

SAN JOAQUIN
REGIONAL
RAIL COMMISSION



San Joaquin
Joint Powers Authority

SCH #2019090306

**Valley Rail
Sacramento Extension Project**

Draft Environmental Impact Report

Executive Summary

March 2020

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San Joaquin Regional Rail Commission

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STATE CLEARINGHOUSE #2019090306

Executive Summary

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Prepared for:



SAN JOAQUIN
REGIONAL
RAIL COMMISSION



San Joaquin
Joint Powers Authority

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Table of Contents

	Page
Executive Summary	ES-1
ES.1 Project Background	ES-1
ES.2 Project Goals	ES-4
ES.2.1 Enhanced Intercity and Commuter Rail Service	ES-4
ES.2.2 Improved Connectivity	ES-4
ES.2.3 Improved Regional Air Quality	ES-5
ES.2.4 Improved Access	ES-5
ES.2.5 Transit-Oriented Development	ES-5
ES.3 Project Description	ES-6
ES.3.1 Phase I Stations	ES-6
ES.3.2 Phase I Track Improvements	ES-9
ES.3.3 Phase I Conceptual Service Plan	ES-10
ES.3.4 Phase I Right-of-Way and Easement Needs	ES-12
ES.3.5 Phase II Improvements	ES-12
ES.4 Costs and Revenues	ES-14
ES.4.1 Phase I Costs and Revenues	ES-14
ES.4.2 Phase II Costs	ES-15
ES.5 Summary of Environmental Impacts and Mitigation Measures	ES-15
ES.6 Alternatives Considered	ES-58
ES.7 Comparison of Alternatives and the Environmentally Superior Alternative	ES-58
ES.8 Issues of Controversy and Issues to be Resolved	ES-58

List of Tables and Figures

Tables

Table ES	Construction Durations for Phase I Improvements.....	ES-11
Table ES-2	Phase I Right-of-Way Requirements	ES-12
Table ES-3	Phase II Right-of-Way Requirements	ES-13
Table ES-4	2020 Construction Cost Estimates for Phase I Improvements	ES-14
Table ES-5	Summary of Annual Projected Phase I Operations & Maintenance (O&M) Cost and Fare Revenue	ES-15
Table ES-6	Summary of Phase I Impacts and Mitigation Measures	ES-16
Table ES-7	Summary of Phase II Impacts and Mitigation Measures	ES-37

Figures

Figure ES-1	Project Location Map.....	ES-2
Figure ES-2	Project Track Improvements	ES-3

Executive Summary

ES.1 Project Background

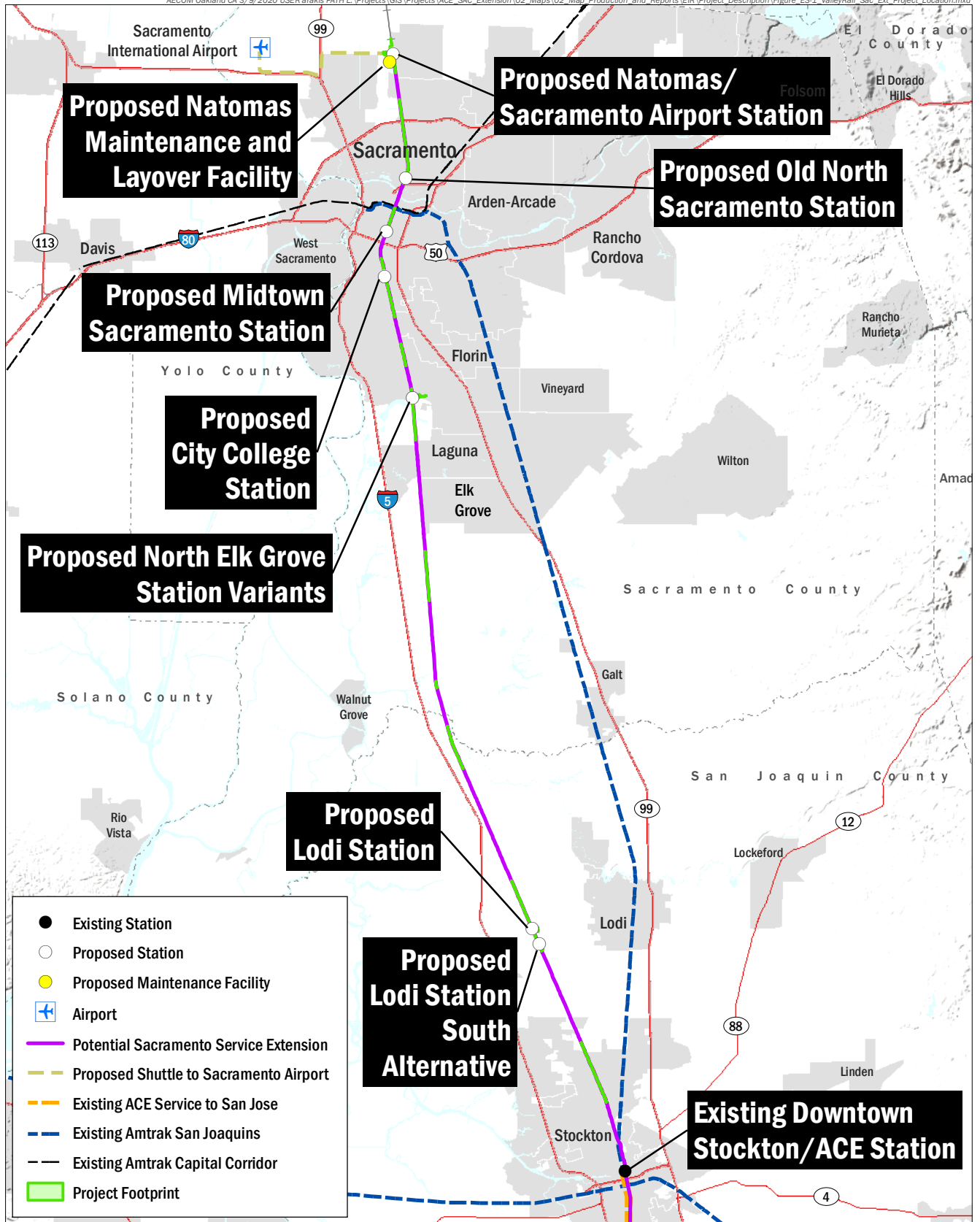
The San Joaquin Joint Powers Authority (SJJPA) and the San Joaquin Regional Rail Commission (SJRRC), which manage the Amtrak San Joaquins and the Altamont Corridor Express (ACE), respectively, are jointly undertaking the planning, design, and environmental review of the Valley Rail Sacramento Extension Project (proposed project), a proposed passenger rail service between Stockton and Sacramento.

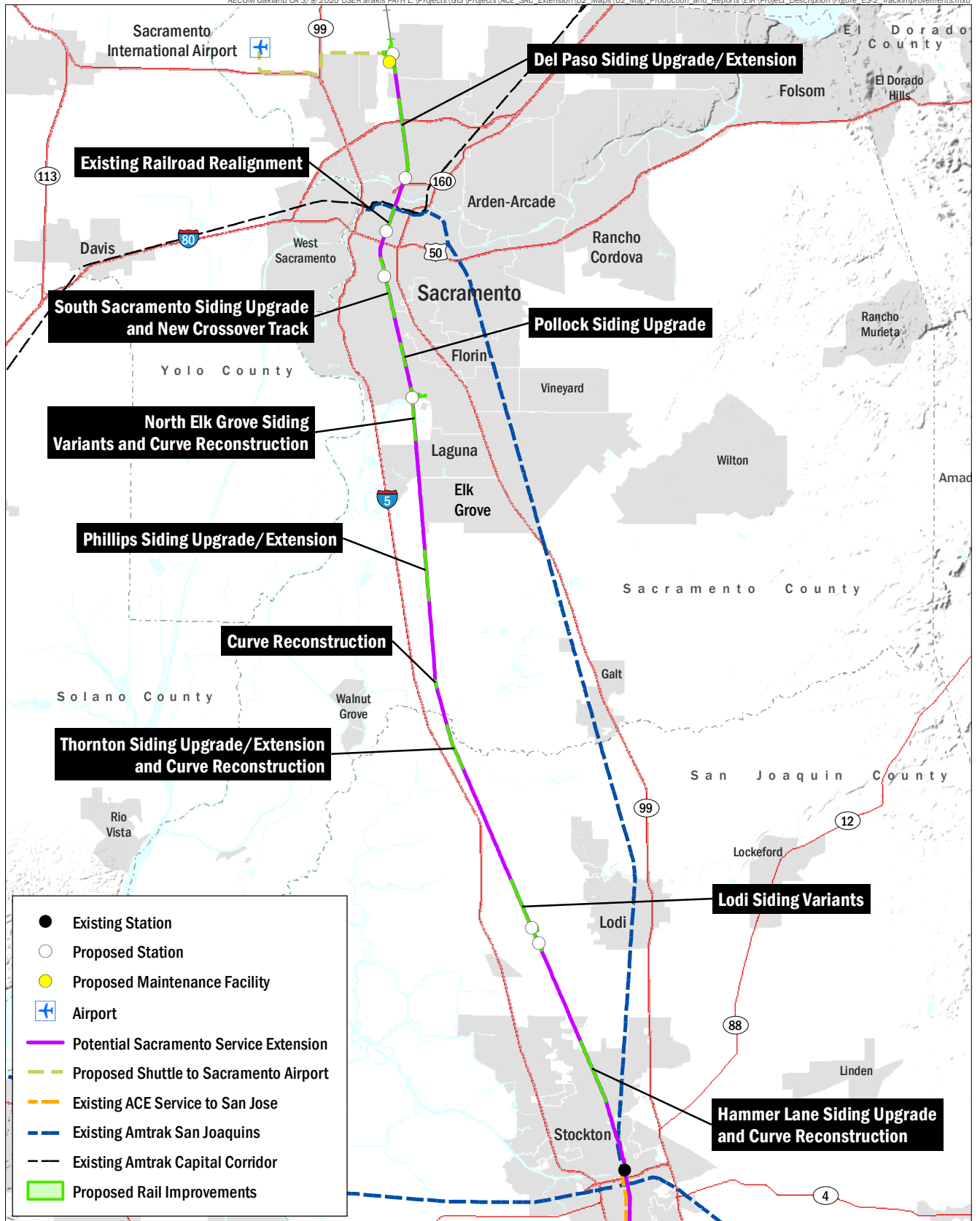
The primary objectives of the proposed project are to expand passenger rail service to new markets in San Joaquin and Sacramento counties; increase frequency of service; increase passenger rail ridership; reduce travel time between the San Joaquin Valley and the Sacramento area; augment existing transit capacity and provide transit connections; provide an alternative to automobile traffic congestion; improve regional air quality; reduce greenhouse gas (GHG) emissions; and support local and regional land use development plans and policies. The proposed project would also contribute to geographic equity by providing increased connectivity within the Central Valley, including Sacramento, San Joaquin, Stanislaus, Merced, Madera, and Fresno counties; the Bay Area; and the greater California rail network via two future high-speed rail (HSR) connections in Merced and San Jose.

This proposed project would expand Amtrak San Joaquins and ACE passenger rail services to the greater Sacramento area through the construction of six new rail stations and track improvements along the Union Pacific Railroad (UPRR) Sacramento Subdivision (Figures ES-1 and ES-2).¹ The proposed stations would include one new station in Lodi and five new stations in Sacramento (North Elk Grove along Cosumnes River Boulevard in South Sacramento; City College; Midtown Sacramento; Old North Sacramento; and Natomas/Sacramento Airport). Increased passenger rail service would include one additional round trip of Amtrak San Joaquins service between the existing Fresno Amtrak Station and the proposed Natomas/Sacramento Airport Station, and one additional round trip of Amtrak San Joaquins service between the existing Bakersfield Amtrak Station and the proposed Natomas/Sacramento Airport Station. The proposed project would also include one additional round trip of ACE service between the proposed Natomas/Sacramento Airport Station and the existing San Jose Diridon Station, one additional round trip between the proposed Natomas/Sacramento Airport Station and the existing the Stockton Downtown/ACE Station, and three round trips between the proposed Ceres ACE Station (included in the ACE Extension Lathrop to Ceres/Merced project) and the proposed Natomas/Sacramento Airport Station.²

¹ A *subdivision* is a portion of railroad or railway that operates under a single timetable (authority for train movement in the area).

² On August 2, 2018, the SJRRC Board certified the Environmental Impact Report (EIR) and approved the ACE Extension Lathrop to Ceres/Merced project. Operation of Phase I of the ACE Extension Lathrop to Ceres/Merced project (which includes the Ceres Station) is anticipated to begin between 2020 and 2023.





Data Source: ESRI, 2019; AECOM, 2019;
San Joaquins and Capital Corridor Rail Alignments:
California Department of Transportation, 2013.

AECOM

San Joaquin Regional Rail Commission

FIGURE ES-2

Project Track Improvements

ES.2 Project Goals

The Central Valley population to be served by the proposed project is one of the fastest-growing in the state. Job growth in Sacramento County is expected to increase by 1.3 percent annually.³ As the Central Valley's population grows, the region's unbalanced ratio of housing and jobs will continue to diverge, with even more people moving out of the Bay Area and Sacramento to find affordable housing in the San Joaquin Valley. There is a need to not only increase service between the San Joaquin Valley and Sacramento but also to provide more service between Sacramento, the San Joaquin Valley, and the Bay Area.

Interstate 5 (I-5) and State Route (SR) 99 are the primary links between the Fresno and Stockton areas to the Sacramento area. These already congested corridors are expected to see continued growth and travel demand. However, existing passenger rail service levels between the San Joaquin Valley and the Sacramento area are low; currently, there are only two daily round trips offered by Amtrak San Joaquins. By 2040, statewide interregional travel is forecasted to increase by 50.9 percent, to 544.7 million two-way trips annually. Over 150 million of those trips are expected to originate or terminate in, or pass through, Sacramento and the San Joaquin Valley.

As further described below, the goals of the proposed project include the following:

- Enhanced intercity and commuter rail service
- Improved connectivity
- Improved regional air quality
- Improved access
- Transit Oriented Development.

ES.2.1 Enhanced Intercity and Commuter Rail Service

The proposed project would support enhanced intercity and commuter rail service between the Sacramento region, the Central Valley, and the San Francisco Bay Area by implementing direct passenger rail service between Sacramento and the cities of Stockton, San Jose, and Merced.

ES.2.2 Improved Connectivity

The proposed project would provide direct rail connections between the Sacramento area, the South San Francisco Bay Area, and the Central Valley via ACE and Amtrak San Joaquins rail service. The proposed project would also increase connectivity to other transportation networks throughout California via potential transfers at the San Jose Diridon Station to Caltrain, the Amtrak Capitol Corridor, and Santa Clara Valley Transportation Authority transit services; transfers to local transportation networks in Sacramento, including Sacramento Regional Transit (SacRT) light rail trains and buses at the proposed City College Station, Midtown Sacramento Station, and Old North Sacramento Station; transfers to the Sacramento International Airport via a shuttle from

³ Sacramento County Economic Forecast (Caltrans 2016).

the proposed Natomas/Sacramento Airport Station; and transfers to the future California HSR system at the San Jose Diridon Station and Merced.

ES.2.3 Improved Regional Air Quality

The proposed project would improve regional air quality by reducing automobile vehicle miles traveled (VMT) and related GHG emissions. The expanded and improved San Joaquins and ACE services would provide transportation alternatives to automobile use along highway corridor segments on SR 99, SR 120, I-205, I-580, I-680, and I-880, and would result in air quality benefits and GHG emissions reductions.

Reductions in air pollutant emissions can lead to long-term health benefits for residents and employees along the existing rail corridors, addressing health problems associated with air pollution such as lung irritation, inflammation, asthma, heart and lung disease, and worsening of existing chronic health conditions. In addition, reduction of GHG emissions would help California meet its goals under Assembly Bill 32 (the California Global Warming Solutions Act of 2006) as well as GHG emissions reduction goals beyond 2020.

ES.2.4 Improved Access

The proposed project would improve access to economic opportunities and affordable housing all along the corridors of service and would particularly benefit the disadvantaged communities it would serve. The proposed project is well positioned to dramatically increase employment access to residents throughout the service area, particularly access for disadvantaged communities. The existing ACE service corridor from Stockton to San Jose provides access to approximately 1.04 million jobs in a 2.5-mile radius of the stations; existing San Joaquins service provides access to just under 600,000 jobs in the same station area radius. The proposed service expansions north and south of Stockton would provide access to an additional half-million jobs. All told, residents in the combined service areas would have access to more than 2.25 million jobs.

California's high housing costs make it difficult for many to find affordable housing. The combined service area would also provide rail connectivity to nearly 9,000 units of affordable housing within a half-mile of station areas.

ES.2.5 Transit-Oriented Development

Transit-oriented development (TOD) is a type of urban development that maximizes the amount of residential, business, and leisure space within walking distance of public transportation facilities. Around rail stations TOD can lead to increased transit ridership and farebox revenues; spur neighborhood revitalization and economic development; and improve quality of life for residents by providing direct, walkable access to transit and other necessary land uses, such as restaurants, entertainment, and community spaces. Development focused around rail stations would support initial ridership and scale up with growth in service levels over time, providing a return on investment to the State and communities served by the proposed project. TOD can increase employment and housing opportunities, as well as economic and environmental sustainability, all while lowering household transportation costs, public infrastructure costs, and overall pollution. TOD opportunities exist in legacy housing and commercial developments near the proposed stations and in underdeveloped or vacant sites near proposed stations, enabling

sustainable development and combatting the impacts and negative externalities of continued sprawl.

Implementation of ACE and San Joaquins service on the Sacramento Subdivision would serve key TOD opportunities in Central Sacramento. By 2020, more than 1,100 residential units and 1.3 million square feet of commercial development are planned within a 1-mile radius of the proposed City College Station, Midtown Sacramento Station, and Old North Sacramento Station.

ES.3 Project Description

The proposed project contains both Phase I and Phase II improvements, which are analyzed in this environmental impact report (EIR). Phase I improvements are analyzed at a project level of detail in this EIR and are based on preliminary engineering. Under the California Environmental Quality Act (CEQA), a project EIR is prepared for a construction-ready project and should focus primarily on the changes in the environment that would result from development of the project. A project-level analysis examines the impacts associated with all phases of the project, including planning, construction, and operation. The specific sites, implementation (including construction activities), and operational details for the Phase I improvements have been defined, and thus a project-level analysis of the environmental impacts of these improvements is appropriate. This EIR evaluates at a greater level of detail (compared to Phase II improvements) the environmental impacts of the Phase I improvements for which implementation is currently being considered and for which SJRRC anticipates that no further environmental documentation will be required under CEQA. Following certification of this EIR by the SJRRC Board and necessary regulatory approvals, the Phase I improvements would be ready for implementation.

Phase II improvements are analyzed at a programmatic, more conceptual level of detail in this EIR because the Phase II improvements have not been funded at this time and because the location of the proposed maintenance and layover facility is subject to change. A program EIR would be prepared for projects that are larger in scale, would be developed over a longer period of time, or would include multiple components. The Phase II improvements are potential future actions that may or may not be necessary, depending on future circumstances. Phase II improvements have not yet been developed enough to allow for a comprehensive, detailed environmental analysis. Consequently, Phase II improvements are evaluated in a more general manner. Until it is determined whether or how SJRRC would proceed with the Phase II improvements, project-level CEQA review is inappropriate and would be speculative. Subsequent CEQA documentation will be required for the Phase II improvements once further details are determined and funding is identified.

ES.3.1 Phase I Stations

Phase I improvements include the construction of six new stations between Stockton and the Natomas area of Sacramento (Figure ES-1). Each proposed station would be located along the existing UPRR alignment Sacramento Subdivision. For stations that include alternatives (Lodi Station) or variants (North Elk Grove Station), only one alternative or variant would be selected for implementation. All stations would be designed in compliance with Americans with Disabilities Act (ADA) regulations and applicable federal transportation standards. The stations would also include passenger amenities, such as platform shelters, benches, lighting, security cameras,

signage, ticketing machines, bicycle storage facilities, landscaping, and emergency call boxes. The proposed stations are briefly described below.

ES.3.1.1 Lodi Station

The Lodi Station would be constructed on a 13-acre site along the south side of SR 12 just east of the existing UPRR alignment. The site is currently being used for agriculture. Access to the station would be provided from along SR 12 and from Devries Road.

ES.3.1.2 Lodi Station South Alternative

An alternative to the Lodi Station is also under consideration. Under the Lodi Station South Alternative, the station would be constructed on a 15-acre site along the north side of West Harney Lane just east of the UPRR alignment. The site is currently being used for agriculture. Access to the station would be provided from along West Harney Lane and Devries Road.

ES.3.1.3 North Elk Grove Station

The North Elk Grove Station (including all access and platform variants) would be constructed on a 32-acre site beneath the Cosumnes Boulevard/Morrison Creek viaduct near the existing SacRT Franklin light rail transit (LRT) station in Sacramento. The site is currently an undeveloped property owned by the Sacramento Regional County Sanitation District. Access to the station would be provided by a new frontage road that would be constructed just south of Cosumnes Boulevard. As described below, there are two platform variants and two station access variants under consideration.

North Elk Grove Station Platform Location Variant 1 (P1)

Under Platform Location Variant P1, the platform location would begin just south of the storm drain channel that runs parallel to the Cosumnes River Boulevard viaduct. The platform would be 30 feet wide, and the north end of the platform would end 500 feet south of the Cosumnes River Boulevard viaduct.

North Elk Grove Station Platform Location Variant 2 (P2)

Under Platform Location Variant P2, the platform location would begin north of the storm drain channel that runs parallel to the Cosumnes River Boulevard viaduct. The platform would be 30 feet wide, and the north end of the platform would end at the Cosumnes River Boulevard viaduct. This variant would require a new railroad bridge crossing of Union House Creek north of the proposed station to accommodate the required station siding.

North Elk Grove Station Access Variant 1 (A1)

Under Access Variant A1, access to the station would be via a new, signalized three-way intersection on Cosumnes River Boulevard west of the existing Franklin LRT station access intersection. The proposed frontage road would parallel Cosumnes River Boulevard up to the new intersection.

North Elk Grove Station Access Variant 2 (A2)

Under Access Variant A2, access to the station would be via the existing Cosumnes River Boulevard/Franklin LRT station intersection. The proposed frontage road would parallel Cosumnes River Boulevard up to the existing intersection, where the intersection would be converted from the existing three-way configuration to a full four-way configuration.

ES.3.1.4 City College Station

The City College Station would be constructed adjacent to the existing SacRT City College LRT station north of Sutterville Road in Sacramento. The proposed station would consist of a new 15-foot-wide by 1,000-foot-long at-grade side-loading passenger platform with an 8-foot-wide by 300-foot-long back side extension for transfers to and from the existing LRT platform. The station would also include the construction of tracks for ACE trains within the existing station area. No expansion of existing parking or bus facilities is included as part of the proposed City College Station.

ES.3.1.5 Midtown Sacramento Station

The Midtown Sacramento Station would be constructed near Q Street between 19th Street and 20th Street in Sacramento. This site was selected to minimize potential impacts to east-west roadways in Midtown during times when ACE and San Joaquins trains are at the station. While at the station, the trains would stop across Q Street; therefore, train doors in the portion of the train that traversed Q Street would remain closed, and passengers would need to board and disembark from other train cars. No new parking or facilities would be constructed as part of the proposed Midtown Sacramento Station. However, additional station area improvements are included to facilitate station access and integration of the station into the Midtown Neighborhood.

ES.3.1.6 Old North Sacramento Station

The Old North Sacramento Station would be constructed on an 8-acre site along the west side of Acoma Street just north of El Monte Avenue in Sacramento. The site is currently developed for commercial/industrial uses. Access to the station would be provided from two new driveways along Acoma Road.

ES.3.1.7 Natomas/Sacramento Airport Station

The Natomas/Sacramento Airport Station would be constructed on an 8.4-acre site along the east side of Blacktop Road just south of West Elkhorn Boulevard. Access to the station would be provided via Blacktop Road. The site proposed for Natomas/Sacramento Airport Station is currently developed with commercial/industrial uses. Shuttle services to and from Sacramento International Airport would be provided and timed to meet all incoming and departing trains.

The Natomas/Sacramento Airport Station would also include layover tracks south of the platform to accommodate ACE and Amtrak train layovers between service runs. The layover tracks would accommodate four trains (plus one train layover at the station platform). The tracks would also allow for interior train cleaning during layovers. Employee access to the layover tracks would be from an access road that would be constructed west of the proposed tracks.

ES.3.2 Phase I Track Improvements

Phase I includes track improvements to existing UPRR track at various locations along the Sacramento Subdivision (see Figure ES-2). These improvements are necessary to increase allowable train speeds and meet operational requirements. All of the proposed track work would occur within the existing UPRR right-of-way (ROW).

ES.3.2.1 Track Curve Reconstruction

At four locations, existing track curves would be reconstructed by increasing the curve radii and shifting the centerline of the mainline tracks. These improvements would increase the allowable speed of the curves from 60 miles per hour (mph) to 90 mph to accommodate the typical 79 mph operation of San Joaquins and ACE trains along the corridor.

ES.3.2.2 Existing Passing Siding Track Upgrades

Six existing UPRR sidings would require upgrades to accommodate the operational requirements UPRR needs to allow passenger service to run along the Sacramento Subdivision, including:

- Hammer Lane Siding Upgrade
- Thornton Siding Upgrade/Extension
- Phillips Siding Upgrade/Extension
- Pollock Siding Upgrade
- South Sacramento Siding Upgrade
- Del Paso Siding Upgrade/Extension

ES.3.2.3 New Passing Siding Tracks

Two new UPRR sidings are required to accommodate the operational requirements UPRR needs to allow passenger service to run in this corridor, including:

- Lodi Siding Variants – Including construction of a second mainline track starting just south of West Harney Lane and extending north for approximately 18,500 feet. The new track would go around the proposed station platform to be constructed for the Lodi Station or the Lodi Station South Alternative.
- North Elk Grove Siding Variants – Including construction of a 10,000-foot-long siding track starting south of Sims Road extending to just north of the proposed North Elk Grove Station. The actual limits of the siding would be based on which of the two North Elk Grove Station platform variants is selected. There would also be a new railroad bridge crossing of Laguna Creek and, depending on the platform variant selected, a second railroad bridge crossing of Union House Creek north of the proposed station.

ES.3.2.4 New Crossover Track

A crossover track and signaling would be installed just south of the proposed City College Station to allow northbound and southbound passenger trains to pass, using the existing track siding south of the proposed station.

ES.3.3 Phase I Conceptual Service Plan

ACE currently operates four westbound trains weekday mornings from Stockton to San Jose and four eastbound trains weekday afternoons from San Jose to Stockton. Saturday ACE service currently includes two westbound morning trains from Stockton to San Jose and two eastbound afternoon trains from San Jose to Stockton. There is no Sunday ACE service.

Amtrak's current San Joaquins service includes trains between Sacramento and Bakersfield (three daily southbound trains and two daily northbound trains) and between Oakland and Bakersfield (five daily southbound and northbound trains).

The proposed project includes the addition of both Amtrak San Joaquins trains and ACE trains along the Sacramento Subdivision serving the six new stations described above. The preliminary conceptual service plan is described below.

ES.3.3.1 San Joaquins

With implementation of the proposed project, there would be two new round trip San Joaquins operating on the Sacramento Subdivision. One round trip would operate between the proposed Natomas/Sacramento Airport Station and the existing Fresno Amtrak Station, and one round trip would operate between the proposed Natomas/Sacramento Airport Station and the existing Bakersfield Amtrak Station. Both of these round trips would operate on the Sacramento Subdivision between the proposed Natomas/Sacramento Airport Station and the existing Stockton Downtown/ACE Station. The existing alignment south of Stockton would remain unchanged; the service would continue to operate over the BNSF Stockton Subdivision, with trains stopping at the existing Amtrak stations along the subdivision before terminating at either Fresno or Bakersfield.

To maximize the efficiency of the proposed service, some of the existing departure and arrival locations would be revised and the schedule would be adjusted to represent a "pulse" scenario in which train arrivals and departures occur at set intervals. The schedules for existing Amtrak Thruway bus services would be adjusted to reflect the new service schedules.

ES.3.3.2 ACE

The proposed project also includes an extension of existing ACE service to the proposed Natomas/Sacramento Airport Station. One existing ACE train would originate at the proposed Natomas/Sacramento Airport Station in the morning (rather than at the existing Stockton Downtown/ACE Station) and operate to the Stockton Downtown/ACE Station. The subdivisions operated upon by the ACE service would be the same as those proposed for the San Joaquins service north of the Stockton Downtown/ACE Station. Once at the Stockton Downtown/ACE Station, the ACE train would operate in the same manner as the existing ACE service to the San Jose Diridon Station. In the afternoon, one existing ACE train would depart the San Jose Diridon

Station and operate to the Stockton Downtown/ACE Station (as is currently the operation), then continue north to terminate at the proposed Natomas/Sacramento Airport Station and layover overnight in the station.

The proposed project also includes service between the proposed Ceres Station (included in the ACE Extension Lathrop to Ceres/Merced project), and the Natomas/Sacramento Airport Station. This service would provide three ACE trips that would originate in Ceres in the morning, traveling to Natomas and stored during the day. One of the trains would make a midday trip south to Stockton and back. In the afternoon, the three ACE trains would return to the Ceres Station.

ES.3.3.3 Airport Shuttle Services

Phase I would include the establishment of a new shuttle service between the proposed Natomas/Sacramento Airport Station and Sacramento International Airport. While an operator of the proposed shuttle service has not yet been identified, service would be established such that each arriving and departing train would be met by an airport shuttle.

ES.3.3.4 Construction Schedule and Durations

SJRRC proposes to implement the ACE service extension to Natomas no later than 2023. Table ES-1 identifies the duration for construction of each improvement. The construction durations presented are not sequential; construction could occur simultaneously at several locations. The durations noted in the table are for actual construction activity. Improvements would require permitting, contractor selection, and final design prior to construction and thus the total duration could be longer than the construction durations noted in the table.

Table ES-1. Construction Durations for Phase I Improvements

Phase I Improvement	Construction Duration (Months)
Stations	
Lodi Station or Lodi Station South Alternative	14
North Elk Grove Station (including all access and platform variants); any variant	14
City College Station	8
Midtown Sacramento Station	12
Old North Sacramento Station	14
Natomas/Sacramento Airport Station	12
Track Improvements	
Track Curve Reconstruction East March Lane to East Swain Road	1
Hammer Lane Siding Upgrade	2
Lodi Siding Variants (either variant)	8
Thornton Siding Upgrade/Extension	4
Track Curve Reconstruction North of North New Hope Road	1
Track Curve Reconstruction South of Desmond Road	1
Phillips Siding Upgrade/Extension	2
North Elk Grove Siding Variants (either variant)	8
Track Curve Reconstruction North of the North Elk Grove Station	1
Pollock Siding Upgrade	2
South Sacramento Siding Upgrade	4
Crossover Track South of City College Station	2
Del Paso Siding Upgrade/Extension	12

ES.3.4 Phase I Right-of-Way and Easement Needs

Table ES-2 lists the parcels outside the UPRR ROW that would be affected by project improvements.⁴ These parcels may be acquired or may require easements for roadway improvements and stations.

Table ES-2. Phase I Right-of-Way Requirements

Accessor's Parcel Number (APN)	Ownership	Area (Acres)	Reason for Acquisition
Lodi Station			
05517026	Private	10.38	Station Parking
Lodi Station South Alternative			
05524028	Private	500 (Sq. Ft.)	Pedestrian Access and PG&E Easement
05524026	Private	9.86	Station Parking
North Elk Grove Station (including all access and platform variants)			
119-0080-036	Public	484 (Sq. Ft.)	Station Parking
119-0080-037	Public	7.96	Station Parking
119-0080-040	Public	4.35	Station Parking
119-0080-027	Public	0.31	Station Parking
119-0080-046	Public	0.54	Station Parking
119-0080-043	Public	1.67	Station Parking
119-0080-044	Public	0.76	Access Road A1
119-0080-047	Public	0.18	Access Road A1
119-0080-045	Public	2.41	Access Road A2
119-0080-048	Public	0.88	Access Road A2
119-0080-047	Public	0.44	Access Road A2
119-0080-042	Public	5.79	Access Road A2
Old North Sacramento Station			
275-0111-006	Private	5.82	Station Parking
Natomas/Sacramento Airport Station			
214-0010-013	Public	0.25	Station Layover
214-0290-001	Private	1.74	Station Parking
214-0290-002	Private	2.14	Station Parking
214-0290-003	Private	0.24	Station Layover
214-0290-034	Private	0.17	Station Layover
214-0290-037	Private	0.80	Station Layover
214-0290-038	Private	0.17	Station Layover

Sq. Ft = square feet

ES.3.5 Phase II Improvements

Phase II includes the construction of a maintenance and layover facility proposed on a 125-acre site west of the UPRR ROW and east of Levee Road on both sides of West Elkhorn Boulevard,

⁴ Construction of all track improvements, as well as the proposed Midtown Sacramento Station, would occur within the existing UPRR ROW.

the construction of a new West Elkhorn Boulevard overpass to cross the maintenance and layover facility and the existing UPRR at-grade crossing, and the expansion of the Natomas/Sacramento Airport Station passenger parking lot.

The sites proposed for the Phase II improvements are currently occupied by a number of privately owned industrial parcels. In order to accommodate the facility, a grade separation (overpass) of West Elkhorn Boulevard would be constructed for vehicles to pass over the proposed facility. The West Elkhorn Boulevard Overpass would begin just west of West 6th Street and extend over the UPRR tracks and the facility before dropping back to grade just west of Levee Road. Access to the Natomas Maintenance and Layover Facility (and the Natomas/Sacramento Airport Station) would be provided via a ramp connection along Blacktop Road to the new West Elkhorn Boulevard Overpass. As part of Phase II, the Natomas/Sacramento Airport Station parking lot would be expanded onto a 4-acre site south of the station to provide an additional 260 parking spaces.

As discussed above, Phase II improvements are analyzed at a programmatic, more conceptual level of detail in this EIR because the Phase II improvements have not been funded at this time and because the location of the proposed Natomas Maintenance and Layover Facility is subject to change. Subsequent CEQA documentation will be required for the Phase II improvements once further details are determined and funding is identified.

Table ES-3 lists the parcels outside the UPRR ROW that would be affected by Phase II improvements. These parcels may be acquired or require easements for track ROW or roadway improvements as well as for the Natomas/Sacramento Station Parking expansion and the Natomas Maintenance and Layover Facility.

Table ES-3. Phase II Right-of-Way Requirements

Accessor's Parcel Number (APN)	Ownership	Area (Acres)	Reason for Acquisition
201-0320-025	Private	0.58	West Elkhorn Boulevard Overpass
201-0320-025	Private	1.03	Temporary Construction Easement
206-0191-017	Private	14.88	Natomas Maintenance and Layover Facility
214-0290-003	Private	2.43	Station Parking Expansion
214-0290-034	Private	1.88	Natomas Maintenance and Layover Facility
214-0290-038	Private	1.95	Natomas Maintenance and Layover Facility
201-0200-021	Private	0.96	West Elkhorn Boulevard Overpass
201-0200-021	Private	2.71	Temporary Construction Easement
201-0100-011	Private	0.42	West Elkhorn Boulevard Overpass
201-0100-011	Private	1.28	Temporary Construction Easement
206-0260-015	Private	3.58	Natomas Maintenance and Layover Facility
206-0260-005	Private	0.29	Natomas Maintenance and Layover Facility
206-0191-016	Private	0.80	West Elkhorn Boulevard Overpass
206-0191-016	Private	0.82	Temporary Construction Easement
214-0290-037	Private	41.46	Natomas Maintenance and Layover Facility
214-0290-040	Private	6.00	Natomas Maintenance and Layover Facility
214-0290-039	Private	9.35	Natomas Maintenance and Layover Facility
214-0290-011	Private	2.29	Natomas Maintenance and Layover Facility
214-0290-012	Private	2.27	Natomas Maintenance and Layover Facility
214-0290-018	Private	3.02	Natomas Maintenance and Layover Facility
206-0192-032	Private	0.06	West Elkhorn Boulevard Overpass
214-0010-013	Public	0.06	Natomas Maintenance and Layover Facility
214-0010-028	Private	0.31	West Elkhorn Boulevard Overpass
214-0010-028	Private	1.41	Temporary Construction Easement
214-0010-030	Private	0.58	Temporary Construction Easement

ES.4 Costs and Revenues

ES.4.1 Phase I Costs and Revenues

ES.4.1.1 Capital Costs

As shown in Table 2-4, capital costs associated with Phase I improvements would be between \$319 – \$328 million depending on the selected station at Lodi and North Elk Grove. Capital costs are presented in more detail in Appendix F, *Sacramento Extension Capital Cost Basis Report*.

**Table ES-4. 2020 Construction Cost Estimates for Phase I Improvements
(In Thousands of \$)**

Phase I Improvement	Construction Cost
Lodi Station	\$30,702
Lodi Station South Alternative *	\$32,152
North Elk Grove Station Platform Variant 1	\$33,163
North Elk Grove Station Platform Variant 2 *	\$34,104
North Elk Grove Station Access Variant 1	\$5,549
North Elk Grove Station Access Variant 2 *	\$9,836
City College Station	\$17,747
Midtown Sacramento Station	\$25,735
Old North Sacramento Station	\$31,215
Natomas/Sacramento Airport Station	\$32,942
Curve Correction Between East March Lane and East Swain Road	\$283
Hammer Lane Siding Upgrade	\$8,899
Lodi Siding Variants	\$26,862
Thornton Siding Upgrade/Extension	\$13,258
Curve Correction North of North New Hope Road	\$329
Curve Correct South of Desmond Road	\$344
Phillips Siding Upgrade/Extension	\$12,601
Elk Grove Siding Variant 1	\$17,729
Elk Grove Siding Variant 2 *	\$19,989
Curve Correction North of Elk Grove Station	\$301
Pollock Siding Upgrade	\$5,301
South Sacramento Siding Upgrade	\$13,489
Crossover Track South of City College Station	\$3,136
Del Paso Siding Upgrade/Extension	\$39,741
Total	\$319,325

* Omitted from the Total

ES.4.1.2 Operations and Maintenance Costs and Revenues

Table ES-5 provides a summary of existing and projected operations and maintenance (O&M) costs associated with increased ACE and San Joaquins services included in the Phase I project.

Table ES-5. Summary of Annual Projected Phase I Operations & Maintenance (O&M) Cost and Fare Revenue (\$-million)

Service	Existing O&M (2017)	Projected O&M (2020)	Projected Fare Revenue (2020)
ACE	\$21.6	\$32.5	\$12.5
San Joaquins	\$86.0	\$110	\$47.0

Source: AECOM, 2018.

ES.4.2 Phase II Costs

Capital costs associated with Phase II improvements are estimated at approximately \$290 million.

ES.5 Summary of Environmental Impacts and Mitigation Measures

The potential environmental impacts of both the Phase I and Phase II improvements (including construction and operational impacts) are described in Chapter 3, *Environmental Impact Analysis*. Potential cumulative impacts are described in Chapter 4, *Other CEQA Required Analysis*. Both chapters also describe mitigation measures (where feasible) to reduce significant impacts to less-than-significant levels. As applicable, significant and unavoidable impacts are also disclosed. The impacts, mitigation measures, and resulting levels of significance for the Phase I improvements and Phase II improvements are summarized in Tables ES-6 and ES-7, respectively.

Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
3.1 Aesthetics			
AE-1: Phase I improvements would not have a substantial effect on a scenic vista.	LTS	None Required	N/A
AE-2: Phase I improvements would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway.	NI	None Required	N/A
AE-3: Phase I improvements would substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from a publicly accessible vantage point). Where the proposed project is in an urbanized area, the Phase I improvements would conflict with applicable zoning and other regulations governing scenic quality.	PS	AE-3.1: Landscape all station parking lots. AE-3.2: Apply aesthetic design treatments to pedestrian overcrossings, aerial structures, tunnel openings, bridges, and retaining walls. AE-3.3: Apply aesthetic surface treatments to fencing, pedestrian bridge safety barriers, light standards, cable railings, pedestrian shelters, and signal houses.	LTS
AE-4: Phase I improvements could create a source of substantial light or glare, which would adversely affect daytime or nighttime views in the area.	PS	AE-4.1: Install screened construction fencing between residents and nighttime work areas where no visual screening is present.	LTS
C-AE-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on aesthetics.	PS	AE-3.1: Landscape all station parking lots. AE-3.2: Apply aesthetic design treatments to pedestrian overcrossings, aerial structures, tunnel openings, bridges, and retaining walls. AE-3.3: Apply aesthetic surface treatments to fencing, pedestrian bridge safety barriers, light standards, cable railings, pedestrian shelters, and signal houses. AE-4.1: Install screened construction fencing between residents and nighttime work areas where no visual screening is present.	LCC

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
3.2 Agricultural Resources			
AG-1: Phase I improvements would temporarily convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use during construction.	PS	AG-1.1: Restore Important Farmlands used for temporary staging areas.	LTS
AG-2: The project would permanently convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.	PS	AG-2.1: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland).	LTS
AG-3: Phase I improvements would conflict with a Williamson Act contract.	LTS	None Required	N/A
AG-4: Phase I improvements would conflict with existing zoning for an agricultural use resulting in a significant impact.	PS	AG-4.1: Consult with the San Joaquin County Community Development Department and Board of Supervisors on the adoption of a change in zoning designation for the parcels proposed for the Lodi Station or the Lodi Station South Alternative.	SU
AG-5: Phase I improvements would not create unviable remnant or severed Important Farmland parcels.	LTS	None Required	N/A
AG-6: Phase I improvements would not result in conversion of Farmland to nonagricultural use through temporary or permanent noise and vibration impacts on confined farm animals.	LTS	None Required	N/A
C-AG-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area,	PS	AG-1.1: Restore Important Farmlands used for temporary staging areas.	CCU

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
could result in a significant cumulative impact on agriculture.		AG-2.1: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland). AG-4.1: Consult with the San Joaquin County Community Development Department and Board of Supervisors on the adoption of a change in zoning designation for the parcels proposed for the Lodi Station or the Lodi Station South Alternative.	
3.3 Air Quality			
AQ-1: Implementation of Phase I improvements could conflict with or obstruct implementation of applicable air quality plans.	PS	AQ-2.1: Implement advanced emissions controls for off-road equipment. AQ-2.2: Implement advanced emissions controls for locomotives used for construction. AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices. AQ-2.4: Offset construction NO _x emissions.	LTS
AQ-2: Implementation of Phase I improvements could result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	PS	AQ-2.1: Implement advanced emissions controls for off-road equipment. AQ-2.2: Implement advanced emissions controls for locomotives used for construction. AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices. AQ-2.4: Offset construction NO _x emissions.	LTS
AQ-3: Implementation of Phase I improvements would not expose sensitive receptors to substantial pollutant concentrations.	LTS	None Required	N/A
AQ-4: Implementation of Phase I improvements would not result in other emissions (such as those leading to odors)	LTS	None Required	N/A

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
adversely affecting a substantial number of people.			
C-AQ-1: Implementation of Phase I improvements, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on air quality.	PS	<p>AQ-2.1: Implement advanced emissions controls for off-road equipment.</p> <p>AQ-2.2: Implement advanced emissions controls for locomotives used for construction.</p> <p>AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.</p> <p>AQ-2.4: Offset construction NO_x emissions.</p>	LCC
3.4 Biological Resources			
BIO-1: Phase I improvements could have a substantial adverse effect, either directly or through habitat modifications, on species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service.	PS	<p>BIO-1.1: Minimize the temporary construction impact footprint.</p> <p>BIO-1.2: Conduct a worker environmental awareness training program for construction personnel.</p> <p>BIO-1.3: Conduct preconstruction botanical surveys for special-status plants; avoid and minimize impacts during construction.</p> <p>BIO-1.4: Develop and implement a revegetation and weed control plan.</p> <p>BIO-1.5: Document affected special-status plant species and prepare a salvage, relocation, or propagation and monitoring plan for special-status plant species.</p> <p>BIO-1.6: Avoid and minimize impacts on, and compensate for loss of, potentially occupied habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>BIO-1.7: Conduct a preconstruction VELB shrub survey, establish avoidance buffers, and/or compensate for removal of potentially occupied habitat for VELB through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>BIO-1.8: Avoid and minimize impacts on special-status fish while pile driving and implement seasonal restrictions for in-water work.</p>	LTS

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		<p>BIO-1.9: Minimize impacts on wildlife and retain biological monitors during construction.</p> <p>BIO-1.10: Implement measures to avoid western pond turtle and giant garter snake during construction.</p> <p>BIO-1.11: Conduct a preconstruction survey for Swainson's hawk and white-tailed kite, and implement avoidance measures, as needed. Compensate for loss of Swainson's hawk and white-tailed kite foraging habitat.</p> <p>BIO-1.12: Conduct a preconstruction survey for western burrowing owl and implement avoidance measures, as needed.</p> <p>BIO-1.13: Conduct a preconstruction survey for greater sandhill crane roost sites and implement avoidance measures, as needed.</p> <p>BIO-1.14: Conduct a preconstruction survey for nesting birds and other raptors, and implement avoidance measures, as needed.</p> <p>BIO-2.1: Avoid and minimize impacts on sensitive natural communities and riparian habitat.</p> <p>BIO-2.2: Comply with the Section 1600 Streambed Alteration Agreement.</p> <p>BIO-2.3: Implement siting constraint measures.</p> <p>BIO-3.1: Avoid and minimize impacts on wetlands and other waters.</p> <p>BIO-3.2: Compensate for impacts on wetlands and other waters.</p> <p>AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.</p> <p>HAZ-2.3: Implement a construction risk management plan (CRMP).</p> <p>HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges.</p> <p>HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters.</p>	

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
<p>BIO-2: Phase I improvements could have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service.</p>	<p>PS</p>	<p>BIO-1.1: Minimize the temporary construction impact footprint. BIO-1.2: Conduct a Worker Environmental Awareness Training Program for construction personnel. BIO-1.4: Develop and implement a revegetation and weed control plan. BIO-1.9: Minimize impacts on wildlife and retain biological monitors during construction. BIO-2.1: Avoid and minimize impacts on sensitive natural communities and riparian habitat. BIO-2.2: Comply with the Section 1600 Streambed Alteration Agreement. BIO-2.3: Implement siting constraint measures. AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices. HAZ-2.3: Implement a construction risk management plan (CRMP). HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges. HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters.</p>	<p>LTS</p>
<p>BIO-3: Phase I improvements could have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.</p>	<p>PS</p>	<p>BIO-1.1: Minimize the temporary construction impact footprint. BIO-1.2: Conduct a Worker Environmental Awareness Training Program for construction personnel. BIO-1.4: Develop and implement a revegetation and weed control plan. BIO-2.2: Comply with the Section 1600 Streambed Alteration Agreement. BIO-2.3: Implement siting constraint measures. BIO-3.1: Avoid and minimize impacts on wetlands and other waters. BIO-3.2: Compensate for impacts on wetlands and other waters.</p>	<p>LTS</p>

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		<p>AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.</p> <p>HAZ-2.3: Implement a construction risk management plan (CRMP).</p> <p>HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges.</p> <p>HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters.</p>	
BIO-4: Phase I improvements could interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.	PS	<p>BIO-1.1: Minimize the temporary construction impact footprint.</p> <p>BIO-1.2: Conduct a Worker Environmental Awareness Training Program for construction personnel.</p> <p>BIO-1.4: Develop and implement a revegetation and weed control plan.</p> <p>BIO-1.9: Minimize impacts on wildlife and retain biological monitors during construction.</p> <p>BIO-1.14: Conduct a preconstruction survey for nesting birds and other raptors, and implement avoidance measures, as needed.</p> <p>BIO-2.3 Implement siting constraint measures.</p>	LTS
BIO-5: Phase I improvements may conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	PS	<p>BIO-1.1: Minimize the temporary construction impact footprint.</p> <p>BIO-1.2: Conduct a Worker Environmental Awareness Training Program for construction personnel.</p> <p>BIO-1.3: Conduct preconstruction botanical surveys for special-status plants; avoid and minimize impacts during construction.</p> <p>BIO-1.4: Develop and implement a revegetation and weed control plan.</p> <p>BIO-1.5: Document affected special-status plant species and prepare a salvage, relocation, or propagation and monitoring plan for special-status plant species.</p> <p>BIO-1.6: Avoid and minimize impacts on, and compensate for loss of, potentially occupied habitat for vernal pool fairy shrimp and</p>	LTS

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		<p>vernal pool tadpole shrimp through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>BIO-1.7: Conduct a preconstruction VELB shrub survey, establish avoidance buffers, and/or compensate for removal of potentially occupied habitat for VELB through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>BIO-1.8: Avoid and minimize impacts on special-status fish while pile driving and implement seasonal restrictions for in-water work.</p> <p>BIO-1.9: Minimize impacts on wildlife and retain biological monitors during construction.</p> <p>BIO-1.10: Implement measures to avoid western pond turtle and giant garter snake during construction.</p> <p>BIO-1.11: Conduct a preconstruction survey for Swainson's hawk and white-tailed kite, and implement avoidance measures, as needed.</p> <p>BIO-5.1: City of Sacramento Code compliance for trees.</p> <p>BIO-5.2: Sacramento County Code compliance for trees.</p>	
BIO-6: Phase I improvements would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	LTS	None Required	N/A
C-BIO-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on biological resources.	PS	<p>BIO-1.1: Minimize the temporary construction impact footprint.</p> <p>BIO-1.2: Conduct a Worker Environmental Awareness Training Program for construction personnel.</p> <p>BIO-1.3: Conduct preconstruction botanical surveys for special-status plants; avoid and minimize impacts during construction.</p> <p>BIO-1.4: Develop and implement a revegetation and weed control plan.</p>	LCC

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		<p>BIO-1.5: Document affected special-status plant species and prepare a salvage, relocation, or propagation and monitoring plan for special-status plant species.</p> <p>BIO-1.6: Avoid and minimize impacts on, and compensate for loss of, potentially occupied habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>BIO-1.7: Conduct a preconstruction VELB shrub survey, establish avoidance buffers, and/or compensate for removal of potentially occupied habitat for VELB through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>BIO-1.8: Avoid and minimize impacts on special-status fish while pile driving and implement seasonal restrictions for in-water work.</p> <p>BIO-1.9: Minimize impacts on wildlife and retain biological monitors during construction.</p> <p>BIO-1.10: Implement measures to avoid western pond turtle and giant garter snake during construction.</p> <p>BIO-1.11: Conduct a preconstruction survey for Swainson's hawk and white-tailed kite, and implement avoidance measures, as needed. Compensate for loss of Swainson's hawk and white-tailed kite foraging habitat.</p> <p>BIO-1.12: Conduct a preconstruction survey for western burrowing owl and implement avoidance measures, as needed.</p> <p>BIO-1.13: Conduct a preconstruction survey for greater sandhill crane roost sites and implement avoidance measures, as needed.</p> <p>BIO-1.14: Conduct a preconstruction survey for nesting birds and other raptors, and implement avoidance measures, as needed.</p> <p>BIO-2.1: Avoid and minimize impacts on sensitive natural communities and riparian habitat.</p> <p>BIO-2.2: Comply with the Section 1600 Streambed Alteration Agreement.</p> <p>BIO-2.3: Implement siting constraint measures.</p>	

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		BIO-3.1: Avoid and minimize impacts on wetlands and other waters. BIO-3.2: Compensate for impacts on wetlands and other waters. AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices. HAZ-2.3: Implement a construction risk management plan (CRMP). HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges. HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters.	
3.5 Cultural Resources			
CUL-1: Phase I improvements would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.	NI	None Required	N/A
CUL-2: Phase I improvements could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	PS	CUL-2.1: Worker cultural resources training. CUL-2.2: Native American monitoring. CUL-2.3: Inadvertent archaeological discovery.	LTS
CUL-3: Phase I improvements could disturb human remains, including those interred outside of formal cemeteries.	PS	CUL-3.1: Discovery of previously unknown human remains.	LTS
C-CUL-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on cultural resources.	PS	CUL-2.1: Worker cultural resources training. CUL-2.2: Native American monitoring. CUL-2.3: Inadvertent archaeological discovery. CUL-3.1: Discovery of previously unknown human remains.	LCC
3.6 Energy			
ENG-1: Implementation of Phase I improvements would not result in potentially significant environmental impacts due to	LTS	None Required	N/A

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.			
ENG-2: Implementation of Phase I improvements would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LTS	None Required	N/A
C-ENG-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on energy resources.	LCC	None Required	N/A
3.7 Geology and Soils			
GEO-1: Phase I improvements would not cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.	NI	None Required	N/A
GEO-2: Phase I improvements could result in substantial soil erosion or the loss of topsoil.	PS	GEO-2.1: Implement Best Management Practices to reduce soil erosion.	LTS
GEO-3: Phase I improvements would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	NI	None Required	N/A
GEO-4: Phase I improvements could potentially be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating	LTS	None Required	N/A

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Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
substantial direct or indirect risks to life or property.			
GEO-5: Phase I improvements would not have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.	NI	None Required	N/A
GEO-6: Phase I improvements could directly or indirectly destroy a unique paleontological resource or site, or a unique geologic feature.	PS	GEO-6.1: Conduct construction personnel education and implement periodic monitoring, stop work if paleontological resources are discovered, assess the significance of the find, and prepare and implement a recovery plan, as required.	LTS
C-GEO-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on geology and soils.	PS	GEO-2.1: Implement Best Management Practices to reduce soil erosion.	LCC
C-GEO-2: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on paleontological resources.	PS	GEO-6.1: Conduct construction personnel education and implement periodic monitoring, stop work if paleontological resources are discovered, assess the significance of the find, and prepare and implement a recovery plan, as required.	LCC
3.8 Greenhouse Gas Emissions			
GHG-1: Phase I improvements could generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment.	PS	GHG-1.1: Implement construction emission reductions to minimize construction-related GHG emissions.	LCC
GHG-2: Phase I improvements would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.	LCC	None Required	N/A
C-GHG-1: Implementation of Phase I improvements, in combination with other	PS	GHG-1.1: Implement construction emission reductions to minimize construction-related GHG emissions.	LCC

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
foreseeable projects in the surrounding area, could result in a significant cumulative GHG emissions impact.			
3.9 Hazards and Hazardous Materials			
HAZ-1: Phase I improvements would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LTS	None Required	N/A
HAZ-2: Phase I improvements could create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment.	PS	HAZ-2.1: Implement voluntary oversight agreement. HAZ-2.2: Conduct site investigations. HAZ-2.3: Implement a construction risk management plan (CRMP). AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.	LTS
HAZ-3: Phase I improvements would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	PS	HAZ-2.3: Implement a construction risk management plan (CRMP). AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.	LTS
HAZ-4: Various Phase I improvements would be located on sites which are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.	PS	HAZ-2.1: Implement voluntary oversight agreement. HAZ-2.2: Conduct site investigations. HAZ-2.3: Implement a construction risk management plan (CRMP). AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.	LTS
HAZ-5: Phase I improvements would not be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use	NI	None Required	N/A

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
airport, nor would the project result in a safety hazard or excessive noise for people residing or working in the project area.			
HAZ-6: Phase I improvements would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	None Required	N/A
HAZ-7: Phase I improvements would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	NI	None Required	N/A
C-HAZ-1: Implementation of the Project, in combination with other foreseeable projects in the surrounding area would not result in a significant cumulative impact from hazardous materials.	LCC	None Required	N/A
C-HAZ-2: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area may result in a significant cumulative impact from hazardous materials.	LCC	None Required	N/A
3.10 Hydrology and Water Quality			
HYD-1: Phase I improvements could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.	PS	HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges. HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters. HAZ-2.2: Conduct site investigations. HAZ-2.3: Implement a construction risk management plan (CRMP).	LTS
HYD-2: Phase I improvements would not substantially decrease groundwater supplies or interfere substantially with groundwater	LTS	None Required	N/A

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
recharge such that the project may impede sustainable groundwater management of the basin.			
HYD-3: Phase I improvements would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which could: result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff.	PS	HYD-3.1: Perform detailed hydraulic evaluations and implement new or modify existing stormwater controls as required to prevent storm drainage system capacity exceedance and reduce pollutant transport.	LTS
HYD-4: Phase I-related construction could risk release of pollutants due to project inundation in a flood hazard, tsunami, or seiche zones.	PS	HYD-4.1: Prevent construction materials from being exposed to storm flooding hazards.	LTS
HYD-5: Phase I improvements could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	PS	HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges. HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters. HYD-3.1: Perform detailed hydraulic evaluations and implement new or modify existing stormwater controls as required to prevent storm drainage system capacity exceedance and reduce pollutant transport. HYD-4.1: Prevent construction materials from being exposed to storm flooding hazards. HAZ-2.2: Conduct site investigations.	LTS

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		HAZ-2.3: Implement a construction risk management plan (CRMP).	
HYD-6: Phase I-related operation could impede or redirect flood flows and result in downstream transport of pollutants.	PS	HYD-6.1: Perform hydrologic and hydraulic studies for project improvements to be located in floodplains, implement appropriate engineering designs, coordinate with regulatory agencies, and obtain required permits.	LTS
C-HYD-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on hydrology and water quality.	PS	HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges. HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters. HYD-3.1: Perform detailed hydraulic evaluations and implement new or modify existing stormwater controls as required to prevent storm drainage system capacity exceedance and reduce pollutant transport. HYD-4.1: Prevent construction materials from being exposed to storm flooding hazards. HYD-6.1: Perform hydrologic and hydraulic studies for project improvements to be located in floodplains, implement appropriate engineering designs, coordinate with regulatory agencies, and obtain required permits. HAZ-2.3: Implement a construction risk management plan (CRMP).	LCC
3.11 Land Use and Planning			
LU-1: Phase I improvements would not physically divide an established community.	LTS	None Required	N/A
LU-2: Phase I improvements not would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	None Required	N/A
C-LU-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area,	LCC	None Required	N/A

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
would not result in a significant cumulative impact on land use and planning.			
3.12 Noise and Vibration			
NOI-1: Construction of Phase I improvements could expose sensitive receptors to substantial increases in noise levels.	PS	NOI-1.1: Implement a construction noise control plan.	SU
NOI-2: The new passenger service could result in moderate noise impacts. However, the moderate increase in noise levels would be less than significant.	LTS	None Required	N/A
NOI-3: The new passenger service could result in substantial increases in ground-borne vibration levels.	PS	NOI-3.1: Conduct a detailed design-level vibration analysis.	LTS
NOI-4: Construction of Phase I track improvements could expose sensitive receptors to substantial increases in Ground-borne vibration levels.	PS	NOI-4.1: Implement a construction vibration control plan.	LTS
Impact C-NOI-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on noise.	LCC	None Required	N/A
3.13 Population and Housing			
PH-1: Implementation of Phase I improvements would not induce substantial unplanned population growth in an area, either directly or indirectly.	LTS	None Required	N/A
PH-2: Implementation of Phase I improvements would not displace substantial numbers of existing people or housing,	NI	None Required	N/A

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
necessitating the construction of replacement housing elsewhere.			
C-PH-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on population and housing.	LCC	None Required	N/A
3.14 Public Services			
PS-1: Phase I improvements would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for Fire protection or Police protection.	LTS	None Required	N/A
PS-2: Phase I improvements would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for Schools; Parks; Other Public Facilities.	LTS	None Required	N/A
C-PS-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area	LTS	None Required	N/A

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
would not result in a significant cumulative impact on public services.			
3.15 Recreation			
REC-1: Phase I Improvements could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	PS	REC-1.1: Coordinate with the officials with jurisdiction over potentially impacted recreational facilities during the construction phase to minimize impacts to organized athletic events/practices. REC-1.2: Coordinate with the City of Sacramento to maintain access for the Sacramento Northern Bike Trail.	LTS
Phase I improvements would include a recreational facility but would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.	LTS	None Required	N/A
C-REC-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on recreation.	LCC	None Required	N/A
3.16 Transportation			
TRA-1: Phase I improvements could conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	PS	TRA-1.1: Transportation Management Plan for project construction. TRA-1.2: Freight rail disruption control plan for project construction. TRA-1.3: Light rail disruption control plan for project construction.	LTS
TRA-2: Phase I improvements would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).	LTS	None Required	N/A
TRA-3: Phase I improvements would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	LTS	None Required	N/A

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
TRA-4: Phase I improvements would not result in inadequate emergency access.	LTS	None Required	N/A
C-TRA-1: Implementation of the Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on transportation.	PS	TRA-1.1: Transportation Management Plan for project construction. TRA-1.2: Freight rail disruption control plan for project construction. TRA-1.3: Light rail disruption control plan for project construction.	LCC
3.17 Tribal Cultural Resources			
TRI-1: Phase I improvements could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code section 21074, 5020.1(k), or 5024.1(c).	PS	CUL-2.1: Worker cultural resources training. CUL-2.2: Native American monitoring. CUL-2.3: Inadvertent archaeological discovery. CUL-3.1: Discovery of previously unknown human remains.	LTS
3.18 Utilities and Service Systems			
UT-1: Phase I improvements could require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities.	PS	UT-1.1: Implement a Utility Relocation Plan.	LTS
UT-2: Phase I improvements would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.	LTS	None Required	N/A
UT-3: Phase I improvements would not result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments.	LTS	None Required	N/A
UT-4: Phase I improvements would not generate solid waste in excess of State or	LTS	None Required	N/A

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Table ES-6. Summary of Phase I Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.			
UT-5: Phase I improvements would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.	LTS	None Required	N/A
C-UT-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on utilities and service systems.	PS	UT-1.1: Implement a Utility Relocation Plan.	LCC

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Acronyms and Abbreviations:

NO_x = nitrogen oxide

SJVAPCD = San Joaquin Valley Air Pollution Control District

SMAQMD = Sacramento Metropolitan Air Quality Management District

VELB = valley elderberry longhorn beetle

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
3.1 Aesthetics			
AE-5: Phase II improvements would not have a substantial effect on a scenic vista.	LTS	None Required	N/A
AE-6: Phase II improvements would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway.	NI	None Required	N/A
AE-7: Phase II improvements would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from a publicly accessible vantage point.) Where the project is in an urbanized area, the project not would conflict with applicable zoning and other regulations governing scenic quality.	LTS	None Required	N/A
AE-8: Phase II improvements could create a source of substantial light or glare that would adversely affect daytime or nighttime views in the area. However, this potentially significant impact would be reduced to a less-than-significant level due to design features.	LTS	None Required	N/A
C-AE-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on aesthetics.	PS	<p>AE-3.1: Landscape all station parking lots.</p> <p>AE-3.2: Apply aesthetic design treatments to pedestrian overcrossings, aerial structures, tunnel openings, and bridges and retaining walls.</p> <p>AE-3.3: Apply aesthetic surface treatments to fencing, pedestrian bridge safety barriers, light standards, cable railings, pedestrian shelters, and signal houses.</p> <p>AE-4.1: Install screened construction fencing between residents and nighttime work areas where no visual screening is present.</p>	LCC

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
3.2 Agricultural Resources			
AG-7: Phase II improvements would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use during construction.	NI	None Required	N/A
AG-8: Phase II improvements would not would permanently convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.	NI	None Required	N/A
AG-9: Phase II improvements would not conflict with a Williamson Act contract.	NI	None Required	N/A
AG-10: Phase II improvements would not conflict with existing zoning for an agricultural use.	NI	None Required	N/A
AG-11: Phase II improvements would not create unviable remnant or severed Important Farmland parcels.	NI	None Required	N/A
AG-12: Phase II improvements would not result in conversion of Farmland to nonagricultural use through temporary or permanent noise and vibration impacts on confined farm animals.	NI	None Required	N/A
C-AG-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area,	PS	AG-1.1: Restore Important Farmlands used for temporary staging areas.	CCU

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
could result in a significant cumulative impact on agriculture.		AG-2.1: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland). AG-4.1: Consult with the San Joaquin County Community Development Department and Board of Supervisors on the adoption of a change in zoning designation for the parcels proposed for the Lodi Station or the Lodi Station South Alternative.	
3.3 Air Quality			
AQ-5: Phase II improvements could conflict with or obstruct implementation of applicable air quality plans.	PS	AQ-2.1: Implement advanced emissions controls for off-road equipment. AQ-2.2: Implement advanced emissions controls for locomotives used for construction. AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices. AQ-2.4: Offset construction NO _x emissions. AQ-6.1: Implement design features and operational strategies to reduce potential operational emissions. AQ-6.2: Implement a SMAQMD-approved off-site mitigation strategy (if necessary).	SU
AQ-6: Phase II improvements could result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	PS	AQ-2.1: Implement advanced emissions controls for off-road equipment. AQ-2.2: Implement advanced emissions controls for locomotives used for construction. AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices. AQ-2.4: Offset construction NO _x emissions. AQ-6.1: Implement design features and operational strategies to reduce potential operational emissions.	LTS

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Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		AQ-6.2: Implement a SMAQMD-approved off-site mitigation strategy (if necessary).	
AQ-7: Phase II improvements would not expose sensitive receptors to substantial pollutant concentrations.	LTS	None Required	N/A
AQ-8: Phase II improvements would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LTS	None Required	N/A
C-AQ-1: Implementation of Phase I improvements in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on air quality	PS	AQ-2.1: Implement advanced emissions controls for off-road equipment. AQ-2.2: Implement advanced emissions controls for locomotives used for construction. AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices. AQ-2.4: Offset construction NO _x emissions.	LCC
3.4 Biological Resources			
BIO-7: Phase II improvements could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service.	PS	BIO-1.1: Minimize the temporary construction impact footprint. BIO-1.2: Conduct a Worker Environmental Awareness Training Program for construction personnel. BIO-1.3: Conduct preconstruction botanical surveys for special-status plants; avoid and minimize impacts during construction. BIO-1.4: Develop and implement a revegetation and weed control plan. BIO-1.5: Document affected special-status plant species and prepare a salvage, relocation, or propagation and monitoring plan for special-status plant species. BIO-1.6: Avoid and minimize impacts on, and compensate for loss of, potentially occupied habitat for vernal pool fairy shrimp and	LTS

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		<p>vernal pool tadpole shrimp through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>BIO-1.7: Conduct a preconstruction VELB shrub survey, establish avoidance buffers, and/or compensate for removal of potentially occupied habitat for VELB through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>BIO-1.8 Avoid and minimize impacts on special-status fish while pile driving and implement seasonal restrictions for in-water work.</p> <p>BIO-1.9: Minimize impacts on wildlife and retain biological monitors during construction.</p> <p>BIO-1.10: Implement measures to avoid western pond turtle and giant garter snake during construction.</p> <p>BIO-1.11: Conduct a preconstruction survey for Swainson's hawk and white-tailed kite, and implement avoidance measures, as needed. Compensate for loss of Swainson's hawk and white-tailed kite foraging habitat.</p> <p>BIO-1.12: Conduct a preconstruction survey for western burrowing owl and implement avoidance measures, as needed.</p> <p>BIO-1.13: Conduct a preconstruction survey for greater sandhill crane roost sites and implement avoidance measures, as needed.</p> <p>BIO-1.14: Conduct a preconstruction survey for nesting birds and other raptors, and implement avoidance measures, as needed.</p> <p>BIO-2.1: Avoid and minimize impacts on sensitive natural communities and riparian habitat.</p> <p>BIO-2.2: Comply with the Section 1600 Streambed Alteration Agreement.</p> <p>BIO-2.3: Implement siting constraint measures.</p> <p>BIO-3.1: Avoid and minimize impacts on wetlands and other waters.</p> <p>BIO-3.2: Compensate for impacts on wetlands and other waters.</p> <p>AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust,</p>	

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Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		<p>consistent with the SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.</p> <p>HAZ-2.3: Implement a construction risk management plan (CRMP).</p> <p>HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges.</p> <p>HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters.</p>	
BIO-8: Phase II improvements could have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service.	PS	<p>BIO-1.1: Minimize the temporary construction impact footprint.</p> <p>BIO-1.2: Conduct a Worker Environmental Awareness Training Program for construction personnel.</p> <p>BIO-1.4: Develop and implement a revegetation and weed control plan.</p> <p>BIO-1.9: Minimize Impacts on wildlife and retain biological monitors during construction.</p> <p>BIO-2.1: Avoid and minimize impacts on sensitive natural communities and riparian habitat.</p> <p>BIO-2.2: Comply with the Section 1600 Streambed Alteration Agreement.</p> <p>BIO-2.3: Implement siting constraint measures.</p> <p>AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with the SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.</p> <p>HAZ-2.3: Implement a construction risk management plan (CRMP).</p> <p>HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges.</p> <p>HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters.</p>	LTS
BIO-9: Phase II improvements could have a substantial adverse effect on state or federally protected wetlands (including, but	PS	BIO-1.1: Minimize the temporary construction impact footprint.	LTS

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Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.		BIO-1.2: Conduct a Worker Environmental Awareness Training Program for construction personnel. BIO-1.4: Develop and implement a revegetation and weed control plan. BIO-2.2: Comply with the Section 1600 Streambed Alteration Agreement. BIO-2.3: Implement siting constraint measures. BIO-3.1: Avoid and minimize impacts on wetlands and other waters. BIO 3.2: Compensate for Impacts on Wetlands and Other Waters. AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with the SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices. HAZ-2.3: Implement a construction risk management plan (CRMP). HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges. HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters.	
BIO-10: Phase II improvements could interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.	PS	BIO-1.1: Minimize the temporary construction impact footprint. BIO-1.2: Conduct a Worker Environmental Awareness Training Program for construction personnel. BIO-1.4: Develop and implement a revegetation and weed control plan. BIO-1.14: Conduct a preconstruction survey for nesting birds and other raptors, and implement avoidance measures, as needed. BIO-2.1: Avoid and minimize impacts on sensitive natural communities and riparian habitat. BIO-2.2: Comply with the Section 1600 Streambed Alteration Agreement. BIO-2.3: Implement siting constraint measures.	LTS

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		<p>BIO-3.1: Avoid and minimize impacts on wetlands and other waters.</p> <p>BIO-3.2: Compensate for impacts on wetlands and other waters.</p> <p>AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with the SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.</p> <p>HAZ-2.3: Implement a construction risk management plan (CRMP).</p> <p>HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges.</p> <p>HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters.</p>	
BIO-11: Phase I improvements could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	PS	BIO-5.1: Sacramento County Code Compliance for trees.	LTS
BIO-12: Phase II improvements would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	NI	None Required	N/A
C-BIO-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on biological resources.	PS	<p>BIO-1.1: Minimize the temporary construction impact footprint.</p> <p>BIO-1.2: Conduct a Worker Environmental Awareness Training Program for construction personnel.</p> <p>BIO-1.3: Conduct preconstruction botanical surveys for special-status plants; avoid and minimize impacts during construction.</p> <p>BIO-1.4: Develop and implement a revegetation and weed control plan.</p> <p>BIO-1.5: Document affected special-status plant species and prepare a salvage, relocation, or propagation and monitoring plan for special-status plant species.</p>	LCC

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		<p>BIO-1.6: Avoid and minimize impacts on, and compensate for loss of, potentially occupied habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>BIO-1.7: Conduct a preconstruction VELB shrub survey, establish avoidance buffers, and/or compensate for removal of potentially occupied habitat for VELB through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>BIO-1.8 Avoid and minimize impacts on special-status fish while pile driving and implement seasonal restrictions for in-water work.</p> <p>BIO-1.9: Minimize impacts on wildlife and retain biological monitors during construction.</p> <p>BIO-1.10: Implement measures to avoid western pond turtle and giant garter snake during construction.</p> <p>BIO-1.11: Conduct a preconstruction survey for Swainson's hawk and white-tailed kite, and implement avoidance measures, as needed. Compensate for loss of Swainson's hawk and white-tailed kite foraging habitat.</p> <p>BIO-1.12: Conduct a preconstruction survey for western burrowing owl and implement avoidance measures, as needed.</p> <p>BIO-1.13: Conduct a preconstruction survey for greater sandhill crane roost sites and implement avoidance measures, as needed.</p> <p>BIO-1.14: Conduct a preconstruction survey for nesting birds and other raptors, and implement avoidance measures, as needed.</p> <p>BIO-3.1: Avoid and minimize impacts on wetlands and other waters.</p> <p>BIO-3.2: Compensate for impacts on wetlands and other waters.</p> <p>AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with the SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.</p> <p>HAZ-2.3: Implement a construction risk management plan (CRMP).</p>	

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges. HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters.	
3.5 Cultural Resources			
CUL-4: Phase II improvements could cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.	PS	CUL-4.1: Document and re-evaluate architectural resources at the previously recorded Krumenacher Ranch (P-34-000510/CA-SAC-483/H). CUL-4.2: Redesign West Elkhorn Boulevard Overpass to avoid Krumenacher Ranch right-of-way acquisition (P-34-000510/CA-SAC-483/H). CUL-4.3: Prepare and submit Historic American Buildings Survey (HABS) documentation.	LTS
CUL-5: Phase II improvements could cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	PS	CUL-5.1: Document and re-evaluate archaeological resources at the previously recorded Krumenacher Ranch (P-34-000510/CA-SAC-483/H).	LTS
CUL-6: Phase II improvements could disturb human remains, including those interred outside of formal cemeteries.	PS	CUL-3.1: Discovery of previously unknown human remains.	LTS
C-CUL-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on cultural resources.	PS	CUL-2.1: Worker cultural resources training. CUL-2.2: Native American monitoring. CUL-2.3: Inadvertent archaeological discovery. CUL-3.1: Discovery of previously unknown human remains.	LCC
3.6 Energy			
ENG-3: Implementation of Phase II improvements would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	LTS	None Required	N/A

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
ENG-4: Implementation of Phase II improvements would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LTS	None Required	N/A
C-ENG-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on energy resources.	LCC	None Required	N/A
3.7 Geology and Soils			
GEO-7: Phase II improvements would not cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.	NI	None Required	N/A
GEO-8: Phase II improvements could result in substantial soil erosion or the loss of topsoil.	PS	GEO-2.1: Implement Best Management Practices to reduce soil erosion.	LTS
GEO-9: Phase II improvements would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	NI	None Required	N/A
GEO-10: Phase II improvements would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property.	NI	None Required	N/A
GEO-11: Phase II improvements would not have soils incapable of adequately	NI	None Required	N/A

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.			
GEO-12: Phase II improvements could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	PS	GEO-6.1: Conduct construction personnel education and implement periodic monitoring, stop work if paleontological resources are discovered, assess the significance of the find, and prepare and implement a recovery plan, as required.	N/A
C-GEO-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on geology and soils.	PS	GEO-2.1: Implement Best Management Practices to reduce soil erosion.	LCC
C-GEO-2: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on paleontological resources.	PS	GEO-6.1: Conduct construction personnel education and implement periodic monitoring, stop work if paleontological resources are discovered, assess the significance of the find, and prepare and implement a recovery plan, as required.	LCC
3.8 Greenhouse Gas Emissions			
GHG-3: Construction and operations of Phase II improvements could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	PS	GHG-1.1: Implement construction emission reductions to minimize construction-related GHG emissions. AQ-6.1: Implement design features and operational strategies to reduce potential operational emissions.	CCU
GHG-4: Construction and operations of Phase II improvements could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.	PS	GHG-1.1: Implement construction emission reductions to minimize construction-related GHG emissions. AQ-6.1: Implement design features and operational strategies to reduce potential operational emissions.	CCU
Impact C-GHG-2: Implementation of Phase II improvements, in combination with other foreseeable projects in the surrounding area,	PS	GHG-1.1: Implement construction emission reductions to minimize construction-related GHG emissions.	CCU

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
could result in cumulatively considerable GHG emissions.			
3.9 Hazards and Hazardous Materials			
HAZ-8: Phase II improvements would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LTS	None Required	N/A
HAZ-9: Phase II improvements could create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment.	PS	HAZ-2.1: Implement voluntary oversight agreement. HAZ-2.2: Conduct site investigations. HAZ-2.3: Implement a construction risk management plan (CRMP). AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with the SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.	LTS
HAZ-10: Phase II improvements could emit hazardous emissions or require the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a proposed school.	PS	HAZ-2.3: Implement a construction risk management plan (CRMP). AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with the SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.	LTS
HAZ-11: Various Phase II improvements would be located on sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.	PS	HAZ-2.1: Implement a voluntary oversight agreement. HAZ-2.2: Conduct site investigations. HAZ-2.3: Implement a construction risk management plan (CRMP). AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with the SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices.	LTS
HAZ-12: Phase II improvements would not be located within an area planned for airport land use or, where such a plan has not been adopted, within 2 miles of a public airport or	NI	None Required	N/A

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
public use airport, and therefore the proposed project would not result in a safety hazard or excessive noise for people residing or working in the proposed project area.			
HAZ-13: Phase II improvements would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.	LTS	None Required	N/A
HAZ-14: Phase II improvements would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	NI	None Required	N/A
C-HAZ-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact from hazardous materials.	LCC	None Required	N/A
C-HAZ-2: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in significant cumulative impacts on emergency response or evacuation capacity.	LCC	None Required	N/A
3.10 Hydrology and Water Quality			
HYD-7: Phase II improvements could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.	PS	HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges. HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters. HAZ-2.2: Conduct site investigations. HAZ-2.3: Implement a construction risk management plan (CRMP).	LTS

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
HYD-8: Phase II improvements would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project would impede sustainable groundwater management of the basin.	LTS	None Required	N/A
HYD-9: Phase II improvements would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that could result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site; or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	PS	HYD-3.1: Perform detailed hydraulic evaluations and implement new or modify existing stormwater controls as required to prevent storm drainage system capacity exceedance and reduce pollutant transport.	LTS
HYD-10: Phase II-related construction could risk release of pollutants due to project inundation in a flood hazard, tsunami, or seiche zones.	PS	HYD-4.1: Prevent construction materials from being exposed to storm flooding hazards.	LTS
HYD-11: Phase II improvements could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management.	PS	HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges. HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters. HYD-3.1: Perform detailed hydraulic evaluations and implement new or modify existing stormwater controls as required to prevent storm drainage system capacity exceedance and reduce pollutant transport.	LTS

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
		<p>HYD-4.1: Prevent construction materials from being exposed to storm flooding hazards.</p> <p>HAZ-2.2: Conduct site investigations.</p> <p>HAZ-2.3: Implement a construction risk management plan (CRMP).</p>	
HYD-12: Phase II-related operations could impede or redirect flood flows and result in downstream transport of pollutants.	PS	HYD-6.1: Perform hydrologic and hydraulic studies for project improvements to be located in floodplains, implement appropriate engineering designs, coordinate with regulatory agencies, and obtain required permits.	LTS
C-HYD-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on hydrology and water quality.	PS	<p>HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges.</p> <p>HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters.</p> <p>HYD-3.1: Perform detailed hydraulic evaluations and implement new or modify existing stormwater controls as required to prevent storm drainage system capacity exceedance and reduce pollutant transport.</p> <p>HYD-4.1: Prevent construction materials from being exposed to storm flooding hazards.</p> <p>HYD-6.1: Perform hydrologic and hydraulic studies for project improvements to be located in floodplains, implement appropriate engineering designs, coordinate with regulatory agencies, and obtain required permits.</p> <p>HAZ-2.3: Implement a construction risk management plan (CRMP).</p>	LCC
3.11 Land Use and Planning			
LU-3: Phase II project improvements would not physically divide an established community.	LTS	None Required	N/A
LU-4: Phase II improvements would not cause a significant environmental impact due to a conflict with any land use plan, policy, or	LTS	None Required	N/A

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
regulation adopted for the purpose of avoiding or mitigating an environmental effect.			
C-LU-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on land use and planning.	LCC	None Required	N/A
3.12 Noise and Vibration			
NOI-5: Construction of Phase II improvements could expose sensitive receptors to substantial increases in noise levels.	PS	NOI-1.1: Implement a construction noise control plan.	SU
NOI-6: Phase II improvements would not result in noise impacts.	NI	None Required	N/A
NOI-7: Phase II improvements would not result in substantial increases in ground-borne vibration levels.	NI	None Required	N/A
NOI-8: Construction of Phase II track improvements would not expose sensitive receptors to substantial increases in ground-borne vibration levels.	NI	None Required	N/A
Impact C-NOI-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on noise.	LCC	None Required	N/A
3.13 Population and Housing			
PH-3: Implementation of Phase II improvements would not induce substantial unplanned population growth in an area, either directly or indirectly.	LTS	None Required	N/A

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
PH-4: Implementation of Phase II improvements would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	NI	None Required	N/A
C-PH-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on population and housing.	LCC	None Required	N/A
3.14 Public Services			
PS-3: Phase II improvements would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection or police protection.	LTS	None Required	N/A
PS-4: Phase II improvements would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or with the need for new or physically altered governmental facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response times, or other performance objectives for schools, parks, and other public facilities.	LTS	None Required	N/A

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
C-PS-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on public services.	LCC	None Required	N/A
3.15 Recreation			
REC-3: Phase II Improvements would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	LTS	None Required	N/A
REC-4: Phase II improvements would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.	LTS	None Required	N/A
C-REC-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on recreation.	LCC	None Required	N/A
3.16 Transportation			
TRA-5: Phase II improvements could conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	PS	TRA-1.1: Transportation Management Plan for project construction. TRA-1.2: Freight rail disruption control plan for project construction. TRA-1.3: Light rail disruption control plan for project construction.	LTS
TRA-6: Phase II improvements would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	LTS	None Required	N/A
TRA-7: Phase II improvements would not substantially increase hazards due to a	LTS	None Required	N/A

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).			
TRA-8: Phase II improvements would not result in inadequate emergency access.	LTS	None Required	N/A
C-TRA-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on transportation.	PS	TRA-1.1: Transportation Management Plan for project construction. TRA-1.2: Freight rail disruption control plan for project construction. TRA-1.3: Light rail disruption control plan for project construction.	LCC
3.17 Tribal Cultural Resources			
TRI-2: Phase II improvements could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code Section 21074, 5020.1(k) or Section 5024.1(c).	PS	CUL-2.1: Worker cultural resources training. CUL-2.2: Native American monitoring. CUL-2.3: Inadvertent archaeological discovery. CUL-3.1: Discovery of previously unknown human remains.	LTS
3.18 Utilities and Service Systems			
UT-6: Phase II improvements would require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities.	PS	UT-1.1: Implement a Utility Relocation Plan.	LTS
UT-7: Phase II improvements would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	LTS	None Required	N/A
UT-8: Phase II improvements would not result in a determination by the wastewater treatment provider that serves or may serve the proposed project that it has adequate	LTS	None Required	N/A

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Table ES-7. Summary of Phase II Impacts and Mitigation Measures

Impact	Significance before Mitigation	Mitigation Measure(s)	Significance after Mitigation
capacity to serve the project's projected demand in addition to its existing commitments.			
UT-9: Phase II improvements would not generate solid waste in excess of state or local standards or in excess of the capacity of local infrastructure, and would not otherwise impair the attainment of solid waste reduction goals.	LTS	None Required	N/A
Impact UT-10: Phase II improvements would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.	LTS	None Required	N/A
C-UT-1: Implementation of the proposed project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on utilities and service systems.	PS	UT-1.1: Implement a Utility Relocation Plan.	LCC

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ES.6 Alternatives Considered

A wide range of alternatives was considered during the planning and scoping process for the proposed project prior to selecting the alternatives to be evaluated in this Draft EIR. Alternatives considered and eliminated from consideration included the use of the Fresno Subdivision for increased passenger rail service; construction of new track outside the existing UPRR ROW along the Fresno Subdivision to accommodate the proposed project; and alternative locations for the Lodi Station, North Elk Grove Station, Natomas/Sacramento Airport Station, and the maintenance and layover facility.

Alternatives determined not to meet all or most of the goals of the proposed project, to be infeasible, or not to avoid or substantially reduce one or more significant impacts of the proposed project were eliminated from further analysis in this EIR. All of the alternatives considered but eliminated from future consideration, as well as the reasons for their elimination, are discussed in Chapter 5, *Alternatives*. Chapter 5 also includes an analysis of the No Project Alternative, albeit to a lesser level of detail than that of the proposed project.

ES.7 Comparison of Alternatives and the Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) states that if the environmentally superior alternative is the No Project Alternative, then the EIR must also identify an environmentally superior alternative among the other alternatives. The environmentally superior alternative is not the No Project Alternative. Any of the alternatives/variants included in the proposed project would result in environmental benefits, such as reducing vehicle trips on freeways and reducing regional air pollutants and GHG emissions, that would not be realized under the No Project Alternative.

The environmentally superior alternative is identified as a combination of the different alternatives/variants by segment for Phase I. Specifically, the environmentally superior alternative includes the following:

- Lodi Station South Alternative due to slightly reduced impacts on aesthetics and agricultural resources, and related to hazardous materials
- North Elk Grove Station Variant P1/A1 or North Elk Grove Station Variant P1/A2 due to slightly reduced construction air quality impacts and reduced biological impacts associated with the omission of a new railroad bridge over Beacon Creek

CEQA does not require a lead agency to select the environmentally superior alternative as its proposed project. Implementing the proposed project (or an alternative) would have adverse environmental impacts regardless of which alternative is selected. However, the proposed project would provide project benefits that include reducing VMT and associated regional traffic, air quality emissions, and GHG emissions, as well as increasing ridership.

ES.8 Issues of Controversy and Issues to be Resolved

Areas of controversy raised during the scoping process included the following issues:

- Proposed Maintenance and Layover Facility west of Levee Road—Numerous commenters raised concerns over aesthetic, air quality, hazardous waste, land use, noise, and transportation impacts associated with a potential maintenance and layover facility west of Levee Road. In response, this alternative was eliminated from future consideration.
- Natomas Maintenance and Layover Facility—Concern was expressed regarding potential right-of-way impacts related to the proposed Natomas Maintenance and Layover Facility. This project improvement has since been included in the list of Phase II improvements. Additional CEQA documentation will be necessary prior to approval of any of the Phase II improvements.
- Interim Natomas/Sacramento Airport Station—Concern was expressed regarding potential ROW impacts related to the proposed Interim Natomas/Sacramento Airport Station. In response, this alternative was eliminated from future consideration.
- Traffic—Concern was expressed regarding increased traffic at intersections surrounding proposed station sites. Further response to these comments is not required as part of the CEQA environmental review process, but will be addressed in later design stages of the proposed project.

The following project issues remain to be resolved:

- Consideration of Comments on this Draft EIR—SJRRRC will consider and respond to substantive CEQA comments on this Draft EIR as part of the Final EIR, scheduled for completion later in 2020.
- Certification of the EIR and Project Adoption—SJRRRC will need to consider the Final EIR, once prepared, and decide whether to certify the CEQA document. If certified, the SJRRRC Board would determine whether to approve the Valley Rail Sacramento Extension as is, or to adopt one of the Phase I alternatives (the Lodi Station South Alternative). The SJRRRC Board would also consider whether to carry the Phase II improvements forward for project-level review.
- Design of the Phase I Improvements—The final design of Phase I improvements would be completed following completion of the environmental review process and approval of the proposed project.
- Regulatory Permitting—Permits from a wide range of local, state, and federal agencies would need to be obtained prior to implementation of the Phase I improvements.

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