	0.06	—
Dust From Material Movement	—	—	—	3.71	3.71	—	0.40	0.40	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	7.98	0.02	0.32	—	0.32	0.29	—	0.29	1,655	0.07	0.01	—
Dust From Material Movement	—	—	—	0.80	0.80	—	0.09	0.09	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.46	< 0.005	0.06	—	0.06	0.05	—	0.05	274	0.01	< 0.005	—
Dust From Material Movement	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Worker	8.40	0.00	0.00	178	178	0.00	18.0	18.0	1,582	0.02	0.06	6.05
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	27.6	< 0.005	< 0.005	0.08
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.29	0.00	0.00	178	178	0.00	18.0	18.0	1,411	0.03	0.06	0.16
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	27.6	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.39	0.00	0.00	34.8	34.8	0.00	3.51	3.51	313	0.01	0.01	0.57
Vendor	< 0.005	< 0.005	< 0.005	0.15	0.15	< 0.005	0.02	0.02	5.98	< 0.005	< 0.005	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.00	0.00	6.36	6.36	0.00	0.64	0.64	51.8	< 0.005	< 0.005	0.09
Vendor	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	0.99	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Linear, Grading & Excavation (2025) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	36.9	0.07	1.46	—	1.46	1.35	—	1.35	7,645	0.31	0.06	—

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Dust From Material Movement	—	—	—	3.71	3.71	—	0.40	0.40	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	36.9	0.07	1.46	—	1.46	1.35	—	1.35	7,645	0.31	0.06	—
Dust From Material Movement	—	—	—	3.71	3.71	—	0.40	0.40	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	7.98	0.02	0.32	—	0.32	0.29	—	0.29	1,655	0.07	0.01	—
Dust From Material Movement	—	—	—	0.80	0.80	—	0.09	0.09	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.46	< 0.005	0.06	—	0.06	0.05	—	0.05	274	0.01	< 0.005	—
Dust From Material Movement	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	8.40	0.00	0.00	178	178	0.00	18.0	18.0	1,582	0.02	0.06	6.05
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	27.6	< 0.005	< 0.005	0.08

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.29	0.00	0.00	178	178	0.00	18.0	18.0	1,411	0.03	0.06	0.16
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	27.6	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.39	0.00	0.00	34.8	34.8	0.00	3.51	3.51	313	0.01	0.01	0.57
Vendor	< 0.005	< 0.005	< 0.005	0.15	0.15	< 0.005	0.02	0.02	5.98	< 0.005	< 0.005	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.00	0.00	6.36	6.36	0.00	0.64	0.64	51.8	< 0.005	< 0.005	0.09
Vendor	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	0.99	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Linear, Drainage, Utilities, & Sub-Grade (2025) - Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	19.9	0.04	0.69	—	0.69	0.64	—	0.64	4,090	0.17	0.03	—
Dust From Material Movement	—	—	—	1.59	1.59	—	0.17	0.17	—	—	—	—

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.83	< 0.005	0.06	—	0.06	0.06	—	0.06	376	0.02	< 0.005	—
Dust From Material Movement	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	62.3	< 0.005	< 0.005	—
Dust From Material Movement	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.73	0.00	0.00	162	162	0.00	16.4	16.4	1,285	0.03	0.05	0.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.54	0.00	0.00	13.5	13.5	0.00	1.36	1.36	121	< 0.005	< 0.005	0.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.00	0.00	2.46	2.46	0.00	0.25	0.25	20.1	< 0.005	< 0.005	0.04

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Linear, Drainage, Utilities, & Sub-Grade (2025) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	19.9	0.04	0.69	—	0.69	0.64	—	0.64	4,090	0.17	0.03	—
Dust From Material Movement	—	—	—	1.59	1.59	—	0.17	0.17	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.83	< 0.005	0.06	—	0.06	0.06	—	0.06	376	0.02	< 0.005	—
Dust From Material Movement	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	62.3	< 0.005	< 0.005	—
Dust From Material Movement	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.73	0.00	0.00	162	162	0.00	16.4	16.4	1,285	0.03	0.05	0.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.54	0.00	0.00	13.5	13.5	0.00	1.36	1.36	121	< 0.005	< 0.005	0.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.00	0.00	2.46	2.46	0.00	0.25	0.25	20.1	< 0.005	< 0.005	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Linear, Drainage, Utilities, & Sub-Grade (2026) - Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Off-Road Equipment	19.7	0.04	0.62	—	0.62	0.57	—	0.57	4,089	0.17	0.03	—
Dust From Material Movement	—	—	—	1.59	1.59	—	0.17	0.17	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.93	< 0.005	0.06	—	0.06	0.06	—	0.06	400	0.02	< 0.005	—
Dust From Material Movement	—	—	—	0.16	0.16	—	0.02	0.02	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	66.2	< 0.005	< 0.005	—
Dust From Material Movement	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.35	0.00	0.00	162	162	0.00	16.4	16.4	1,261	0.03	0.05	0.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.00	0.00	14.3	14.3	0.00	1.45	1.45	127	< 0.005	0.01	0.21

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.00	0.00	2.62	2.62	0.00	0.26	0.26	20.9	< 0.005	< 0.005	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Linear, Drainage, Utilities, & Sub-Grade (2026) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	19.7	0.04	0.62	—	0.62	0.57	—	0.57	4,089	0.17	0.03	—
Dust From Material Movement	—	—	—	1.59	1.59	—	0.17	0.17	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.93	< 0.005	0.06	—	0.06	0.06	—	0.06	400	0.02	< 0.005	—
Dust From Material Movement	—	—	—	0.16	0.16	—	0.02	0.02	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Off-Road Equipment	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	66.2	< 0.005	< 0.005	—
Dust From Material Movement	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.35	0.00	0.00	162	162	0.00	16.4	16.4	1,261	0.03	0.05	0.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.00	0.00	14.3	14.3	0.00	1.45	1.45	127	< 0.005	0.01	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.00	0.00	2.62	2.62	0.00	0.26	0.26	20.9	< 0.005	< 0.005	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Linear, Paving (2026) - Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	11.7	0.02	0.30	—	0.30	0.28	—	0.28	1,768	0.07	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	11.7	0.02	0.30	—	0.30	0.28	—	0.28	1,768	0.07	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	< 0.005	0.02	—	0.02	0.02	—	0.02	145	0.01	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	24.1	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.73	0.00	0.00	153	153	0.00	15.4	15.4	1,330	0.02	0.05	4.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.03	0.00	0.00	153	153	0.00	15.4	15.4	1,187	0.03	0.05	0.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.42	0.00	0.00	11.3	11.3	0.00	1.14	1.14	100	< 0.005	< 0.005	0.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.00	0.00	2.07	2.07	0.00	0.21	0.21	16.6	< 0.005	< 0.005	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Linear, Paving (2026) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	11.7	0.02	0.30	—	0.30	0.28	—	0.28	1,768	0.07	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	11.7	0.02	0.30	—	0.30	0.28	—	0.28	1,768	0.07	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	< 0.005	0.02	—	0.02	0.02	—	0.02	145	0.01	< 0.005	—

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	24.1	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.73	0.00	0.00	153	153	0.00	15.4	15.4	1,330	0.02	0.05	4.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	5.03	0.00	0.00	153	153	0.00	15.4	15.4	1,187	0.03	0.05	0.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.42	0.00	0.00	11.3	11.3	0.00	1.14	1.14	100	< 0.005	< 0.005	0.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.00	0.00	2.07	2.07	0.00	0.21	0.21	16.6	< 0.005	< 0.005	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—

Species	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—

Species	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	6/28/2025	7/26/2025	5.00	20.0	—
Linear, Grading & Excavation	Linear, Grading & Excavation	7/27/2025	11/14/2025	5.00	79.0	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	11/15/2025	2/19/2026	5.00	69.0	—
Linear, Paving	Linear, Paving	2/20/2026	4/3/2026	5.00	30.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	41.0	8.00	6.00	0.82
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Average	2.00	8.00	148	0.41

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Linear, Grading & Excavation	Signal Boards	Electric	Average	41.0	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	41.0	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Linear, Paving	Signal Boards	Electric	Average	41.0	8.00	6.00	0.82

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	41.0	8.00	6.00	0.82
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Average	2.00	8.00	148	0.41
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Linear, Grading & Excavation	Signal Boards	Electric	Average	41.0	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	41.0	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Linear, Paving	Signal Boards	Electric	Average	41.0	8.00	6.00	0.82

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	110	14.3	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	8.80	HHDT,MHDT

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	140	14.3	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	8.80	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.00	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	128	14.3	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	8.80	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	120	14.3	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	8.80	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	110	14.3	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	8.80	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grading & Excavation	Worker	140	14.3	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	8.80	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.00	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	128	14.3	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	8.80	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	120	14.3	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	8.80	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	—	—	1.00	0.00	—
Linear, Grading & Excavation	—	—	1.00	0.00	—
Linear, Drainage, Utilities, & Sub-Grade	—	—	1.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Widening	1.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	3,610	204	0.03	< 0.005
2026	2,407	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9	annual days of extreme heat

Climate Hazard	Result for Project Location	Unit
Extreme Precipitation	4.65	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

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

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	1	1	1	2
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	35.3
AQ-PM	18.8
AQ-DPM	9.70
Drinking Water	48.7
Lead Risk Housing	17.8

Indicator	Result for Project Census Tract
Pesticides	83.0
Toxic Releases	22.3
Traffic	26.3
Effect Indicators	—
CleanUp Sites	72.1
Groundwater	85.4
Haz Waste Facilities/Generators	55.4
Impaired Water Bodies	91.9
Solid Waste	83.3
Sensitive Population	—
Asthma	29.1
Cardio-vascular	46.6
Low Birth Weights	2.30
Socioeconomic Factor Indicators	—
Education	22.8
Housing	15.5
Linguistic	22.2
Poverty	28.2
Unemployment	21.1

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	55.96047735
Employed	68.92082638

Indicator	Result for Project Census Tract
Median HI	69.10047479
Education	—
Bachelor's or higher	88.96445528
High school enrollment	100
Preschool enrollment	42.38419094
Transportation	—
Auto Access	94.58488387
Active commuting	75.69613756
Social	—
2-parent households	80.45682022
Voting	82.06082382
Neighborhood	—
Alcohol availability	69.92172462
Park access	29.44950597
Retail density	3.336327473
Supermarket access	37.76466059
Tree canopy	77.47978955
Housing	—
Homeownership	48.80020531
Housing habitability	70.28102143
Low-inc homeowner severe housing cost burden	74.40010266
Low-inc renter severe housing cost burden	58.84768382
Uncrowded housing	71.88502502
Health Outcomes	—
Insured adults	81.62453484
Arthritis	0.0
Asthma ER Admissions	79.1

Indicator	Result for Project Census Tract
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	76.4
Cognitively Disabled	91.4
Physically Disabled	67.1
Heart Attack ER Admissions	74.7
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	54.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	62.5
Elderly	36.3
English Speaking	61.2
Foreign-born	19.7

Indicator	Result for Project Census Tract
Outdoor Workers	35.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	87.2
Traffic Density	39.0
Traffic Access	53.5
Other Indices	—
Hardship	31.6
Other Decision Support	—
2016 Voting	77.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	24.0
Healthy Places Index Score for Project Location (b)	78.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

03-3H900 (Bridge) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	03-3H900 (Bridge)
Construction Start Date	6/28/2025
Lead Agency	Caltrans
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00
Precipitation (days)	6.00
Location	38.57584015419545, -121.56648338413578
County	Yolo
City	West Sacramento
Air District	Yolo/Solano AQMD
Air Basin	Sacramento Valley
TAZ	314
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Bridge/Overpass Construction	1.14	Mile	1.00	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	60.8	0.12	2.23	80.3	82.5	2.05	8.14	10.2	14,140	0.56	0.14	2.34
Mit.	60.8	0.12	2.23	80.3	82.5	2.05	8.14	10.2	14,140	0.56	0.14	2.34
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	60.8	0.12	2.47	80.3	82.8	2.27	8.14	10.4	14,084	0.56	0.14	0.07
Mit.	60.8	0.12	2.47	80.3	82.8	2.27	8.14	10.4	14,084	0.56	0.14	0.07
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	42.9	0.09	1.59	56.5	58.1	1.47	5.73	7.19	10,061	0.40	0.10	0.72
Mit.	42.9	0.09	1.59	56.5	58.1	1.47	5.73	7.19	10,061	0.40	0.10	0.72
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.83	0.02	0.29	10.3	10.6	0.27	1.05	1.31	1,666	0.07	0.02	0.12

Mit.	7.83	0.02	0.29	10.3	10.6	0.27	1.05	1.31	1,666	0.07	0.02	0.12
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.25	0.01	0.24	16.4	16.7	0.22	1.66	1.88	773	0.03	0.01	0.54
2026	60.8	0.12	2.23	80.3	82.5	2.05	8.14	10.2	14,140	0.56	0.14	2.34
2027	39.7	0.09	1.35	53.0	54.4	1.24	5.38	6.63	10,456	0.41	0.10	1.35
2028	9.66	0.01	0.18	22.3	22.4	0.17	2.24	2.41	1,523	0.06	0.02	0.57
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2025	60.8	0.12	2.47	80.3	82.8	2.27	8.14	10.4	14,084	0.56	0.14	0.07
2026	60.0	0.12	2.23	80.3	82.5	2.05	8.14	10.2	14,071	0.56	0.14	0.06
2027	59.6	0.12	2.03	80.3	82.3	1.87	8.14	10.0	14,061	0.56	0.14	0.06
2028	38.9	0.09	1.25	53.0	54.3	1.15	5.38	6.53	10,403	0.41	0.10	0.03
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2025	9.71	0.02	0.40	14.8	15.2	0.37	1.50	1.87	2,158	0.09	0.02	0.21
2026	42.9	0.09	1.59	56.5	58.1	1.47	5.73	7.19	10,061	0.40	0.10	0.72
2027	29.0	0.07	1.00	38.5	39.5	0.92	3.91	4.83	7,608	0.30	0.07	0.43
2028	7.75	0.02	0.21	13.5	13.7	0.19	1.37	1.56	1,730	0.07	0.02	0.14
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.77	< 0.005	0.07	2.70	2.77	0.07	0.27	0.34	357	0.01	< 0.005	0.03
2026	7.83	0.02	0.29	10.3	10.6	0.27	1.05	1.31	1,666	0.07	0.02	0.12
2027	5.29	0.01	0.18	7.03	7.21	0.17	0.71	0.88	1,260	0.05	0.01	0.07

2028	1.41	< 0.005	0.04	2.47	2.50	0.03	0.25	0.28	286	0.01	< 0.005	0.02

2.3. Construction Emissions by Year, Mitigated

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

Year	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.25	0.01	0.24	16.4	16.7	0.22	1.66	1.88	773	0.03	0.01	0.54
2026	60.8	0.12	2.23	80.3	82.5	2.05	8.14	10.2	14,140	0.56	0.14	2.34
2027	39.7	0.09	1.35	53.0	54.4	1.24	5.38	6.63	10,456	0.41	0.10	1.35
2028	9.66	0.01	0.18	22.3	22.4	0.17	2.24	2.41	1,523	0.06	0.02	0.57
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2025	60.8	0.12	2.47	80.3	82.8	2.27	8.14	10.4	14,084	0.56	0.14	0.07
2026	60.0	0.12	2.23	80.3	82.5	2.05	8.14	10.2	14,071	0.56	0.14	0.06
2027	59.6	0.12	2.03	80.3	82.3	1.87	8.14	10.0	14,061	0.56	0.14	0.06
2028	38.9	0.09	1.25	53.0	54.3	1.15	5.38	6.53	10,403	0.41	0.10	0.03
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2025	9.71	0.02	0.40	14.8	15.2	0.37	1.50	1.87	2,158	0.09	0.02	0.21
2026	42.9	0.09	1.59	56.5	58.1	1.47	5.73	7.19	10,061	0.40	0.10	0.72
2027	29.0	0.07	1.00	38.5	39.5	0.92	3.91	4.83	7,608	0.30	0.07	0.43
2028	7.75	0.02	0.21	13.5	13.7	0.19	1.37	1.56	1,730	0.07	0.02	0.14
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.77	< 0.005	0.07	2.70	2.77	0.07	0.27	0.34	357	0.01	< 0.005	0.03
2026	7.83	0.02	0.29	10.3	10.6	0.27	1.05	1.31	1,666	0.07	0.02	0.12
2027	5.29	0.01	0.18	7.03	7.21	0.17	0.71	0.88	1,260	0.05	0.01	0.07
2028	1.41	< 0.005	0.04	2.47	2.50	0.03	0.25	0.28	286	0.01	< 0.005	0.02

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2025) - Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.50	0.01	0.24	—	0.24	0.22	—	0.22	632	0.03	0.01	—
Dust From Material Movement	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.50	0.01	0.24	—	0.24	0.22	—	0.22	632	0.03	0.01	—
Dust From Material Movement	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	< 0.005	0.05	—	0.05	0.05	—	0.05	142	0.01	< 0.005	—
Dust From Material Movement	—	—	—	0.12	0.12	—	0.01	0.01	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	23.5	< 0.005	< 0.005	—
Dust From Material Movement	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.00	0.00	15.9	15.9	0.00	1.60	1.60	141	< 0.005	0.01	0.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.00	0.00	15.9	15.9	0.00	1.60	1.60	126	< 0.005	0.01	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.00	0.00	3.51	3.51	0.00	0.35	0.35	29.0	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.00	0.00	0.64	0.64	0.00	0.06	0.06	4.80	< 0.005	< 0.005	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Linear, Grubbing & Land Clearing (2025) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.50	0.01	0.24	—	0.24	0.22	—	0.22	632	0.03	0.01	—
Dust From Material Movement	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.50	0.01	0.24	—	0.24	0.22	—	0.22	632	0.03	0.01	—
Dust From Material Movement	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	< 0.005	0.05	—	0.05	0.05	—	0.05	142	0.01	< 0.005	—
Dust From Material Movement	—	—	—	0.12	0.12	—	0.01	0.01	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	23.5	< 0.005	< 0.005	—
Dust From Material Movement	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.00	0.00	15.9	15.9	0.00	1.60	1.60	141	< 0.005	0.01	0.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.00	0.00	15.9	15.9	0.00	1.60	1.60	126	< 0.005	0.01	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.00	0.00	3.51	3.51	0.00	0.35	0.35	29.0	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.00	0.00	0.64	0.64	0.00	0.06	0.06	4.80	< 0.005	< 0.005	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Linear, Grading & Excavation (2025) - Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	58.2	0.12	2.47	—	2.47	2.27	—	2.27	13,477	0.55	0.11	—
Dust From Material Movement	—	—	—	6.36	6.36	—	0.69	0.69	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.20	0.02	0.35	—	0.35	0.32	—	0.32	1,899	0.08	0.02	—
Dust From Material Movement	—	—	—	0.90	0.90	—	0.10	0.10	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.50	< 0.005	0.06	—	0.06	0.06	—	0.06	314	0.01	< 0.005	—
Dust From Material Movement	—	—	—	0.16	0.16	—	0.02	0.02	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.58	0.00	0.00	73.2	73.2	0.00	7.37	7.37	579	0.01	0.02	0.06
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	27.6	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.37	0.00	0.00	10.1	10.1	0.00	1.02	1.02	83.7	< 0.005	< 0.005	0.15
Vendor	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	3.89	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.00	0.00	1.85	1.85	0.00	0.19	0.19	13.9	< 0.005	< 0.005	0.03
Vendor	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	0.64	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Linear, Grading & Excavation (2025) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	58.2	0.12	2.47	—	2.47	2.27	—	2.27	13,477	0.55	0.11	—
Dust From Material Movement	—	—	—	6.36	6.36	—	0.69	0.69	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.20	0.02	0.35	—	0.35	0.32	—	0.32	1,899	0.08	0.02	—
Dust From Material Movement	—	—	—	0.90	0.90	—	0.10	0.10	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.50	< 0.005	0.06	—	0.06	0.06	—	0.06	314	0.01	< 0.005	—
Dust From Material Movement	—	—	—	0.16	0.16	—	0.02	0.02	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.58	0.00	0.00	73.2	73.2	0.00	7.37	7.37	579	0.01	0.02	0.06
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	27.6	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.37	0.00	0.00	10.1	10.1	0.00	1.02	1.02	83.7	< 0.005	< 0.005	0.15
Vendor	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	3.89	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.00	0.00	1.85	1.85	0.00	0.19	0.19	13.9	< 0.005	< 0.005	0.03
Vendor	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	0.64	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Linear, Grading & Excavation (2026) - Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	57.6	0.12	2.23	—	2.23	2.05	—	2.05	13,475	0.55	0.11	—
Dust From Material Movement	—	—	—	6.36	6.36	—	0.69	0.69	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	57.6	0.12	2.23	—	2.23	2.05	—	2.05	13,475	0.55	0.11	—
Dust From Material Movement	—	—	—	6.36	6.36	—	0.69	0.69	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	41.1	0.09	1.59	—	1.59	1.46	—	1.46	9,625	0.39	0.08	—
Dust From Material Movement	—	—	—	4.55	4.55	—	0.49	0.49	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	7.50	0.02	0.29	—	0.29	0.27	—	0.27	1,594	0.06	0.01	—
Dust From Material Movement	—	—	—	0.83	0.83	—	0.09	0.09	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.22	0.00	0.00	73.2	73.2	0.00	7.37	7.37	637	0.01	0.02	2.27
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	27.2	< 0.005	< 0.005	0.07
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.41	0.00	0.00	73.2	73.2	0.00	7.37	7.37	569	0.01	0.02	0.06
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	27.2	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.75	0.00	0.00	51.4	51.4	0.00	5.18	5.18	416	0.01	0.02	0.70
Vendor	0.01	< 0.005	< 0.005	0.55	0.55	< 0.005	0.06	0.06	19.4	< 0.005	< 0.005	0.02
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.00	0.00	9.38	9.38	0.00	0.95	0.95	69.0	< 0.005	< 0.005	0.12
Vendor	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	3.21	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Linear, Grading & Excavation (2026) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	57.6	0.12	2.23	—	2.23	2.05	—	2.05	13,475	0.55	0.11	—

Dust From Material Movement	—	—	—	6.36	6.36	—	0.69	0.69	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	57.6	0.12	2.23	—	2.23	2.05	—	2.05	13,475	0.55	0.11	—
Dust From Material Movement	—	—	—	6.36	6.36	—	0.69	0.69	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	41.1	0.09	1.59	—	1.59	1.46	—	1.46	9,625	0.39	0.08	—
Dust From Material Movement	—	—	—	4.55	4.55	—	0.49	0.49	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	7.50	0.02	0.29	—	0.29	0.27	—	0.27	1,594	0.06	0.01	—
Dust From Material Movement	—	—	—	0.83	0.83	—	0.09	0.09	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.22	0.00	0.00	73.2	73.2	0.00	7.37	7.37	637	0.01	0.02	2.27
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	27.2	< 0.005	< 0.005	0.07
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.41	0.00	0.00	73.2	73.2	0.00	7.37	7.37	569	0.01	0.02	0.06
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	27.2	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.75	0.00	0.00	51.4	51.4	0.00	5.18	5.18	416	0.01	0.02	0.70
Vendor	0.01	< 0.005	< 0.005	0.55	0.55	< 0.005	0.06	0.06	19.4	< 0.005	< 0.005	0.02
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.00	0.00	9.38	9.38	0.00	0.95	0.95	69.0	< 0.005	< 0.005	0.12
Vendor	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	3.21	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Linear, Grading & Excavation (2027) - Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	57.3	0.12	2.03	—	2.03	1.87	—	1.87	13,476	0.55	0.11	—
Dust From Material Movement	—	—	—	6.36	6.36	—	0.69	0.69	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.58	0.01	0.09	—	0.09	0.08	—	0.08	607	0.02	< 0.005	—
Dust From Material Movement	—	—	—	0.29	0.29	—	0.03	0.03	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	< 0.005	0.02	—	0.02	0.02	—	0.02	100	< 0.005	< 0.005	—
Dust From Material Movement	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.28	0.00	0.00	73.2	73.2	0.00	7.37	7.37	559	0.01	0.02	0.05
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	26.6	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.00	0.00	3.24	3.24	0.00	0.33	0.33	25.8	< 0.005	< 0.005	0.04
Vendor	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	1.20	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.00	0.00	0.59	0.59	0.00	0.06	0.06	4.27	< 0.005	< 0.005	0.01
Vendor	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.20	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Linear, Grading & Excavation (2027) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	57.3	0.12	2.03	—	2.03	1.87	—	1.87	13,476	0.55	0.11	—
Dust From Material Movement	—	—	—	6.36	6.36	—	0.69	0.69	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.58	0.01	0.09	—	0.09	0.08	—	0.08	607	0.02	< 0.005	—
Dust From Material Movement	—	—	—	0.29	0.29	—	0.03	0.03	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	< 0.005	0.02	—	0.02	0.02	—	0.02	100	< 0.005	< 0.005	—
Dust From Material Movement	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.28	0.00	0.00	73.2	73.2	0.00	7.37	7.37	559	0.01	0.02	0.05
Vendor	0.01	< 0.005	< 0.005	0.78	0.78	< 0.005	0.08	0.08	26.6	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.00	0.00	3.24	3.24	0.00	0.33	0.33	25.8	< 0.005	< 0.005	0.04
Vendor	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	1.20	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.00	0.00	0.59	0.59	0.00	0.06	0.06	4.27	< 0.005	< 0.005	0.01
Vendor	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.20	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Linear, Drainage, Utilities, & Sub-Grade (2027) - Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	37.8	0.09	1.35	—	1.35	1.24	—	1.24	10,047	0.41	0.08	—
Dust From Material Movement	—	—	—	5.30	5.30	—	0.57	0.57	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	37.8	0.09	1.35	—	1.35	1.24	—	1.24	10,047	0.41	0.08	—
Dust From Material Movement	—	—	—	5.30	5.30	—	0.57	0.57	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	25.3	0.06	0.91	—	0.91	0.83	—	0.83	6,724	0.27	0.05	—
Dust From Material Movement	—	—	—	3.55	3.55	—	0.38	0.38	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.61	0.01	0.17	—	0.17	0.15	—	0.15	1,113	0.05	0.01	—
Dust From Material Movement	—	—	—	0.65	0.65	—	0.07	0.07	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.98	0.00	0.00	47.7	47.7	0.00	4.81	4.81	409	0.01	0.01	1.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.49	0.00	0.00	47.7	47.7	0.00	4.81	4.81	364	0.01	0.02	0.03

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.01	0.00	0.00	31.4	31.4	0.00	3.17	3.17	250	< 0.005	0.01	0.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.00	0.00	5.73	5.73	0.00	0.58	0.58	41.4	< 0.005	< 0.005	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Linear, Drainage, Utilities, & Sub-Grade (2027) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	37.8	0.09	1.35	—	1.35	1.24	—	1.24	10,047	0.41	0.08	—
Dust From Material Movement	—	—	—	5.30	5.30	—	0.57	0.57	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	37.8	0.09	1.35	—	1.35	1.24	—	1.24	10,047	0.41	0.08	—

Dust From Material Movement	—	—	—	5.30	5.30	—	0.57	0.57	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	25.3	0.06	0.91	—	0.91	0.83	—	0.83	6,724	0.27	0.05	—
Dust From Material Movement	—	—	—	3.55	3.55	—	0.38	0.38	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.61	0.01	0.17	—	0.17	0.15	—	0.15	1,113	0.05	0.01	—
Dust From Material Movement	—	—	—	0.65	0.65	—	0.07	0.07	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.98	0.00	0.00	47.7	47.7	0.00	4.81	4.81	409	0.01	0.01	1.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.49	0.00	0.00	47.7	47.7	0.00	4.81	4.81	364	0.01	0.02	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.01	0.00	0.00	31.4	31.4	0.00	3.17	3.17	250	< 0.005	0.01	0.39

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.00	0.00	5.73	5.73	0.00	0.58	0.58	41.4	< 0.005	< 0.005	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Linear, Drainage, Utilities, & Sub-Grade (2028) - Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	37.5	0.09	1.25	—	1.25	1.15	—	1.15	10,046	0.41	0.08	—
Dust From Material Movement	—	—	—	5.30	5.30	—	0.57	0.57	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.40	0.01	0.15	—	0.15	0.14	—	0.14	1,180	0.05	0.01	—
Dust From Material Movement	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.80	< 0.005	0.03	—	0.03	0.02	—	0.02	195	0.01	< 0.005	—
Dust From Material Movement	—	—	—	0.11	0.11	—	0.01	0.01	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.41	0.00	0.00	47.7	47.7	0.00	4.81	4.81	357	0.01	0.02	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.00	0.00	5.51	5.51	0.00	0.56	0.56	43.0	< 0.005	< 0.005	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.00	0.00	1.01	1.01	0.00	0.10	0.10	7.12	< 0.005	< 0.005	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Linear, Drainage, Utilities, & Sub-Grade (2028) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	37.5	0.09	1.25	—	1.25	1.15	—	1.15	10,046	0.41	0.08	—
Dust From Material Movement	—	—	—	5.30	5.30	—	0.57	0.57	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.40	0.01	0.15	—	0.15	0.14	—	0.14	1,180	0.05	0.01	—
Dust From Material Movement	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	< 0.005	0.03	—	0.03	0.02	—	0.02	195	0.01	< 0.005	—
Dust From Material Movement	—	—	—	0.11	0.11	—	0.01	0.01	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.41	0.00	0.00	47.7	47.7	0.00	4.81	4.81	357	0.01	0.02	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.00	0.00	5.51	5.51	0.00	0.56	0.56	43.0	< 0.005	< 0.005	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.00	0.00	1.01	1.01	0.00	0.10	0.10	7.12	< 0.005	< 0.005	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Linear, Paving (2028) - Unmitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.79	0.01	0.18	—	0.18	0.17	—	0.17	1,336	0.05	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.79	0.01	0.18	—	0.18	0.17	—	0.17	1,336	0.05	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.96	< 0.005	0.06	—	0.06	0.06	—	0.06	450	0.02	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	< 0.005	0.01	—	0.01	0.01	—	0.01	74.5	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.87	0.00	0.00	22.3	22.3	0.00	2.24	2.24	187	< 0.005	0.01	0.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.66	0.00	0.00	22.3	22.3	0.00	2.24	2.24	167	< 0.005	0.01	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.00	0.00	7.38	7.38	0.00	0.74	0.74	57.6	< 0.005	< 0.005	0.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.00	0.00	1.35	1.35	0.00	0.14	0.14	9.54	< 0.005	< 0.005	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Linear, Paving (2028) - Mitigated

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

Location	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Onsite	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.79	0.01	0.18	—	0.18	0.17	—	0.17	1,336	0.05	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.79	0.01	0.18	—	0.18	0.17	—	0.17	1,336	0.05	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.96	< 0.005	0.06	—	0.06	0.06	—	0.06	450	0.02	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	< 0.005	0.01	—	0.01	0.01	—	0.01	74.5	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.87	0.00	0.00	22.3	22.3	0.00	2.24	2.24	187	< 0.005	0.01	0.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.66	0.00	0.00	22.3	22.3	0.00	2.24	2.24	167	< 0.005	0.01	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.00	0.00	7.38	7.38	0.00	0.74	0.74	57.6	< 0.005	< 0.005	0.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.00	0.00	1.35	1.35	0.00	0.14	0.14	9.54	< 0.005	< 0.005	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	6/28/2025	10/20/2025	5.00	82.0	—
Linear, Grading & Excavation	Linear, Grading & Excavation	10/21/2025	1/23/2027	5.00	328	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	1/24/2027	2/29/2028	5.00	287	—
Linear, Paving	Linear, Paving	3/1/2028	8/20/2028	5.00	123	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Excavators	Diesel	Average	4.00	8.00	36.0	0.38
Linear, Grading & Excavation	Cranes	Diesel	Average	1.00	8.00	367	0.29
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Linear, Grading & Excavation	Graders	Diesel	Average	2.00	8.00	148	0.41
Linear, Grading & Excavation	Rollers	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Scrapers	Diesel	Average	4.00	8.00	423	0.48
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	3.00	8.00	150	0.36
Linear, Grading & Excavation	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	4.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40

Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	2.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Paving	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Excavators	Diesel	Average	4.00	8.00	36.0	0.38
Linear, Grading & Excavation	Cranes	Diesel	Average	1.00	8.00	367	0.29
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43

Linear, Grading & Excavation	Graders	Diesel	Average	2.00	8.00	148	0.41
Linear, Grading & Excavation	Rollers	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Scrapers	Diesel	Average	4.00	8.00	423	0.48
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	3.00	8.00	150	0.36
Linear, Grading & Excavation	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	4.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	2.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38

Linear, Paving	Signal Boards	Electric	Average	2.00	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	12.5	14.3	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	8.80	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	57.5	14.3	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	8.80	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.00	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	37.5	14.3	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	8.80	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	17.5	14.3	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	8.80	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	12.5	14.3	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	8.80	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	57.5	14.3	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	8.80	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.00	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	37.5	14.3	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	8.80	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	17.5	14.3	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	8.80	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	—	—	1.00	0.00	—
Linear, Grading & Excavation	—	—	1.00	0.00	—
Linear, Drainage, Utilities, & Sub-Grade	—	—	1.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Bridge/Overpass Construction	1.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	117	204	0.03	< 0.005
2026	58.7	204	0.03	< 0.005
2027	117	204	0.03	< 0.005

2028	117	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.8	annual days of extreme heat
Extreme Precipitation	5.15	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	11.4	annual hectares burned

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

6.2. Initial Climate Risk Scores

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

Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	2	1	1	3
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	42.6
AQ-PM	36.5
AQ-DPM	94.5
Drinking Water	11.4
Lead Risk Housing	88.8
Pesticides	70.9
Toxic Releases	31.7
Traffic	87.2
Effect Indicators	—
CleanUp Sites	73.4
Groundwater	89.5
Haz Waste Facilities/Generators	86.6
Impaired Water Bodies	98.4
Solid Waste	91.4
Sensitive Population	—
Asthma	76.2
Cardio-vascular	76.6
Low Birth Weights	17.4
Socioeconomic Factor Indicators	—
Education	80.9
Housing	76.3
Linguistic	64.4
Poverty	95.5
Unemployment	94.8

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	4.581034262
Employed	7.955857821
Median HI	1.116386501
Education	—
Bachelor's or higher	14.23071988
High school enrollment	22.50737842
Preschool enrollment	56.19145387
Transportation	—
Auto Access	3.195175157
Active commuting	79.23777749
Social	—
2-parent households	13.11433338
Voting	4.003592968
Neighborhood	—
Alcohol availability	24.31669447
Park access	39.57397665
Retail density	59.33530091
Supermarket access	74.02797382
Tree canopy	72.60361863
Housing	—
Homeownership	12.93468497
Housing habitability	15.71923521
Low-inc homeowner severe housing cost burden	8.674451431
Low-inc renter severe housing cost burden	19.9538047
Uncrowded housing	42.73065572

Health Outcomes	—
Insured adults	6.685486975
Arthritis	0.0
Asthma ER Admissions	30.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.9
Cognitively Disabled	3.0
Physically Disabled	22.7
Heart Attack ER Admissions	26.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	80.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	6.4
Elderly	41.5
English Speaking	23.6
Foreign-born	74.6
Outdoor Workers	3.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	20.3
Traffic Density	73.8
Traffic Access	23.0
Other Indices	—
Hardship	88.5
Other Decision Support	—
2016 Voting	0.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	96.0
Healthy Places Index Score for Project Location (b)	3.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Strategic Area Project Health Effects Tool

Strategic Area Location	IV. South Sacramento	**<-- Step 1: Input the area**
NOx Emissions	656	**<-- Step 2: Input NOx emissions in lbs./day**
ROG Emissions	254	**<-- Step 3: Input ROG emissions in lbs./day**
PM25 Emissions	136	**<-- Step 4: Input PM2.5 emissions in lbs./day**

PM2.5 Health Endpoint	Age Range1	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year)[2,5]	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2]	Percent of Background Health Incidences Across the 5-Air-District Region[3]	Total Number of Health Incidences Across the 5-Air-District Region (per year)[4]
		(Mean)	(Mean)		
Respiratory					
Emergency Room Visits, Asthma	0 - 99	3.9	3.6	0.020%	18419
Hospital Admissions, Asthma	0 - 64	0.26	0.24	0.013%	1846
Hospital Admissions, All Respiratory	65 - 99	1.2	1.1	0.0055%	19644
Cardiovascular					
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions)	65 - 99	0.68	0.63	0.0026%	24037
Acute Myocardial Infarction, Nonfatal	18 - 24	0.00035	0.00032	0.0085%	4
Acute Myocardial Infarction, Nonfatal	25 - 44	0.028	0.026	0.0086%	308
Acute Myocardial Infarction, Nonfatal	45 - 54	0.069	0.066	0.0089%	741
Acute Myocardial Infarction, Nonfatal	55 - 64	0.11	0.11	0.0088%	1239
Acute Myocardial Infarction, Nonfatal	65 - 99	0.43	0.41	0.0081%	5052
Mortality					
Mortality, All Cause	30 - 99	7.8	7.2	0.016%	44766

Ozone Health Endpoint	Age Range1	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year)[2,5]	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2]	Percent of Background Health Incidences Across the 5-Air-District Region[3]	Total Number of Health Incidences Across the 5-Air-District Region (per year)[4]
		(Mean)	(Mean)		
Respiratory					
Hospital Admissions, All Respiratory	65 - 99	0.58	0.47	0.0024%	19644
Emergency Room Visits, Asthma	0 - 17	4.8	4.1	0.070%	5859
Emergency Room Visits, Asthma	18 - 99	3.1	2.7	0.021%	12560
Mortality					
Mortality, Non-Accidental	0 - 99	0.36	0.31	0.0010%	30386

1. Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.
2. Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects are shown for the Reduced Sacramento 4-km Modeling Domain and the 5-Air-District Region.
3. The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, the background incidence rates cover the 5-Air-District Region (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.

4. The total number of health incidences across the 5-Air-District Region is calculated based on the modeling data. The information is presented to assist in providing overall health context.

5. The technical specifications and map for the Reduced Sacramento 4-km Modeling Domain are included in Appendix A, Table A-1 and Appendix B, Figure B-2 of the *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District.*

Sac Metro Air District Strategic Area Project Health Effects Tool, version 2, published September 2020

Strategic Area Project Health Effects Tool

Strategic Area Location	IV. South Sacramento	**<-- Step 1: Input the area (Please chose a value between 38.0 and 39.7)**
NOx Emissions	413	**<-- Step 2: Input NOx emissions in lbs./day**
ROG Emissions	186	**<-- Step 3: Input ROG emissions in lbs./day**
PM25 Emissions	147	**<-- Step 4: Input PM2.5 emissions in lbs./day**

PM2.5 Health Endpoint	Age Range1	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year)[2,5]	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2]	Percent of Background Health Incidences Across the 5-Air-District Region[3]	Total Number of Health Incidences Across the 5-Air-District Region (per year)[4]
		(Mean)	(Mean)		
Respiratory					
Emergency Room Visits, Asthma	0 - 99	3.7	3.5	0.019%	18419
Hospital Admissions, Asthma	0 - 64	0.24	0.23	0.012%	1846
Hospital Admissions, All Respiratory	65 - 99	1.1	1.0	0.0053%	19644
Cardiovascular					
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions)	65 - 99	0.64	0.60	0.0025%	24037
Acute Myocardial Infarction, Nonfatal	18 - 24	0.00033	0.00031	0.0082%	4
Acute Myocardial Infarction, Nonfatal	25 - 44	0.027	0.025	0.0082%	308
Acute Myocardial Infarction, Nonfatal	45 - 54	0.066	0.063	0.0085%	741
Acute Myocardial Infarction, Nonfatal	55 - 64	0.11	0.10	0.0084%	1239
Acute Myocardial Infarction, Nonfatal	65 - 99	0.41	0.39	0.0077%	5052
Mortality					
Mortality, All Cause	30 - 99	7.4	6.9	0.015%	44766

Ozone Health Endpoint	Age Range1	Incidences Across the Reduced Sacramento 4-km Modeling Domain Resulting from Project Emissions (per year)[2,5]	Incidences Across the 5-Air-District Region Resulting from Project Emissions (per year)[2]	Percent of Background Health Incidences Across the 5-Air-District Region[3]	Total Number of Health Incidences Across the 5-Air-District Region (per year)[4]
		(Mean)	(Mean)		
Respiratory					
Hospital Admissions, All Respiratory	65 - 99	0.37	0.30	0.0015%	19644
Emergency Room Visits, Asthma	0 - 17	2.8	2.4	0.042%	5859
Emergency Room Visits, Asthma	18 - 99	2.3	2.0	0.016%	12560
Mortality					
Mortality, Non-Accidental	0 - 99	0.23	0.20	0.00065%	30386

1. Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.
2. Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects are shown for the Reduced Sacramento 4-km Modeling Domain and the 5-Air-District Region.
3. The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, the background incidence rates cover the 5-Air-District Region (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.
4. The total number of health incidences across the 5-Air-District Region is calculated based on the modeling data. The information is presented to assist in providing overall health context.
5. The technical specifications and map for the Reduced Sacramento 4-km Modeling Domain are included in Appendix A, Table A-1 and Appendix B, Figure B-2 of the *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District.*

Projects listed as "Project Development Only" are anticipated to begin early stages of development including project planning, design, preliminary engineering, environmental clearance, and ROW acquisition by 2044. Under the financial constraint requirements for forecasting revenues, the construction phase is not included in the Draft Plan. If/when additional revenues for these projects become available to cover full construction costs, these projects can be considered as part of an amendment to the MTP/SCS following a technical analysis and reviewing consistency with plan requirements.

ID	County	Status (Planned, Programmed or Project Development Only)	Lead Agency	Budget Category	Title	Description	Total Project Cost (2018 dollars)	Year of Expenditure Cost for planned projects	Completion Timing
SUT10340	SUT	Planned	Sutter County	B- Road & Highway Capacity	Riego Rd Widening	Widen Riego Rd to 4 lanes, Route 99 to Placer Co.	3,142,000	4,550,553	By 2035
SUT18850	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Bridge Preventive Maintenance Program	Bridge Preventive Maintenance Program, Various locations.: See http://www.dot.ca.gov/hq/LocalPrograms/hbrr99/HBP_MPO.html#SACOG web site for backup list of locations.	1,046,028	-	By 2030
SUT18925	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Bridge Replacement On Howsley Rd Over Pleasant Grove Creek Canal	Howsley Rd Over Pleasant Grove Creek Canal at Natomas Rd. Replace 2 lane bridge with 2 lane bridge. No added capacity.. Toll Credits for ENG	15,003,179	-	By 2030
SUT18876	SUT	Project Development Only	Sutter County	C- Maintenance & Rehabilitation	Howsley Rd Widening	Widen Howsley Rd between Pleasant Grove Rd and Natomas Rd	3,960,000	4,059,000	Post-2044
SUT18875	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Kent Road Bridge at Sutter Butte Canal.	Kent Road over Sutter Butte Canal, 0.2 Mi South of McDonald Ave.: Replace two lane bridge with two lane bridge.. Toll Credits for ENG, ROW, CON	3,179,000	-	By 2030
SUT18856	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Larkin Rd. Bridge Replacement	Larkin Rd. over South Birch Sutter-Butte Canal, 0.2 miles north of Encinal Rd.: Replace the existing 2-lane bridge with a new 2-lane bridge.	1,158,000	-	By 2030
SUT10370	SUT	Project Development Only	Sutter County	C- Maintenance & Rehabilitation	Lincoln Rd. Widening C	Widen: 2 lanes from Jones Rd. to Walton Rd. Includes: center lane.	3,000,000	3,075,000	Post-2044
SUT18855	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Nicolaus Ave. Bridge Replacement	Nicolaus Ave., over Coon Creek, 1 mile west of Pleasant Grove Rd.: Replace the existing 2-lane bridge with a new 2-lane bridge.	1,422,000	-	By 2030
SUT18935	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Nuestro Rd Over Snake River - Bridge Replacement	Nuestro Rd over Snake River, 0.7 miles east of East Butte Rd. Replace existing 2 lane bridge with new 2 lane bridge.. Toll Credits for ENG, ROW, CON	1,513,100	-	By 2030
SUT18936	SUT	Planned	Sutter County	C- Maintenance & Rehabilitation	Nuestro Road Bridge over Snake River	On Nuestro Road, 0.7 miles east of East Butte Road, Replace the existing structurally deficient bridge and the approach 300 feet east and west of the bridge for a total length of 640 feet. The width of the project site will be within the County right-of-way.	1,339,550	1,373,039	By 2030
CAL18590	SUT	Project Development Only	Sutter County	C- Maintenance & Rehabilitation	Route 99, New Interchange	Sutter County, north of Sacramento: along Route 99 between Riego Road and Sankey Road, construct new interchange	22,000,000	22,550,000	Post-2044
SUT18934	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Sanders Rd Over Sutter Co Extension Canal - Bridge Replacement	Sanders Rd over Sutter County Extension Canal, 1.2 miles west of Broadway. Replace existing 2 lane bridge with new 2 lane bridge.. Toll Credits for ENG, ROW, CON	1,511,600	-	By 2030
SUT18937	SUT	Planned	Sutter County	C- Maintenance & Rehabilitation	Sanders Road Bridge over Sutter Butte Canal	On Sanders Road, 1.2 miles west of Broadway, Replace the existing structurally deficient bridge and the approach 300 feet east and west of the bridge for a total length of 640 feet. The width of the project site will be within the County right-of-way.	1,338,220	1,371,676	By 2030
SUT10500	SUT	Project Development Only	Sutter County	C- Maintenance & Rehabilitation	Sankey Rd.	Widen: 4 lanes from Pleasant Grove Blvd. to Hwy. 99 / Hwy. 70.	2,500,000	2,562,500	Post-2044
SUT18830	SUT	Planned	Sutter County	C- Maintenance & Rehabilitation	SR 99 Intersection Improvements	Intersection improvements to add turn lanes, address drainage issues and sound attenuation as needed along both sides of State Route 99 at Bogue Rd, Lincoln Rd, Richland Rd and Franklin Rd.	3,800,000	3,895,000	By 2030
SUT18873	SUT	Programmed	Sutter County	C- Maintenance & Rehabilitation	Tisdale Rd, Over Westside Canal-Sutter County	Tisdale Rd., over Westside Canal, 100 E Cranmore Rd.: Replace the existing structurally deficient 2 lane bridge with a new 2 lane bridge.. Toll Credits for ENG, ROW, CON	2,845,000	-	By 2030
CAL21276	VAR	Programmed	Caltrans D3	B- Road & Highway Capacity	I-80 and US 50 Managed Lanes	On I-80 just from the I-80/Kidwell Road interchange in Solano County, through Yolo County, and to the W. El Camino interchange; also on US 50 from the I-80/US 50 interchange to the I-5/US 50 interchange in Sacramento County: Construct improvements consisting of managed lanes in each direction, pedestrian/bicycle facilities, park-n-ride, and Intelligent Transportation System (ITS) elements.. Toll Credits for ENG, ROW, CON	465,000,000	-	By 2030
CAL21424	VAR	Programmed	Caltrans D3	B- Road & Highway Capacity	YOL 80 Managed Lanes - Phase 1	On I-80 from the I-80/Kidwell Road interchange in Solano County, through Yolo County, to the I-80/US 50 Interchange: Construct improvements consisting of managed lanes in each direction, pedestrian/bicycle improvements, and Intelligent Transportation System (ITS) elements.	1,000,000	-	By 2030

Subject: Project Level Conformity: I-80 and US-50 Managed Lanes - Determination

From: Jackie Kahrs <jkahrs@sacog.org>
Sent: Friday, April 26, 2024 11:25 AM
To: antonio.johnson <antonio.johnson@dot.gov>; jasmine.amanin <jasmine.amanin@dot.gov>; michelle.ruan@dot.gov; mervin.acebo@dot.gov; Ledezma.Andrew@epa.gov; Oconnor, Karina (she/her/hers) <OConnor.Karina@epa.gov>; Tavitas, Rodney A@DOT <rodney.tavitas@dot.ca.gov>; Espinosa Araiza, Erika@DOT <Erika.Espinosa.Araiza@dot.ca.gov>; Fong, Alexander Y@DOT <alexander.fong@dot.ca.gov>; Cho, Youngil@DOT <Youngil.Cho@dot.ca.gov>; Kalandiyur, Nesamani@ARB <nesamani.kalandiyur@arb.ca.gov>; David Yang <DYang@airquality.org>; JANICE LAM <jlam@airquality.org>; mwright@airquality.org; Paul Philley <pphilley@airquality.org>; mloutzenhiser@airquality.org; sspaethe@fraqmd.org; YChang@placer.ca.gov; PHensleigh@ysaqmd.org; Rick Carter <rcarter@pctpa.net>; Jerry Barton <jbarton@edctc.org>; rania.serieh@edcgov.us; Miguel Mendoza <mmendoza@sacog.org>; Kathleen Hanley <khanley@sacog.org>; Lee, Jason@DOT <jason.lee@dot.ca.gov>; Becha, Karishma@DOT <Karishma.Becha@dot.ca.gov>; Vaca, Erika@DOT <Erika.Vaca@dot.ca.gov>; Maggioncalda, Emma@DOT <Emma.Maggioncalda@dot.ca.gov>
Cc: Clint Holtzen <CHoltzen@sacog.org>; Kacey Lizon <KLizon@sacog.org>; Erik Johnson <EJohnson@sacog.org>; Kathleen Hanley <khanley@sacog.org>; Kristina Svensk <KSvensk@sacog.org>; Dennis, Christopher@DOT <Christopher.Dennis@dot.ca.gov>; Bhattal, Gurtej@DOT <Gurtej.Bhattal@dot.ca.gov>; Randhawa, Jasdeep S@DOT <jasdeep.randhawa@dot.ca.gov>; Wilson, Dotrik T@DOT <Dotrik.Wilson@dot.ca.gov>; Laurino, Daisy Loida S@DOT <daisy.laurino@dot.ca.gov>; Brian Abbanat <babbanat@Yctd.org>; Autumn Bernstein <abernstein@yctd.org>; Kirk Trost <ktrost@ktrostlaw.com>; Melim, Suzanne M@DOT <suzanne.melim@dot.ca.gov>
Subject: Project Level Conformity: I-80 and US-50 Managed Lanes - Determination

EXTERNAL EMAIL. Links/attachments may not be safe.

Good Morning Project Level Conformity Group,

On April 26, 2024, the EPA and FHWA concurred with the determination that the I-80 and U.S.-50 Managed Lanes project is not a project of air quality concern.

Please contact me if you have any questions.

Thank you,

Jackie Kahrs | Transportation Programs & Funding Analyst
Sacramento Area Council of Governments
1415 L Street, Suite 300 | Sacramento, CA | 95814
(916) 340-6248
jkahrs@sacog.org

U.S. Department of Transportation
Federal Highway Administration

California Division

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (FAX)

April 27, 2024

In Reply, Refer To:
HDA-CA

ELECTRONIC CORRESPONDENCE ONLY

Christopher Dennis, Chief
Caltrans North Region
Office of Environmental Engineering - South
District 3
703 B Street
Marysville, CA 95901-5556

SUBJECT: Yolo 80 Corridor Improvements Project, SACOG MTIP: CAL21276, EA: 03-3H900, and CTIPS ID: 207-0000-1850

Dear Mr. Dennis:

On April 26, 2024, the California Department of Transportation (Caltrans) submitted to the Federal Highway Administration (FHWA) a complete request for a project level conformity determination for the Yolo 80 Corridor Improvements Project, SACOG MTIP: CAL21276, EA: 03-3H900, and CTIPS ID: 207-0000-1850. The project is located in an area that is nonattainment for PM2.5 and Ozone for Yolo and Sacramento counties and attainment-unclassifiable for PM10 for Yolo County and maintenance-moderate for PM10 for Sacramento County.

The project level conformity analysis submitted by Caltrans indicates that the project-level transportation conformity requirements of 40 CFR Part 93 have been met. The project is included in the Sacramento Area Council of Governments' (SACOG) current Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) and Federal Transportation Improvement Program (FTIP), as amended. The design concept and scope of the preferred alternative have not changed significantly from those assumed in the regional emissions analysis.

As required by 40 CFR 93.116 and 93.123, the localized $PM_{2.5}$ and PM_{10} analyses are included in the documentation. The analyses demonstrate that the project will not create any new violations of the standards or increase the severity or number of existing violations.

Based on the information provided, FHWA finds that the Yolo 80 Corridor Improvements Project conforms with the State Implementation Plan (SIP) in accordance with 40 CFR Part 93.

If you have any questions pertaining to this conformity finding, please contact Jasmine Amanin at jasmine.amanin@dot.gov.

Sincerely,

ANTONIO DESHAWN JOHNSON

Digitally signed by ANTONIO DESHAWN JOHNSON
Date: 2024.04.27 10:48:21 -07'00'

Antonio D. Johnson
Director of Planning, Environment,
& Right of Way
Federal Highway Administration

TO:

Jason Lee, Caltrans

CC: (via email)

Thaleena Bhattal
Christopher Dennis
Lucas Sanchez, Caltrans
Rodney Tavitas, Caltrans
Antonio Johnson, FHWA

jason.lee@dot.ca.gov
Thaleena.Bhattal@dot.ca.gov
Christopher.Dennis@dot.ca.gov
Lucas.Sanchez@dot.ca.gov
Rodney.Tavitas@dot.ca.gov
Antonio.Johnson@dot.gov

Appendix K State Historic Preservation Officer Determinations of Eligibility

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

January 12, 2022

VIA EMAIL

In reply refer to: FHWA_2021_0811_001

David Price, Section 106 Coordinator
Cultural Studies Office
Division of Environmental Analysis
1120 N Street, PO Box 942873, MS-27
Sacramento, CA 94273-0001

Subject: Finding of Effect for the Proposed Sol, Yol, Sac 80-50, Yolo 80, Corridor Improvement Project in Solano, Yolo, and Sacramento Counties, CA

Dear Mr. Price:

Caltrans is initiating consultation regarding the above project 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 (SHPO), 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* (106 PA). As part of your documentation, Caltrans submitted a Historic Property Survey Report (HPSR) and a Finding of Effect (FOE) for the proposed project.

Caltrans District 3 proposes a highway improvement project on the following segments in Sacramento, Solano, and Yolo Counties:

- Sacramento
  - 50 – 0.00 - 0.617 PM
  - 80 – 0.00 - 1.36 PM
- Solano
  - 80 – 40.7 - 44.7 PM
- Yolo
  - 50 – 0.00 - 3.16 PM
  - 80 – 0.00 - 11.72 PM

The Undertaking would widen the existing freeway and add managed lanes of lane conversion, restriping, shoulder widening, and median reconstruction with a

concrete barrier. A full project description can be found beginning on Page 2 of the FOE.

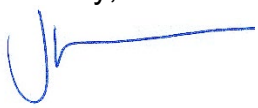
Identification and evaluation efforts for the undertaking have resulted in the documentation of one historic property within the Area of Potential Effects (APE): Reclamation District 900 (RD 900). Caltrans assumed RD 900 to be eligible for listing in the National Register under Criterion A for the purposes of this project only, pursuant to Stipulation VIII.C.4 of the Section 106 PA.

Caltrans, pursuant to Section 106 PA Stipulation X.B.2, found that there will be no adverse effect. The undertaking will not destroy or alter any contributing feature of RD 900 and will not affect the resource's integrity or ability to convey its historical significance.

Based on my review of the submitted documentation, I have no objections to the finding of no adverse effect for this undertaking.

If you have any questions, please contact Natalie Lindquist at natalie.lindquist@parks.ca.gov .

Sincerely,



Julianne Polanco
State Historic Preservation Officer

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
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September 30, 2021

VIA EMAIL

In reply refer to: FHWA_2021_0811_001

Ms. Erin Dwyer, Branch Chief
Cultural Resources South
Caltrans North Region Environmental
703 B Street
Marysville, CA 95901

Subject: Determinations of Eligibility for the Proposed Sol, Yol, Sac-80/50, Yolo-80, Corridor Improvement Project in Solano, Yolo and Sacramento County, California

Dear Ms. Dwyer:

Caltrans is initiating consultation regarding the above project 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 (SHPO), 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* (PA). As part of your documentation, Caltrans submitted a Historic Property Survey Report (HPSR), an Archaeological Survey Report, two Extended Phase I Reports, and a Historic Resources Evaluation Report for the proposed project.

The proposed project involves the following elements:

- Adding managed lanes on I-80 by widening the existing roadway through a combination
- of lane conversion, restriping, shoulder widening, and median reconstruction with a
- concrete barrier.
- Widening or replacement of existing structures within the project area would be required.
- In addition, drainage modifications would be necessary due to median reconstruction in
- the locations where sheet flow currently drains.
- Vegetation trimming and removal would take place throughout the length of the project.
- Existing intelligent transportation systems (ITS) elements and infrastructure would be

- expanded and modified, including ramp meters, fiber-optic conduit and cables, and
- overhead signs.
- Staging areas would be located at the I-80/West El Camino Avenue interchange, South River Road, I-80/Richards Boulevard interchange, the I-80 and SR 113 interchange, and along Kidwell Road. These areas total approximately 53.3 acres and would be used for equipment storage and maintenance, storage of construction materials, fuels, lubricants, solvents, and other needed materials during construction.

Pursuant to Stipulation VIII.C.6 of the Section 106 PA, Caltrans requests concurrence that the following properties are not eligible for the National Register of Historic Places (NRHP):

- 3620 Chiles Road, Davis, CA
- 3702 Chiles Road, Davis, CA
- 3708 Chiles Road, Davis, CA
- 3714 Chiles Road, Davis, CA
- 3720 Chiles Road, Davis, CA
- 3726 Chiles Road, Davis, CA
- 3732 Chiles Road, Davis, CA

Caltrans is also assuming Reclamation District 900 to be eligible for the NRHP for the purposes of the undertaking.

Based on review of the submitted documentation, I concur.

If you have any questions, please contact Natalie Lindquist at (916) 445-7014 with e-mail at natalie.lindquist@parks.ca.gov .

Sincerely,

State Historic Preservation Officer

Appendix L Assembly Bill 52 Consultation

L.1 Native American Correspondence

The Native American Heritage Commission (NAHC) was requested to review the Sacred Lands Files for any Native American sacred site within the or adjacent to the project area. The results indicated that there was a positive Sacred Land File result in the section for the project area, and noted that the United Auburn Indian Community and the Ione Band of Miwuk Indians as the point of contact for that result (Appendix L2). A list of Native American groups and individuals that may have knowledge or concerns regarding cultural resources for the project area was also included by the NAHC.

Correspondence was sent June 4th, 2020 and was followed up by phone calls and/or emails, to the Native Americans who were identified as having an interest in projects within this area by the NAHC (See Consultation Log in Appendix L2 for more information).

L.2 Contacts

- Rhonda Morningstar Pope, Chairperson, Buena Vista Rancheria of Me-Wuk Indians
- Clyde Prout, Chairman, Colfax-Todds Valley Consolidated Tribe
- Sara Dutschke Setchwaelo, Chairperson, Ione Band of Miwok Indians
- Cosme Valdez, Chairperson, Nashville Enterprise Miwok-Maidu-Nishinam Tribe
- Regina Cuellar, Chairperson, Shingle Springs Band of Miwok Indians
- Grayson Coney, Cultural Director, Ts'i Akim Maidu
- Gene Whitehouse, Chairperson, United Auburn Indian Community of the Auburn Rancheria
- Raymond Hitchcock, Chairperson, Wilton Rancheria
- Anthony Roberts, Chairperson, Yocha Dehe Wintun Nation
- Charlie Wright, chairperson, Cortina Rancheria-Kletsel Dehe Band of Wintun Indians
- Marlene Sanchez, Chairperson, Guidiville Indian Rancheria

The Colfax-Todds Valley Consolidated Tribe noted that they would like to defer to a tribe more familiar with the project area. Buena Vista Rancheria of Me-Wuk Indians reviewed the project and did not request additional consultation but requested to be notified if any cultural resources are documented. Guidiville Indian Rancheria had no concerns and requested copies of the reports to add to their records.

Shingle Springs noted areas of concern in West Sacramento and asked for continued consultation. United Auburn Indian Community notes areas of concern in the Bryte Bend area and identified three specific locations of sensitivity. Ground disturbance is occurring at only one area of United Auburns concern and the Geotech bore at this location will be monitored in lieu of an Extended Phase I (XPI) trench at this location. The Yocha Dehe Wintun Nation noted areas of concern near Davis due to the proximity of known resources and requested to monitor testing. Wilton Ranchera also noted areas of concern in West Sacramento and a desire to continue consultation. A joint meeting was held with concern tribes were project details and areas of concern were discussed.

The Yocha Dehe Wintun Nation provided a monitor for the XPI trenching, and UAIC will monitor Geotech work at Bryte Bend bridge. The XPI was negative and the Geotech work is forthcoming.

The Hattie Weber Museum, Sacramento Historical Society, Sacramento History Museum, solano County Historical Society, and Yolo County Historical Society were also contacted in June 2020. (Appendix L2). The letters were followed up by emails and/or phone messages. The Sacramento History Museum suggested contacting another individual, while the Yolo County Historical Society responded that they have no comments. Responses were not received from the other historical societies. Please see the consultation log and corresponding documentation for additional detail.

Table L-1. Consultation Log

(Log created 2/1/2021)

Date	Type	Name	Entity	Caltrans Rep	Comments
6/4/2020	Email	Sara Setchwaelo, Chairperson	Ione Band of Miwok Indians	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106/AB52 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Cosme Valdez, Chairperson	Nashville Enterprise Miwok-Maidu-Nishinam Tribe	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Regina Cuellar, Chairperson	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Clyde Prout, Chairperson	Colfax-Todds Valley Consolidated Tribe	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Grayson Coney, Cultural Director	Tsi Akim Maidu	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Gene Whitehouse, Chairperson	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106/AB52 consultation letter requesting questions, comments, concerns regarding proposed construction activities.

Date	Type	Name	Entity	Caltrans Rep	Comments
6/4/2020	Email	Anthony Roberts, Chairperson	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106/AB52 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Rhonda Morningstar Pope, Chiarperson	Buena Vista Rancheria of Me Wuk Indians	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Raymond Hitchcock, Chairperson	Wilton Rancheria	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106/AB52 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Charlie Wright, Chairperson	Cortina Rancheria	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Merlene Sanchez, Chairperson; Meyo Marrufo EPA Director	Guidiville Indian Rancheria	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	From: Pamela Cubbler	Colfax-Todds Valley Consolidated Tribe	Lisa Bright, DNAC	Ms. Cubbler responded that she looked at the project and would like to defer to a tribe more familiar with the project area. However, if no responses are received, they are happy to step in.
6/4/2020	Email	To: Pamela Cubbler	Colfax-Todds Valley Consolidated Tribe	Lisa Bright, DNAC	Lisa responded thanking Pamela for her response and noting that if none of the other consulting tribes respond that we will contact her.

Date	Type	Name	Entity	Caltrans Rep	Comments
6/4/2020	Email	Bill George	Sacramento Historical Society	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Delta Mellow	Sacramento History Museum	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Alfonso Sanchez Vouchez, President	West Sacramento Historical Society	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Dennis Dingermans, Director	Hattie Weber Museum	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	Kathy Harryman, President	Yolo County Historical Society	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/4/2020	Email	To whom it may concern	Solano County Historical Society	Lisa Bright, DNAC	Mailed project consultation package including location maps, proposed construction activities, and Section 106 consultation letter requesting questions, comments, concerns regarding proposed construction activities.
6/19/2020	Email	From: Katie Solorio	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Response to initial consultation letter asking for continued consultation. Request for prior reports/record searches. Appoints Kara Perry and asks to schedule a consultation.

Date	Type	Name	Entity	Caltrans Rep	Comments
6/22/2020	Email	To: Kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Response to 6/19/20 email thanking them for the response and documenting request for continued consultation. Notes that studies and the record search are in progress. Asks if Kara would like to schedule a call or webex to further discuss the project.
6/19/2020	Phone Call (3:!5 p.m.)	From: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Anna left a voicemail on Lisa's work line but followed up by calling her cell noting to ignore the voicemail. Noted that a formal letter re: consultation is forthcoming but that UAIC would like to consult on this project but will be internally coordinating with the Yocha Dehe. Discussed the possibility of joint meetings/updates moving forward.
6/23/2020	Email	From: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Email from Anna stating that UAIC would like to consult under this project. Notes they are aware of several culturally sensitive areas along this corridor. Notes we can discuss further at the proposed July meeting to discuss Sacramento area projects.
6/24/2020	Email	To: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Lisa thanked Anna for the response and noted she has documented UAIC's request for continued consultation. Notes that if it is possible to provide a sensitivity map similar to what we discussed on 03-4F650 it would be appreciated. I will follow up to schedule the meeting.
6/24/2020	Email	From: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Anna asked for the shp file to prepare the sensitivity map.
7/1/2020	Email	From: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Anna asked again for the shp file.
7/1/2020	Email	To: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Lisa responded apologies for the delay, she was waiting for the dgn files from design. Attached the shp files and noted that it is two separate shp files.

Date	Type	Name	Entity	Caltrans Rep	Comments
6/29/2020	Letter	From: Isaac Bojorquez	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Letter dated 6/29/20 stating desire for continued consultation and to set up a meeting.
7/14/2020	Email	To: Kristin Jensen	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Lisa responded to the 6/29 letter noting that due to teleworking requirements the mail is checked infrequently. Provided dates available for a meeting.
7/15/2020	Email	From: Richard Hawkins	Buena Vista Rancheria of Me Wuk Indians	Lisa Bright, DNAC	Mr. Hawkins responded to the initial consultation letter that the THPO advisory board and Tribal Chairwoman have reviewed the information and will not seek additional consultation for the project. Request to be notified if discovery of cultural resources during earth moving activities.
7/15/2020	Email	To: Richard Hawkins	Buena Vista Rancheria of Me Wuk Indians	Lisa Bright, DNAC	Lisa responded thanking Mr. Hawkins for the response and noting that she has documented their request to be notified if there are inadvertent discoveries.
7/16/2020	Email	From: Kristin Jensen	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Kristin responded that July 27th would work for them and they would like to start with an individual meeting.
7/16/2020	Email	To: Kristin Jensen	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Lisa responded that the 27th at 10am works for us. Just send us the Bluejeans invite to Lisa, Connor and Elizabeth.
7/16/2020	Email	From: Kristin Jensen	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Kristin thanked Lisa for her quick response and they will work on an agenda and have something soon.
7/22/2020	Email	To: Anna Starkey; Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Emailed Anna to see if the shp file worked and to schedule a meeting to discuss the project and UAICs concerns.
7/22/2020	Email	To: Kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Follow up to 6/22 email asking if Kara had any questions, comments or concerns. Asked if she'd like to schedule a call to discuss.
7/22/2020	Email	To: Sara Setchwaelo	Ione Band of Miwok Indians	Lisa Bright, DNAC	Follow up to initial consultation email.
7/22/2020	Email	To: Raymond Hitchcock, Ralph Hatch	Wilton Rancheria	Lisa Bright, DNAC	Follow up to initial consultation email.

Date	Type	Name	Entity	Caltrans Rep	Comments
7/22/2020	Email	To: Cosme Valdez	Nashville Enterprise Miwok-Maidu-Nishinam Tribe	Lisa Bright, DNAC	Follow up to initial consultation email.
7/22/2020	Email	To: Grayson Coney	Tsi Akim Maidu	Lisa Bright, DNAC	Follow up to initial consultation email.
7/22/2020	Email	To: Merlene Sanchez, Meyo Marrufo	Guidiville Indian Rancheria	Lisa Bright, DNAC	Follow up to initial consultation email.
7/22/2020	Email	To: Dennis Dingermans	Hattie Weber Museum	Lisa Bright, DNAC	Follow up to initial consultation email.
7/22/2020	Email	To: Bill George	Sacramento History Museum	Lisa Bright, DNAC	Follow up to initial consultation email.
7/22/2020	Email	To: Delta Mellow	Sacramento History Museum	Lisa Bright, DNAC	Follow up to initial consultation email.
7/22/2020	Email	To: Kathy Harryman	Yolo County Historical Society	Lisa Bright, DNAC	Follow up to initial consultation email.
7/22/2020	Email	To whom it may concern	Solano County Historical Society	Lisa Bright, DNAC	Follow up to initial consultation email.
7/22/20	Email	From: Delta Mellow	Sacramento History Museum	Lisa Bright, DNAC	Director Mellow responded to the 7/22 email suggesting that we contact the City's Historian and Director for the Center for Sacramento History - Marcia Eymann at meymann@cityofsacramento.org
7/23/2020	Email	From: Kathy Harryman	Yolo County Historical Society	Lisa Bright, DNAC	Mr. Harryman responded that she has no comments and that improving infrastructure is critical to California highways.
7/22/2020	Email	From: Michael Derry	Guidiville Indian Rancheria	Lisa Bright, DNAC	Mr. Derry responded to the 7/22 email that Guidiville Rancheria has no concerns or contributing information. Request for copies of reports to add to their records by emailing historian@guidiville.net
7/23/2020	Email	To: Michael Derry	Guidiville Indian Rancheria	Lisa Bright, DNAC	Lisa responded thanking Michael. Noted that we have added them to the list to receive the environmental documents once studies are completed.

Date	Type	Name	Entity	Caltrans Rep	Comments
7/23/2020	Phone Call	Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Mariah noted that Wilton Rancheria would like to consult on this project.
7/23/2020	Email	From: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Anna said her schedule is open but she's not sure if the mapping is done.
7/23/2020	Email	To: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Lisa proposed next Tuesday at 9am. Notified UAIC of proposed geotechnical work for the HOV structure the week of 8/3, asked if the mapping isn't done if we can use the map they produced for 4F650 as it overlaps for our discussion on Tuesday. Provided kmz of boring locations.
7/23/2020	Email	To: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	While on a call for another project Mariah mentioned the 7/22/20 email for this project but thought they had responded in 2019. Lisa noted that is a separate project in the same are and forwarded the 7/22/20 email to Mariah again.
7/24/2020	Email	From: Herbert Griffin	Wilton Rancheria	Lisa Bright, DNAC	Mr. Griffin responded to the initial consultation letter noting that they project lies within the tribe's ancestral territory and that they have identified resources of significance to the tribe near the project area. Request to meet regarding avoidance and to allow the tribe to have a monitor present. Note to contact crd@wiltonrancheria-nsn.gov
7/27/2020	Email	To: Mariah Mayberry; CRD	Wilton Rancheria	Lisa Bright, DNAC	Responded to Mr. Griffin's email thanking him for the response. Provided potential meeting dates and asked for them to follow up with which works best.

Date	Type	Name	Entity	Caltrans Rep	Comments
7/27/2020	Meeting	Laverne Bill, Isaac Bojoroquez	Yocha Dehe Wintun Nation	Lisa Bright, DNAC; Connor Buitenhuys, Project Archaeologist, Elizabeth Trumen, Project Archaeologist	Discussed project scope and multiple alternatives. Laverne asked who was installing the fiber optic cable - Connor said this is likely internal but he will ask. Laverne said they are not concerned about widening in the median but work in the shoulder, especially west of Davis where there are known resources in the project limits. Lisa will provide ESL shp file. Discussed geotech boring and Lisa will provide KMZ with boring locations. Laverne would like to conduct cultural sensitivity training.
7/27/2020	Email	To: Laverne Bill, Isaac Bojorquez, Andrew Cherna	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Lisa sent Andrew the project shp file and KMZ of geotech boring locations.
7/29/2020	Email	To: Anna Starkey; Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Lisa sent a follow up to the 7/23 email asking to schedule a call to discuss this project.
8/13/2020	Email	To: Anna Starkey; Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Lisa sent a follow up asking to schedule a meeting to discuss this project.
8/13/2020	Email	From: Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Melodi selected the 27th. Asked for the Yocha Dehe and any other consulting tribe to be included in the meeting.
8/13/2020	Phone (8:55 a.m.)	Laverne Bill	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Lisa called Laverne to double check if he was ok having a joint meeting with UAIC. He indicated after speaking with them last week that he is fine with that.
8/13/2020	Email	To: Kristin Jensen	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Lisa sent Kristin an email to see if Laverne has availability on the 27th for a meeting.
8/13/2020	Email	To: Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Lisa responded to Melodi's email that she has contacted the Yocha Dehe to see if the 27th works. Noted that Wilton Rancheria is the only other response thus far and that Lisa will reach out to them to see if they'd also like a joint meeting.
8/13/2020	Email	To: Mariah Mayberry; CRD	Wilton Rancheria	Lisa Bright, DNAC	Sent follow up email to schedule meeting

Date	Type	Name	Entity	Caltrans Rep	Comments
8/13/2020	Email	To: Kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Sent follow up email to schedule meeting
8/13/2020	Email	From: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Mariah responded that August 20th at 11am works for them.
8/13/2020	Email	To: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Lisa responded that 8/20 at 11 am works and she will send an outlook invite with the call in information. Asked if they would also like to participate in a joint meeting at UAIC's request.
8/13/2020	Email	From: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Mariah said yes to the joint meeting.
8/13/2020	Email	To: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Lisa provided Mariah with the date/time options on August 27th.
8/13/2020	Email	To: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Mariah says anytime on the 27th works.
8/13/2020	Email	To: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Lisa responded that once she hears back from the Yocha Dehe she'll let them know what time works for everyone.
8/13/2020	Email	From: Kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Kara selected the 24th at 10am for a meeting.
8/13/2020	Email	To: Kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Lisa responded asking if she would like a conference call or webex. Also mentioned group tribal meeting and asked if they would also like to participate in that
8/13/2020	Email	From: kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Kara would like a conference call and for James Sarmento and Daniel Fonseca to also be invited.
8/13/2020	Email	To: Kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Lisa responded that she will absolutely add them and will send and Outlook invite once the conference line has been booked.
8/17/2020	Email	From: Kristin Jensen	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Kristian responded that 1pm on the 27th works.
8/17/2020	Email	To: Kristin Jensen	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Lisa responded that she will send an Outlook invite with the conference line call in information once it has been booked.

Date	Type	Name	Entity	Caltrans Rep	Comments
8/17/2020	Email	To: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Lisa emailed Mariah to let her know that 1pm on the 27th works for all four parties. She will send out an Outlook invite with the call in information once it has been reserved.
8/17/2020	Email	To: Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Lisa sent Melodi an email letting her know that 1pm on the 27th works for the Yocha Dehe and Wilton. Also noted that Shingle Springs is consulting but has not responded regarding a group meeting. Will send Outlook invite once the conference line has
8/20/2020	Phone	Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC; Connor Buitenhuys, Project Archaeologist, Elizabeth Trumen, Project Archaeologist	Phone call with Mariah to discuss project. She asked if they can monitor the testing. Connor noted that they would need to identify a specific concern or area of concern. Connor will provide mapping of testing area and proposal once it is submitted. Mariah is going to prepare sensitivity maps and discuss with the director. Will get back to us.
8/24/2020	Phone	Kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC; Connor Buitenhuys, Project Archaeologist, Elizabeth Trumen, Project Archaeologist	Phone call to discuss project. Kara noted sensitivity in the West Sacramento area as it is the ancestral home for members of the Shingle Springs. Also noted documented village/cemetery near the 50/Sac river area. Sensitivity over any area that crossed the Sacramento River. Lisa will provide more detail of activities in that area, report from geotech and report from 03-4F650 work. Forwarded invite to Thursdays joint meeting.
8/24/2020	Email	To: Laverne Bill, Isaac Bojorquez,	Yocha Dehe Wintun Nation	Connor Buitenhuys, Project Archaeologist	Connor provided the ESL depicting the area of proposed geotech testing. File had to be sent via FILR.
8/26/2020	Email	To: Anna Starkey; Melodi McAdams; Travis Young; Laverne Bill; Isaac Bojorquez; Mariah Mayberry; Kara Perry	United Auburn Indian Community of the Auburn Rancheria; Yocha Dehe Wintun Nation; Wilton Rancheria; Shingle Springs	Lisa Bright, DNAC	Lisa sent the agenda for the 8/27/20 joint call.

Date	Type	Name	Entity	Caltrans Rep	Comments
8/27/2020	Phone Call (8:15 a.m..)	Laverne Bill	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Laverne called Lisa to let her know that due to the LNU Complex Fire they would not be able to attend the call.
8/27/2020	Phone Call	Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Lisa left Melodi a voicemail regarding the meeting and if she would like to proceed without the Yocha Dehe
8/27/2020	Phone Call	Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Melodi called Lisa back and said they were fine either way but could proceed and focus the discussion on the Sacramento area.
8/27/2020	Email	To: Laverne Bill, Isaac Bojorquez,	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Lisa sent Laverne an email stating that they would move forward with the meeting but focus on Sacramento. Will schedule a follow up with all the tribes.
8/27/2020	Email	From: Laverne Bill	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Laverne said thank you, looks forward to the future meeting.
8/27/2020	Phone Call	Melodi McAdams, Kara Perry, Param Sandhu	United Auburn Indian Community of the Auburn Rancheria; Wilton Rancheria; Shingle Springs	Lisa Bright, DNAC; Connor Buitenhuys, Project Archaeologist,	Phone call to discuss project. Melodi noted concern in the Sacramento County portion of the project, identified 3 TCRs. Melodi requested tribal participation in survey. Noted issues with Caltrans combining CEQA/106 and not including CEQA mitigation measures, which in this case would be avoidance. Noted no issue for staging if it is on a paved area. Kara and Param had no additional notes beyond what was discussed at previous meetings.
8/27/2020	Email	From: Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC; Connor Buitenhuys, Project Archaeologist,	Melodi provided mapping and details on the TCRs identified in the call: P-34-5225 Sacramento River Cultural Landscape, Sand Cove Site, Demba. Request that we identify these three sites within the inventory. Anna will follow up to supply mitigation measures and for post-review discoveries. Requested response with respect to the identification of these three sites.
8/27/2020	Email	To: Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Connor Buitenhuys, Project Archaeologist	Connor responded to Melodi's email asking for clarification that the purple polygon is Demba.

Date	Type	Name	Entity	Caltrans Rep	Comments
8/27/2020	Email	From: Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Connor Buitenhuys, Project Archaeologist	Melodi responded yes, there should be a call out on the map.
10/28/2020	Email	Melodi McAdams, Antonio Ruiz, Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Sent update re: soundwall and bike lane
10/28/2020	Email	Isaac Bojorquez, Laverne Bill	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Sent update re: soundwall and bike lane
10/28/2020	Email	Kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Sent update re: soundwall and bike lane
10/28/2020	Email	Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Sent update re: soundwall and bike lane
11/18/2020	Email	Melodi McAdams, Antonio Ruiz, Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Sent update re: soundwall with additional locational and footing location.
12/3/2020	Email	To: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Lisa sent the XPI proposal and geotech results and asked for comments on the proposal by the end of December.
12/3/2020	Email	Laverne Bill, Isaac Bojoroquez	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Lisa sent the XPI proposal and geotech results and asked for comments on the proposal by the end of December.
12/3/2020	Email	Kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Lisa sent the XPI proposal and geotech results and asked for comments on the proposal by the end of December.
12/3/2020	Email	Melodi McAdams, Antonio Ruiz, Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Lisa sent the XPI proposal and geotech results and asked for comments on the proposal by the end of December.
12/6/2020	Email	From: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Mariah responded to the 12/3 email and asked how the soils were monitored and what size screen was used.
12/7/2020	Email	To: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Lisa responded to Mariah's 12/6 email that the cores were monitored by an Archaeologists from Pacific Legacy and when cultural deposits were noted or suspected a 1/4" screen was to be used.

Date	Type	Name	Entity	Caltrans Rep	Comments
12/15/2020	Email	From: Victoria Delgato	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Formal response to XPI proposal requesting to monitor due to proximity to known sites. Also requesting cultural sensitivity training for crews.
12/15/2020	Email	To: Victoria Delgato, Laverne Bill	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Lisa responded to the letter thanking them for the response. Noted that Pacific Legacy will contact them after New Years but were looking to conduct this work at the beginning of January.
12/16/2020	Email	To: Laverne Bill	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Follow up from Lisa that after speaking with Pacific Legacy they would like to schedule this work the week of January 11th. Provided Laverne's contact information for scheduling and paperwork.
12/17/2020	Email	To: Laverne Bill, Isaac Bojorquez	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Sent update regarding new proposed geotech work.
12/17/2020	Email	To: Kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Sent update regarding new proposed geotech work.
12/17/2020	Email	To: Mariah Mayberry	Wilton Rancheria	Lisa Bright, DNAC	Sent update regarding new proposed geotech work.
12/17/2020	Email	To: Melodi McAdams, Anna Starkey, Antonio Ruiz	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Sent update regarding new proposed geotech work.
12/18/2020	Email	From: Andrew Cherna	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Request for geotech shp files
12/21/2020	Email	To: Andrew Cherna	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Lisa sent the shp file
1/8/2021	Email	From: Andrew Cherna	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Andrew requested the shp files for the geotech boring
1/11/2021	Email	To: Andrew Cherna	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Lisa responded that they were sent 12/21. Noted if there is an issue with the file or they need to be resent to please let her know.
1/12/2021	Email	To: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Followed up on 12/17/20 email asking for comment on the geotech work at Bryte Bend Bridge.

Date	Type	Name	Entity	Caltrans Rep	Comments
1/13/2021	Email	From: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Anna responded to the 1/12/2021 email that she forwarded the request to Melodi and Travis as they handle monitoring. Hopefully Melodi will respond shortly. Anna notes no additional concerns for now but wonders if all the sensitive areas provided on the maps were addressed.
1/13/2021	Email	To: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Lisa responded thanking Anna for her response. Notes that with regards to the mapping Melodi provided only the Bryte Bend bridge area has ground disturbance, just for the sound wall if that is approved. The other areas on the Sacramento side of the bridge are all re-striping. If anything changes with the project design, we will let you know.
2/1/2021	Email	To: Laverne Bill; Isaac Bojorquez	Yocha Dehe Wintun Nation	Lisa Bright, DNAC	Sent email with fieldwork completion letter, draft ASR, updated geotech monitoring locations, and geotech drilling plan.
2/1/2021	Email	To: Anna Starkey; Melodi McAdams	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Sent email with fieldwork completion letter, draft ASR, updated geotech monitoring locations, and geotech drilling plan.
2/1/2021	Email	To: Mariah Mayberry; CRD	Wilton Rancheria	Lisa Bright, DNAC	Sent email with fieldwork completion letter, draft ASR, updated geotech monitoring locations, and geotech drilling plan.
2/1/2021	Email	To: Kara Perry	Shingle Springs Band of Miwok	Lisa Bright, DNAC	Sent email with fieldwork completion letter, draft ASR, updated geotech monitoring locations, and geotech drilling plan.
2/1/2021	Email	From: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Anna responded thanking Lisa for the reports and was glad the results were negative. Asked if it's ok that if she has no response that means she has no comments.
2/1/2021	Email	To: Anna Starkey	United Auburn Indian Community of the Auburn Rancheria	Lisa Bright, DNAC	Lisa responded absolutely.

Appendix M Biological Opinion

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
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Sacramento, California 95825-1846
SFWO_mail@fws.gov

In Reply Refer to:
2023-0006346-S7-001-R001

April 12, 2024
Sent-Electronically

Robert Wall
Senior Environmental Scientist
California Department of Transportation
703 B Street
Marysville, CA 95901
Robert.Wall@dot.ca.gov

Subject: Reinitiation of Formal Consultation on the Yolo 80 Corridor Improvements Project in Solano, Yolo, and Sacramento Counties, California (Caltrans Fed. ID# EA 03-0H900)

Dear Robert Wall:

This letter is in response to the California Department of Transportation's (Caltrans) April 8, 2024, request for reinitiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Yolo 80 Corridor Improvements Project (proposed project) in Solano, Yolo, and Sacramento Counties, California. The Service issued a biological opinion (Service File Number 2023-0006346-S7-001; original biological opinion) on March 28, 2024. Your reinitiation request was received by the Service on April 8, 2024.At issue are the proposed project's effects on the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle) and giant garter snake (*Thamnophis gigas*) (snake). 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 Caltrans undertaking construction to improve multi-modal mobility on the Interstate 80 and United States Route 50 corridors in Solano, Yolo, and Sacramento counties. Caltrans has assumed the Federal Highway Administration's (Administration) 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 the Administration and Caltrans (effective March 20, 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 and the snake.

Caltrans requested reinitiation because the original biological opinion was not addressed to the correct recipient. This document replaces the previously issued March 28, 2024, original biological opinion.

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

1) The May 12, 2023, letter requesting initiation of formal consultation;

2) The March 2023, *Caltrans District 3 Yolo 80 Corridor Improvements Project Biological Assessment* (biological assessment) prepared by Stantec Consulting Services (consultant);

3) Meetings and email communications between the Service and Caltrans; and

4) Other information available to the Service.

Consultation History

August 24, 2021: The Service attended a site visit with Caltrans and the consultant.

September 17, 2021: Caltrans provided a draft version of the biological assessment to the Service.

May 12, 2023: The Service received a request for initiation of formal consultation with an attached March 2023 biological assessment.

May 31, 2023: The Service requested a meeting with Caltrans to discuss the March 2023 biological assessment.

June 8, 2023: The Service met with Caltrans to discuss proposed project details and conservation measures.

August 10, 2023: The Service met with Caltrans to clarify details and discuss an overview of the proposed project with new Service staff taking over the proposed project. Additional information regarding mitigation for the beetle was discussed during the meeting and in a follow-up email.

August 16, 2023: The Service sent an email to Caltrans with suggested changes to the proposed conservation measures. Caltrans provided additional information regarding the proposed project's effects to the snake.

September 25, 2023: The Service received an email from Caltrans with clarification on the conservation measures, elderberry transplanting, and mitigation details. This date represents the official start of formal consultation.

October 23, 2023–February 13, 2024: Email correspondence between the Service and Caltrans resolving minor questions regarding conservation measures and compensatory mitigation for the beetle and the snake.

April 8, 2024: The Service received an email from Caltrans requesting reinitiation of formal consultation to fix the addressee of the original biological opinion.

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed project involves construction of managed lanes, pedestrian/bicycle facilities, and Intelligent Transportation System elements along Interstate 80 (I-80) and United States Route 50 (US-50) from Kidwell Road near the eastern Solano County boundary, through Yolo County, and to West El Camino Avenue on I-80 and Interstate 5 (I-5) on US-50 in Sacramento County. The purpose of the proposed project is to improve multi-modal mobility on the I-80 and US-50 corridors in Solano, Yolo, and Sacramento counties. Construction for the proposed project will take approximately three years to complete.

The proposed project consists of three geographic segments. Segment one is along I-80 from Kidwell Road in eastern Solano County through the city of Davis to the eastern end of the Yolo Causeway east of Enterprise Boulevard in the city of West Sacramento. Segment two starts just east of Enterprise Boulevard and continues north on I-80 to West El Camino Avenue. Segment three starts at the I-80/US-50 separation and continues east along US-50 to I-5 near downtown Sacramento. The majority of the work will be taking place within the existing roadway and footprint. Activities such as work within the median, replacement of existing shoulders, restriping pavement, installing fiber optics, and repaving of the existing parts of the bike path are examples of activities where work will be occurring in the existing footprint. Developed areas account for more than half of the proposed project area and include highways, on-ramps, off-ramps, frontage roads, commercial areas, and other urbanized areas.

The proposed project will involve ramp modifications on Richards Boulevard in the City of Sacramento to accommodate the replacement of the existing bicycle path and pathway extension. The modification of the bike lane will consist of widening the shoulders by 4 feet to create a 6-foot bicycle lane on both sides of the road. Street lighting will be added at the proposed bicycle pathway extension adjacent to the westbound off-ramp. A new park-and-ride facility will also be constructed on the east side of Enterprise Boulevard on a 4.5-acre lot, providing for approximately 300 parking spaces. Roadside signs and overhead signs will also be added as part of the proposed project. The placement of the signs will avoid environmentally sensitive areas.

As part of the road modification construction, some locations will require full structural section reconstruction, while other locations will require cut or fill of the embankment due to road widening. Preparation of the site will involve delineating construction work areas, installing environmentally sensitive area fencing around sensitive habitats and cultural resource areas, installing wildlife exclusion fencing around staging areas, installing best management practices in accordance with the proposed project's Stormwater Pollution Prevention Plan, and removing vegetation. Installation of fiber-optic cable line and associated fiber-optic splice boxes will occur within the roadbed as part of the proposed project.

Construction equipment to be used for the center median work for the proposed project will include excavators, scrapers, motor graders, loaders, backhoes, pavers, concrete barrier slip from pavers, truck-mounted cranes, 18-wheel trucks, dump trucks, and water trucks. Reconstruction and modification of ramps/gores/shoulder embankments will use excavators, motor graders, loaders, backhoes, pavers, 18-wheel trucks, dump trucks, and water trucks. Road surfacing work,

including placement of sensors in the road surface, will use core drillers, trailers containing and dispersing sealant, and water trucks. The depth of ground disturbance will vary throughout the proposed project limits and could range from 3 feet to 40 feet deep.

Vegetation clearing will be required and will be confined to the area within the proposed project footprint, including construction access routes. Vegetation removal and clearing will be completed with hand tools where possible. Chainsaws, grinders, and excavators will be used for vegetation that cannot be removed by hand. All vegetation will be removed within proposed cut and fill lines as well as within temporary impact lines where Intelligent Transportation System components will be constructed. Within areas of temporary impact, vegetation removal will be avoided to the extent possible.

Staging areas for the proposed project will be located at the I-80/West El Camino Avenue interchange, South River Road, the I-80/Richards Boulevard interchange, the I-80 and State Route 113 interchange, West Capitol Avenue, and along Kidwell Road. Upon the completion of construction, all materials and debris will be removed from the construction work areas and recycled or properly disposed of off-site. All areas temporarily disturbed by the proposed project will be restored, including staging areas and access roads, to near or better than pre-construction conditions in accordance with applicable permits and Caltrans requirements.

Conservation Measures

In addition to implementing Caltrans' standard Best Management Practices (Caltrans 2017) throughout the proposed project area for the duration of construction, including dust, erosion, and sediment control, the applicant has proposed conservation measures to minimize adverse effects to the beetle and snake. The following is a summary of the proposed conservation measures. The conservation measures described below are considered part of the proposed action evaluated by the Service in this biological opinion.

General Conservation Measures

1) Before starting work, as required by permit or consultation conditions, a Caltrans biologist will meet with the Contractor to brief them on environmental permit conditions and requirements relative to each stage of the proposed project, including, but not limited to, work windows, drilling site management, and how to identify and report listed species within the project areas.

2) No trash or food will be left or stored on-site. All trash will be deposited in a secure container daily and disposed of at a waste facility at least once a week. On-site workers will also not attempt to attract or feed any wildlife.

3) Artificial night lighting may be required. To reduce potential disturbance to sensitive resources, lighting would be temporary and directed specifically on the portion of the work area actively under construction. Use of artificial lighting will be limited to Cal/OSHA work area lighting requirements.

4) Invasive non-native species control will be implemented. Measures will include:

    a. Straw, straw bales, seed, mulch, or other material used for erosion control and landscaping will be free of noxious weed seed and propagules.

b. All equipment will be thoroughly cleaned of all dirt and vegetation prior to entering the job site to prevent importing invasive non-native species. Project personnel will adhere to the latest version of *California Department of Fish and Wildlife Aquatic Invasive Species Cleaning/Decontamination Protocol (Northern Region)* for all field gear and equipment in contact with water.

5) A Revegetation Plan will be prepared which will include a native plant palette, establishment period, watering regimen, monitoring requirements, and pest control measures. The Revegetation Plan will also address measures for wetland and riparian areas temporarily impacted by the proposed project.

6) Prior to the start of work, Temporary High Visibility Fencing, reinforced silt fencing, and/or flagging will be installed around sensitive natural communities, environmentally sensitive habitat areas, rare plant occurrences, intermittent streams, and wetlands and other waters, where appropriate. Suitable habitat for the snake and beetle within or adjacent to the project site will be flagged for avoidance. In areas adjacent to or within snake habitat, only reinforced silt fencing will be used. No work will occur within fenced/flagged areas.

7) Where feasible, the structural root zone will be identified around each large-diameter tree (>2-foot diameter at breast height [DBH]) directly adjacent to project activities, and work within the zone will be limited.

8) When possible, excavation of roots of large-diameter trees (>2-foot DBH) will not be conducted with mechanical excavator or other ripping tools. Instead, roots will be severed using a combination of root-friendly excavation and severance methods (e.g., sharp-bladed pruning instruments or chainsaw). At a minimum, jagged roots will be pruned away to make sharp, clean cuts.

9) After completion, all superfluous construction materials will be completely removed from the site. The site will then be restored by regrading and stabilizing with a hydroseed mixture of native species along with fast growing sterile erosion control seed, as required by the Erosion Control Plan.

<u>Valley Elderberry Longhorn Beetle Conservation Measures</u>

10) All areas to be avoided during construction activities will be fenced and/or flagged as close to construction limits as practicable.

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

12) A qualified biologist, defined as a biologist with demonstrated prior experience with the beetle and its habitat, will provide training for all contractors, work crew, and any on-site 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. The training will be completed prior to project implementation. The training will be provided in all appropriate languages. Construction personnel will be trained on how to identify

elderberry shrubs, the location of suitable habitat within the proposed project area, and the avoidance and minimization measures that are to be followed.

13) A qualified biologist will monitor the work area at project-appropriate intervals to confirm that all conservation measures are implemented.

14) Erosion control will be implemented as needed and the affected area will be revegetated with appropriate native plants.

15) If elderberry shrubs cannot be avoided, or if effects will result in the death of stems or the entire shrub, then it shall be relocated following the Service's recommended transplanting guidelines (Service 2017):

    a. A qualified biologist will be on-site for the duration of transplanting activities to confirm compliance with avoidance and minimization measures and conservation measures.

    b. Exit-hole surveys will be completed immediately before transplanting. The number of exit holes found, Global Positioning System (GPS) location of the plant to be relocated, and the GPS location where the plant is transplanted will be reported to the Service.

    c. Elderberry shrubs will be transplanted when the shrubs are dormant (November through the first two weeks in February) and after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the shrub and increase transplantation success.

    d. Transplanting will follow the most current version of the ANSI A300 (Part 6) guidelines for transplanting (http://www.tcia.org/).

    e. Trimming will occur between November and February and will avoid the removal of branches or stems that exceed 1 inch in diameter.

Giant Garter Snake Conservation Measures

16) Construction outside of paved areas will be conducted between May 1 and October 1, which is the active season for the snake, in order to minimize impacts on the species.

17) To the extent practicable, the snake exclusion fencing will be placed around the action area (fenced area) before construction during the active period for the snake (May 1 through October 1). This fencing will be maintained through the construction period until the proposed project has been completed. Reinforced silt fencing will be used as exclusion fencing to minimize the chance of stake entanglement.

18) Caltrans will notify the Service seven days prior to when construction is scheduled to commence.

19) On-site monitoring during all ground-disturbing activities of the proposed project will be conducted by a qualified biologist, defined as a biologist with demonstrated prior experience with the snake and its habitat.

20) A worker Environmental Awareness Training Program for construction personnel will be conducted by a qualified biologist for all construction workers including contractors, prior to the start of construction activities. The training will be provided in all appropriate languages. Construction personnel will be training on how to identify the snake, the location of suitable habitat within the proposed project area, the avoidance and minimization measures that are to be followed, and the appropriate protocol if the snake is encountered during construction activities.

21) Suitable habitat for the snake within the action area will be surveyed for the snake no more than 24 hours before the start of ground disturbing construction activities. If construction activities stop for two weeks or more, or project implementation will disturb suitable habitat for the snake that has not been surveyed within two weeks, a new snake survey will be completed no more than 24 hours before the beginning of construction activities.

22) Protocol surveys will be performed for the snake during the breeding season for each construction season (every year of construction). Construction will take place year-round. If species are discovered during construction, work will stop in the area of discovery and coordination with the appropriate resource agencies will occur. The Service and project biological monitor will be immediately notified if a snake is found during construction activities. The snake will be monitored by the biological monitor and allowed to leave the area on its own. If the snake does not leave on its own, the snake may be relocated to suitable habitat by a qualified biological monitor, defined as a biologist with prior demonstrated experience handling the snake.

23) An Aquatic Giant Garter Snake Habitat Dewatering Plan will be prepared. The plan will include appropriate measures, including the identification of dewatering areas. The Contractor will dewater suitable habitat (e.g., wetlands, drainages, rice fields) and ensure the habitat remains dry for at least 15 consecutive days after April 15 and prior to excavating or filling potential habitat. Dewatering will be limited to April 15 through September 30.

    a. Aquatic habitat for the snake will be dewatered, and then remain dry and absent of aquatic prey (for example, fish and tadpoles) for 15 days prior to the initiation of construction activities within the suitable aquatic habitat. If complete dewatering is not possible, potential aquatic prey of the snake will be removed so that the snake and other wildlife are not attracted to the area. Dewatering will occur between April 15 and September 30.

    b. A biological monitor will be onsite to monitor for the snake during the initiation of dewatering activities. The biological monitor will periodically inspect the dewatered area and adjacent construction site to monitor for the snake and ensure all avoidance and minimization measures are being appropriately implemented.

24) Suitable habitat for the snake during its active season includes aquatic habitat, rice cultivation fields, and adjacent upland habitat within 200 feet of suitable aquatic habitat. Suitable habitat adjacent to the project area will be flagged and designated as an Environmentally Sensitive Area during the construction period.

25) Upon completion of the proposed project, all disturbed areas within the action area will be revegetated using native plant species, and post-monitoring work and photographs will be reported to the Service showing that temporary impacts have been restored to pre-construction conditions.

26) At the end of each workday, the permittee will place an escape ramp at each end of the open trench. This will allow any animals that may have been entrapped in the trench overnight to climb out. The escape ramp may be constructed of dirt fill, wood planking, or other suitable material and placed at an angle no greater than 30 degrees.

27) When working within 20 feet of suitable aquatic habitat for the snake, plastic, monofilament, jute, or similar erosion control matting that could entangle snakes will not be used.

28) Any temporary fill or construction debris that could be used by the snake as an overwintering site will be removed from the site upon completion of construction.

29) To prevent the potential transmission of snake fungal disease between individuals that are handled in the process of relocation, the biological monitor will disinfect their hands using an alcohol-based hand sanitizer or wear disposal nitril gloves which should be changed between animals. Footwear and any object that contacts the snake or its environment should also be disinfected between snakes or sites using a 10 percent bleach solution with a minimum exposure time of five minutes to effectively kill the fungus.

Compensatory Habitat Mitigation Measures

30) There will be a permanent loss of 0.205 acre of suitable snake habitat due to construction activities. The permanent loss of suitable habitat for the snake will be compensated for at a 1:1 acre ratio (1 acre of credits to 1 acre of habitat lost) by purchasing snake conservation credits at a Service-approved conservation or mitigation bank with a service area that covers the proposed project. Therefore, Caltrans has proposed to offset the permanent loss of 0.205 acre of snake habitat through the purchase of 0.205 acre of snake conservation credits. Snake conservation credits will be purchased before the commencement of ground disturbing activities.

31) There are six elderberry shrubs that provide suitable habitat for the beetle that are within 20 feet of construction activities and cannot be avoided. These six elderberry shrubs will be transplanted to a Service-approved beetle conservation bank before the commencement of ground disturbing activities begin in the sections of the proposed project where these six shrubs are currently located. Transplanting will occur during the shrubs' dormant season (November–February) and will follow the Service's recommended transplanting guidelines (Service 2017).

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 2,311.21 acres in Solano, Yolo, and Sacramento counties along the I-80 and US-50 corridors. This area includes the existing roadway, construction areas outside the existing roadway including the existing bike path area, and staging areas. The action

area includes a 200-foot buffer outside of where work will be taking place along the existing roadway.

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

Valley Elderberry Longhorn Beetle

The status of the beetle was assessed in the *Revised Recovery Plan for the Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus)* (Service 2019) (Beetle Recovery Plan). For the most recent comprehensive assessment of the species' rangewide status, please refer to the *Valley elderberry longhorn beetle (Desmocerus californicus dimorphus) 5-Year review* (Service 2023). No change in the listing status for the beetle was recommended in the 5-year review. Threats evaluated during the review and discussed in the final document have continued to act on the species since the 2023 5-year review was finalized, with loss of habitat being the most significant effect. While there have been continued losses of habitat in the range of both species, to date no project has proposed a level of effects for which the Service has issued a biological opinion of jeopardy for the species.

Giant Garter Snake

The status of the snake was assessed in the *Recovery Plan for the Giant Garter Snake (Thamnophis gigas)* (Service 2017) (Snake Recovery Plan). For the most recent comprehensive assessment of the species' rangewide status, please refer to the *Giant garter snake (Thamnophis gigas) 5-Year review: summary and evaluation* (Service 2020). No change in the listing status for the snake was recommended in the 5-year review. Threats evaluated during that review and discussed in the final document have continued to act on the species since the 2020 5-year review was finalized, with loss of habitat being the most significant effect. While there have

been continued losses of habitat in the range of the snake, to date no project has proposed a level of effects for which the Service has issued a biological opinion of jeopardy for the species.

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.

Valley Elderberry Longhorn Beetle

The action area is located within the current range of the beetle (Service 2023). There are two recorded occurrences of the beetle in the California Natural Diversity Database (Diversity Database) within the action area of the proposed project (Diversity Database 2023). Surveys for elderberry shrubs (*Sambucus* spp.), the sole host plant of the beetle, were conducted by the consultant on February 19 and 21–24 of 2021, and July 7, 2022. A total of 69 elderberry shrubs with stems greater than 1 inch in diameter were found during the survey, and eight of these elderberry shrubs had beetle exit holes. Of these, 34 elderberry shrubs are within 165 feet of proposed project work, including six within 20 feet of the proposed project and one with a beetle exit hole. None of the elderberry shrubs were classified as riparian habitat according to the biological assessment. Because 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 elderberry shrubs, it is not possible to know if the elderberry shrubs in the action area are inhabited by the beetle. However, based on the presence of the exit holes found in recent surveys, as well as Diversity Database occurrences within the action area, it is reasonably likely that the beetle may be present in one or more elderberry shrubs in the action area.

Giant Garter Snake

The action area is located within the current range of the species (Service 2020). There are no recorded occurrences of the snake within the action area (Diversity Database 2023). The closest occurrence is located approximately 0.62 mile away and there are 13 additional occurrences within 4 miles of the action area (Diversity Database 2023). The area is dominated by open agricultural lands, with segments of urban use areas at either end of the corridor. There are several areas within the action area including water canals, the Yolo Bypass Wildlife Area, and a rice field on the southern side of I-80 and west of the Yolo Bypass Wildlife Area that provide suitable aquatic habitat for the snake and may be occupied by the snake.

A snake habitat assessment survey was conducted between December 18 and 30, 2020. No snakes were observed during the surveys; however, snakes would be expected to be sheltering underground during this time of year. The survey found a total of 101.2 acres of suitable snake habitat. Based on the presence of suitable habitat for the snake within the action area, nearby occurrences, and additional suitable snake habitat nearby, it is reasonably likely that the snake may be present within 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.

Valley Elderberry Longhorn Beetle

Six elderberry shrubs with stems greater than or equal to 1 inch in diameter will be removed from the proposed project area and transplanted to a beetle conservation or mitigation bank. The six elderberry shrubs are considered suitable habitat for the beetle. The elderberry shrubs may experience stress or death due to changes in soil, hydrology, microclimate, or associated vegetation, or damage during the transplantation process, leading to the death of any beetle larvae inhabiting the stems. However, this will be minimized by transplanting the elderberry shrubs to a Service-approved conservation or mitigation bank where they will be monitored. The survival rate of transplanted elderberry shrubs is estimated to be 72.8% in the first year following relocation (Holyoak et al. 2010). Therefore, it is anticipated that two of the six transplanted elderberry shrubs will not survive in the first year following relocation. Any beetle larvae within the two transplanted elderberry shrubs that do not survive, as well as within any stems that are trimmed on the four elderberry shrubs that are expected to survive transplantation, will die.

The remaining 28 elderberry shrubs located within 165 feet of the proposed project will be subject to noise, vibration, and other disturbance above the environmental baseline. However, because beetles spend much of their lifecycle within elderberry shrub stems, and considering the proposed conservation measures, any effects to the beetle from these sources due to construction activities are expected to be minor in scale and are insignificant for the purposes of this consultation.

Giant Garter Snake

There are 0.205 acre of suitable snake habitat that will be lost due to construction of the proposed project. These impacts will be a result of the bike path improvements phase of the proposed project. There is a risk of harm, injury, and mortality as a result of the proposed construction activities, the permanent and temporary loss or degradation of suitable habitat, and capture and relocation efforts. Conservation measures including seasonal avoidance, fencing, and a biological monitor will be implemented to minimize potential adverse effects on the snake. In addition, snakes in the work area maybe captured and relocated if necessary, by the biological monitor. The process of capture and relocation may be beneficial to the snake in order to move it away from construction activities, but it also has potential for causing injury or mortality because snakes will be exposed to predation or encounters with vehicles after release The loss of suitable snake habitat from development of the proposed project will result in fewer areas where the snake is able to forage in aquatic habitat. This loss of aquatic habitat will result in the snake moving to other locations for foraging needs, increasing the risk of mortality from vehicles and predation. . Due to the small area of disturbance, the disturbed nature of surrounding habitat, and the proposed conservation measures, the Service expects the number of snakes adversely affected by the proposed project will be low.

As noted previously in the *Description of the Proposed Action* section, the project proponent has proposed a set of conservation measures, including the commitment to provide compensatory habitat for the beetle and the snake as a condition of the action. This compensatory habitat is intended to minimize the effect on the species resulting from the permanent loss of habitat described above. Caltrans has proposed to provide compensatory habitat for the snake in the form of 0.205 acre of snake conservation credits at a Service-approved conservation bank to help offset the loss of habitat from the construction of the proposed project. Caltrans has also proposed to transplant six elderberry shrubs to a conservation or mitigation bank to further minimize impacts to the beetle. Additionally, if the elderberry shrubs to be transplanted are occupied by the beetle, this could help disperse the beetle onto the conservation or mitigation bank and increase the conservation value of the bank to the beetle.

This component of the action will have the effect of protecting and managing lands for the species' conservation in perpetuity. The compensatory land 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 through purchasing snake conservation credits for the snake may contribute to other recovery efforts for the species.

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 and the snake, the environmental baseline for the action area, the effects of the proposed Yolo 80 Corridor Improvements Project, and the cumulative effects, it is the Service's biological opinion that the Yolo 80 Corridor Improvements Project, as proposed, is not likely to jeopardize the continued existence of the beetle or the snake. 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 amount of snake and beetle habitat permanently lost represents a small portion of habitat available within both the full ranges and the local populations of both species;

2) Implementation of the proposed conservation measures will further avoid and minimize adverse effects to the snake and the beetle; and

3) The proposed compensatory mitigation ensures that habitat for the snake and beetle 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 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

Valley Elderberry Longhorn Beetle

Incidental take of the beetle will be difficult to detect or quantify due to the fact they spend much of their lifecycle within elderberry shrub stems, so it is not possible to know how many larvae inhabit any individual elderberry shrub. As described in the *Effects of the Action* section, the Service anticipates two of the six transplanted elderberry shrubs will not survive in the first year following relocation, and the remaining four transplanted elderberry shrubs will experience damage to stems from targeted trimming during transplanting activities. Therefore, the Service is authorizing incidental take from the proposed action as the injury or mortality of all beetle larvae within the two elderberry shrubs anticipated to not survive transplanting, as well as any beetle larvae within stems greater or equal to 1 inch in diameter that may be trimmed or damaged during transplanting of the four remaining elderberry shrubs.

Giant Garter Snake

The Service anticipates that incidental take of the snake will be difficult to detect because the snake is secretive and uses underground burrows for shelter year-round. Not all injured or dead snakes may be detected as they may be entombed underground, or an injured snake may leave the action area without being seen. There is a risk of harm, injury, and mortality as a result of the proposed construction activities, the permanent and temporary loss or degradation of suitable habitat, and capture and relocation efforts. In instances in which the total number of individuals that may be taken cannot be determined, the Service may quantify take in the amount of lost or disturbed habitat as a result of the proposed project; since take is expected to result from these effects to habitat, the quantification of habitat becomes a direct surrogate for the species that will

be taken. Therefore, the Service anticipates that within the action area, all snakes inhabiting the 0.205 acre of suitable habitat that will be permanently lost may be subject to incidental take in the form of injury or death. The Service also anticipates take in the form of capture of two snakes that will need to be relocated prior to construction or when a snake is found within the construction area after proposed project initiation. This take number is based on the expectation that few snakes will be encountered due to the disturbed nature of habitat in the vicinity and the small amount of habitat that will be lost.

Upon implementation of the following reasonable and prudent measures, incidental take of the beetle and the snake associated with the Yolo 80 Corridor Improvements 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 beetle or the snake.

Reasonable and Prudent Measures

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

1) All conservation measures, as described in the biological assessment and restated here in the *Description of the Proposed Action* 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 shall include full implementation and adherence to the conservation measures as a condition of any permit or contract issued for the proposed project.

Salvage and Disposition of Individuals:

Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact person is the Sacramento Valley Division Supervisor at the Sacramento Fish and Wildlife Office at (916) 414-6492.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

1. Caltrans should report sightings of federally listed species to the Diversity Database and the Service.

2. Caltrans should work with the Service to assist in meeting the goals of the recovery plans for the snake and the beetle.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the Yolo 80 Corridor Improvements 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 Rachel Smaby, Fish and Wildlife Biologist (rachel_smaby@fws.gov), at (916) 414-6612 or Megan Cook, Sacramento Valley Division Supervisor (megan_cook@fws.gov), at (916) 414-6492 or at the letterhead address.

Sincerely,

KIM TURNER-OLAH

Digitally signed by KIM TURNER-OLAH
Date: 2024.04.12 13:52:37 -07'00'

Kim S. Turner
Acting Field Supervisor

cc:
Allison Kunz, California Department of Transportation, Marysville, California
Ken Russo, California Department of Transportation, Marysville, California
Gregory Saiyo, California Department of Transportation, Marysville, California

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Appendix N Species Lists

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: 04/29/2024 19:00:31 UTC
Project Code: 2024-0083251
Project Name: 03-3H900 - Yolo 80 Corridor Improvements Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Note: IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

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

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

PROJECT SUMMARY

Project Code: 2024-0083251

Project Name: 03-3H900 - Yolo 80 Corridor Improvements Project

Project Type: Road/Hwy - Maintenance/Modification

Project Description: The California Department of Transportation (Caltrans or Department), in collaboration with stakeholders, proposes to construct improvements consisting of managed lanes, pedestrian/bicycle facilities, and intelligent transportation system elements along Interstate 80 and U.S. Route 50 from Kidwell Road near the eastern Solano County boundary, through Yolo County to West El Camino Avenue near the I-80/Interstate 5 interchange, and to the US-50/I-5 interchange in Sacramento County.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.55099545,-121.70304613269532,14z

Counties: Sacramento , Solano , and Yolo counties, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 15 threatened, endangered, or candidate species on this species list.

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

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

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

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

BIRDS

NAME	STATUS
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

REPTILES

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot *Spea hammondii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

FISHES

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay-Delta DPS	Proposed Endangered

NAME	STATUS
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay-Delta DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

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

CRITICAL HABITATS

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

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* https://ecos.fws.gov/ecp/species/321#crithab	Final

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

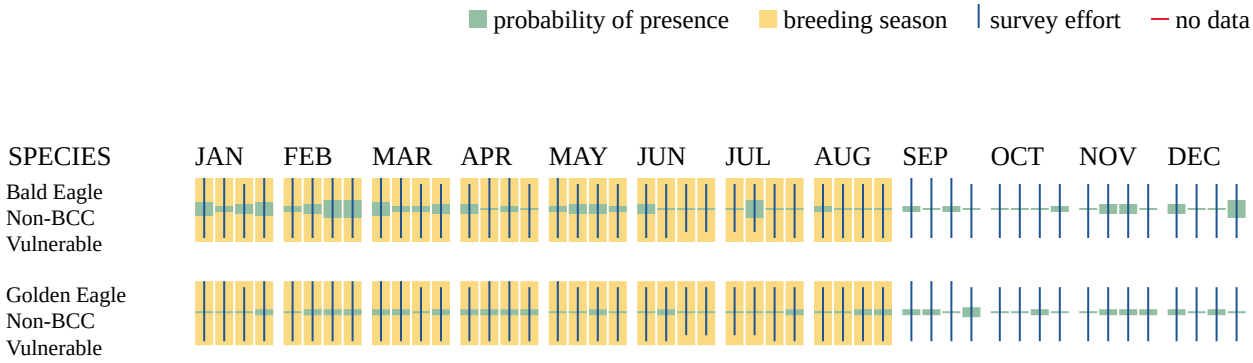
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow *Passerculus sandwichensis beldingi* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10

NAME	BREEDING SEASON
Black Tern *Chlidonias niger surinamenisis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Black-chinned Sparrow *Spizella atrogularis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9447	Breeds Apr 15 to Jul 31
Bullock's Oriole *Icterus bullockii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9458	Breeds Mar 21 to Jul 25
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955	Breeds Mar 1 to Jul 31
California Thrasher *Toxostoma redivivum* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9436	Breeds Jan 1 to Jul 31
Cassin's Finch *Haemorhous cassinii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575	Breeds Jun 1 to Aug 31
Common Yellowthroat *Geothlypis trichas sinuosa* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch *Spinus lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20

NAME	BREEDING SEASON
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Mountain Plover *Charadrius montanus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3638	Breeds elsewhere
Northern Harrier *Circus hudsonius* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Nuttall's Woodpecker *Dryobates nuttallii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse *Baeolophus inornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Santa Barbara Song Sparrow *Melospiza melodia graminea* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5513	Breeds Mar 1 to Sep 5
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Tricolored Blackbird *Agelaius tricolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10

NAME	BREEDING SEASON
Western Grebe *aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Western Gull *Larus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11969	Breeds Apr 21 to Aug 25
Western Screech-owl *Megascops kennicottii cardonensis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11923	Breeds Mar 1 to Jun 30
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds elsewhere
Wrentit *Chamaea fasciata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10668	Breeds Mar 15 to Aug 10
Yellow-billed Magpie *Pica nuttalli* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

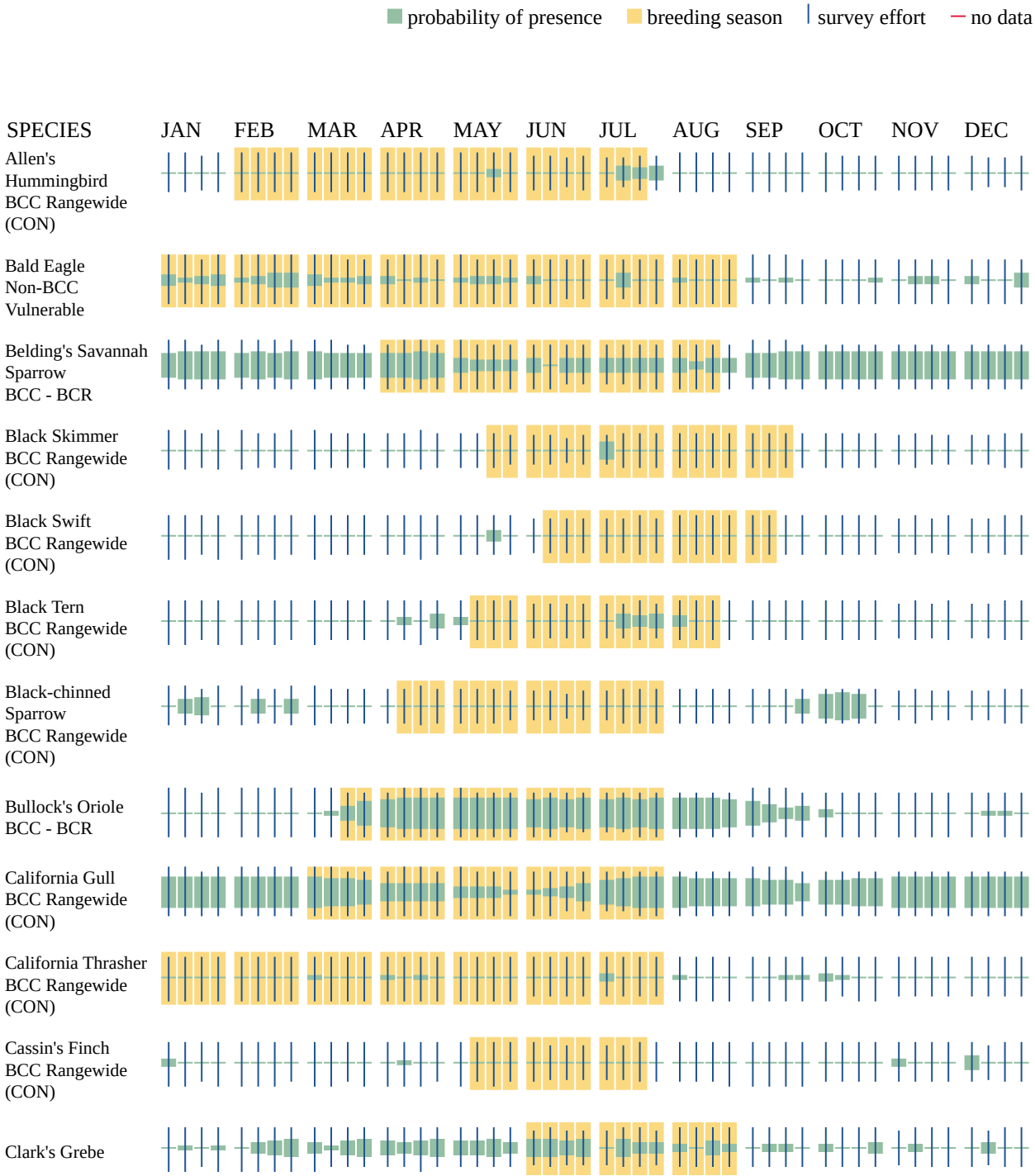
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

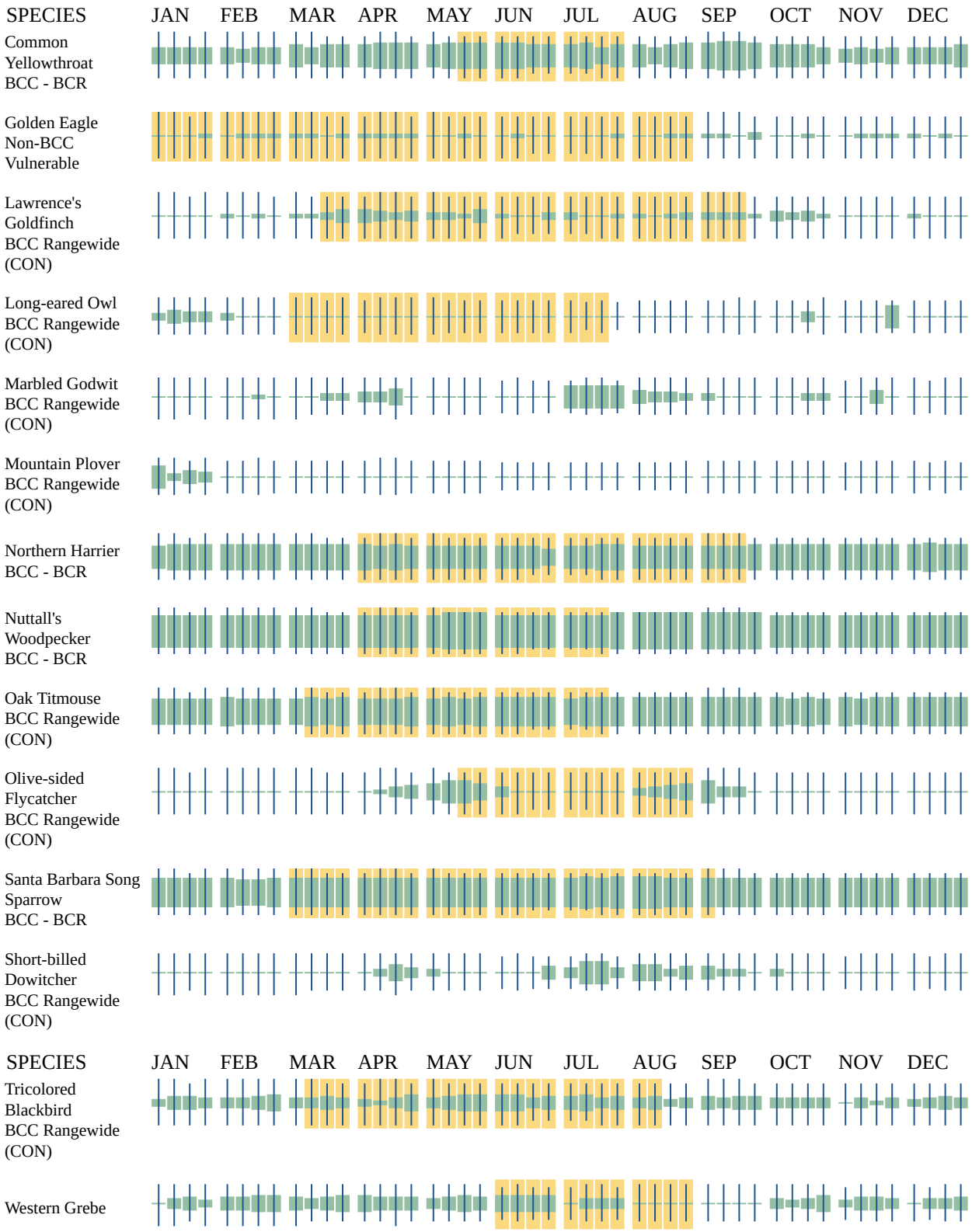
Survey Effort (|)

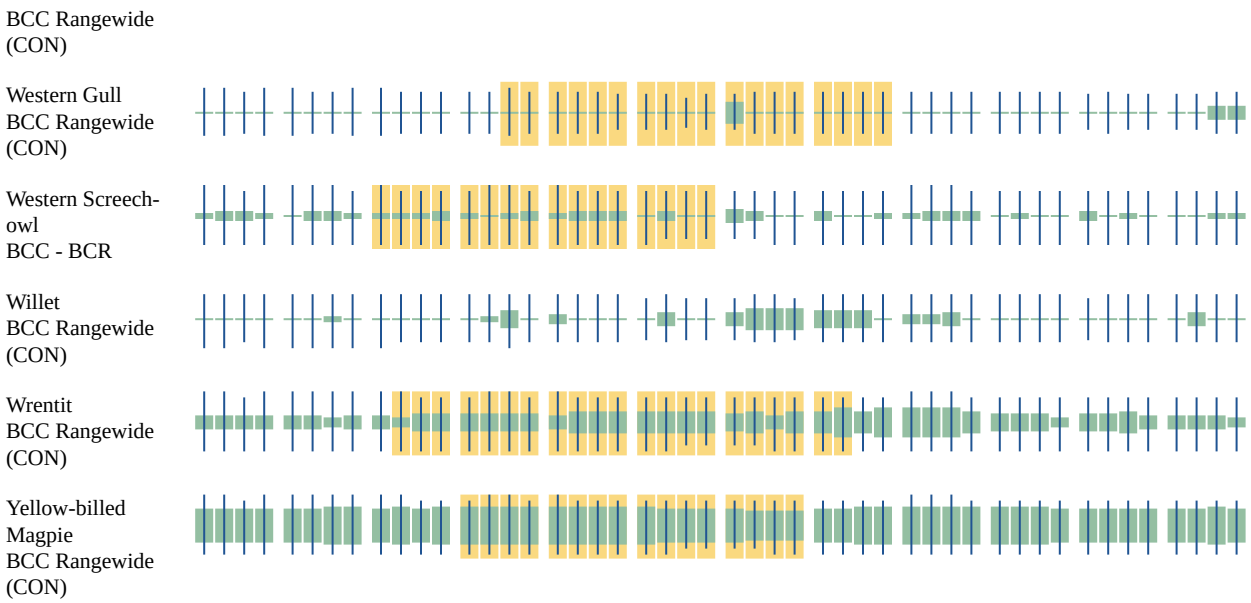
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



BCC Rangewide (CON)





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R2UBHx
- R2UBH
- R5UBF

- R1UBVx
- R5UBFx
- R4SBCx
- R2UBFx

FRESHWATER FORESTED/SHRUB WETLAND

- PFOC
- PSSC
- PSSA
- PSSR
- PSSCx

FRESHWATER POND

- PUSCx
- PUBFx

FRESHWATER EMERGENT WETLAND

- PEM1Cx
- PEM1R

IPAC USER CONTACT INFORMATION

Agency: California Department of Transportation District 3
Name: Gregory Saiyo
Address: 703 B Street
City: Marysville
State: CA
Zip: 95901
Email gregory.saiyo@dot.ca.gov
Phone: 7078342471

Saiyo, Gregory@DOT

From: Saiyo, Gregory@DOT
Sent: Monday, April 29, 2024 11:41 AM
To: nmfs.wcrca.specieslist@noaa.gov
Subject: California Department of Transportation - 03-3H900 - Yolo 80 Corridor Improvements Project

Brief Project Description:
The California Department of Transportation (Caltrans or Department), in collaboration with stakeholders, proposes to construct improvements consisting of managed lanes, pedestrian/bicycle facilities, and intelligent transportation system (ITS) elements along Interstate 80 (I-80) and U.S. Route 50 (US-50) from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County to West El Camino Avenue near the I-80/Interstate 5 (I-5) interchange, and to the US-50/I-5 interchange in Sacramento County.

Quad Name **Dixon**
Quad Number **38121-D7**

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) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat -

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

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 -

Quad Name **Merritt**

Quad Number **38121-E7**

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) -

ESA Anadromous Fish Critical Habitat

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

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 -

Quad Name **Davis**

Quad Number **38121-E6**

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 -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat -

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 -

Quad Name **Sacramento West**

Quad Number **38121-E5**

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 - **X**

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 -

Federal Agency and Address:
California Department of Transportation
703 B Street
Marysville, CA 95901

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(707) 834-2471